Tantalum Through-Hole Capacitors

Hermetic Seal

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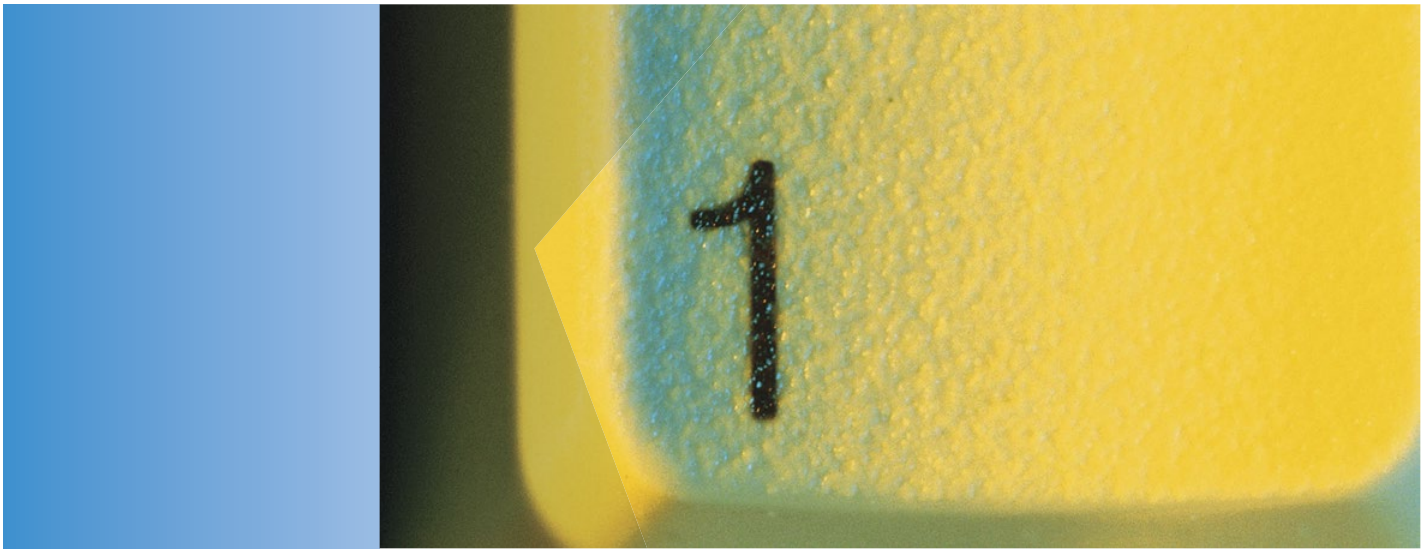

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About KEMET.

KEMET Corporation is a leading global supplier of electronic components. We offer our customers the broadest selection of capacitor technologies in the industry across multiple dielectrics, along with an expanding range of electromechanical devices, and electromagnetic compatibility solutions. Our vision is to be the preferred supplier of electronic component solutions for customers demanding the highest standards of quality, delivery and service.

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T215 Series High Temperature Solder

Overview

The KEMET T215 High Temperature Solder Series is targeted for use in high humidity environments. These capacitors are ruggedly built, designed for miniaturized circuitry, and especially well-suited for coupling, bypass, filtering, and RC timing circuits. The T215 Series exhibits excellent stability as well as extremely low DC leakage current, dissipation factor and ESR/impedance over a wide temperature and frequency range. The internal design of these devices, as well as the hermetic seal, includes high temperature solder (minimum melting point of 221°C). The content of tin in the solder does not exceed 97%.
This assembly is especially suited for temperature conditions where solder may fail due to undesirable solder reflow.

The KEMET T215 Series is available in standard EIA capacitance values from 0.0047 µF to 330 µF in ±20%, ±10% and ±5% tolerances, and working voltages of 6 VDC to 100 VDC and low ESR limits.

Benefits

- Internal construction solder to resist up to 221°C
- Qualified to MIL–PRF–39003, Style CSR13
- Failure rate options: Graded - B, C, D, and G, and Exponential - M, P, R, and S
- Operating temperature range of -55˚C to +125˚C
- Capacitance values of 0.0047 µF to 330 µF
- Tolerances of ±5%, ±10% and ±20%
- Voltage rating of 6 VDC – 100 VDC
- Surge current options D, E, and F
- Taped and reeled per EIA Specification RS-296
- Marking per MIL–STD–1285
- Case sizes: A, B, C, D

Applications

Typical applications include coupling, bypass, filtering, and RC timing circuits in miniaturized circuitry.

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Ordering Information – CSR13

M39003	/01	6003	E
Capacitor Class	Slash	Dash Number	Surge Option
Military Specification Number	Specification Sheet Number	Failure Rate Level	D = C-4250 E = C-4251 F = C-4252 H = No C-Spec

Orders should be entered by the military specification number, including the dash number and surge option letter (D, E, F, or H).

Ordering Information

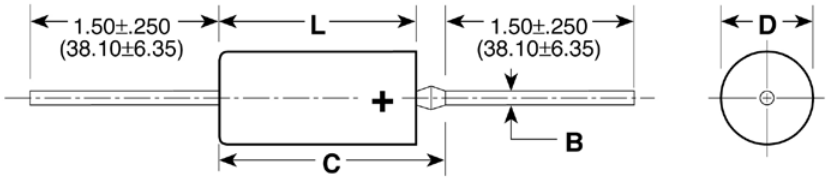
T	215	A	105	K	050	B	S	7200
Capacitor Class	Series	Case Size	Capacitance Code (pF)	Capacitance Tolerance	Voltage	Failure Rate/ Military Product Only	Lead Material	Specification
T = Tantalum	Hermetically Sealed Axial High Temperature Solder	A, B, C, D	First two digits represent significant figures. Third digit specifies number of zeros.	J = ±5% K = ±10% M = ±20%	006 = 6 V 010 = 10 V 015 = 15 V 020 = 20 V 035 = 35 V 050 = 50 V 075 = 75 V 100 = 100 V	Graded: B = 0.1%/k hours C = 0.01%/k hours D = 0.001%/k hours G= 1.0 %/k hours Exponential: M = 1%/k hours P = 0.1%/k hours R = 0.01%/k hours S = 0.001%/k hours	S = Standard (Sn/Pb)	All capacitors are sleeved unless specified. 0100 = Without sleeve 7200 = Tape & Reel 7293 = Ammo 4250 = 10 cycles, 25°C after Weibull 4251 = 10 cycles, -55 & 85°C after Weibull 4252 = 10 cycles, -55 & 85°C before Weibull

Performance Characteristics

Item	Performance Characteristics
Operating Temperature	-55°C to 125°C
Rated Capacitance Range	0.0047 µF – 330 µF @ 120 Hz/25°C
Capacitance Tolerance	J Tolerance (5%), K Tolerance (10%), M Tolerance (20%)
Rated Voltage Range	6 – 100 V
DF (120 Hz @ 25°C)	Refer to Part Number Electrical Specification Table
ESR and Impedance (100 kHz @ 25°C)	Refer to Part Number Electrical Specification Table (for reference only)
Leakage Current	Refer to Part Number Electrical Specification Table (@ rated voltage up to +85°C and 2/3 of rated voltage applied at 125°C)
Failure Rate (MIL–PRF–39003, CSR13 capacitors only)	Approved failure rate: Graded G (1.0%/k hours), B (0.1%/k hours), C (0.01%/k hours), D (0.001%/k hours) and Exponential M (1.0%/k hours), P (0.1%/k hours), R (0.01%/k hours), S (0.001%/k hours)

Dimensions – Millimeters (Inches)

Metric will govern



Case Size	Uninsulated		Insulated			
	D ±0.005 ±(.13)	L ±0.031 ±(.79)	D ±0.010 ±(.25)	L ±0.031 ±(.79)	B ±0.002 ±(.05)	C Maximum
A	0.125 (3.18)	0.250 (6.35)	0.135 (3.43)	0.286 (7.26)	0.020 (0.51)	0.422 (10.72)
B	0.175 (4.45)	0.438 (11.13)	0.185 (4.70)	0.474 (12.04)	0.020 (0.51)	0.610 (15.49)
C	0.279 (7.09)	0.650 (16.51)	0.289 (7.34)	0.686 (17.42)	0.025 (0.64)	0.822 (20.88)
D	0.341 (8.66)	0.750 (19.05)	0.351 (8.92)	0.786 (19.96)	0.025 (0.64)	0.922 (23.42)

Table 1 – Ratings & Part Number Reference

Rated Voltage	Rated Capacitance	Case Size Code	KEMET Military Part Number	DC Leakage	DF % @ 25°C	MIL–PRF–39003 (CSR13) Capacitors							
						Dash Number Reference							
						Failure Rate Level (%/1,000 hours)							
						MIL–PRF–39003/1K				MIL–PRF–39003/1K			
						Exponential				Graded			
VDC	µF		(See below for part options)	µA @ 25°C Max/5 Minutes	120 Hz Maximum	M (1.0)	P (0.1)	R (0.01)	S (0.001)	G (1)	B (0.1)	C (0.01)	D (0.001)
6	5.6	A	T215A565J006(2)S	0.3	4	5001-	5201-	5401-	5601-	4001-	6001-	7001-	8001-
6	5.6	A	T215A565K006(2)S	0.3	4	2241-	2481-	2721-	2961-	4002-	6002-	7002-	8002-
6	6.8	A	T215A685J006(2)S	0.3	6	5002-	5202-	5402-	5602-	4003-	6003-	7003-	8003-
6	6.8	A	T215A685K006(2)S	0.3	6	2242-	2482-	2722-	2962-	4004-	6004-	7004-	8004-
6	6.8	A	T215A685M006(2)S	0.3	6	2243-	2483-	2723-	2963-	4005-	6005-	7005-	8005-
6	47.0	B	T215B476J006(2)S	1.5	6	5003-	5203-	5403-	5603-	4006-	6006-	7006-	8006-
6	47.0	B	T215B476K006(2)S	1.5	6	2244-	2484-	2724-	2964-	4007-	6007-	7007-	8007-
6	47.0	B	T215B476M006(2)S	1.5	6	2245-	2485-	2725-	2965-	4008-	6008-	7008-	8008-
6	56.0	B	T215B566J006(2)S	1.5	6	5004-	5204-	5404-	5604-	4009-	6009-	7009-	8009-
6	56.0	B	T215B566K006(2)S	1.5	6	2246-	2486-	2726-	2966-	4010-	6010-	7010-	8010-
6	150.0	C	T215C157J006(2)S	4.5	6	5005-	5205-	5405-	5605-	4011-	6011-	7011-	8011-
6	150.0	C	T215C157K006(2)S	4.5	6	2247-	2487-	2727-	2967-	4012-	6012-	7012-	8012-
6	150.0	C	T215C157M006(2)S	4.5	6	2248-	2488-	2728-	2968-	4013-	6013-	7013-	8013-
6	180.0	C	T215C187J006(2)S	5.5	6	5006-	5206-	5406-	5606-	4014-	6014-	7014-	8014-
6	180.0	C	T215C187K006(2)S	5.5	6	2249-	2489-	2729-	2969-	4015-	6015-	7015-	8015-
6	270.0	D	T215D277J006(2)S	6.0	8	5007-	5207-	5407-	5607-	4016-	6016-	7016-	8016-
6	270.0	D	T215D277K006(2)S	6.0	8	2250-	2490-	2730-	2970-	4017-	6017-	7017-	8017-
6	330.0	D	T215D337J006(2)S	7.5	8	5008-	5208-	5408-	5608-	4018-	6018-	7018-	8018-
6	330.0	D	T215D337K006(2)S	7.5	8	2251-	2491-	2731-	2971-	4019-	6019-	7019-	8019-
6	330.0	D	T215D337M006(2)S	7.5	8	2252-	2492-	2732-	2972-	4020-	6020-	7020-	8020-
10	3.9	A	T215A395J010(2)S	0.3	4	5009-	5209-	5409-	5609-	4021-	6021-	7021-	8021-
10	3.9	A	T215A395K010(2)S	0.3	4	2253-	2493-	2733-	2973-	4022-	6022-	7022-	8022-
10	4.7	A	T215A475J010(2)S	0.4	4	5010-	5210-	5410-	5610-	4023-	6023-	7023-	8023-
10	4.7	A	T215A475K010(2)S	0.4	4	2254-	2494-	2734-	2974-	4024-	6024-	7024-	8024-
10	4.7	A	T215A475M010(2)S	0.4	4	2255-	2495-	2735-	2975-	4025-	6025-	7025-	8025-
10	27.0	B	T215B276J010(2)S	2.0	6	5011-	5211-	5411-	5611-	4026-	6026-	7026-	8026-
10	27.0	B	T215B276K010(2)S	2.0	6	2256-	2496-	2736-	2976-	4027-	6027-	7027-	8027-
10	33.0	B	T215B336J010(2)S	2.0	6	5012-	5212-	5412-	5612-	4028-	6028-	7028-	8028-
10	33.0	B	T215B336K010(2)S	2.0	6	2257-	2497-	2737-	2977-	4029-	6029-	7029-	8029-
10	33.0	B	T215B336M010(2)S	2.0	6	2258-	2498-	2738-	2978-	4030-	6030-	7030-	8030-
10	39.0	B	T215B396J010(2)S	2.0	6	5013-	5213-	5413-	5613-	4031-	6031-	7031-	8031-
10	39.0	B	T215B396K010(2)S	2.0	6	2259-	2499-	2739-	2979-	4032-	6032-	7032-	8032-
10	82.0	C	T215C826J010(2)S	3.0	6	5014-	5214-	5414-	5614-	4033-	6033-	7033-	8033-
10	82.0	C	T215C826K010(2)S	3.0	6	2260-	2500-	2740-	2980-	4034-	6034-	7034-	8034-
10	100.0	C	T215C107J010(2)S	5.0	6	5015-	5215-	5415-	5615-	4035-	6035-	7035-	8035-
10	100.0	C	T215C107K010(2)S	5.0	6	2261-	2501-	2741-	2981-	4036-	6036-	7036-	8036-
10	100.0	C	T215C107M010(2)S	5.0	6	2262-	2502-	2742-	2982-	4037-	6037-	7037-	8037-
10	120.0	C	T215C127J010(2)S	6.0	6	5016-	5216-	5416-	5616-	4038-	6038-	7038-	8038-
10	120.0	C	T215C127K010(2)S	6.0	6	2263-	2503-	2743-	2983-	4039-	6039-	7039-	8039-
10	180.0	D	T215D187J010(2)S	9.0	6	5017-	5217-	5417-	5617-	4040-	6040-	7040-	8040-
10	180.0	D	T215D187K010(2)S	9.0	6	2264-	2504-	2744-	2984-	4041-	6041-	7041-	8041-
10	220.0	D	T215D227J010(2)S	10.0	8	5018-	5218-	5418-	5618-	4042-	6042-	7042-	8042-
10	220.0	D	T215D227K010(2)S	10.0	8	2265-	2505-	2745-	2985-	4043-	6043-	7043-	8043-
10	220.0	D	T215D227M010(2)S	10.0	8	2266-	2506-	2746-	2986-	4044-	6044-	7044-	8044-
15	2.7	A	T215A275J015(2)S	0.3	4	5019-	5219-	5419-	5619-	4045-	6045-	7045-	8045-
15	2.7	A	T215A275K015(2)S	0.3	4	2267-	2507-	2747-	2987-	4046-	6046-	7046-	8046-
15	3.3	A	T215A335J015(2)S	0.4	4	5020-	5220-	5420-	5620-	4047-	6047-	7047-	8047-
15	3.3	A	T215A335K015(2)S	0.4	4	2268-	2508-	2748-	2988-	4048-	6048-	7048-	8048-
15	3.3	A	T215A335M015(2)S	0.4	4	2269-	2509-	2749-	2989-	4049-	6049-	7049-	8049-
15	18.0	B	T215C826J010(2)S	2.0	6	5021-	5221-	5421-	5621-	4050-	6050-	7050-	8050-
VDC	µF	Case Size Code	(see below for part options)	µA @ 25°C Max/5 Minimum	120 Hz Maximum	M (1.0)	P (0.1)	R (0.01)	S (0.001)	G (1)	B (0.1)	C (0.01)	D (0.001)
Rated Voltage	Rated Capacitance		KEMET Part Number	DC Leakage	DF % @ 25°C	MIL–PRF–39003 (CSR13) Capacitors							

(2) To complete KEMET part number (T215), insert graded failure rate: G for 1%/k hours, B for .1%/k hours, C for .01%/k hours, D for .001%/k hours or the exponential rate letter. Designates reliability level.

Roll Over for Order Info.

Table 1 – Ratings & Part Number Reference cont'd

Rated Voltage	Rated Capacitance	Case Size Code	KEMET Military Part Number	DC Leakage	DF % @ 25°C	MIL–PRF–39003 (CSR13) Capacitors							
						Dash Number Reference							
						Failure Rate Level (%/1,000 hours)							
						MIL–PRF–39003/1K				MIL–PRF–39003/1K			
						Exponential				Graded			
VDC	µF		(See below for part options)	µA @ 25°C Max/5 Minutes	120 Hz Maximum	M (1.0)	P (0.1)	R (0.01)	S (0.001)	G (1)	B (0.1)	C (0.01)	D (0.001)
15	18.0	B	T215C826K010(2)S	2.0	6	2270-	2510-	2750-	2990-	4051-	6051-	7051-	8051-
15	22.0	B	T215B276J010(2)S	2.0	6	5022-	5222-	5422-	5622-	4052-	6052-	7052-	8052-
15	22.0	B	T215B276K010(2)S	2.0	6	2271-	2511-	2751-	2991-	4053-	6053-	7053-	8053-
15	22.0	B	T215B276M010(2)S	2.0	6	2272-	2512-	2752-	2992-	4054-	6054-	7054-	8054-
15	56.0	C	T215C566J015(2)S	4.0	6	5023-	5223-	5423-	5623-	4055-	6055-	7055-	8055-
15	56.0	C	T215C566K015(2)S	4.0	6	2273-	2513-	2753-	2993-	4056-	6056-	7056-	8056-
15	68.0	C	T215C686J015(2)S	5.0	6	5024-	5224-	5424-	5624-	4057-	6057-	7057-	8057-
15	68.0	C	T215C686K015(2)S	5.0	6	2274-	2514-	2754-	2994-	4058-	6058-	7058-	8058-
15	68.0	C	T215C686M015(2)S	5.0	6	2275-	2515-	2755-	2995-	4059-	6059-	7059-	8059-
15	120.0	D	T215D127J015(2)S	6.0	6	5025-	5225-	5425-	5625-	4060-	6060-	7060-	8060-
15	120.0	D	T215D127K015(2)S	6.0	6	2276-	2516-	2756-	2996-	4061-	6061-	7061-	8061-
15	150.0	D	T215D157J015(2)S	8.0	6	5026-	5226-	5426-	5626-	4062-	6062-	7062-	8062-
15	150.0	D	T215D157K015(2)S	8.0	6	2277-	2517-	2757-	2997-	4063-	6063-	7063-	8063-
15	150.0	D	T215D157M015(2)S	8.0	6	2278-	2518-	2758-	2998-	4064-	6064-	7064-	8064-
20	1.2	A	T215A125J020(2)S	0.3	4	5027-	5227-	5427-	5627-	4065-	6065-	7065-	8065-
20	1.2	A	T215A125K020(2)S	0.3	4	2279-	2519-	2759-	2999-	4066-	6066-	7066-	8066-
20	1.5	A	T215A155J020(2)S	0.3	4	5028-	5228-	5428-	5628-	4067-	6067-	7067-	8067-
20	1.5	A	T215A155K020(2)S	0.3	4	2280-	2520-	2760-	3000-	4068-	6068-	7068-	8068-
20	1.5	A	T215A155M020(2)S	0.3	4	2281-	2521-	2761-	3001-	4069-	6069-	7069-	8069-
20	1.8	A	T215A185J020(2)S	0.3	4	5029-	5229-	5429-	5629-	4070-	6070-	7070-	8070-
20	1.8	A	T215A185K020(2)S	0.3	4	2282-	2522-	2762-	3002-	4071-	6071-	7071-	8071-
20	2.2	B	T215A225J020(2)S	0.4	4	5010-	5230-	5430-	5630-	4072-	6072-	7072-	8072-
20	2.2	B	T215A225K020(2)S	0.4	4	2283-	2523-	2763-	3003-	4073-	6073-	7073-	8073-
20	2.2	B	T215A225M020(2)S	0.4	4	2284-	2524-	2764-	3004-	4074-	6074-	7074-	8074-
20	8.2	B	T215B825J020(2)S	1.0	6	5031-	5231-	5431-	5631-	4075-	6075-	7075-	8075-
20	8.2	B	T215B825K020(2)S	1.0	6	2285-	2525-	2765-	3005-	4076-	6076-	7076-	8076-
20	10.0	B	T215B106J020(2)S	1.0	6	5032-	5232-	5432-	5632-	4077-	6077-	7077-	8077-
20	10.0	B	T215B106K020(2)S	1.0	6	2286-	2526-	2766-	3006-	4078-	6078-	7078-	8078-
20	10.0	B	T215B106M020(2)S	1.0	6	2287-	2527-	2767-	3007-	4079-	6079-	7079-	8079-
20	12.0	B	T215B126J020(2)S	1.0	6	5033-	5233-	5433-	5633-	4080-	6080-	7080-	8080-
20	12.0	B	T215B126K020(2)S	1.0	6	2288-	2528-	2768-	3008-	4081-	6081-	7081-	8081-
20	15.0	B	T215B156J020(2)S	2.0	6	5034-	5234-	5434-	5634-	4082-	6082-	7082-	8082-
20	15.0	B	T215B156K020(2)S	2.0	6	2289-	2529-	2769-	3009-	4083-	6083-	7083-	8083-
20	15.0	B	T215B156M020(2)S	2.0	6	2290-	2530-	2770-	3010-	4084-	6084-	7084-	8084-
20	27.0	C	T215C276J020(2)S	2.5	6	5035-	5235-	5435-	5635-	4085-	6085-	7085-	8085-
20	27.0	C	T215C276K020(2)S	2.5	6	2991-	2531-	2771-	3011-	4086-	6086-	7086-	8086-
20	33.0	C	T215C336J020(2)S	3.0	6	5036-	5236-	5436-	5636-	4087-	6087-	7087-	8087-
20	33.0	C	T215C336K020(2)S	3.0	6	2292-	2532-	2772-	3012-	4088-	6088-	7088-	8088-
20	33.0	C	T215C336M020(2)S	3.0	6	2293-	2533-	2773-	3013-	4089-	6089-	7089-	8089-
20	39.0	C	T215C396J020(2)S	3.0	6	5037-	5237-	5437-	5637-	4090-	6090-	7090-	8090-
20	39.0	C	T215C396K020(2)S	3.0	6	2294-	2534-	2774-	3014-	4091-	6091-	7091-	8091-
20	47.0	C	T215C476J020(2)S	4.5	6	5038-	5238-	5438-	5638-	4092-	6092-	7092-	8092-
20	47.0	C	T215C476K020(2)S	4.5	6	2295-	2535-	2775-	3015-	4093-	6093-	7093-	8093-
20	47.0	C	T215C476M020(2)S	4.5	6	2296-	2536-	2776-	3016-	4094-	6094-	7094-	8094-
20	56.0	D	T215D566J020(2)S	5.5	6	5039-	5239-	5439-	5639-	4095-	6095-	7095-	8095-
20	56.0	D	T215D566K020(2)S	5.5	6	2297-	2537-	2777-	3017-	4096-	6096-	7096-	8096-
20	68.0	D	T215D686J020(2)S	6.0	6	5040-	5240-	5440-	5640-	4097-	6097-	7097-	8097-
20	68.0	D	T215D686K020(2)S	6.0	6	2298-	2538-	2778-	3018-	4098-	6098-	7098-	8098-
20	68.0	D	T215D686M020(2)S	6.0	6	2299-	2539-	2779-	3019-	4099-	6099-	7099-	8099-
20	82.0	D	T215D826J020(2)S	6.0	6	5041-	5241-	5441-	5641-	4100-	6100-	7100-	8100-
VDC	µF	Case Size Code	(see below for part options)	µA @ 25°C Max/5 Minimum	120 Hz Maximum	M (1.0)	P (0.1)	R (0.01)	S (0.001)	G (1)	B (0.1)	C (0.01)	D (0.001)
Rated Voltage	Rated Capacitance		KEMET Part Number	DC Leakage	DF % @ 25°C	MIL–PRF–39003 (CSR13) Capacitors							

(2) To complete KEMET part number (T215), insert graded failure rate: G for 1%/k hours, B for .1%/k hours, C for .01%/k hours, D for .001%/k hours or the exponential rate letter. Designates reliability level.

Roll Over for Order Info.

Table 1 – Ratings & Part Number Reference cont'd

Rated Voltage	Rated Capacitance	Case Size Code	KEMET Military Part Number	DC Leakage	DF % @ 25°C	MIL–PRF–39003 (CSR13) Capacitors							
						Dash Number Reference							
						Failure Rate Level (%/1,000 hours)							
						MIL–PRF–39003/1K				MIL–PRF–39003/1K			
						Exponential				Graded			
VDC	µF		(See below for part options)	µA @ 25°C Max/5 Minutes	120 Hz Maximum	M (1.0)	P (0.1)	R (0.01)	S (0.001)	G (1)	B (0.1)	C (0.01)	D (0.001)
20	82.0	D	T215D826K020(2)S	6.0	6	2300-	2540-	2780-	3020-	4101-	6101-	7101-	8101-
20	100.0	D	T215D107J020(2)S	10.0	6	5042-	5242-	5442-	5642-	4102-	6102-	7102-	8102-
20	100.0	D	T215D107K020(2)S	10.0	6	2301-	2541-	2781-	3021-	4103-	6103-	7103-	8103-
20	100.0	D	T215D107M020(2)S	10.0	6	2302-	2542-	2782-	3022-	4104-	6104-	7104-	8104-
35	5.6	B	T215B565J035(2)S	1.0	4	5043-	5243-	5443-	5643-	4105-	6105-	7105-	8105-
35	5.6	B	T215B565K035(2)S	1.0	4	2303-	2543-	2783-	3023-	4106-	6106-	7106-	8106-
35	6.8	B	T215B685J035(2)S	1.5	4	5044-	5244-	5444-	5644-	4107-	6107-	7107-	8107-
35	6.8	B	T215B685K035(2)S	1.5	4	2304-	2544-	2784-	3024-	4108-	6108-	7108-	8108-
35	6.8	B	T215B685M035(2)S	1.5	6	2305-	2545-	2785-	3025-	4109-	6109-	7109-	8109-
35	22.0	C	T215C226J035(2)S	4.0	4	5045-	5245-	5445-	5645-	4110-	6110-	7110-	8110-
35	22.0	C	T215C226K035(2)S	4.0	4	2306-	2546-	2786-	3026-	4111-	6111-	7111-	8111-
35	22.0	C	T215C226M035(2)S	4.0	4	2307-	2547-	2787-	3027-	4112-	6112-	7112-	8112-
35	27.0	D	T215D276J035(2)S	4.5	4	5046-	5246-	5446-	5646-	4113-	6113-	7113-	8113-
35	27.0	D	T215D276K035(2)S	4.5	4	2308-	2548-	2788-	3028-	4114-	6114-	7114-	8114-
35	33.0	D	T215D336J035(2)S	5.5	4	5047-	5247-	5447-	5647-	4115-	6115-	7115-	8115-
35	33.0	D	T215D336K035(2)S	5.5	4	2309-	2549-	2789-	3029-	4116-	6116-	7116-	8116-
35	33.0	D	T215D336M035(2)S	5.5	4	2310-	2550-	2790-	3030-	4117-	6117-	7117-	8117-
35	39.0	D	T215D396J035(2)S	6.0	4	5048-	5248-	5448-	5648-	4118-	6118-	7118-	8118-
35	39.0	D	T215D396K035(2)S	6.0	4	2311-	2551-	2791-	3031-	4119-	6119-	7119-	8119-
35	47.0	D	T215D476J035(2)S	8.0	4	5049-	5249-	5449-	5649-	4120-	6120-	7120-	8120-
35	47.0	D	T215D476K035(2)S	8.0	4	2312-	2552-	2792-	3032-	4121-	6121-	7121-	8121-
35	47.0	D	T215D476M035(2)S	8.0	4	2313-	2553-	2793-	3033-	4122-	6122-	7122-	8122-
50	0.0047	A	T215A472J050(2)S	0.1	2	5050-	5250-	5450-	5650-	4123-	6123-	7123-	8123-
50	0.0047	A	T215A472K050(2)S	0.1	2	2314-	2554-	2794-	3034-	4124-	6124-	7124-	8124-
50	0.0047	A	T215A472M050(2)S	0.1	2	2315-	2555-	2795-	3035-	4125-	6125-	7125-	8125-
50	0.0056	A	T215A562J050(2)S	0.1	2	5051-	5251-	5451-	5651-	4126-	6126-	7126-	8126-
50	0.0056	A	T215A562K050(2)S	0.1	2	2316-	2556-	2796-	3036-	4127-	6127-	7127-	8127-
50	0.0068	A	T215A682J050(2)S	0.1	2	5052-	5252-	5452-	5652-	4128-	6128-	7128-	8128-
50	0.0068	A	T215A682K050(2)S	0.1	2	2317-	2557-	2797-	3037-	4129-	6129-	7129-	8129-
50	0.0068	A	T215A682M050(2)S	0.1	2	2318-	2558-	2798-	3038-	4130-	6130-	7130-	8130-
50	0.0082	A	T215A822J050(2)S	0.1	2	5053-	5253-	5453-	5653-	4131-	6131-	7131-	8131-
50	0.0082	A	T215A822K050(2)S	0.1	2	2319-	2559-	2799-	3039-	4132-	6132-	7132-	8132-
50	0.01	A	T215A103J050(2)S	0.1	2	5054-	5254-	5454-	5654-	4133-	6133-	7133-	8133-
50	0.01	A	T215A103K050(2)S	0.1	2	2320-	2560-	2800-	3040-	4134-	6134-	7134-	8134-
50	0.01	A	T215A103M050(2)S	0.1	2	2321-	2561-	2801-	3041-	4135-	6135-	7135-	8135-
50	0.012	A	T215A123J050(2)S	0.1	2	5055-	5255-	5455-	5655-	4136-	6136-	7136-	8136-
50	0.012	A	T215A123K050(2)S	0.1	2	2322-	2562-	2802-	3042-	4137-	6137-	7137-	8137-
50	0.015	A	T215A153J050(2)S	0.1	2	5056-	5256-	5456-	5656-	4138-	6138-	7138-	8138-
50	0.015	A	T215A153K050(2)S	0.1	2	2323-	2563-	2803-	3043-	4139-	6139-	7139-	8139-
50	0.015	A	T215A153M050(2)S	0.1	2	2324-	2564-	2804-	3044-	4140-	6140-	7140-	8140-
50	0.018	A	T215A183J050(2)S	0.1	2	5057-	5257-	5457-	5657-	4141-	6141-	7141-	8141-
50	0.018	A	T215A183K050(2)S	0.1	2	2325-	2565-	2805-	3045-	4142-	6142-	7142-	8142-
50	0.022	A	T215A223J050(2)S	0.1	2	5058-	5258-	5458-	5658-	4143-	6143-	7143-	8143-
50	0.022	A	T215A223K050(2)S	0.1	2	2326-	2566-	2806-	3046-	4144-	6144-	7144-	8144-
50	0.022	A	T215A223M050(2)S	0.1	2	2327-	2567-	2807-	3047-	4145-	6145-	7145-	8145-
50	0.027	A	T215A273J050(2)S	0.1	2	5059-	5259-	5459-	5659-	4146-	6146-	7146-	8146-
50	0.027	A	T215A273K050(2)S	0.1	2	2328-	2568-	2808-	3048-	4147-	6147-	7147-	8147-
50	0.033	A	T215A333J050(2)S	0.1	2	5060-	5260-	5460-	5660-	4148-	6148-	7148-	8148-
50	0.033	A	T215A333K050(2)S	0.1	2	2329-	2569-	2809-	3049-	4149-	6149-	7149-	8149-
50	0.033	A	T215A333M050(2)S	0.1	2	2330-	2570-	2810-	3050-	4150-	6150-	7150-	8150-
VDC	µF	Case Size Code	(see below for part options)	µA @ 25°C Max/5 Minimum	120 Hz Maximum	M (1.0)	P (0.1)	R (0.01)	S (0.001)	G (1)	B (0.1)	C (0.01)	D (0.001)
Rated Voltage	Rated Capacitance		KEMET Part Number	DC Leakage	DF % @ 25°C	MIL–PRF–39003 (CSR13) Capacitors							

(2) To complete KEMET part number (T215), insert graded failure rate: G for 1%/k hours, B for .1%/k hours, C for .01%/k hours, D for .001%/k hours or the exponential rate letter. Designates reliability level.

Roll Over for Order Info.

Table 1 – Ratings & Part Number Reference cont'd

Rated Voltage	Rated Capacitance	Case Size Code	KEMET Military Part Number	DC Leakage	DF % @ 25°C	MIL–PRF–39003 (CSR13) Capacitors							
						Dash Number Reference							
						Failure Rate Level (%/1,000 hours)							
						MIL–PRF–39003/1K				MIL–PRF–39003/1K			
						Exponential				Graded			
VDC	µF		(See below for part options)	µA @ 25°C Max/5 Minutes	120 Hz Maximum	M (1.0)	P (0.1)	R (0.01)	S (0.001)	G (1)	B (0.1)	C (0.01)	D (0.001)
50	0.039	A	T215A393J050(2)S	0.1	2	5061-	5261-	5461-	5661-	4151-	6151-	7151-	8151-
50	0.039	A	T215A393K050(2)S	0.1	2	2331-	2571-	2811-	3051-	4152-	6152-	7152-	8152-
50	0.047	A	T215A473J050(2)S	0.1	2	5062-	5262-	5462-	5662-	4153-	6153-	7153-	8153-
50	0.047	A	T215A473K050(2)S	0.1	2	2332-	2572-	2812-	3052-	4154-	6154-	7154-	8154-
50	0.047	A	T215A473M050(2)S	0.1	2	2333-	2573-	2813-	3053-	4155-	6155-	7155-	8155-
50	0.056	A	T215A563J050(2)S	0.1	2	5063-	5263-	5463-	5663-	4156-	6156-	7156-	8156-
50	0.056	A	T215A563K050(2)S	0.1	2	2334-	2574-	2814-	3054-	4157-	6157-	7157-	8157-
50	0.068	A	T215A683J050(2)S	0.1	2	5064-	5264-	5464-	5664-	4158-	6158-	7158-	8158-
50	0.068	A	T215A683K050(2)S	0.1	2	2335-	2575-	2815-	3055-	4159-	6159-	7159-	8159-
50	0.068	A	T215A683M050(2)S	0.1	2	2336-	2576-	2816-	3056-	4160-	6160-	7160-	8160-
50	0.082	A	T215A823J050(2)S	0.1	2	5065-	5265-	5465-	5665-	4161-	6161-	7161-	8161-
50	0.082	A	T215A823K050(2)S	0.1	2	2337-	2577-	2817-	3057-	4162-	6162-	7162-	8162-
50	0.1	A	T215A104J050(2)S	0.3	2	5066-	5266-	5466-	5666-	4163-	6163-	7163-	8163-
50	0.1	A	T215A104K050(2)S	0.3	2	2338-	2578-	2818-	3058-	4164-	6164-	7164-	8164-
50	0.1	A	T215A104M050(2)S	0.3	2	2339-	2579-	2819-	3059-	4165-	6165-	7165-	8165-
50	0.12	A	T215A124J050(2)S	0.3	2	5067-	5267-	5467-	5667-	4166-	6166-	7166-	8166-
50	0.12	A	T215A124K050(2)S	0.3	2	2340-	2580-	2820-	3060-	4167-	6167-	7167-	8167-
50	0.15	A	T215A154J050(2)S	0.3	2	5068-	5268-	5468-	5668-	4168-	6168-	7168-	8168-
50	0.15	A	T215A154K050(2)S	0.3	2	2341-	2581-	2821-	3061-	4169-	6169-	7169-	8169-
50	0.15	A	T215A154M050(2)S	0.3	2	2342-	2582-	2822-	3062-	4170-	6170-	7170-	8170-
50	0.18	A	T215A184J050(2)S	0.3	2	5069-	5269-	5469-	5669-	4171-	6171-	7171-	8171-
50	0.18	A	T215A184K050(2)S	0.3	2	2343-	2583-	2823-	3063-	4172-	6172-	7172-	8172-
50	0.22	A	T215A224J050(2)S	0.3	2	5070-	5270-	5470-	5670-	4173-	6173-	7173-	8173-
50	0.22	A	T215A224K050(2)S	0.3	2	2344-	2584-	2824-	3064-	4174-	6174-	7174-	8174-
50	0.22	A	T215A224M050(2)S	0.3	2	2345-	2585-	2825-	3065-	4175-	6175-	7175-	8175-
50	0.27	A	T215A274J050(2)S	0.3	2	5071-	5271-	5471-	5671-	4176-	6176-	7176-	8176-
50	0.27	A	T215A274K050(2)S	0.3	2	2346-	2586-	2826-	3066-	4177-	6177-	7177-	8177-
50	0.33	A	T215A334J050(2)S	0.3	2	5072-	5272-	5472-	5672-	4178-	6178-	7178-	8178-
50	0.33	A	T215A334K050(2)S	0.3	2	2347-	2587-	2827-	3067-	4179-	6179-	7179-	8179-
50	0.33	A	T215A334M050(2)S	0.3	2	2348-	2588-	2828-	3068-	4180-	6180-	7180-	8180-
50	0.39	A	T215A394J050(2)S	0.3	2	5073-	5273-	5473-	5673-	4181-	6181-	7181-	8181-
50	0.39	A	T215A394K050(2)S	0.3	2	2349-	2589-	2829-	3069-	4182-	6182-	7182-	8182-
50	0.47	A	T215A474J050(2)S	0.3	2	5074-	5274-	5474-	5674-	4183-	6183-	7183-	8183-
50	0.47	A	T215A474K050(2)S	0.3	2	2350-	2590-	2830-	3070-	4184-	6184-	7184-	8184-
50	0.47	A	T215A474M050(2)S	0.3	2	2351-	2591-	2831-	3071-	4185-	6185-	7185-	8185-
50	0.56	A	T215A564J050(2)S	0.3	2	5075-	5275-	5475-	5675-	4186-	6186-	7186-	8186-
50	0.56	A	T215A564K050(2)S	0.3	2	2352-	2592-	2832-	3072-	4187-	6187-	7187-	8187-
50	0.68	A	T215A684J050(2)S	0.3	2	5076-	5276-	5476-	5676-	4188-	6188-	7188-	8188-
50	0.68	A	T215A684K050(2)S	0.3	2	2353-	2593-	2833-	3073-	4189-	6189-	7189-	8189-
50	0.68	A	T215A684M050(2)S	0.3	2	2354-	2594-	2834-	3074-	4190-	6190-	7190-	8190-
50	0.82	A	T215A824J050(2)S	0.3	2	5077-	5277-	5477-	5677-	4191-	6191-	7191-	8191-
50	0.82	A	T215A824K050(2)S	0.3	2	2355-	2595-	2835-	3075-	4192-	6192-	7192-	8192-
50	1.0	A	T215A105J050(2)S	0.4	2	5078-	5278-	5478-	5678-	4193-	6193-	7193-	8193-
50	1.0	A	T215A105K050(2)S	0.4	2	2356-	2596-	2836-	3076-	4194-	6194-	7194-	8194-
50	1.0	A	T215A105M050(2)S	0.4	2	2357-	2597-	2837-	3077-	4195-	6195-	7195-	8195-
50	1.2	B	T215B125J050(2)S	0.4	4	5079-	5279-	5479-	5679-	4196-	6196-	7196-	8196-
50	1.2	B	T215B125K050(2)S	0.4	4	2358-	2598-	2838-	3078-	4197-	6197-	7197-	8197-
50	1.5	B	T215B155J050(2)S	0.5	4	5080-	5280-	5480-	5680-	4198-	6198-	7198-	8198-
50	1.5	B	T215B155K050(2)S	0.5	4	2359-	2599-	2839-	3079-	4199-	6199-	7199-	8199-
50	1.5	B	T215B155M050(2)S	0.5	4	2360-	2600-	2840-	3080-	4200-	6200-	7200-	8200-
VDC	µF	Case Size Code	(see below for part options)	µA @ 25°C Max/5 Minimum	120 Hz Maximum	M (1.0)	P (0.1)	R (0.01)	S (0.001)	G (1)	B (0.1)	C (0.01)	D (0.001)
Rated Voltage	Rated Capacitance		KEMET Part Number	DC Leakage	DF % @ 25°C	MIL–PRF–39003 (CSR13) Capacitors							

(2) To complete KEMET part number (T215), insert graded failure rate: G for 1%/k hours, B for .1%/k hours, C for .01%/k hours, D for .001%/k hours or the exponential rate letter. Designates reliability level.

Roll Over for Order Info.

Table 1 – Ratings & Part Number Reference cont'd

Rated Voltage	Rated Capacitance	Case Size Code	KEMET Military Part Number	DC Leakage	DF % @ 25°C	MIL–PRF–39003 (CSR13) Capacitors							
						Dash Number Reference							
						Failure Rate Level (%/1,000 hours)							
						MIL–PRF–39003/1K				MIL–PRF–39003/1K			
						Exponential				Graded			
VDC	µF		(See below for part options)	µA @ 25°C Max/5 Minutes	120 Hz Maximum	M (1.0)	P (0.1)	R (0.01)	S (0.001)	G (1)	B (0.1)	C (0.01)	D (0.001)
50	1.8	B	T215B185J050(2)S	0.5	4	5081-	5281-	5481-	5681-	4201-	6201-	7201-	8201-
50	1.8	B	T215B185K050(2)S	0.5	4	2361-	2601-	2841-	3081-	4202-	6202-	7202-	8202-
50	2.2	B	T215B225J050(2)S	0.8	4	5082-	5282-	5482-	5682-	4203-	6203-	7203-	8203-
50	2.2	B	T215B225K050(2)S	0.8	4	2362-	2602-	2842-	3082-	4204-	6204-	7204-	8204-
50	2.2	B	T215B225M050(2)S	0.8	4	2363-	2603-	2843-	3083-	4205-	6205-	7205-	8205-
50	2.7	B	T215B275J050(2)S	0.8	4	5083-	5283-	5483-	5683-	4206-	6206-	7206-	8206-
50	2.7	B	T215B275K050(2)S	0.8	4	2364-	2604-	2844-	3084-	4207-	6207-	7207-	8207-
50	3.3	B	T215B335J050(2)S	1.2	4	5084-	5284-	5484-	5684-	4208-	6208-	7208-	8208-
50	3.3	B	T215B335K050(2)S	1.2	4	2365-	2605-	2845-	3085-	4209-	6209-	7209-	8209-
50	3.3	B	T215B335M050(2)S	1.2	4	2366-	2606-	2846-	3086-	4210-	6210-	7210-	8210-
50	3.9	B	T215B395J050(2)S	1.5	4	5085-	5285-	5485-	5685-	4211-	6211-	7211-	8211-
50	3.9	B	T215B395K050(2)S	1.5	4	2367-	2607-	2847-	3087-	4212-	6212-	7212-	8212-
50	4.7	B	T215B475J050(2)S	1.7	4	5086-	5286-	5486-	5686-	4213-	6213-	7213-	8213-
50	4.7	B	T215B475K050(2)S	1.7	4	2368-	2608-	2848-	3088-	4214-	6214-	7214-	8214-
50	4.7	B	T215B475M050(2)S	1.7	4	2369-	2609-	2849-	3089-	4215-	6215-	7215-	8215-
50	5.6	C	T215C565J050(2)S	2.2	4	5087-	5287-	5487-	5687-	4216-	6216-	7216-	8216-
50	5.6	C	T215C565K050(2)S	2.2	4	2370-	2610-	2850-	3090-	4217-	6217-	7217-	8217-
50	6.8	C	T215C685J050(2)S	2.2	4	5088-	5288-	5488-	5688-	4218-	6218-	7218-	8218-
50	6.8	C	T215C685K050(2)S	2.2	4	2371-	2611-	2851-	3091-	4219-	6219-	7219-	8219-
50	6.8	C	T215C685M050(2)S	2.2	4	2372-	2612-	2852-	3092-	4220-	6220-	7220-	8220-
50	8.2	C	T215C825J050(2)S	2.5	4	5089-	5289-	5489-	5689-	4221-	6221-	7221-	8221-
50	8.2	C	T215C825K050(2)S	2.5	4	2373-	2613-	2853-	3093-	4222-	6222-	7222-	8222-
50	10.0	C	T215C106J050(2)S	2.5	4	5090-	5290-	5490-	5690-	4223-	6223-	7223-	8223-
50	10.0	C	T215C106K050(2)S	2.5	4	2374-	2614-	2854-	3094-	4224-	6224-	7224-	8224-
50	10.0	C	T215C106M050(2)S	2.5	4	2375-	2615-	2855-	3095-	4225-	6225-	7225-	8225-
50	12.0	C	T215C126J050(2)S	3.0	4	5091-	5291-	5491-	5691-	4226-	6226-	7226-	8226-
50	12.0	C	T215C126K050(2)S	3.0	4	2376-	2616-	2856-	3096-	4227-	6227-	7227-	8227-
50	15.0	C	T215C156J050(2)S	4.0	4	5092-	5292-	5492-	5692-	4228-	6228-	7228-	8228-
50	15.0	C	T215C156K050(2)S	4.0	4	2377-	2617-	2857-	3097-	4229-	6229-	7229-	8229-
50	15.0	C	T215C156M050(2)S	4.0	4	2378-	2618-	2858-	3098-	4230-	6230-	7230-	8230-
50	18.0	C	T215C186J050(2)S	4.5	4	5093-	5293-	5493-	5693-	4231-	6231-	7231-	8231-
50	18.0	C	T215C186K050(2)S	4.5	4	2379-	2619-	2859-	3099-	4232-	6232-	7232-	8232-
50	22.0	D	T215D226J050(2)S	5.5	4	5094-	5294-	5494-	5694-	4233-	6233-	7233-	8233-
50	22.0	D	T215D226K050(2)S	5.5	4	2380-	2620-	2860-	3100-	4234-	6234-	7234-	8234-
50	22.0	D	T215D226M050(2)S	5.5	4	2381-	2621-	2861-	3101-	4235-	6235-	7235-	8235-
75	0.1	A	T215A104J075(2)S	0.3	2	5095-	5295-	5495-	5695-	4236-	6236-	7236-	8236-
75	0.1	A	T215A104K075(2)S	0.3	2	2382-	2622-	2862-	3102-	4237-	6237-	7237-	8237-
75	0.1	A	T215A104M075(2)S	0.3	2	2383-	2623-	2863-	3103-	4238-	6238-	7238-	8238-
75	0.12	A	T215A124J075(2)S	0.3	2	5096-	5296-	5496-	5696-	4239-	6239-	7239-	8239-
75	0.12	A	T215A124K075(2)S	0.3	2	2384-	2624-	2864-	3104-	4240-	6240-	7240-	8240-
75	0.15	A	T215A154J075(2)S	0.3	2	5097-	5297-	5497-	5697-	4241-	6241-	7241-	8241-
75	0.15	A	T215A154K075(2)S	0.3	2	2385-	2625-	2865-	3105-	4242-	6242-	7242-	8242-
75	0.15	A	T215A154M075(2)S	0.3	2	2386-	2626-	2866-	3106-	4243-	6243-	7243-	8243-
75	0.18	A	T215A184J075(2)S	0.3	2	5098-	5298-	5498-	5698-	4244-	6244-	7244-	8244-
75	0.18	A	T215A184K075(2)S	0.3	2	2387-	2627-	2867-	3107-	4245-	6245-	7245-	8245-
75	0.22	A	T215A224J075(2)S	0.3	2	5099-	5299-	5499-	5699-	4246-	6246-	7246-	8246-
75	0.22	A	T215A224K075(2)S	0.3	2	2388-	2628-	2868-	3108-	4247-	6247-	7247-	8247-
75	0.22	A	T215A224M075(2)S	0.3	2	2389-	2629-	2869-	3109-	4248-	6248-	7248-	8248-
75	0.27	A	T215A274J075(2)S	0.3	2	5100-	5300-	5500-	5700-	4249-	6249-	7249-	8249-
75	0.27	A	T215A274K075(2)S	0.3	2	2390-	2630-	2870-	3110-	4250-	6250-	7250-	8250-
VDC	µF	Case Size Code	(see below for part options)	µA @ 25°C Max/5 Minimum	120 Hz Maximum	M (1.0)	P (0.1)	R (0.01)	S (0.001)	G (1)	B (0.1)	C (0.01)	D (0.001)
Rated Voltage	Rated Capacitance		KEMET Part Number	DC Leakage	DF % @ 25°C	MIL–PRF–39003 (CSR13) Capacitors							

(2) To complete KEMET part number (T215), insert graded failure rate: G for 1%/k hours, B for .1%/k hours, C for .01%/k hours, D for .001%/k hours or the exponential rate letter. Designates reliability level.

Roll Over for Order Info.

Table 1 – Ratings & Part Number Reference cont'd

Rated Voltage	Rated Capacitance	Case Size Code	KEMET Military Part Number	DC Leakage	DF % @ 25°C	MIL–PRF–39003 (CSR13) Capacitors							
						Dash Number Reference							
						Failure Rate Level (%/1,000 hours)							
						MIL–PRF–39003/1K				MIL–PRF–39003/1K			
						Exponential				Graded			
VDC	µF		(See below for part options)	µA @ 25°C Max/5 Minutes	120 Hz Maximum	M (1.0)	P (0.1)	R (0.01)	S (0.001)	G (1)	B (0.1)	C (0.01)	D (0.001)
75	0.33	A	T215A334J075(2)S	0.3	2	5101-	5301-	5501-	5701-	4251-	6251-	7251-	8251-
75	0.33	A	T215A334K075(2)S	0.3	2	2391-	2631-	2871-	3111-	4252-	6252-	7252-	8252-
75	0.33	A	T215A334M075(2)S	0.3	2	2392-	2632-	2872-	3112-	4253-	6253-	7253-	8253-
75	0.39	A	T215A394J075(2)S	0.3	2	5102-	5302-	5502-	5702-	4254-	6254-	7254-	8254-
75	0.39	A	T215A394K075(2)S	0.3	2	2393-	2633-	2873-	3113-	4255-	6255-	7255-	8255-
75	0.47	A	T215A474J075(2)S	0.3	2	5103-	5303-	5503-	5703-	4256-	6256-	7256-	8256-
75	0.47	A	T215A474K075(2)S	0.3	2	2394-	2634-	2874-	3114-	4257-	6257-	7257-	8257-
75	0.47	A	T215A474M075(2)S	0.3	2	2395-	2635-	2875-	3115-	4258-	6258-	7258-	8258-
75	0.56	A	T215A564J075(2)S	0.3	2	5104-	5304-	5504-	5704-	4259-	6259-	7259-	8259-
75	0.56	A	T215A564K075(2)S	0.3	2	2396-	2636-	2876-	3116-	4260-	6260-	7260-	8260-
75	0.68	A	T215A684J075(2)S	0.3	2	5105-	5305-	5505-	5705-	4261-	6261-	7261-	8261-
75	0.68	A	T215A684K075(2)S	0.3	2	2397-	2637-	2877-	3117-	4262-	6262-	7262-	8262-
75	0.68	A	T215A684M075(2)S	0.3	2	2398-	2638-	2878-	3118-	4263-	6263-	7263-	8263-
75	0.82	B	T215B824J075(2)S	0.3	2	5106-	5306-	5506-	5706-	4264-	6264-	7264-	8264-
75	0.82	B	T215B824K075(2)S	0.3	2	2399-	2639-	2879-	3119-	4265-	6265-	7265-	8265-
75	1.0	B	T215B105J075(2)S	0.3	2	5107-	5307-	5507-	5707-	4266-	6266-	7266-	8266-
75	1.0	B	T215B105K075(2)S	0.3	2	2400-	2640-	2880-	3120-	4267-	6267-	7267-	8267-
75	1.0	B	T215B105M075(2)S	0.3	2	2401-	2641-	2881-	3121-	4268-	6268-	7268-	8268-
75	1.2	B	T215B125J075(2)S	0.3	4	5108-	5308-	5508-	5708-	4269-	6269-	7269-	8269-
75	1.2	B	T215B125K075(2)S	0.3	4	2402-	2642-	2882-	3122-	4270-	6270-	7270-	8270-
75	1.5	B	T215B155J075(2)S	0.6	4	5109-	5309-	5509-	5709-	4271-	6271-	7271-	8271-
75	1.5	B	T215B155K075(2)S	0.6	4	2403-	2643-	2883-	3123-	4272-	6272-	7272-	8272-
75	1.5	B	T215B155M075(2)S	0.6	4	2404-	2644-	2884-	3124-	4273-	6273-	7273-	8273-
75	1.8	B	T215B185J075(2)S	0.7	4	5110-	5310-	5510-	5710-	4274-	6274-	7274-	8274-
75	1.8	B	T215B185K075(2)S	0.7	4	2405-	2645-	2885-	3125-	4275-	6275-	7275-	8275-
75	2.2	B	T215B225J075(2)S	0.8	4	5111-	5311-	5511-	5711-	4276-	6276-	7276-	8276-
75	2.2	B	T215B225K075(2)S	0.8	4	2406-	2646-	2886-	3126-	4277-	6277-	7277-	8277-
75	2.2	B	T215B225M075(2)S	0.8	4	2407-	2647-	2887-	3127-	4278-	6278-	7278-	8278-
75	2.7	B	T215B275J075(2)S	1.0	4	5112-	5312-	5512-	5712-	4279-	6279-	7279-	8279-
75	2.7	B	T215B275K075(2)S	1.0	4	2408-	2648-	2888-	3128-	4280-	6280-	7280-	8280-
75	3.3	B	T215B335J075(2)S	1.2	4	5113-	5313-	5513-	5713-	4281-	6281-	7281-	8281-
75	3.3	B	T215B335K075(2)S	1.2	4	2409-	2649-	2889-	3129-	4282-	6282-	7282-	8282-
75	3.3	B	T215B335M075(2)S	1.2	4	2410-	2650-	2890-	3130-	4283-	6283-	7283-	8283-
75	3.9	B	T215B395J075(2)S	1.5	4	5114-	5314-	5514-	5714-	4284-	6284-	7284-	8284-
75	3.9	B	T215B395K075(2)S	1.5	4	2411-	2651-	2891-	3131-	4285-	6285-	7285-	8285-
75	4.7	C	T215C475J075(2)S	3.0	4	5115-	5315-	5515-	5715-	4286-	6286-	7286-	8286-
75	4.7	C	T215C475K075(2)S	3.0	4	2412-	2652-	2892-	3132-	4287-	6287-	7287-	8287-
75	4.7	C	T215C475M075(2)S	3.0	4	2413-	2653-	2893-	3133-	4288-	6288-	7288-	8288-
75	5.6	C	T215C565J075(2)S	3.0	4	5116-	5316-	5516-	5716-	4289-	6289-	7289-	8289-
75	5.6	C	T215C565K075(2)S	3.0	4	2414-	2654-	2894-	3134-	4290-	6290-	7290-	8290-
75	6.8	C	T215C685J075(2)S	5.0	4	5117-	5317-	5517-	5717-	4291-	6291-	7291-	8291-
75	6.8	C	T215C685K075(2)S	5.0	4	2415-	2655-	2895-	3135-	4292-	6292-	7292-	8292-
75	6.8	C	T215C685M075(2)S	5.0	4	2416-	2656-	2896-	3136-	4293-	6293-	7293-	8293-
75	8.2	C	T215C825J075(2)S	5.0	4	5118-	5318-	5518-	5718-	4294-	6294-	7294-	8294-
75	8.2	C	T215C825K075(2)S	5.0	4	2417-	2657-	2897-	3137-	4295-	6295-	7295-	8295-
75	10.0	C	T215C106J075(2)S	5.0	4	5119-	5319-	5519-	5719-	4296-	6296-	7296-	8296-
75	10.0	C	T215C106K075(2)S	5.0	4	2418-	2658-	2898-	3138-	4297-	6297-	7297-	8297-
75	10.0	C	T215C106M075(2)S	5.0	4	2419-	2659-	2899-	3139-	4298-	6298-	7298-	8298-
75	12.0	D	T215D126J075(2)S	5.0	4	5120-	5320-	5520-	5720-	4299-	6299-	7299-	8299-
75	12.0	D	T215D126JK07(2)S)	5.0	4	2420-	2660-	2900-	3140-	4300-	6300-	7300-	8300-
VDC	µF	Case Size Code	(see below for part options)	µA @ 25°C Max/5 Minimum	120 Hz Maximum	M (1.0)	P (0.1)	R (0.01)	S (0.001)	G (1)	B (0.1)	C (0.01)	D (0.001)
Rated Voltage	Rated Capacitance		KEMET Part Number	DC Leakage	DF % @ 25°C	MIL–PRF–39003 (CSR13) Capacitors							

(2) To complete KEMET part number (T215), insert graded failure rate: G for 1%/k hours, B for .1%/k hours, C for .01%/k hours, D for .001%/k hours or the exponential rate letter. Designates reliability level.

Roll Over for Order Info.

Table 1 – Ratings & Part Number Reference cont'd

Rated Voltage	Rated Capacitance	Case Size Code	KEMET Military Part Number	DC Leakage	DF % @ 25°C	MIL–PRF–39003 (CSR13) Capacitors							
						Dash Number Reference							
						Failure Rate Level (%/1,000 hours)							
						MIL–PRF–39003/1K				MIL–PRF–39003/1K			
						Exponential				Graded			
VDC	µF		(See below for part options)	µA @ 25°C Max/5 Minutes	120 Hz Maximum	M (1.0)	P (0.1)	R (0.01)	S (0.001)	G (1)	B (0.1)	C (0.01)	D (0.001)
75	15.0	D	T215D156J075(2)S	7.0	4	5121-	5321-	5521-	5721-	4301-	6301-	7301-	8301-
75	15.0	D	T215D156K075(2)S	7.0	4	2421-	2661-	2901-	3141-	4302-	6302-	7302-	8302-
75	15.0	D	T215D156M075(2)S	7.0	4	2422-	2662-	2902-	3142-	4303-	6303-	7303-	8303-
100	0.0047	A	T215A472J100(2)S	0.3	2	5122-	5322-	5522-	5722-	4304-	6304-	7304-	*
100	0.0047	A	T215A472K100(2)S	0.3	2	2423-	2663-	2903-	3143-	4305-	6305-	7305-	*
100	0.0047	A	T215A472M100(2)S	0.3	2	2424-	2664-	2904-	3144-	4306-	6306-	7306-	*
100	0.0056	A	T215A562J100(2)S	0.3	2	5123-	5323-	5523-	5723-	4307-	6307-	7307-	*
100	0.01	A	T215A562K100(2)S	0.3	2	2425-	2665-	2905-	3145-	4308-	6308-	7308-	*
100	0.0068	A	T215A682J100(2)S	0.3	2	5124-	5324-	5524-	5724-	4309-	6309-	7309-	*
100	0.0068	A	T215A682K100(2)S	0.3	2	2426-	2666-	2906-	3146-	4310-	6310-	7310-	*
100	0.0068	A	T215A682M100(2)S	0.3	2	2427-	2667-	2907-	3147-	4311-	6311-	7311-	*
100	0.0082	A	T215A822J100(2)S	0.3	2	5125-	5325-	5525-	5725-	4312-	6312-	7312-	*
100	0.0082	A	T215A822K100(2)S	0.3	2	2428-	2668-	2908-	3148-	4313-	6313-	7313-	*
100	0.01	A	T215A103J100(2)S	0.3	2	5126-	5326-	5526-	5726-	4313-	6314-	7314-	*
100	0.01	A	T215A103K100(2)S	0.3	2	2429-	2669-	2909-	3149-	4315-	6315-	7315-	*
100	0.01	A	T215A103M100(2)S	0.3	2	2430-	2670-	2910-	3150-	4316-	6316-	7316-	*
100	0.012	A	T215A123J100(2)S	0.3	2	5127-	5327-	5527-	5727-	4317-	6317-	7317-	*
100	0.012	A	T215A123K100(2)S	0.3	2	2431-	2671-	2911-	3151-	4318-	6318-	7318-	*
100	0.015	A	T215A153J100(2)S	0.3	2	5128-	5328-	5528-	5728-	4319-	6319-	7319-	*
100	0.015	A	T215A153K100(2)S	0.3	2	2432-	2672-	2912-	3152-	4320-	6320-	7320-	*
100	0.015	A	T215A153M100(2)S	0.3	2	2433-	2673-	2913-	3153-	4321-	6321-	7321-	*
100	0.018	A	T215A183J100(2)S	0.3	2	5129-	5329-	5529-	5729-	4322-	6322-	7322-	*
100	0.018	A	T215A183K100(2)S	0.3	2	2434-	2674-	2914-	3154-	4323-	6323-	7323-	*
100	0.022	A	T215A223J100(2)S	0.3	2	5130-	5330-	5530-	5730-	4324-	6324-	7324-	*
100	0.022	A	T215A223K100(2)S	0.3	2	2435-	2675-	2915-	3155-	4325-	6325-	7325-	*
100	0.022	A	T215A223M100(2)S	0.3	2	2436-	2676-	2916-	3156-	4326-	6326-	7326-	*
100	0.027	A	T215A273J100(2)S	0.3	2	5131-	5331-	5531-	5731-	4327-	6327-	7327-	*
100	0.027	A	T215A273K100(2)S	0.3	2	2437-	2677-	2917-	3157-	4328-	6328-	7328-	*
100	0.033	A	T215A333J100(2)S	0.3	2	5132-	5332-	5532-	5732-	4329-	6329-	7329-	*
100	0.033	A	T215A333K100(2)S	0.3	2	2438-	2678-	2918-	3158-	4330-	6330-	7330-	*
100	0.033	A	T215A333M100(2)S	0.3	2	2439-	2679-	2919-	3159-	4331-	6331-	7331-	*
100	0.039	A	T215A393J100(2)S	0.3	2	5133-	5333-	5533-	5733-	4332-	6332-	7332-	*
100	0.039	A	T215A393K100(2)S	0.3	2	2440-	2680-	2920-	3160-	4333-	6333-	7333-	*
100	0.047	A	T215A473J100(2)S	0.3	2	5134-	5334-	5534-	5734-	4334-	6334-	7334-	*
100	0.047	A	T215A473K100(2)S	0.3	2	2441-	2681-	2921-	3161-	4335-	6335-	7335-	*
100	0.047	A	T215A473M100(2)S	0.3	2	2442-	2682-	2922-	3162-	4336-	6336-	7336-	*
100	0.056	A	T215A563J100(2)S	0.3	2	5135-	5335-	5535-	5735-	4337-	6337-	7337-	*
100	0.056	A	T215A563K100(2)S	0.3	2	2443-	2683-	2923-	3163-	4338-	6338-	7338-	*
100	0.068	A	T215A683J100(2)S	0.3	2	5136-	5336-	5536-	5736-	4339-	6339-	7339-	*
100	0.068	A	T215A683K100(2)S	0.3	2	2444-	2684-	2924-	3164-	4340-	6340-	7340-	*
100	0.068	A	T215A683M100(2)S	0.3	2	2445-	2685-	2925-	3165-	4341-	6341-	7341-	*
100	0.082	A	T215A823J100(2)S	0.3	2	5137-	5337-	5537-	5737-	4342-	6342-	7342-	*
100	0.082	A	T215A823K100(2)S	0.3	2	2446-	2686-	2926-	3166-	4343-	6343-	7343-	*
100	0.1	A	T215A104J100(2)S	0.3	2	5138-	5338-	5538-	5738-	4344-	6344-	7344-	*
100	0.1	A	T215A104K100(2)S	0.3	2	2447-	2687-	2927-	3167-	4345-	6345-	7345-	*
100	0.1	A	T215A104M100(2)S	0.3	2	2448-	2688-	2928-	3168-	4346-	6346-	7346-	*
100	0.12	A	T215A124J100(2)S	0.3	2	5139-	5339-	5539-	5739-	4347-	6347-	7347-	*
100	0.12	A	T215A124K100(2)S	0.3	2	2449-	2689-	2929-	3169-	4348-	6348-	7348-	*
100	0.15	A	T215A154J100(2)S	0.3	2	5140-	5340-	5540-	5740-	4349-	6349-	7349-	*
100	0.15	A	T215A154K100(2)S	0.3	2	2450-	2690-	2930-	3170-	4350-	6350-	7350-	*
VDC	µF	Case Size Code	(see below for part options)	µA @ 25°C Max/5 Minimum	120 Hz Maximum	M (1.0)	P (0.1)	R (0.01)	S (0.001)	G (1)	B (0.1)	C (0.01)	D (0.001)
Rated Voltage	Rated Capacitance		KEMET Part Number	DC Leakage	DF % @ 25°C	MIL–PRF–39003 (CSR13) Capacitors							

(2) To complete KEMET part number (T215), insert graded failure rate: G for 1%/k hours, B for .1%/k hours, C for .01%/k hours, D for .001%/k hours or the exponential rate letter. Designates reliability level.

Roll Over for Order Info.

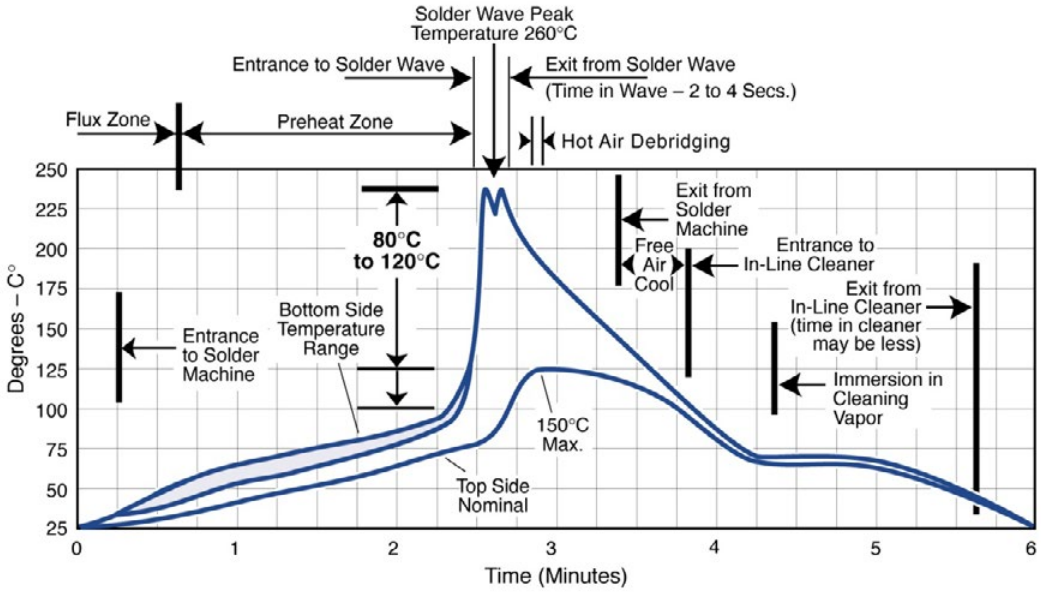
Table 1 – Ratings & Part Number Reference cont'd

Rated Voltage	Rated Capacitance	Case Size Code	KEMET Military Part Number	DC Leakage	DF % @ 25°C	MIL–PRF–39003 (CSR13) Capacitors							
						Dash Number Reference							
						Failure Rate Level (%/1,000 hours)							
						MIL–PRF–39003/1K				MIL–PRF–39003/1K			
						Exponential				Graded			
VDC	µF		(See below for part options)	µA @ 25°C Max/5 Minutes	120 Hz Maximum	M (1.0)	P (0.1)	R (0.01)	S (0.001)	G (1)	B (0.1)	C (0.01)	D (0.001)
100	0.15	A	T215A154M100(2)S	0.3	2	2451-	2691-	2931-	3171-	4351-	6351-	7351-	*
100	0.18	A	T215A184J100(2)S	0.3	2	5141-	5341-	5541-	5741-	4352-	6352-	7352-	*
100	0.18	A	T215A184K100(2)S	0.3	2	2452-	2692-	2932-	3172-	4353-	6353-	7353-	*
100	0.22	A	T215A224J100(2)S	0.3	2	5142-	5342-	5542-	5742-	4354-	6354-	7354-	*
100	0.22	A	T215A224K100(2)S	0.3	2	2453-	2693-	2933-	3173-	4355-	6355-	7355-	*
100	0.22	A	T215A224M100(2)S	0.3	2	2454-	2694-	2934-	3174-	4356-	6356-	7356-	*
100	0.27	A	T215A274J100(2)S	0.3	2	5143-	5343-	5543-	5743-	4357-	6357-	7357-	*
100	0.27	A	T215A274K100(2)S	0.3	2	2455-	2695-	2935-	3175-	4358-	6358-	7358-	*
100	0.33	A	T215A334J100(2)S	0.3	2	5144-	5344-	5544-	5744-	4359-	6359-	7359-	*
100	0.33	A	T215A334K100(2)S	0.3	2	2456-	2696-	2936-	3176-	4360-	6360-	7360-	*
100	0.33	A	T215A334M100(2)S	0.3	2	2457-	2697-	2937-	3177-	4361-	6361-	7361-	*
100	0.39	A	T215A394J100(2)S	0.3	2	5145-	5345-	5545-	5745-	4362-	6362-	7362-	*
100	0.39	A	T215A394K100(2)S	0.3	2	2458-	2698-	2938-	3178-	4363-	6363-	7363-	*
100	0.47	A	T215A474J100(2)S	0.3	2	5146-	5346-	5546-	5749-	4364-	6364-	7364-	*
100	0.47	A	T215A474K100(2)S	0.3	2	2459-	2699-	2939-	3179-	4365-	6365-	7365-	*
100	0.47	A	T215A474M100(2)S	0.3	2	2460-	2700-	2940-	3180-	4366-	6366-	7366-	*
100	0.56	A	T215A564J100(2)S	0.3	2	5147-	5347-	5547-	5747-	4367-	6367-	7367-	*
100	0.56	A	T215A564K100(2)S	0.3	2	2461-	2701-	2941-	3181-	4368-	6368-	7368-	*
100	0.68	B	T215B684J100(2)S	0.3	2	5148-	5348-	5548-	5748-	4369-	6369-	7369-	*
100	0.68	B	T215B684K100(2)S	0.3	2	2462-	2702-	2942-	3182-	4370-	6370-	7370-	*
100	0.68	B	T215B684M100(2)S	0.3	2	2463-	2703-	2943-	3183-	4371-	6371-	7371-	*
100	0.82	B	T215B824J100(2)S	0.4	2	5149-	5349-	5549-	5749-	4372-	6372-	7372-	*
100	0.82	B	T215B824K100(2)S	0.4	2	2464-	2704-	2944-	3184-	4373-	6373-	7373-	*
100	1.0	B	T215B105J100(2)S	0.5	2	5150-	5350-	5550-	5750-	4374-	6374-	7374-	*
100	1.0	B	T215B105K100(2)S	0.5	2	2465-	2705-	2945-	3185-	4375-	6375-	7375-	*
100	1.0	B	T215B105M100(2)S	0.5	2	2466-	2706-	2946-	3186-	4376-	6376-	7376-	*
100	1.2	B	T215B125J100(2)S	0.5	3	5151-	5351-	5551-	5751-	4377-	6377-	7377-	*
100	1.2	B	T215B125K100(2)S	0.5	3	2467-	2707-	2947-	3187-	4378-	6378-	7378-	*
100	1.5	B	T215B155J100(2)S	0.7	3	5152-	5352-	5552-	5752-	4379-	6379-	7379-	*
100	1.5	B	T215B155K100(2)S	0.7	3	2468-	2708-	2948-	3188-	4380-	6380-	7380-	*
100	1.5	B	T215B155M100(2)S	0.7	3	2469-	2709-	2949-	3189-	4381-	6381-	7381-	*
100	1.8	B	T215B185J100(2)S	0.7	3	5153-	5353-	5553-	5753-	4382-	6382-	7382-	*
100	1.8	B	T215B185K100(2)S	0.7	3	2470-	2710-	2950-	3190-	4383-	6383-	7383-	*
100	2.2	B	T215B225J100(2)S	0.9	3	5154-	5354-	5554-	5754-	4384-	6384-	7384-	*
100	2.2	B	T215B225K100(2)S	0.9	3	2471-	2711-	2951-	3191-	4385-	6385-	7385-	*
100	2.2	B	T215B225M100(2)S	0.9	3	2472-	2712-	2952-	3192-	4386-	6386-	7386-	*
100	2.7	B	T215B275J100(2)S	1.1	3	5155-	5355-	5555-	5755-	4387-	6387-	7387-	*
100	2.7	B	T215B275K100(2)S	1.1	3	2473-	2713-	2953-	3193-	4388-	6388-	7388-	*
100	3.3	C	T215C335J100(2)S	1.5	3	5156-	5356-	5556-	5756-	4389-	6389-	*	*
100	3.3	C	T215C335K100(2)S	1.5	3	5157-	5357-	5557-	5757-	4390-	6390-	*	*
100	3.3	C	T215C335M100(2)S	1.5	3	5158-	5358-	5558-	5758-	4391-	6391-	*	*
100	3.9	C	T215C395J100(2)S	1.5	3	5159-	5359-	5559-	5759-	4392-	6392-	*	*
100	3.9	C	T215C395K100(2)S	1.5	3	5160-	5360-	5560-	5760-	4393-	6393-	*	*
100	4.7	C	T215C475J100(2)S	2.5	3	5161-	5361-	5561-	5761-	4394-	6394-	*	*
100	4.7	C	T215C475K100(2)S	2.5	3	5162-	5362-	5562-	5762-	4395-	6395-	*	*
100	4.7	C	T215C475M100(2)S	2.5	3	5163-	5363-	5563-	5763-	4396-	6396-	*	*
100	5.6	C	T215C565J100(2)S	2.5	3	5164-	5364-	5564-	5764-	4397-	6397-	*	*
100	5.6	C	T215C565K100(2)S	2.5	3	5165-	5365-	5565-	5765-	4398-	6398-	*	*
100	6.80	C	T215C685J100(2)S	2.5	3	5166-	5366-	5566-	5766-	4399-	6399-	*	*
100	6.80	C	T215C685K100(2)S	2.5	3	5167-	5367-	5567-	5767-	4400-	6400-	*	*
100	6.80	C	T215C685M100(2)S	2.5	3	5168-	5368-	5568-	5768-	4401-	6401-	*	*
VDC	µF	Case Size Code	(see below for part options)	µA @ 25°C Max/5 Minimum	120 Hz Maximum	M (1.0)	P (0.1)	R (0.01)	S (0.001)	G (1)	B (0.1)	C (0.01)	D (0.001)
Rated Voltage	Rated Capacitance		KEMET Part Number	DC Leakage	DF % @ 25°C	MIL–PRF–39003 (CSR13) Capacitors							

(2) To complete KEMET part number (T215), insert graded failure rate: G for 1%/k hours, B for .1%/k hours, C for .01%/k hours, D for .001%/k hours or the exponential rate letter. Designates reliability level.

Roll Over for Order Info.

Optimum Solder Wave Profile



Mounting

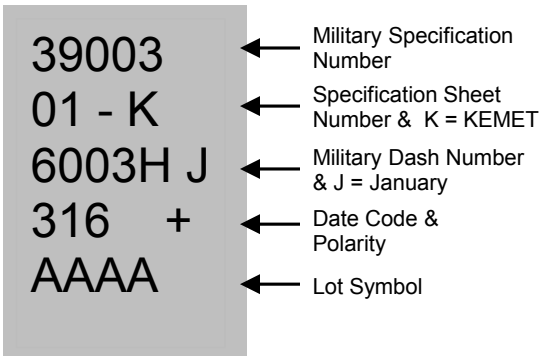
All encased capacitors will pass the Resistance to Soldering Heat Test of MIL–STD–202, Method 210, Condition C. This test simulates wave solder of topside board mount product. This demonstration of resistance to solder heat is in accordance with what is believed to be the industry standard. More severe treatment must be considered reflective of an improper soldering process. The above figure is a recommended solder wave profile for both axial and radial leaded solid tantalum capacitors.

Packaging

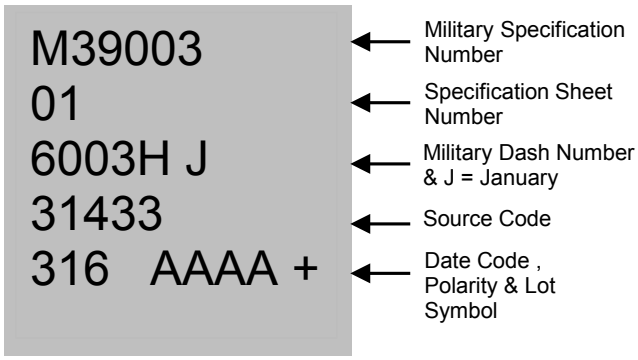
Case Size	Standard Bulk Quantity	Standard Reel Quantity	Reel C-Spec	Ammo Pack Quantity	Ammo Pack C-Spec
A	150/Box	3,500	C-7200	1,500	C-7293
B	75 / Box	2,500	C-7200	1,000	Class I
C	20 / Tray	500	C-7200	250	C-7442
D	20 / Tray	400	C-7200	250	Class II C-7443 Class III

Capacitor Marking

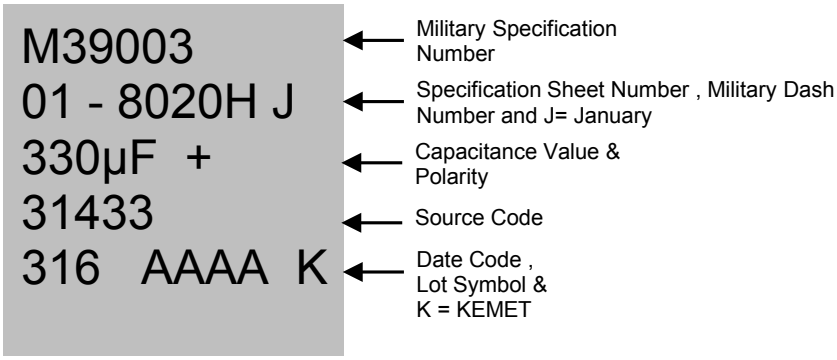
Case A



Case B



Case C & D



Date Code	
1st digit = Last number of Year	2 = 2012 3 = 2013 4 = 2014
2nd and 3rd digit = Week of the Year	11 = 2nd week of March

Storage

Tantalum hermetically sealed capacitors should be stored in normal working environments. While the capacitors themselves are quite robust in other environments, solderability will be degraded by exposure to high temperatures, high humidity, corrosive atmospheres, and long term storage. In addition, packaging materials will be degraded by high temperature– reels may soften or warp and tape peel force may increase. KEMET recommends that maximum storage temperature not exceed 40°C and maximum storage humidity not exceed 60% relative humidity. Temperature fluctuations should be minimized to avoid condensation on the parts and atmospheres should be free of chlorine and sulphur bearing compounds. For optimized solderability capacitors stock should be used promptly, preferably within three years of receipt.

T225 Series High Temperature Solder

Overview

The KEMET T225 High Temperature Solder Series of solid tantalum capacitors is especially designed for miniaturization and employs a unique glass-to-metal compression end seal that has no protruding eyelet. This flush end seal construction ideally suits the T225 Series for all miniature high density packaging applications. The capacitors consist of a dry porous tantalum pellet, hermetically sealed in a solder coated metal case with solder coated alloy 52 and solder coated nickel.

The internal design of these devices, as well as the hermetic seal, includes high temperature solder (minimum melting point of 221°C). The content of tin in the solder does not exceed 97%. This assembly is especially suited for temperature conditions where solder may fail due to undesirable solder reflow.

The T225 series is approved to all ratings and failure rates of MIL–PRF–39003/2.

Benefits

- Internal construction solder to resist up to 221ºC
- Qualified to MIL–PRF–39003, Style CSR09
- Failure rate options: Graded - B, C, D, and G, and Exponential - M, P, R, and S
- Surge current options D, E, and F
- Operating temperature range of -55˚C to +125˚C
- Capacitance values of 0.047 µF to 18 µF
- Tolerances of ±5%, and ±10%
- Voltage rating of 6 – 75 VDC
- Case sizes: A and B
- Taped and reeled per EIA Specification RS–296
- Marking per MIL–STD–1285

Applications

KEMET's T225 High Temperature Solder Series of solid tantalum capacitors is especially designed for miniaturization.

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Ordering Information – CSR09

M39003	/02	3036	D
Capacitor Class	Slash	Dash Number	Surge Option
Military Specification Number	Specification Sheet Number	Failure Rate Level	D = C-4250 E = C-4251 F = C-4252 H = No C-Spec

Orders should be entered by the military specification number, including the dash number and surge option letter (D, E, F, or H).

Ordering Information

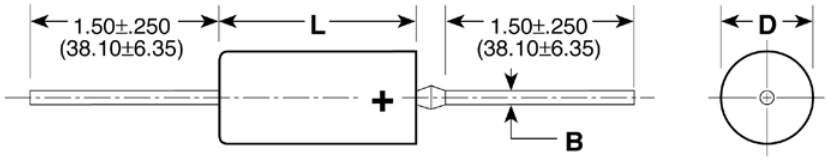
T	225	A	225	K	010	B	S	7200
Capacitor Class	Series	Case Size	Capacitance Code (pF)	Capacitance Tolerance	Voltage	Failure Rate/ Military Product Only	Lead Material	Specification
T = Tantalum	Hermetically Sealed Axial High Temperature Solder	A, B	First two digits represent significant figures. Third digit specifies number of zeros to follow.	J = ±5% K = ±10%	006 = 6 V 010 = 10 V 015 = 15 V 020 = 20 V 035 = 35 V 050 = 50 V 075 = 75 V	Graded: B = 0.1%/k hours C = 0.01%/k hours D = 0.001%/k hours G = 1.0%/k hours Exponential: M = 1%/k hours P = 0.1%/k hours R = 0.01%/k hours S = 0.001%/k hours	S = Standard	All capacitors are sleeved unless specified. 0100 = Without sleeve 7200 = Tape & Reel 7293 = Ammo 4250 = 10 cycles, 25°C after Weibull 4251 = 10 cycles, -55 & 85°C after Weibull 4252 = 10 cycles, -55 & 85°C before Weibull

Performance Characteristics

Item	Performance Characteristics
Operating Temperature	-55°C to 125°C
Rated Capacitance Range	0.047 µF – 18 µF @ 120 Hz/25°C
Capacitance Tolerance	J Tolerance (5%), K Tolerance (10%)
Rated Voltage Range	6 – 75 V
DF (120 Hz @ 25°C)	Refer to Part Number Electrical Specification Table
ESR and Impedance (100 kHz @ 25°C)	Refer to Part Number Electrical Specification Table (for reference only)
Leakage Current	Refer to Part Number Electrical Specification Table (@ rated voltage up to +85°C and 2/3 of rated voltage applied at 125°C)
Failure Rate (MIL–PRF–39003, CSR09 capacitors only)	Approved failure rate: Graded G (1.0%/k hours), B (0.1%/k hours), C (0.01%/k hours), D (0.001%/k hours) and Exponential M (1.0%/k hours), P (0.1%/k hours), R (0.01%/k hours), S (0.001%/k hours)

Dimensions – Millimeters (Inches)

Metric will govern



Case Size	Uninsulated		Insulated		B Wire Diameter
	D ±0.005 ±(0.13)	L	D	L	
A	0.085 (2.16)	0.245 +0.015 (6.22 +0.38) -0.010 (-0.25)	0.090 ±0.009 (2.29 ±0.23)	0.250 +0.031 (6.35 +0.79) -0.015 (-0.38)	0.016 +0.005 (0.41 +0.13) -0.001 (-0.03)
B	0.127 (3.23)	0.375 ±0.015 (0.53 ±0.38)	0.138 ±0.010 (3.51 ±0.25)	0.390 ±0.015 (9.91 ±0.38)	0.016 +0.005 (0.41 +0.13) -0.001 (-0.03)

Table 1 – Ratings & Part Number Reference

Rated Voltage	Rated Capacitance	Case Size Code	KEMET Military Part Number	DC Leakage	DF % @ 25°C	MIL–PRF–39003 (CSR09) Capacitors							
						Dash Number Reference							
						Failure Rate Level (%/1,000 hours)							
						MIL–PRF–39003/2J				MIL–PRF–39003/2J			
						Exponential				Graded			
VDC	µF		(See below for part options)	µA @ 25°C Max/5 Minutes	120 Hz Maximum	M (1.0)	P (0.1)	R (0.01)	S (0.001)	G (1)	B (0.1)	C (0.01)	D (0.001)
6	2.7	A	T225A275J006(1)S	0.6	6	1001-	1061-	1121-	1181-	5001-	2001-	3001-	4001-
6	2.7	A	T225A275K006(1)S	0.6	6	0001-	0061-	0121-	0181-	5002-	2002-	3002-	4002-
6	18.0	B	T225B186J006(1)S	1.4	6	1002-	1062-	1122-	1182-	5003-	2003-	3003-	4003-
6	18.0	B	T225B186K006(1)S	1.4	6	0002-	0062-	0122-	0182-	5004-	2004-	3004-	4004-
10	1.8	A	T225A185J010(1)S	0.6	6	1007-	1067-	1127-	1187-	5005-	2005-	3005-	4005-
10	1.8	A	T225A185K010(1)S	0.6	6	0007-	0067-	0127-	0187-	5006-	2006-	3006-	4006-
10	2.2	A	T225A225J010(1)S	0.6	6	1008-	1068-	1128-	1188-	5007-	2007-	3007-	4007-
10	2.2	A	T225A225K010(1)S	0.6	6	0008-	0068-	0128-	0188-	5008-	2008-	3008-	4008-
10	10.0	B	T225B106J010(1)S	2.0	6	1009-	1069-	1129-	1189-	5009-	2009-	3009-	4009-
10	10.0	B	T225B106K010(1)S	2.0	6	0009-	0069-	0129-	0189-	5010-	2010-	3010-	4010-
10	12.0	B	T225B126J010(1)S	2.0	6	1010-	1070-	1130-	1190-	5011-	2011-	3011-	4011-
10	12.0	B	T225B126K010(1)S	2.0	6	0010-	0070-	0130-	0190-	5012-	2012-	3012-	4012-
10	15.0	B	T225B156J010(1)S	2.0	6	1011-	1071-	1131-	1191-	5013-	2013-	3013-	4013-
10	15.0	B	T225B156K010(1)S	2.0	6	0011-	0071-	0131-	0191-	5014-	2014-	3014-	4014-
15	1.0	A	T225A105J015(1)S	0.6	6	1012-	1072-	1132-	1192-	5015-	2015-	3015-	4015-
15	1.0	A	T225A105K015(1)S	0.6	6	0012-	0072-	0132-	0192-	5016-	2016-	3016-	4016-
15	1.2	A	T225A125J015(1)S	0.6	6	1013-	1073-	1133-	1193-	5017-	2017-	3017-	4017-
15	1.2	A	T225A125K015(1)S	0.6	6	0013-	0073-	0133-	0193-	5018-	2018-	3018-	4018-
15	1.5	A	T225A155J015(1)S	0.6	6	1014-	1074-	1134-	1194-	5019-	2019-	3019-	4019-
15	1.5	A	T225A155K015(1)S	0.6	6	0014-	0074-	0134-	0194-	5020-	2020-	3020-	4020-
15	8.2	B	T225B825J015(1)S	1.8	6	1015-	1075-	1135-	1195-	5021-	2021-	3021-	4021-
15	8.2	B	T225B825K075(1)S	1.8	6	0015-	0075-	0135-	0195-	5022-	2022-	3022-	4022-
20	0.56	A	T225A564J020(1)S	0.6	3	1016-	1076-	1136-	1196-	5023-	2023-	3023-	4023-
20	0.56	A	T225A564K020(1)S	0.6	3	0016-	0076-	0136-	0196-	5024-	2024-	3024-	4024-
20	0.68	A	T225A684J020(1)S	0.6	3	1017-	1077-	1137-	1197-	5025-	2025-	3025-	4025-
20	0.68	A	T225A684K020(1)S	0.6	3	0017-	0077-	0137-	0197-	5026-	2026-	3026-	4026-
20	0.82	A	T225A824J020(1)S	0.6	3	1018-	1078-	1138-	1198-	5027-	2027-	3027-	4027-
20	0.82	A	T225A824K020(1)S	0.6	3	0018-	0078-	0138-	0198-	5028-	2028-	3028-	4028-
20	1.0	A	T225A105J020(1)S	0.6	3	1019-	1079-	1139-	1199-	5029-	2029-	3029-	4029-
20	1.0	A	T225A105K020(1)S	0.6	3	0019-	0079-	0139-	0199-	5030-	2030-	3030-	4030-
20	3.3	B	T225B335J020(1)S	1.0	3	1020-	1080-	1140-	1200-	5031-	2031-	3031-	4031-
20	3.3	B	T225B335K020(1)S	1.0	3	0020-	0080-	0140-	0200-	5032-	2032-	3032-	4032-
20	3.9	B	T225B395J020(1)S	2.0	3	1021-	1081-	1141-	1201-	5033-	2033-	3033-	4033-
20	3.9	B	T225B395K020(1)S	2.0	3	0021-	0081-	0141-	0201-	5034-	2034-	3034-	4034-
20	4.7	B	T225B475J020(1)S	2.0	3	1022-	1082-	1142-	1202-	5035-	2035-	3035-	4035-
20	4.7	B	T225B475K020(1)S	2.0	3	0022-	0082-	0142-	0202-	5036-	2036-	3036-	4036-
20	5.6	B	T225B565J020(1)S	2.0	3	1023-	1083-	1143-	1203-	5037-	2037-	3037-	4037-
20	5.6	B	T225B565K020(1)S	2.0	3	0023-	0083-	0143-	0203-	5038-	2038-	3038-	4038-
20	6.8	B	T225B685J020(1)S	2.0	3	1024-	1084-	1144-	1204-	5039-	2039-	3039-	4039-
20	6.8	B	T225B685K020(1)S	2.0	3	0024-	0084-	0144-	0204-	5040-	2040-	3040-	4040-
35	0.33	A	T225A334J035(1)S	0.6	3	1025-	1085-	1145-	1205-	5041-	2041-	3041-	4041-
35	0.33	A	T225A334K035(1)S	0.6	3	0025-	0085-	0145-	0205-	5042-	2042-	3042-	4042-
35	0.39	A	T225A394J035(1)S	0.6	3	1026-	1086-	1146-	1206-	5043-	2043-	3043-	4043-
35	0.39	A	T225A394K035(1)S	0.6	3	0026-	0086-	0146-	0206-	5044-	2044-	3044-	4044-
35	0.47	A	T225A474J035(1)S	0.6	3	1027-	1087-	1147-	1207-	5045-	2045-	3045-	4045-
35	0.47	A	T225A474K035(1)S	0.6	3	0027-	0087-	0147-	0207-	5046-	2046-	3046-	4046-
35	2.2	B	T225B225J035(1)S	1.4	3	1028-	1088-	1148-	1208-	5047-	2047-	3047-	4047-
35	2.2	B	T225B225K035(1)S	1.4	3	0028-	0088-	0148-	0208-	5048-	2048-	3048-	4048-
35	2.7	B	T225B275J035(1)S	1.4	3	1029-	1089-	1149-	1209-	5049-	2049-	3049-	4049-
35	2.7	B	T225B275K035(1)S	1.4	3	0029-	0089-	0149-	0209-	5050-	2050-	3050-	4050-
VDC	µF	Case Size Code	(see below for part options)	µA @ 25°C Max/5 Minimum	120 Hz Maximum	M (1.0)	P (0.1)	R (0.01)	S (0.001)	G (1)	B (0.1)	C (0.01)	D (0.001)
Rated Voltage	Rated Capacitance		KEMET Part Number	DC Leakage	DF % @ 25°C	MIL–PRF–39003 (CSR09) Capacitors							

(1) To complete KEMET Part Number (T225), insert Graded failure rate: G for 1%/k hours, B for .1%/k hours, C for .01%/k hours, D for .001%/k hours or the exponential rate letter. Designates Reliability Level.

Roll Over for Order Info.

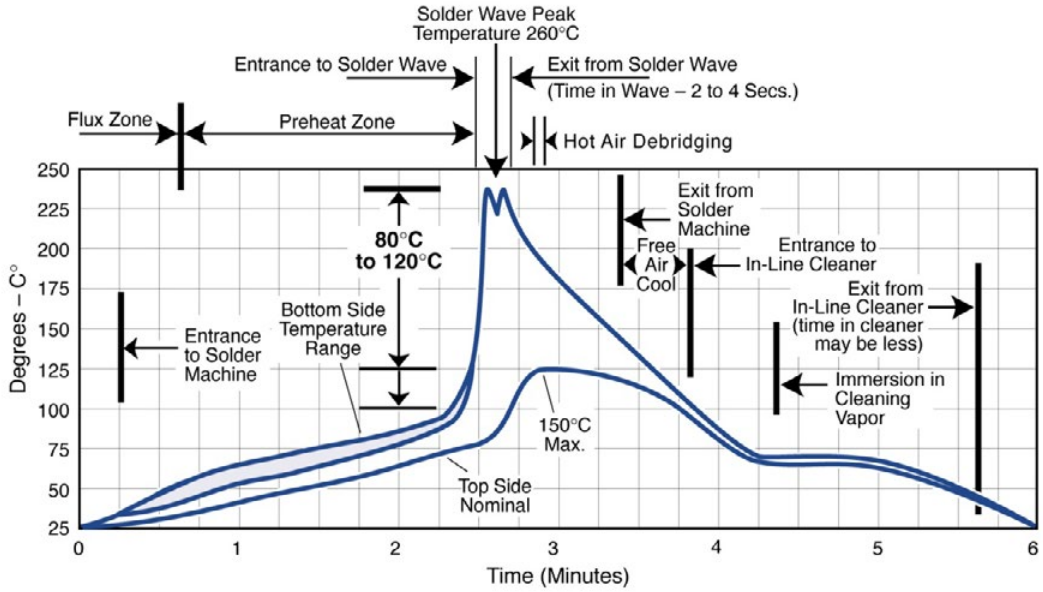
Table 1 – Ratings & Part Number Reference cont'd

Rated Voltage	Rated Capacitance	Case Size Code	KEMET Military Part Number	DC Leakage	DF % @ 25°C	MIL–PRF–39003 (CSR09) Capacitors							
						Dash Number Reference							
						Failure Rate Level (%/1,000 hours)							
						MIL–PRF–39003/2J				MIL–PRF–39003/2J			
						Exponential				Graded			
VDC	µF		(See below for part options)	µA @ 25°C Max/5 Minutes	120 Hz Maximum	M (1.0)	P (0.1)	R (0.01)	S (0.001)	G (1)	B (0.1)	C (0.01)	D (0.001)
50	0.22	A	T225A224J050(1)S	0.6	3	1030-	1090-	1150-	1210-	5051-	2051-	3051-	4051-
50	0.22	A	T225A224K050(1)S	0.6	3	0030-	0090-	0150-	0210-	5052-	2052-	3052-	4052-
50	0.27	A	T225A274J050(1)S	0.6	3	1031-	1091-	1151-	1211-	5053-	2053-	3053-	4053-
50	0.27	A	T225A274K050(1)S	0.6	3	0031-	0091-	0151-	0211-	5054-	2054-	3054-	4054-
50	1.5	B	T225B155J050(1)S	1.4	3	1032-	1092-	1152-	1212-	5055-	2055-	3055-	4055-
50	1.5	B	T225B155K050(1)S	1.4	3	0032-	0092-	0152-	0212-	5056-	2056-	3056-	4056-
50	1.8	B	T225B185J050(1)S	1.4	3	1033-	1093-	1153-	1213-	5057-	2057-	3057-	4057-
50	1.8	B	T225B185K050(1)S	1.4	3	0033-	0093-	0153-	0213-	5058-	2058-	3058-	4058-
75	0.047	A	T225A473J075(1)S	0.6	3	1034-	1094-	1154-	1214-	5059-	2059-	3059-	4059-
75	0.047	A	T225A473K075(1)S	0.6	3	0034-	0094-	0154-	0214-	5060-	2060-	3060-	4060-
75	0.056	A	T225A563J075(1)S	0.6	3	1035-	1095-	1155-	1215-	5061-	2061-	3061-	4061-
75	0.056	A	T225A563K075(1)S	0.6	3	0035-	0095-	0155-	0215-	5062-	2062-	3062-	4062-
75	0.068	A	T225A683J075(1)S	0.6	3	1036-	1096-	1156-	1216-	5063-	2063-	3063-	4063-
75	0.068	A	T225A683K075(1)S	0.6	3	0036-	0096-	0156-	0216-	5064-	2064-	3064-	4064-
75	0.082	A	T225A823J075(1)S	1.8	3	1037-	1097-	1157-	1217-	5065-	2065-	3065-	4065-
75	0.082	A	T225A823K075(1)S	1.8	3	0037-	0097-	0157-	0217-	5066-	2066-	3066-	4066-
75	0.10	A	T225A104J075(1)S	0.6	3	1038-	1098-	1158-	1218-	5067-	2067-	3067-	4067-
75	0.10	A	T225A104K075(1)S	0.6	3	0038-	0098-	0158-	0218-	5068-	2068-	3068-	4068-
75	0.12	A	T225A124J075(1)S	0.6	3	1039-	1099-	1159-	1219-	5069-	2069-	3069-	4069-
75	0.12	A	T225A124K075(1)S	0.6	3	0039-	0099-	0159-	0219-	5070-	2070-	3070-	7070-
75	0.15	A	T225A154J075(1)S	0.6	3	1040-	1100-	1160-	1220-	5071-	2071-	3071-	4071-
75	0.15	A	T225A154K075(1)S	0.6	3	0040-	0100-	0160-	0220-	5072-	2072-	3072-	4072-
75	0.18	A	T225A184J075(1)S	0.6	3	1041-	1101-	1161-	1221-	5073-	2073-	3073-	4073-
75	0.18	A	T225A184K075(1)S	0.6	3	0041-	0101-	0161-	0221-	5074-	2074-	3074-	4074-
75	0.22	B	T225B224J075(1)S	1.0	3	1042-	1102-	1162-	1222-	5075-	2075-	3075-	4075-
75	0.22	B	T225B224K075(1)S	1.0	3	0042-	0102-	0162-	0222-	5076-	2076-	3076-	4076-
75	0.27	B	T225B274J075(1)S	2.0	3	1043-	1103-	1163-	1223-	5077-	2077-	3077-	4077-
75	0.27	B	T225B274K075(1)S	2.0	3	0043-	0103-	0163-	0223-	5078-	2078-	3078-	4078-
75	0.33	B	T225B334J075(1)S	2.0	3	1044-	1104-	1164-	1224-	5079-	2079-	3079-	4079-
75	0.33	B	T225B334K075(1)S	2.0	3	0044-	0104-	0164-	0224-	5080-	2080-	3080-	4080-
75	0.39	B	T225B394J075(1)S	2.0	3	1045-	1105-	1165-	1225-	5081-	2081-	3081-	4081-
75	0.39	B	T225B394K075(1)S	2.0	3	0045-	0105-	0165-	0225-	5082-	2082-	3082-	4082-
75	0.47	B	T225B474J075(1)S	2.0	3	1046-	1106-	1166-	1226-	5083-	2083-	3083-	4083-
75	0.47	B	T225B474K075(1)S	2.0	3	0046-	0106-	0166-	0226-	5084-	2084-	3084-	4084-
75	0.56	B	T225B564J075(1)S	0.6	3	1047-	1107-	1167-	1227-	5085-	2085-	3085-	4085-
75	0.56	B	T225B564K075(1)S	0.6	3	0047-	0107-	0167-	0227-	5086-	2086-	3086-	4086-
75	0.68	B	T225B684J075(1)S	0.6	3	1048-	1108-	1168-	1228-	5087-	2087-	3087-	4087-
75	0.68	B	T225B684K075(1)S	0.6	3	0048-	0108-	0168-	0228-	5088-	2088-	3088-	4088-
75	0.82	B	T225B824J075(1)S	0.6	3	1049-	1109-	1169-	1229-	5089-	2089-	3089-	4089-
75	0.82	B	T225B824K075(1)S	0.6	3	0049-	0109-	0169-	0229-	5090-	2090-	3090-	4090-
75	1.0	B	T225B105J075(1)S	1.4	3	1050-	1110-	1170-	1230-	5091-	2091-	3091-	4091-
75	1.0	B	T225B105K075(1)S	1.4	3	0050-	0110-	0170-	0230-	5092-	2092-	3092-	4092-
75	1.2	B	T225B125J075(1)S	1.4	3	1051-	1111-	1171-	1231-	5093-	2093-	3093-	4093-
75	1.2	B	T225B125K075(1)S	1.4	3	0051-	0111-	0171-	0231-	5094-	2094-	3094-	4094-
VDC	µF	Case Size Code	(see below for part options)	µA @ 25°C Max/5 Minimum	120 Hz Maximum	M (1.0)	P (0.1)	R (0.01)	S (0.001)	G (1)	B (0.1)	C (0.01)	D (0.001)
Rated Voltage	Rated Capacitance		KEMET Part Number	DC Leakage	DF % @ 25°C	MIL–PRF–39003 (CSR09) Capacitors							

(1) To complete KEMET Part Number (T225), insert Graded failure rate: G for 1%/k hours, B for .1%/k hours, C for .01%/k hours, D for .001%/k hours or the exponential rate letter. Designates Reliability Level.

Roll Over for Order Info.

Optimum Solder Wave Profile



Mounting

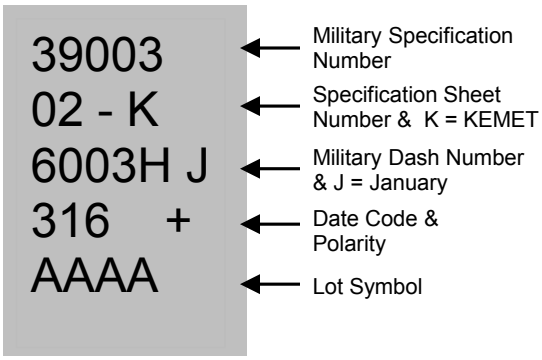
All encased capacitors will pass the Resistance to Soldering Heat Test of MIL–STD–202, Method 210, Condition C. This test simulates wave solder of topside board mount product. This demonstration of resistance to solder heat is in accordance with what is believed to be the industry standard. More severe treatment must be considered reflective of an improper soldering process. The above figure is a recommended solder wave profile for both axial and radial leaded solid tantalum capacitors.

Packaging

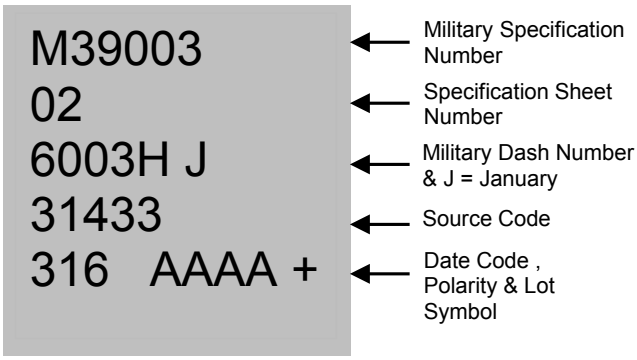
Case Size	Standard Bulk Quantity
A/B	50/Tray
A	300/Box
B	150/Box

Capacitor Marking

Case A



Case B



Date Code	
1st digit = Last number of Year	2 = 2012 3 = 2013 4 = 2014
2nd and 3rd digit = Week of the Year	11 = 2nd week of March

Storage

Tantalum hermetically sealed capacitors should be stored in normal working environments. While the capacitors themselves are quite robust in other environments, solderability will be degraded by exposure to high temperatures, high humidity, corrosive atmospheres, and long term storage. In addition, packaging materials will be degraded by high temperature– reels may soften or warp and tape peel force may increase. KEMET recommends that maximum storage temperature not exceed 40°C and maximum storage humidity not exceed 60% relative humidity. Temperature fluctuations should be minimized to avoid condensation on the parts and atmospheres should be free of chlorine and sulphur bearing compounds. For optimized solderability capacitors stock should be used promptly, preferably within three years of receipt.

T245 Series High Temperature Solder

Overview

The KEMET standard MIL case hermetically sealed T245 Series (Extended Capacitance Range) is compact, ruggedly built and designed for miniaturized circuitry. The capacitors are especially well-suited for coupling, bypass filtering and RC timing circuits. The T245 Series exhibits excellent stability, low DC leakage current, dissipation factor, and ESR/impedance over a wide temperature and frequency range.

Applications

Typical applications include coupling, bypass, filtering and RC timing circuits in miniaturized circuitry.

Benefits

- Internal construction solder to resist up to 221ºC
- Operating temperature range of -55˚C to +125˚C
- Qualified to MIL–PRF–39003, Style CSR23
- Failure rate options: Graded - B, C, D, and G and Exponential - M, P, R, and S
- Capacitance values of 1.2 µF to 1,000 µF
- Tolerances of ±10% and ±20%
- Voltage rating of 6 VDC – 50 VDC
- Surge current options D, E, and F
- Taped and reeled per EIA Specification RS–296
- Marking per MIL–STD–1285
- Case sizes: A, B, C, D

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Ordering Information – CSR23

M39003	/03	3075	E
Capacitor Class	Slash	Dash Number	Surge Option
Military Specification Number	Specification Sheet Number	Failure Rate Level	D = C-4250 E = C-4251 F = C-4252 H = No C-Spec

Orders should be entered by the military specification number, including the dash number and surge option letter (D, E, F, or H).

Ordering Information

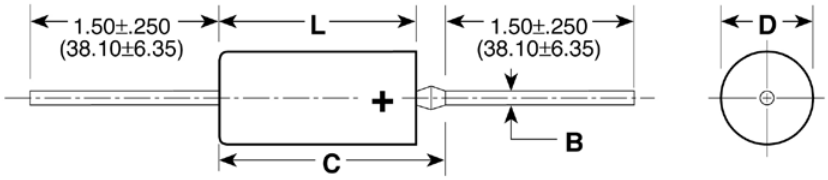
T	245	A	105	K	050	A	S	7200
Capacitor Class	Series	Case Size	Capacitance Code (pF)	Capacitance Tolerance	Voltage	Failure Rate/ Military Product Only	Lead Material	Specification
T = Tantalum	Hermetically Sealed Axial High Temperature Solder	A, B, C, D	First two digits represent significant figures. Third digit specifies number of zeros.	K = ±10% M = ±20%	006 = 6 V 010 = 10 V 015 = 15 V 020 = 20 V 035 = 35 V 050 = 50 V	Graded: B = 0.1%/k hours C = 0.01%/k hours D = 0.001%/k hours G = 1.0%/k hours Exponential: M = 1%/k hours P = 0.1%/k hours R = 0.01%/k hours S = 0.001%/k hours	S = Standard	All capacitors are sleeved unless specified. 0100 = Without sleeve 7200 = Tape & Reel 7293 = Ammo 4250 = 10 cycles, 25°C after Weibull 4251 = 10 cycles, -55 & 85°C after Weibull 4252 = 10 cycles, -55 & 85°C before Weibull

Performance Characteristics

Item	Performance Characteristics
Operating Temperature	-55°C to 125°C
Rated Capacitance Range	1.2 – 1,000 µF @ 120 Hz/25°C
Capacitance Tolerance	K Tolerance (10%), M Tolerance (20%)
Rated Voltage Range	6 – 50 V
DF (120 Hz @ 25°C)	Refer to Part Number Electrical Specification Table
Leakage Current	Refer to Part Number Electrical Specification Table (@ rated voltage up to +85°C and 2/3 of rated voltage applied at 125°C)
Failure Rate (MIL–PRF–39003, CSR23 capacitors only)	Approved failure rate: Graded G (1.0%/k hours), B (0.1%/k hours), C (0.01%/k hours), D (0.001%/k hours) and Exponential M (1.0%/k hours), P (0.1%/k hours), R (0.01%/k hours), S (0.001%/k hours)

Dimensions – Millimeters (Inches)

Metric will govern



Case Size	Uninsulated		Insulated			
	D ±0.005 ±(.13)	L ±0.031 ±(.79)	D ±0.010 ±(.25)	L ±0.031 ±(.79)	B ±0.002 ±(.05)	C Maximum
A	0.125 (3.18)	0.250 (6.35)	0.135 (3.43)	0.286 (7.26)	0.020 (0.51)	0.422 (10.72)
B	0.175 (4.45)	0.438 (11.13)	0.185 (4.70)	0.474 (12.04)	0.020 (0.51)	0.610 (15.49)
C	0.279 (7.09)	0.650 (16.51)	0.289 (7.34)	0.686 (17.42)	0.025 (0.64)	0.822 (20.88)
D	0.341 (8.66)	0.750 (19.05)	0.351 (8.92)	0.786 (19.96)	0.025 (0.64)	0.922 (23.42)

Table 1 – Ratings & Part Number Reference

Rated Voltage	Rated Capacitance	Case Size Code	KEMET Military Part Number	DC Leakage	DF % @ 25°C	MIL–PRF–39003 (CSR23) Capacitors							
						Dash Number Reference							
						Failure Rate Level (%/1,000 hours)							
						MIL–PRF–39003/3J				MIL–PRF–39003/3J			
						Exponential				Graded			
VDC	µF		(See below for part options)	µA @ 25°C Max/5 Minutes	120 Hz Maximum	M (1.0)	P (0.1)	R (0.01)	S (0.001)	G (1)	B (0.1)	C (0.01)	D (0.001)
6	10.0	A	T245A106K006(1)S	0.9	6	0101-	0201-	0301-	0401-	5001-	2001-	3001-	4001-
6	10.0	A	T245A106M006(1)S	0.9	6	0102-	0202-	0302-	0402-	5002-	2002-	3002-	4002-
6	12.0	A	T245A126K006(1)S	1.0	6	0103-	0203-	0303-	0403-	5003-	2003-	3003-	4003-
6	100.0	B	T245B107K006(1)S	6.0	6	0104-	0204-	0304-	0404-	5004-	2004-	3004-	4004-
6	100.0	B	T245B107M006(1)S	6.0	6	0105-	0205-	0305-	0405-	5005-	2005-	3005-	4005-
6	330.0	C	T245C337K006(1)S	10.0	8	0106-	0206-	0306-	0406-	5006-	2006-	3006-	4006-
6	330.0	C	T245C337M006(1)S	10.0	8	0107-	0207-	0307-	0407-	5007-	2007-	3007-	4007-
6	390.0	C	T245C397K006(1)S	10.0	10	0108-	0208-	0308-	0408-	5008-	2008-	3008-	4008-
6	470.0	C	T245C477K006(1)S	10.0	10	0109-	0209-	0309-	0409-	5009-	2009-	3009-	4009-
6	470.0	C	T245C477M006(1)S	10.0	10	0110-	0210-	0310-	0410-	5010-	2010-	3010-	4010-
6	680.0	D	T245D687K006(1)S	20.0	10	0111-	0211-	0311-	0411-	5011-	2011-	3011-	4011-
6	680.0	D	T245D687M006(1)S	20.0	10	0112-	0212-	0312-	0412-	5012-	2012-	3012-	4012-
6	820.0	D	T245D827K006(1)S	20.0	10	0113-	0213-	0313-	0413-	5013-	2013-	3013-	4013-
6	1000.0	D	T245D108K006(1)S	20.0	10	0114-	0214-	0314-	0414-	5014-	2014-	3014-	4014-
6	1000.0	D	T245D108M006(1)S	20.0	10	0115-	0215-	0315-	0415-	5015-	2015-	3015-	4015-
10	6.8	A	T245A685K010(1)S	1.0	6	0116-	0216-	0316-	0416-	5016-	2016-	3016-	4016-
10	6.8	A	T245A685M010(1)S	1.0	6	0117-	0217-	0317-	0417-	5017-	2017-	3017-	4017-
10	8.2	A	T245A825K010(1)S	1.2	6	0118-	0218-	0318-	0418-	5018-	2018-	3018-	4018-
10	47.0	B	T245B476K010(1)S	4.0	6	0119-	0219-	0319-	0419-	5019-	2019-	3019-	4019-
10	47.0	B	T245B476M010(1)S	4.0	6	0120-	0220-	0320-	0420-	5020-	2020-	3020-	4020-
10	56.0	B	T245B566K010(1)S	5.0	6	0121-	0221-	0321-	0421-	5021-	2021-	3021-	4021-
10	68.0	B	T245B686K010(1)S	6.0	6	0122-	0222-	0322-	0422-	5022-	2022-	3022-	4022-
10	68.0	B	T245B686M010(1)S	6.0	6	0123-	0223-	0323-	0423-	5023-	2023-	3023-	4023-
10	82.0	B	T245B826K010(1)S	7.0	6	0124-	0224-	0324-	0424-	5024-	2024-	3024-	4024-
10	220.0	C	T245C227K010(1)S	12.0	8	0125-	0225-	0325-	0425-	5025-	2025-	3025-	4025-
10	220.0	C	T245C227M010(1)S	12.0	8	0126-	0226-	0326-	0426-	5026-	2026-	3026-	4026-
10	270.0	C	T245C277K010(1)S	13.0	8	0127-	0227-	0327-	0427-	5027-	2027-	3027-	4027-
10	390.0	D	T245D397K010(1)S	16.0	10	0128-	0228-	0328-	0428-	5028-	2028-	3028-	4028-
10	470.0	D	T245D477K010(1)S	16.0	10	0129-	0229-	0329-	0429-	5029-	2029-	3029-	4029-
10	470.0	D	T245D477M010(1)S	16.0	10	0130-	0230-	0330-	0430-	5030-	2030-	3030-	4030-
10	560.0	D	T245D567K010(1)S	20.0	10	0131-	0231-	0331-	0431-	5031-	2031-	3031-	4031-
15	4.7	A	T245A475K015(1)S	1	4	0132-	0232-	0332-	0432-	5032-	2032-	3032-	4032-
15	4.7	A	T245A475M015(1)S	1	4	0133-	0233-	0333-	0433-	5033-	2033-	3033-	4033-
15	5.6	A	T245A565K015(1)S	1.3	4	0134-	0234-	0334-	0434-	5034-	2034-	3034-	4034-
15	33.0	B	T245B336K015(1)S	5	6	0135-	0235-	0335-	0435-	5035-	2035-	3035-	4035-
15	33.0	B	T245B336M015(1)S	5	6	0136-	0236-	0336-	0436-	5036-	2036-	3036-	4036-
15	39.0	B	T245B396K015(1)S	5.3	6	0137-	0237-	0337-	0437-	5037-	2037-	3037-	4037-
15	150.0	C	T245C157K015(1)S	15	8	0138-	0238-	0338-	0438-	5038-	2038-	3038-	4038-
15	150.0	C	T245C157M015(1)S	15	8	0139-	0239-	0339-	0439-	5039-	2039-	3039-	4039-
15	180.0	C	T245C187K015(1)S	15	8	0140-	0240-	0340-	0440-	5040-	2040-	3040-	4040-
15	220.0	D	T245D227K015(1)S	20	8	0141-	0241-	0341-	0441-	5041-	2041-	3041-	4041-
15	220.0	D	T245D227M015(1)S	20	8	0142-	0242-	0342-	0442-	5042-	2042-	3042-	4042-
15	270.0	D	T245D277K015(1)S	20	8	0143-	0243-	0343-	0443-	5043-	2043-	3043-	4043-
15	330.0	D	T245D337K015(1)S	20	8	0144-	0244-	0344-	0444-	5044-	2044-	3044-	4044-
15	330.0	D	T245D337M015(1)S	20	8	0145-	0245-	0345-	0445-	5045-	2045-	3045-	4045-
20	2.7	A	T245A275K020(1)S	0.8	4	0146-	0246-	0346-	0446-	5046-	2046-	3046-	4046-
20	3.3	A	T245A335K020(1)S	1.0	4	0147-	0247-	0347-	0447-	5047-	2047-	3047-	4047-
20	3.3	A	T245A335M020(1)S	1.0	4	0148-	0248-	0348-	0448-	5048-	2048-	3048-	4048-
20	3.9	A	T245A395K020(1)S	1.2	4	0149-	0249-	0349-	0449-	5049-	2049-	3049-	4049-
20	18.0	B	T245B186K020(1)S	3.0	6	0150-	0250-	0350-	0450-	5050-	2050-	3050-	4050-
VDC	µF	Case Size Code	(see below for part options)	µA @ 25°C Max/5 Minimum	120 Hz Maximum	M (1.0)	P (0.1)	R (0.01)	S (0.001)	G (1)	B (0.1)	C (0.01)	D (0.001)
Rated Voltage	Rated Capacitance		KEMET Part Number	DC Leakage	DF % @ 25°C	MIL–PRF–39003 (CSR23) Capacitors							

(1) To complete KEMET Part Number (T245), insert Graded failure rate: G for 1%/k hours, B for .1%/k hours, C for .01%/k hours, D for .001%/k hours or the exponential rate letter. Designates Reliability Level.

Roll Over for Order Info.

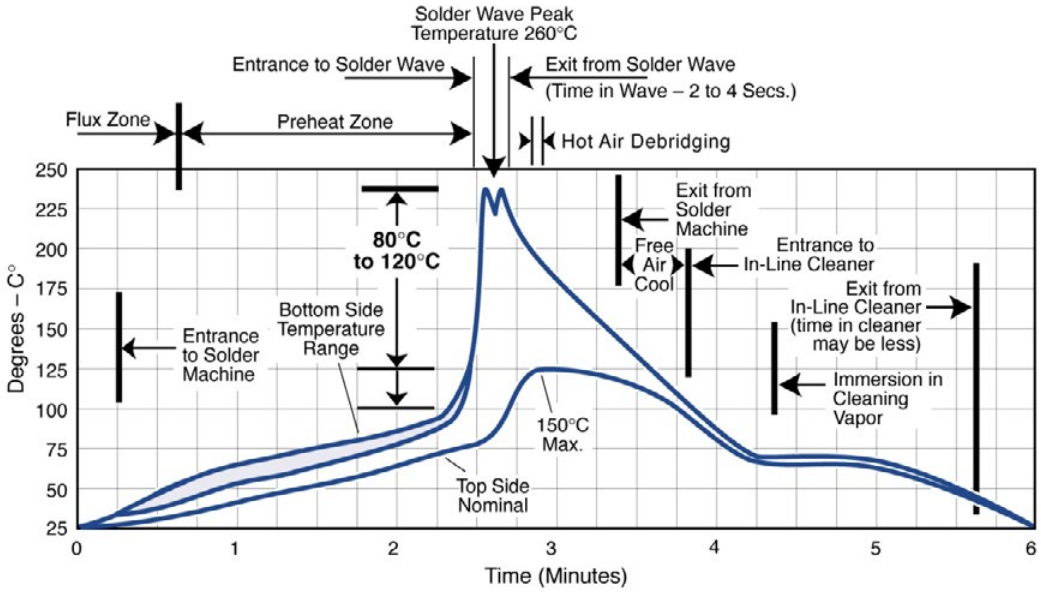
Table 1 – Ratings & Part Number Reference cont'd

Rated Voltage	Rated Capacitance	Case Size Code	KEMET Military Part Number	DC Leakage	DF % @ 25°C	MIL–PRF–39003 (CSR23) Capacitors							
						Dash Number Reference							
						Failure Rate Level (%/1,000 hours)							
						MIL–PRF–39003/3J				MIL–PRF–39003/3J			
						Exponential				Graded			
VDC	µF		(See below for part options)	µA @ 25°C Max/5 Minutes	120 Hz Maximum	M (1.0)	P (0.1)	R (0.01)	S (0.001)	G (1)	B (0.1)	C (0.01)	D (0.001)
20	22.0	B	T245B226K020(1)S	3.0	6	0151-	0251-	0351-	0451-	5051-	2051-	3051-	4051-
20	22.0	B	T245B226M020(1)S	3.0	6	0152-	0252-	0352-	0452-	5052-	2052-	3052-	4052-
20	27.0	B	T245B276K020(1)S	4.0	6	0153-	0253-	0353-	0453-	5053-	2053-	3053-	4053-
20	56.0	C	T245C566K020(1)S	7.0	6	0154-	0254-	0354-	0454-	5054-	2054-	3054-	4054-
20	68.0	C	T245C686K020(1)S	8.0	6	0155-	0255-	0355-	0455-	5055-	2055-	3055-	4055-
20	68.0	C	T245C686M020(1)S	8.0	6	0156-	0256-	0356-	0456-	5056-	2056-	3056-	4056-
20	82.0	C	T245C826K020(1)S	10.0	6	0157-	0257-	0357-	0457-	5057-	2057-	3057-	4057-
20	100.0	C	T245C107K020(1)S	12.0	6	0158-	0258-	0358-	0458-	5058-	2058-	3058-	4058-
20	100.0	C	T245C107M020(1)S	12.0	6	0159-	0259-	0359-	0459-	5059-	2059-	3059-	4059-
20	120.0	C	T245C127K020(1)S	12.0	6	0160-	0260-	0360-	0460-	5060-	2060-	3060-	4060-
20	150.0	D	T245D157K020(1)S	15.0	8	0161-	0261-	0361-	0461-	5061-	2061-	3061-	4061-
20	150.0	D	T245D157M020(1)S	15.0	8	0162-	0262-	0362-	0462-	5062-	2062-	3062-	4062-
20	180.0	D	T245D187K020(1)S	15.0	8	0163-	0263-	0363-	0463-	5063-	2063-	3063-	4063-
35	1.8	A	T245A185K035(1)S	1.0	4	0164-	0264-	0364-	0464-	5064-	2064-	3064-	4064-
35	8.2	B	T245B825K035(1)S	3.0	4	0165-	0265-	0365-	0465-	5065-	2065-	3065-	4065-
35	10.0	B	T245B106K035(1)S	3.0	4	0166-	0266-	0366-	0466-	5066-	2066-	3066-	4066-
35	10.0	B	T245B106M035(1)S	3.0	4	0167-	0267-	0367-	0467-	5067-	2067-	3067-	4067-
35	33.0	C	T245C336K035(1)S	8.0	6	0168-	0268-	0368-	0468-	5068-	2068-	3068-	4068-
35	33.0	C	T245C336M035(1)S	8.0	6	0169-	0269-	0369-	0469-	5069-	2069-	3069-	4069-
35	39.0	C	T245C396K035(1)S	10.0	6	0170-	0270-	0370-	0470-	5070-	2070-	3070-	4070-
35	47.0	C	T245C476K035(1)S	10.0	6	0171-	0271-	0371-	0471-	5071-	2071-	3071-	4071-
35	47.0	C	T245C476M035(1)S	10.0	6	0172-	0272-	0372-	0472-	5072-	2072-	3072-	4072-
35	56.0	D	T245D566K035(1)S	12.0	6	0173-	0273-	0373-	0473-	5073-	2073-	3073-	4073-
35	68.0	D	T245D686K035(1)S	12.0	6	0174-	0274-	0374-	0474-	5074-	2074-	3074-	4074-
35	68.0	D	T245D686M035(1)S	12.0	6	0175-	0275-	0375-	0475-	5075-	2075-	3075-	4075-
50	1.2	A	T245A125K050(1)S	0.6	4	0176-	0276-	0376-	0476-	5076-	2076-	3076-	4076-
50	1.5	A	T245A155K050(1)S	0.8	4	0177-	0277-	0377-	0477-	5077-	2077-	3077-	4077-
50	1.5	A	T245A155M050(1)S	0.8	4	0178-	0278-	0378-	0478-	5078-	2078-	3078-	4078-
50	5.6	B	T245B565K050(1)S	2.5	4	0179-	0279-	0379-	0479-	5079-	2079-	3079-	4079-
50	6.8	B	T245B685K050(1)S	2.5	4	0180-	0280-	0380-	0480-	5080-	2080-	3080-	4080-
50	6.8	B	T245B685M050(1)S	2.5	4	0181-	0281-	0381-	0481-	5081-	2081-	3081-	4081-
50	22.0	C	T245C226K050(1)S	7.0	6	0182-	0282-	0382-	0482-	5082-	2082-	3082-	4082-
50	22.0	C	T245C226M050(1)S	7.0	6	0183-	0283-	0383-	0483-	5083-	2083-	3083-	4083-
50	27.0	C	T245C276K050(1)S	8.0	6	0184-	0284-	0384-	0484-	5084-	2084-	3084-	4084-
50	33.0	D	T245D336K050(1)S	10.0	6	0185-	0285-	0385-	0485-	5085-	2085-	3085-	4085-
50	33.0	D	T245D336M050(1)S	10.0	6	0186-	0286-	0386-	0486-	5086-	2086-	3086-	4086-
50	39.0	D	T245D396K050(1)S	10.0	6	0187-	0287-	0387-	0487-	5087-	2087-	3087-	4087-
VDC	µF	Case Size Code	(see below for part options)	µA @ 25°C Max/5 Minimum	120 Hz Maximum	M (1.0)	P (0.1)	R (0.01)	S (0.001)	G (1)	B (0.1)	C (0.01)	D (0.001)
Rated Voltage	Rated Capacitance		KEMET Part Number	DC Leakage	DF % @ 25°C	MIL–PRF–39003 (CSR23) Capacitors							

(1) To complete KEMET Part Number (T245), insert Graded failure rate: G for 1%/k hours, B for .1%/k hours, C for .01%/k hours, D for .001%/k hours or the exponential rate letter. Designates Reliability Level.

Roll Over for Order Info.

Optimum Solder Wave Profile



Mounting

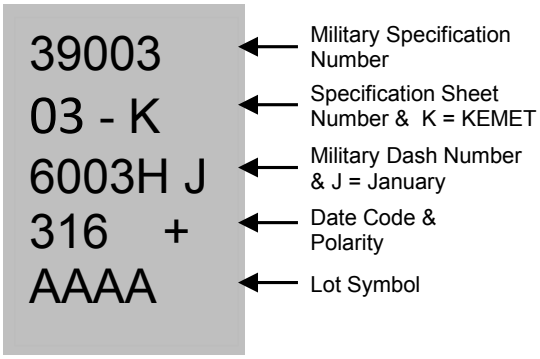
All encased capacitors will pass the Resistance to Soldering Heat Test of MIL–STD–202, Method 210, Condition C. This test simulates wave solder of topside board mount product. This demonstration of resistance to solder heat is in accordance with what is believed to be the industry standard. More severe treatment must be considered reflective of an improper soldering process. The above figure is a recommended solder wave profile for both axial and radial leaded solid tantalum capacitors.

Packaging

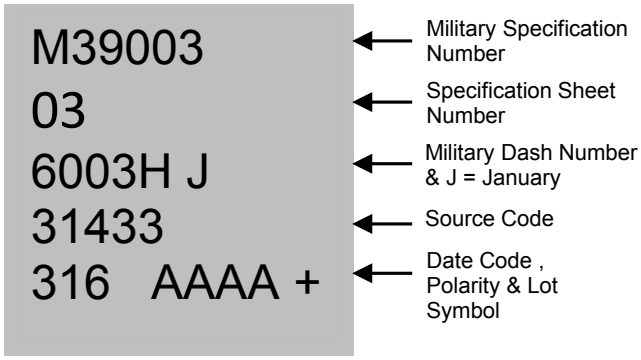
Case Size	Standard Bulk Quantity	Standard Reel Quantity	Reel C-Spec	Ammo Pack Quantity	Ammo Pack C-Spec
A	150/Box	3,500	C-7200	1,500	C-7293
B	75 / Box	2,500	C-7200	1,000	Class I
C	20 / Tray	500	C-7200	250	C-7442
D	20 / Tray	400	C-7200	250	Class II C-7443 Class III

Capacitor Marking

Case A



Case B



Date Code	
1st digit = Last number of Year	2 = 2012 3 = 2013 4 = 2014
2nd and 3rd digit = Week of the Year	11 = 2nd week of March

Storage

Tantalum hermetically sealed capacitors should be stored in normal working environments. While the capacitors themselves are quite robust in other environments, solderability will be degraded by exposure to high temperatures, high humidity, corrosive atmospheres, and long term storage. In addition, packaging materials will be degraded by high temperature– reels may soften or warp and tape peel force may increase. KEMET recommends that maximum storage temperature not exceed 40ºC and maximum storage humidity not exceed 60% relative humidity. Temperature fluctuations should be minimized to avoid condensation on the parts and atmospheres should be free of chlorine and sulphur bearing compounds. For optimized solderability capacitors stock should be used promptly, preferably within three years of receipt.

T255 Series High Temperature Solder

Overview

The KEMET T255 High Temperature Solder Series of solid tantalum capacitors offers high capacitance-to-volume ratios and is available in standard MIL style A, B, C, and D cases. These devices meet or exceed the environmental and mechanical requirements of MIL–PRF–39003. Designed to operate from -55°C to +125°C, the internal design of these capacitors, as well as the hermetic seal, includes high temperature solder (minimum melting point of 221°C). The content of tin in the solder does not exceed 97%. This assembly is especially suited for temperature conditions where solder may fail due to undesirable solder reflow.

The T255 Series exhibits exceptionally low DC leakage, dissipation factor and impedance characteristics. These parts are available in Style CSR33 per MIL–PRF–39003/06.

Benefits

- Internal construction solder to resist up to 221ºC
- Failure rate options: Graded - B, C, D, and G, and Exponential - M, P, R, and S
- Surge current options D, E, and F
- Taped and reeled per EIA Specification RS-296
- Marking per MIL–STD–1285
- Qualified to MIL–PRF–39003, Style CSR33
- Operating temperature range of -55˚C to +125˚C
- Capacitance values of 1.2 µF to 1,000 µF
- Tolerances of ±10%, and ±20%
- Voltage rating of 6 VDC – 50 VDC
- Case sizes: A, B, C, D

Applications

These capacitors are ideal for coupling, bypass, filtering and timing circuits, and are excellent substitutes for wet tantalums in low voltage applications.

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Ordering Information – CSR33

M39003	/06	4073	H
Capacitor Class	Slash	Dash Number	Surge Option
Military Specification Number	Specification Sheet Number	Failure Rate Level	E = C-4251 F = C-4252

Orders should be entered by the military specification number, including the dash number and surge option letter (E, F).

Ordering Information

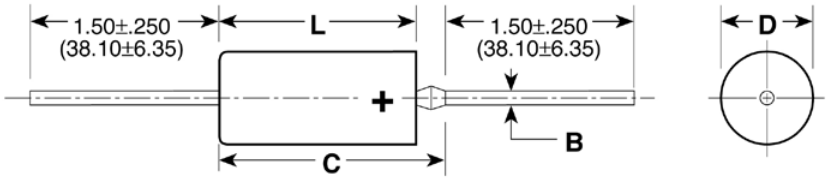
T	255	A	125	K	050	M	S	C
Capacitor Class	Series	Case Size	Capacitance Code (pF)	Capacitance Tolerance	Voltage	Failure Rate/ Military Product Only	Lead Material	Specification
T = Tantalum	Hermetically Sealed Axial High Temperature Solder	A, B, C, D	First two digits represent significant figures. Third digit specifies number of zeros to follow.	K = ±10% M = ±20%	006 = 6 V 010 = 10 V 015 = 15 V 020 = 20 V 035 = 35 V 050 = 50 V	Graded: B = 0.1%/k hours C = 0.01%/k hours D = 0.001%/k hours G = 1.0%/k hours Exponential: M = 1%/k hours P = 0.1%/k hours R = 0.01%/k hours S = 0.001%/k hours	S = Standard	4251 = 10 cycles, -55 & 85°C after Weibull 4252 = 10 cycles, -55 & 85°C before Weibull

Performance Characteristics

Item	Performance Characteristics
Operating Temperature	-55°C to 125°C
Rated Capacitance Range	1.2 –1,000 µF @ 120 Hz/25°C
Capacitance Tolerance	K Tolerance (10%), M Tolerance (20%)
Rated Voltage Range	6 – 50 V
DF (120 Hz @ 25°C)	Refer to Part Number Electrical Specification Table
ESR and Impedance (100 kHz @ 25°C)	Refer to Part Number Electrical Specification Table (for reference only)
Leakage Current	Refer to Part Number Electrical Specification Table (@ rated voltage up to +85°C and 2/3 of rated voltage applied at 125°C)
Failure Rate (MIL–PRF–39003, CSR33 capacitors only)	Approved failure rate: Graded G (1.0%/k hours), B (0.1%/k hours), C (0.01%/k hours), D (0.001%/k hours) and Exponential M (1.0%/k hours), P (0.1%/k hours), R (0.01%/k hours), S (0.001%/k hours)

Dimensions – Millimeters (Inches)

Metric will govern



Case Size	Uninsulated		Insulated			
	D ±0.005 ±(.13)	L ±0.031 ±(.79)	D ±0.010 ±(.25)	L ±0.031 ±(.79)	B ±0.002 ±(.05)	C Maximum
A	0.125 (3.18)	0.250 (6.35)	0.135 (3.43)	0.286 (7.26)	0.020 (0.51)	0.422 (10.72)
B	0.175 (4.45)	0.438 (11.13)	0.185 (4.70)	0.474 (12.04)	0.020 (0.51)	0.610 (15.49)
C	0.279 (7.09)	0.650 (16.51)	0.289 (7.34)	0.686 (17.42)	0.025 (0.64)	0.822 (20.88)
D	0.341 (8.66)	0.750 (19.05)	0.351 (8.92)	0.786 (19.96)	0.025 (0.64)	0.922 (23.42)

Table 1 – Ratings & Part Number Reference

Rated Voltage	Rated Capacitance	Case Size Code	KEMET Part Number	DC Leakage	DF % @ 25°C	MIL–PRF–39003 (CSR33) Capacitors							
						Dash Number Reference							
						Failure Rate Level (%/1,000 hours)							
						MIL–PRF–39003/6F				MIL–PRF–39003/6F			
						Exponential				Graded			
VDC	µF		(See below for part options)	µA @ 25°C Max/5 Minutes	120 Hz Maximum	M (1.0)	P (0.1)	R (0.01)	S (0.001)	G (1)	B (0.1)	C (0.01)	D (0.001)
6	10.0	A	T255A106K006(1)S	0.5	6	0001-	0101-	0201-	0301-	5001-	2001-	3001-	4001-
6	10.0	A	T255A106M006(1)S	0.5	6	0002-	0102-	0202-	0302-	5002-	2002-	3002-	4002-
6	12.0	A	T255A126K006(1)S	0.5	6	0003-	0103-	0203-	0303-	5003-	2003-	3003-	4003-
6	100.0	B	T255B107K006(1)S	1.0	8	0004-	0104-	0204-	0304-	5004-	2004-	3004-	4004-
6	100.0	B	T255B107M006(1)S	1.0	8	0005-	0105-	0205-	0305-	5005-	2005-	3005-	4005-
6	330.0	C	T255C337K006(1)S	2.0	8	0006-	0106-	0206-	0306-	5006-	2006-	3006-	4006-
6	330.0	C	T255C337M006(1)S	2.0	8	0007-	0107-	0207-	0307-	5007-	2007-	3007-	4007-
6	390.0	C	T255C397K006(1)S	2.0	10	0008-	0108-	0208-	0308-	5008-	2008-	3008-	4008-
6	470.0	C	T255C477K006(1)S	2.0	10	0009-	0109-	0209-	0309-	5009-	2009-	3009-	4009-
6	470.0	C	T255C477M006(1)S	2.0	10	0010-	0110-	0210-	0310-	5010-	2010-	3010-	4010-
6	680.0	D	T255D687K006(1)S	5.0	10	0011-	0111-	0211-	0311-	5011-	2011-	3011-	4011-
6	680.0	D	T255D687M006(1)S	5.0	10	0012-	0112-	0212-	0312-	5012-	2012-	3012-	4012-
6	820.0	D	T255D827K006(1)S	5.0	10	0013-	0113-	0213-	0313-	5013-	2013-	3013-	4013-
6	1000.0	D	T255D108K006(1)S	5.0	10	0014-	0114-	0214-	0314-	5014-	2014-	3014-	4014-
6	1000.0	D	T255D108M006(1)S	5.0	10	0015-	0115-	0215-	0315-	5015-	2015-	3015-	4015-
10	6.8	A	T255A685K010(1)S	0.5	6	0016-	0116-	0216-	0316-	5016-	2016-	3016-	4016-
10	6.8	A	T255A685M010(1)S	0.5	6	0017-	0117-	0217-	0317-	5017-	2017-	3017-	4017-
10	8.2	A	T255A825K010(1)S	0.5	6	0018-	0118-	0218-	0318-	5018-	2018-	3018-	4018-
10	47.0	B	T255B476K010(1)S	1.0	6	0019-	0119-	0219-	0319-	5019-	2019-	3019-	4019-
10	47.0	B	T255B476M010(1)S	1.0	6	0020-	0120-	0220-	0320-	5020-	2020-	3020-	4020-
10	56.0	B	T255B566K010(1)S	1.0	6	0021-	0121-	0221-	0321-	5021-	2021-	3021-	4021-
10	68.0	B	T255B686K010(1)S	1.0	6	0022-	0122-	0222-	0322-	5022-	2022-	3022-	4022-
10	68.0	B	T255B686M010(1)S	1.0	6	0023-	0123-	0223-	0323-	5023-	2023-	3023-	4023-
10	82.0	B	T255B826K010(1)S	1.0	6	0024-	0124-	0224-	0324-	5024-	2024-	3024-	4024-
10	220.0	C	T255C227K010(1)S	1.0	8	0025-	0125-	0225-	0325-	5025-	2025-	3025-	4025-
10	220.0	C	T255C227M010(1)S	1.0	8	0026-	0126-	0226-	0326-	5026-	2026-	3026-	4026-
10	270.0	C	T255C277K010(1)S	2.0	8	0027-	0127-	0227-	0327-	5027-	2027-	3027-	4027-
10	390.0	D	T255D397K010(1)S	2.0	10	0028-	0128-	0228-	0328-	5028-	2028-	3028-	4028-
10	470.0	D	T255D477K010(1)S	4.0	10	0029-	0129-	0229-	0329-	5029-	2029-	3029-	4029-
10	470.0	D	T255D477M010(1)S	4.0	10	0030-	0130-	0230-	0330-	5030-	2030-	3030-	4030-
10	560.0	D	T255D567K010(1)S	4.0	10	0031-	0131-	0231-	0331-	5031-	2031-	3031-	4031-
15	4.7	A	T255A475K015(1)S	0.5	4	0032-	0132-	0232-	0332-	5032-	2032-	3032-	4032-
15	4.7	A	T255A475M015(1)S	0.5	4	0033-	0133-	0233-	0333-	5033-	2033-	3033-	4033-
15	5.6	A	T255A565K015(1)S	0.5	4	0034-	0134-	0234-	0334-	5034-	2034-	3034-	4034-
15	33.0	B	T255B336K015(1)S	1.0	6	0035-	0135-	0235-	0335-	5035-	2035-	3035-	4035-
15	33.0	B	T255B336M015(1)S	1.0	6	0036-	0136-	0236-	0336-	5036-	2036-	3036-	4036-
15	39.0	B	T255B396K015(1)S	1.0	6	0037-	0137-	0237-	0337-	5037-	2037-	3037-	4037-
15	150.0	C	T255C157K015(1)S	1.0	8	0038-	0138-	0238-	0338-	5038-	2038-	3038-	4038-
15	150.0	C	T255C157M015(1)S	1.0	8	0039-	0139-	0239-	0339-	5039-	2039-	3039-	4039-
15	180.0	C	T255C187K015(1)S	2.0	8	0040-	0140-	0240-	0340-	5040-	2040-	3040-	4040-
15	220.0	D	T255D227K015(1)S	2.0	8	0041-	0141-	0241-	0341-	5041-	2041-	3041-	4041-
15	220.0	D	T255D227M015(1)S	2.0	8	0042-	0142-	0242-	0342-	5042-	2042-	3042-	4042-
15	270.0	D	T255D277K015(1)S	2.0	8	0043-	0143-	0243-	0343-	5043-	2043-	3043-	4043-
15	330.0	D	T255D337K015(1)S	2.0	8	0044-	0144-	0244-	0344-	5044-	2044-	3044-	4044-
15	330.0	D	T255D337M015(1)S	2.0	8	0045-	0145-	0245-	0345-	5045-	2045-	3045-	4045-
20	2.7	A	T255A275K020(1)S	0.5	4	0046-	0146-	0246-	0346-	5046-	2046-	3046-	4046-
20	3.3	A	T255A335K020(1)S	0.5	4	0047-	0147-	0247-	0347-	5047-	2047-	3047-	4047-
20	3.3	A	T255A335M020(1)S	0.5	4	0048-	0148-	0248-	0348-	5048-	2048-	3048-	4048-
20	3.9	A	T255A395K020(1)S	0.5	4	0049-	0149-	0249-	0349-	5049-	2049-	3049-	4049-
20	18.0	B	T255B186K020(1)S	1.0	6	0050-	0150-	0250-	0350-	5050-	2050-	3050-	4050-
VDC	µF	Case Size Code	(See below for part options)	µA @ 25°C Max/5 Minimum	120 Hz Maximum	M (1.0)	P (0.1)	R (0.01)	S (0.001)	G (1)	B (0.1)	C (0.01)	D (0.001)
Rated Voltage	Rated Capacitance		KEMET Part Number	DC Leakage	DF % @ 25°C	MIL–PRF–39003 (CSR33) Capacitors							

(1) To complete KEMET Part Number (T255), insert Graded failure rate: G for 1%/k hours, B for .1%/k hours, C for .01%/k hours, D for .001%/k hours or the exponential rate letter. Designates Reliability Level.

Roll Over for Order Info.

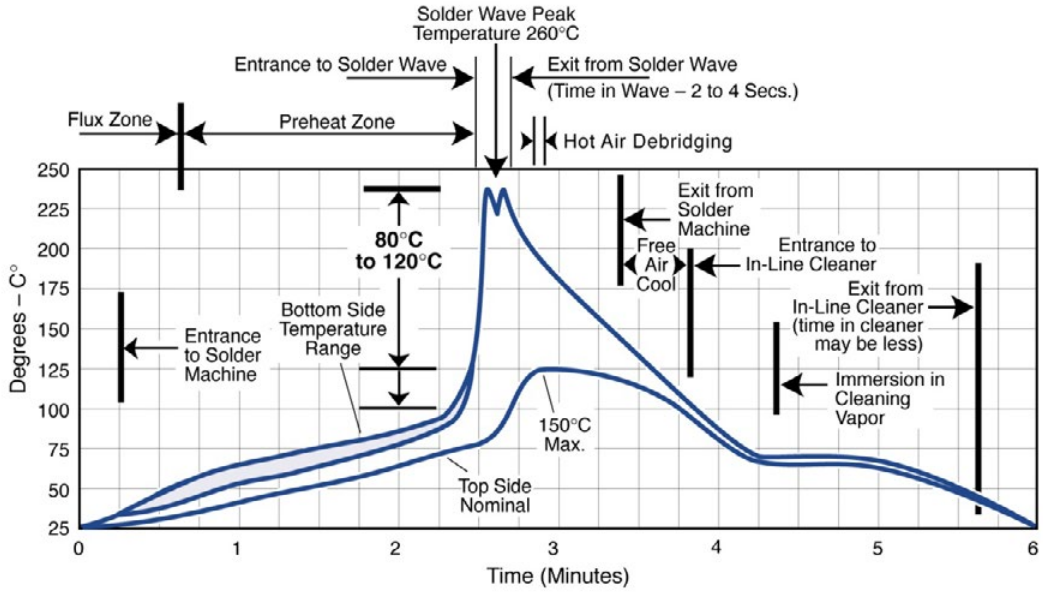
Table 1 – Ratings & Part Number Reference cont'd

Rated Voltage	Rated Capacitance	Case Size Code	KEMET Part Number	DC Leakage	DF % @ 25°C	MIL–PRF–39003 (CSR33) Capacitors							
						Dash Number Reference							
						Failure Rate Level (%/1,000 hours)							
						MIL–PRF–39003/6F				MIL–PRF–39003/6F			
						Exponential				Graded			
VDC	µF		(See below for part options)	µA @ 25°C Max/5 Minutes	120 Hz Maximum	M (1.0)	P (0.1)	R (0.01)	S (0.001)	G (1)	B (0.1)	C (0.01)	D (0.001)
20	22.0	B	T255B226K020(1)S	1.0	6	0051-	0151-	0251-	0351-	5051-	2051-	3051-	4051-
20	22.0	B	T255B226M020(1)S	1.0	6	0052-	0152-	0252-	0352-	5052-	2052-	3052-	4052-
20	27.0	B	T255B276K020(1)S	1.0	6	0053-	0153-	0253-	0353-	5053-	2053-	3053-	4053-
20	56.0	C	T255C556K020(1)S	1.0	6	0054-	0154-	0254-	0354-	5054-	2054-	3054-	4054-
20	68.0	C	T255C686K020(1)S	1.0	6	0055-	0155-	0255-	0355-	5055-	2055-	3055-	4055-
20	68.0	C	T255C686M020(1)S	1.0	6	0056-	0156-	0256-	0356-	5056-	2056-	3056-	4056-
20	82.0	C	T255C826K020(1)S	1.0	6	0057-	0157-	0257-	0357-	5057-	2057-	3057-	4057-
20	100.0	C	T255C107K020(1)S	1.0	6	0058-	0158-	0258-	0358-	5058-	2058-	3058-	4058-
20	100.0	C	T255107M020(1)S	1.0	6	0059-	0159-	0259-	0359-	5059-	2059-	3059-	4059-
20	120.0	C	T255C127K020(1)S	1.0	6	0060-	0160-	0260-	0360-	5060-	2060-	3060-	4060-
20	150.0	D	T255D157K020(1)S	2.0	8	0061-	0161-	0261-	0361-	5061-	2061-	3061-	4061-
20	150.0	D	T255D157M020(1)S	2.0	8	0062-	0162-	0262-	0362-	5062-	2062-	3062-	4062-
20	180.0	D	T255D187K020(1)S	2.0	8	0063-	0163-	0263-	0363-	5063-	2063-	3063-	4063-
35	1.8	A	T255A185K035(1)S	0.5	4	0064-	0164-	0264-	0364-	5064-	2064-	3064-	4064-
35	8.2	B	T255B825K035(1)S	1.0	6	0065-	0165-	0265-	0365-	5065-	2065-	3065-	4065-
35	10.0	B	T255B106K035(1)S	1.0	6	0066-	0166-	0266-	0366-	5066-	2066-	3066-	4066-
35	10.0	B	T255B106M035(1)S	1.0	6	0067-	0167-	0267-	0367-	5067-	2067-	3067-	4067-
35	33.0	C	T255C336K035(1)S	1.0	6	0068-	0168-	0268-	0368-	5068-	2068-	3068-	4068-
35	33.0	C	T255C336M035(1)S	1.0	6	0069-	0169-	0269-	0369-	5069-	2069-	3069-	4069-
35	39.0	C	T255C396K035(1)S	1.0	6	0070-	0170-	0270-	0370-	5070-	2070-	3070-	4070-
35	47.0	C	T255C476K035(1)S	1.0	6	0071-	0171-	0271-	0371-	5071-	2071-	3071-	4071-
35	47.0	C	T255C476M035(1)S	1.0	6	0072-	0172-	0272-	0372-	5072-	2072-	3072-	4072-
35	56.0	D	T255D566K035(1)S	2.0	6	0073-	0173-	0273-	0373-	5073-	2073-	3073-	4073-
35	68.0	D	T255D686K035(1)S	2.0	6	0074-	0174-	0274-	0374-	5074-	2074-	3074-	4074-
35	68.0	D	T255D686M035(1)S	2.0	6	0075-	0175-	0275-	0375-	5075-	2075-	3075-	4075-
50	1.2	A	T255A125K050(1)S	0.5	4	0076-	0176-	0276-	0376-	5076-	2076-	3076-	4076-
50	1.5	A	T255A155K050(1)S	0.5	4	0077-	0177-	0277-	0377-	5077-	2077-	3077-	4077-
50	1.5	A	T255A155M050(1)S	0.5	4	0078-	0178-	0278-	0378-	5078-	2078-	3078-	4078-
50	5.6	B	T255B565K050(1)S	1.0	4	0079-	0179-	0279-	0379-	5079-	2079-	3079-	4079-
50	6.8	B	T255B685K050(1)S	1.0	6	0080-	0180-	0280-	0380-	5080-	2080-	3080-	4080-
50	6.8	B	T255B685M050(1)S	1.0	6	0081-	0181-	0281-	0381-	5081-	2081-	3081-	4081-
50	22.0	C	T255C226K050(1)S	1.0	6	0082-	0182-	0282-	0382-	5082-	2082-	3082-	4082-
50	22.0	C	T255C226M050(1)S	1.0	6	0083-	0183-	0283-	0383-	5083-	2083-	3083-	4083-
50	27.0	C	T255C276K050(1)S	1.0	6	0084-	0184-	0284-	0384-	5084-	2084-	3084-	4084-
50	33.0	D	T255D336K050(1)S	1.0	6	0085-	0185-	0285-	0385-	5085-	2085-	*	*
50	33.0	D	T255D336M050(1)S	1.0	6	0086-	0186-	0286-	0386-	5086-	2086-	*	*
50	39.0	D	T255D396K050(1)S	1.0	6	0087-	0187-	0287-	0387-	5087-	2087-	*	*
VDC	µF	Case Size Code	(See below for part options)	µA @ 25°C Max/5 Minimum	120 Hz Maximum	M (1.0)	P (0.1)	R (0.01)	S (0.001)	G (1)	B (0.1)	C (0.01)	D (0.001)
Rated Voltage	Rated Capacitance		KEMET Part Number	DC Leakage	DF % @ 25°C	MIL–PRF–39003 (CSR33) Capacitors							

(1) To complete KEMET Part Number (T255), insert Graded failure rate: G for 1%/k hours, B for .1%/k hours, C for .01%/k hours, D for .001%/k hours or the exponential rate letter. Designates Reliability Level.

Roll Over for Order Info.

Optimum Solder Wave Profile



Mounting

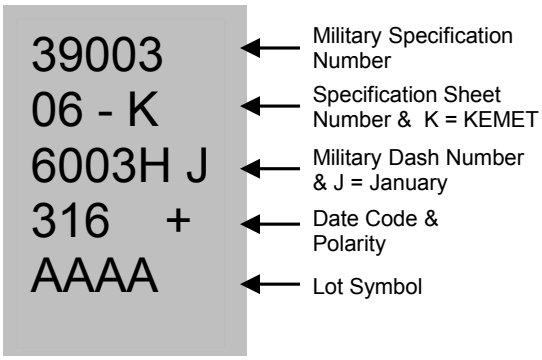
All encased capacitors will pass the Resistance to Soldering Heat Test of MIL–STD–202, Method 210, Condition C. This test simulates wave solder of topside board mount product. This demonstration of resistance to solder heat is in accordance with what is believed to be the industry standard. More severe treatment must be considered reflective of an improper soldering process. The above figure is a recommended solder wave profile for both axial and radial leaded solid tantalum capacitors.

Packaging

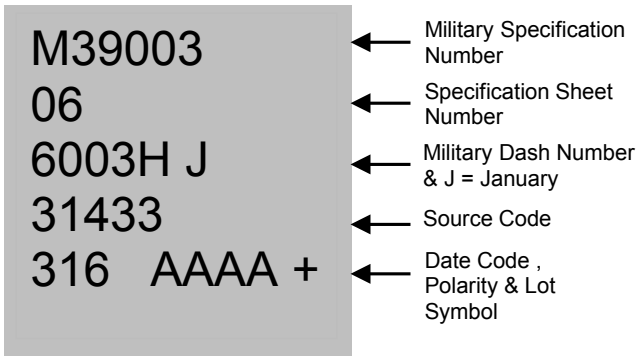
Case Size	Standard Bulk Quantity	Standard Reel Quantity	Reel C-Spec	Ammo Pack Quantity	Ammo Pack C-Spec
A	150/Box	3,500	C-7200	1,500	C-7293
B	75 / Box	2,500	C-7200	1,000	Class I
C	20 / Tray	500	C-7200	250	C-7442
D	20 / Tray	400	C-7200	250	Class II C-7443 Class III

Capacitor Marking

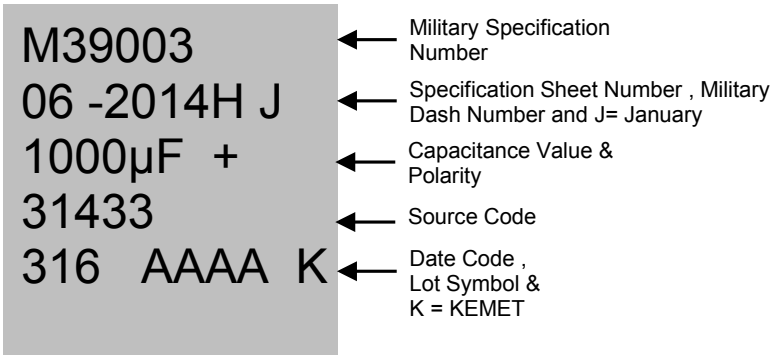
Case A



Case B



Case C & D



Date Code	
1st digit = Last number of Year	2 = 2012 3 = 2013 4 = 2014
2nd and 3rd digit = Week of the Year	11 = 2nd week of March

Storage

Tantalum hermetically sealed capacitors should be stored in normal working environments. While the capacitors themselves are quite robust in other environments, solderability will be degraded by exposure to high temperatures, high humidity, corrosive atmospheres, and long term storage. In addition, packaging materials will be degraded by high temperature– reels may soften or warp and tape peel force may increase. KEMET recommends that maximum storage temperature not exceed 40°C and maximum storage humidity not exceed 60% relative humidity. Temperature fluctuations should be minimized to avoid condensation on the parts and atmospheres should be free of chlorine and sulphur bearing compounds. For optimized solderability capacitors stock should be used promptly, preferably within three years of receipt.

T216 (CSS13) Series Axial MIL-PRF-39003 and T256 (CSS33)

Overview

T216 and T256 are KEMET's designation for MIL Style CSS13 and CSS33 capacitors. The T216/T256 Series is qualified to all failure rates per MIL-PRF-39003/10. Products meeting this specification have passed rigorous test requirements and are used in space applications or other equally demanding environments. These capacitors provide circuit designers with an excellent choice for blocking, bypass, decoupling, filtering, and timing applications.

Benefits

- Taped and reeled per EIA Specification RS–296
- Marking per MIL-STD-1285
- Qualified to MIL–PRF–39003, Style CSS13 and CSS33
- Failure rate options: Graded - B, C
- The T216 is available in capacitance ratings from 0.12 µF to 330 µF and voltage rating from 6 – 75 VDC
- The T256 is available in capacitance ratings from 1.2 µF to 1,000 µF and voltage rating from 6 – 50 VDC
- Tolerances of ±10%
- Operating temperature range of -55˚C to +125˚C
- Case sizes: A, B, C, D

Applications

These capacitors provide circuit designers an excellent choice for blocking, bypass, decoupling, filtering, and timing applications.

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Ordering Information – T216/T256

T	216	A	106	K	050	C	S	
Capacitor Class	Series	Case Size	Capacitance Code (pF)	Capacitance Tolerance	Voltage	Failure Rate	Lead Material	C-Spec
T = Tantalum	216 (MIL–C–39003/10, CSS13) 256 (MIL–C–39003/10, CSS33)	A, B, C, D	First two digits represent significant figures. Third digit specifies number of zeros.	K = ±10%	006 = 6 V 010 = 10 V 015 = 15 V 020 = 20 V 035 = 35 V 050 = 50 V 075 = 75 V	Graded: B = 0.1%/k hours C = 0.01%/k hours	S = Standard (Solder-coated nickel)	Blank = Sleeved 0100 = Unsleeved 7200 = Tape & Reel

Ordering Information – T216 (CSS13)

MIL product

M39003	/10	2049	S
Capacitor Class	Slash	Dash Number	Sleeve
Military Specification Number	Specification Sheet Number	Failure Rate Level	S = Sleeved U = Unsleeved use C - 0100

Ordering Information – T256 (CSS33)

MIL product

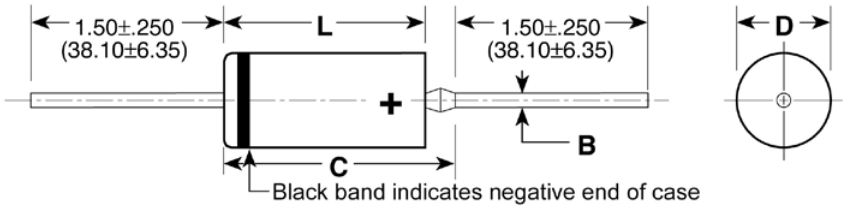
M39003	/10	2549	S
Capacitor Class	Slash	Dash Number	Sleeve
Military Specification Number	Specification Sheet Number	Failure Rate Level	S = Sleeved U = Unsleeved use C - 0100

Performance Characteristics

Item	Performance Characteristics
Operating Temperature	-55°C to 125°C
Rated Capacitance Range	CSS13 = 0.12 µF – 330 µF @ 120 Hz/25°C CSS33 = 1.2 µF – 1000 µF @ 120 Hz/25°C
Capacitance Tolerance	K Tolerance (10%)
Rated Voltage Range	CSS13 = 6 – 75 V CSS33 = 6 – 50 V
DF (120 Hz @ 25°C)	Refer to Part Number Electrical Specification Table
ESR and Impedance (100 KHz @ 25°C)	Refer to Part Number Electrical Specification Table
Leakage Current	Refer to Part Number Electrical Specification Table (@ rated voltage up to +125°C)
Failure Rate (MIL-PRF-39003, CSS13 & CSS33 capacitors only)	Approved failure rate: C (0.01%/k hours) - Graded

Dimensions – Millimeters (Inches)

Metric will govern



Case Size	Uninsulated		Insulated		B ±0.002 ±(.05)	C Maximum
	D ±0.005 ±(.13)	L ±0.031 ±(.79)	D ±0.010 ±(.25)	L ±0.031 ±(.79)		
A	0.125 (3.18)	0.250 (6.35)	0.135 (3.43)	0.286 (7.26)	0.020 (.51)	0.422 (10.72)
B	0.175 (4.45)	0.438 (11.13)	0.185 (4.70)	0.474 (12.04)	0.020 (.51)	0.610 (15.49)
C	0.279 (7.09)	0.650 (16.51)	0.289 (7.34)	0.686 (17.42)	0.025 (.64)	0.822 (20.88)
D	0.341 (8.66)	0.750 (19.05)	0.351 (8.92)	0.786 (19.96)	0.025 (.64)	0.922 (23.42)

Table 1A – T216 Ratings & Part Number Reference

Rated Voltage	Rated Capacitance	Case Size Code	DC Leakage	DF % @ 25°C	ESR	MIL–PRF–39003 (CSS13) Dash Number Reference Failure Rate Level (%/1,000 Hours) MIL–PRF–39003/10 Graded		KEMET Equivalent Military
VDC	µF		µA @ 25°C Maximum/5 Minimum	120 Hz Maximum	Ω @25°C 100 kHz Max	B (0.1)	C (0.01)	Part Number
6	5.6	A	0.3	4	0.90	2001(1)	3001(1)	T216A565K006(2)S
6	6.8	A	0.3	6	0.80	2002(1)	3002(1)	T216A685K006(2)S
6	47.0	B	1.5	6	0.24	2003(1)	3003(1)	T216B476K006(2)S
6	56.0	B	1.5	6	0.24	2004(1)	3004(1)	T216B566K006(2)S
6	150.0	C	4.5	8	0.09	2005(1)	3005(1)	T216C157K006(2)S
6	180.0	C	5.5	8	0.08	2006(1)	3006(1)	T216C187K006(2)S
6	270.0	D	6.5	8	0.07	2007(1)	3007(1)	T216D277K006(2)S
6	330.0	D	7.5	8	0.06	2008(1)	3008(1)	T216D337K006(2)S
10	3.9	A	0.3	4	1.00	2009(1)	3009(1)	T216A395K010(2)S
10	4.7	A	0.4	4	0.90	2010(1)	3010(1)	T216A475K010(2)S
10	27.0	B	2.0	6	0.25	2011(1)	3011(1)	T216B276K010(2)S
10	33.0	B	2.5	6	0.24	2012(1)	3012(1)	T216B336K010(2)S
10	39.0	B	2.5	6	0.24	2013(1)	3013(1)	T216B396K010(2)S
10	82.0	C	4.0	6	0.12	2014(1)	3014(1)	T216C826K010(2)S
10	100.0	C	5.0	8	0.11	2015(1)	3015(1)	T216C107K010(2)S
10	120.0	C	6.0	8	0.10	2016(1)	3016(1)	T216C127K010(2)S
10	180.0	D	9.0	8	0.08	2017(1)	3017(1)	T216D187K010(2)S
10	220.0	D	10.0	8	0.07	2018(1)	3018(1)	T216D227K010(2)S
15	2.7	A	0.3	4	1.20	2019(1)	3019(1)	T216A275K015(2)S
15	3.3	A	0.4	4	1.00	2020(1)	3020(1)	T216A335K015(2)S
15	18.0	B	2.0	6	0.27	2021(1)	3021(1)	T216B186K015(2)S
15	22.0	B	2.0	6	0.26	2022(1)	3022(1)	T216B226K015(2)S
15	56.0	C	4.0	6	0.15	2023(1)	3023(1)	T216C566K015(2)S
15	68.0	C	5.0	6	0.13	2024(1)	3024(1)	T216C686K015(2)S
15	120.0	D	9.0	8	0.09	2025(1)	3025(1)	T216D127K015(2)S
15	150.0	D	10.0	8	0.09	2026(1)	3026(1)	T216D157K015(2)S
20	1.2	A	0.3	4	1.40	2027(1)	3027(1)	T216A125K020(2)S
20	1.5	A	0.3	4	1.30	2028(1)	3028(1)	T216A155K020(2)S
20	1.8	A	0.3	4	1.25	2029(1)	3029(1)	T216A185K020(2)S
20	2.2	A	0.4	4	1.20	2030(1)	3030(1)	T216A225K020(2)S
20	8.2	B	1.0	6	0.39	2031(1)	3031(1)	T216B825K020(2)S
20	10.0	B	1.5	6	0.35	2032(1)	3032(1)	T216B106K020(2)S
20	12.0	B	1.8	6	0.32	2033(1)	3033(1)	T216B126K020(2)S
20	15.0	B	2.0	6	0.29	2034(1)	3034(1)	T216B156K020(2)S
20	27.0	C	2.5	6	0.21	2035(1)	3035(1)	T216C276K020(2)S
20	33.0	C	3.5	6	0.19	2036(1)	3036(1)	T216C336K020(2)S
20	39.0	C	4.0	6	0.17	2037(1)	3037(1)	T216C396K020(2)S
20	47.0	C	4.5	6	0.16	2038(1)	3038(1)	T216C476K020(2)S
20	56.0	D	5.5	6	0.13	2039(1)	3039(1)	T216D566K020(2)S
20	68.0	D	7.0	6	0.12	2040(1)	3040(1)	T216D686K020(2)S
20	82.0	D	8.0	6	0.11	2041(1)	3041(1)	T216D826K020(2)S
20	100.0	D	10.0	8	0.10	2042(1)	3042(1)	T216D107K020(2)S
35	5.6	B	1.3	4	0.47	2043(1)	3043(1)	T216B565K035(2)S
35	6.8	B	1.5	6	0.43	2044(1)	3044(1)	T216B685K035(2)S
35	22.0	C	4.0	6	0.25	2045(1)	3045(1)	T216C226K035(2)S
35	27.0	D	4.5	6	0.18	2046(1)	3046(1)	T216D276K035(2)S
35	33.0	D	5.5	6	0.17	2047(1)	3047(1)	T216D336K035(2)S
35	39.0	D	7.0	6	0.15	2048(1)	3048(1)	T216D396K035(2)S
VDC	µF	Case Size Code	µA @ 25°C Maximum/5 Minimum	120 Hz Maximum	Ω @25°C 100 kHz Max	B (0.1)	C (0.01)	Part Number
Rated Voltage	Rated Capacitance		DC Leakage	DF % @ 25°C	ESR	MIL–PRF–39003 (CSS13)		

(1) To complete MIL–PRF–39003 dash part number, insert S for sleeved or U for unsleeved. If "U" ordered also use C0100.

(2) To complete KEMET Part Number (T216, T256), insert Graded failure rate - B for .1%/k hours, C for .01%/k hours. Designates reliability level.

Roll Over for Order Info.

Table 1A – T216 Ratings & Part Number Reference cont'd

Rated Voltage	Rated Capacitance	Case Size Code	DC Leakage	DF % @ 25°C	ESR	MIL–PRF–39003 (CSS13)		
						Dash Number Reference		KEMET Equivalent Military
						Failure Rate Level (%/1,000 Hours)		
						MIL–PRF–39003/10		
						Graded		
VDC	µF		µA @ 25°C Maximum/5 Minimum	120 Hz Maximum	Ω @25°C 100 kHz Max	B (0.1)	C (0.01)	Part Number
35	47.0	D	8.0	6	0.14	2049(1)	3049(1)	T216D476K035(2)S
50	0.12	A	0.3	4	6.50	2067(1)	3067(1)	T216A124K050(2)S
50	0.15	A	0.3	4	5.50	2068(1)	3068(1)	T216A154K050(2)S
50	0.18	A	0.3	4	5.00	2069(1)	3069(1)	T216A184K050(2)S
50	0.22	A	0.3	4	4.00	2070(1)	3070(1)	T216A224K050(2)S
50	0.27	A	0.3	4	3.50	2071(1)	3071(1)	T216A274K050(2)S
50	0.33	A	0.3	4	3.30	2072(1)	3072(1)	T216A334K050(2)S
50	0.39	A	0.3	4	3.20	2073(1)	3073(1)	T216A394K050(2)S
50	0.47	A	0.3	4	3.00	2074(1)	3074(1)	T216A474K050(2)S
50	0.56	A	0.3	4	2.50	2075(1)	3075(1)	T216A564K050(2)S
50	0.68	A	0.3	4	1.80	2076(1)	3076(1)	T216A684K050(2)S
50	0.82	A	0.3	4	1.60	2077(1)	3077(1)	T216A824K050(2)S
50	1.0	A	0.4	4	1.40	2078(1)	3078(1)	T216A105K050(2)S
50	1.2	B	0.4	4	1.20	2079(1)	3079(1)	T216B125K050(2)S
50	1.5	B	0.6	4	1.10	2080(1)	3080(1)	T216B155K050(2)S
50	1.8	B	0.7	4	0.92	2081(1)	3081(1)	T216B185K050(2)S
50	2.2	B	0.8	4	0.80	2082(1)	3082(1)	T216B225K050(2)S
50	2.7	B	1.0	4	0.68	2083(1)	3083(1)	T216B275K050(2)S
50	3.3	B	1.2	4	0.62	2084(1)	3084(1)	T216B335K050(2)S
50	3.9	B	1.5	4	0.56	2085(1)	3085(1)	T216B395K050(2)S
50	4.7	B	1.7	4	0.51	2086(1)	3086(1)	T216B475K050(2)S
50	5.6	C	2.2	4	0.44	2087(1)	3087(1)	T216C565K050(2)S
50	6.8	C	2.2	6	0.40	2088(1)	3088(1)	T216C685K050(2)S
50	8.2	C	2.5	6	0.36	2089(1)	3089(1)	T216C825K050(2)S
50	10.0	C	2.5	6	0.33	2090(1)	3090(1)	T216C106K050(2)S
50	12.0	C	3.0	6	0.30	2091(1)	3091(1)	T216C126K050(2)S
50	15.0	C	4.0	6	0.27	2092(1)	3092(1)	T216C156K050(2)S
50	18.0	C	4.5	6	0.25	2093(1)	3093(1)	T216C186K050(2)S
50	22.0	D	5.5	6	0.20	2094(1)	3094(1)	T216D226K050(2)S
75	0.15	A	0.3	4	4.4	2097(1)	3097(1)	T216A154K075(2)S
75	0.18	A	0.3	4	4.0	2098(1)	3098(1)	T216A184K075(2)S
75	0.22	A	0.3	4	3.5	2099(1)	3099(1)	T216A224K075(2)S
75	0.27	A	0.3	4	3.1	2100(1)	3100(1)	T216A274K075(2)S
75	0.33	A	0.3	4	2.8	2101(1)	3101(1)	T216A334K075(2)S
75	0.39	A	0.3	4	2.6	2102(1)	3102(1)	T216A394K075(2)S
75	0.47	A	0.3	4	2.4	2103(1)	3103(1)	T216A474K075(2)S
75	0.56	A	0.3	4	2.25	2104(1)	3104(1)	T216A564K075(2)S
75	0.68	A	0.3	4	2.10	2105(1)	3105(1)	T216A684K075(2)S
75	0.82	B	0.3	4	1.47	2106(1)	3106(1)	T216B824K075(2)S
75	1.0	B	0.4	4	1.40	2107(1)	3107(1)	T216B105K075(2)S
75	1.2	B	0.4	4	1.33	2108(1)	3108(1)	T216B125K075(2)S
75	1.5	B	0.6	4	1.06	2109(1)	3109(1)	T216B155K075(2)S
75	1.8	B	0.7	4	0.92	2110(1)	3110(1)	T216B185K075(2)S
75	2.2	B	0.8	4	0.80	2111(1)	3111(1)	T216B225K075(2)S
75	2.7	B	1.0	4	0.68	2112(1)	3112(1)	T216B275K075(2)S
75	3.3	B	1.2	4	0.62	2113(1)	3113(1)	T216B335K075(2)S
75	3.9	B	1.5	4	0.56	2114(1)	3114(1)	T216B395K075(2)S
75	4.7	C	3.0	4	0.47	2115(1)	3115(1)	T216C475K075(2)S
VDC	µF	Case Size Code	µA @ 25°C Maximum/5 Minimum	120 Hz Maximum	Ω @25°C 100 kHz Max	B (0.1)	C (0.01)	Part Number
Rated Voltage	Rated Capacitance		DC Leakage	DF % @ 25°C	ESR	MIL–PRF–39003 (CSS13)		

(1) To complete MIL–PRF–39003 dash part number, insert S for sleeved or U for unsleeved. If "U" ordered also use C0100.
(2) To complete KEMET Part Number (T216, T256), insert Graded failure rate - B for .1%/k hours, C for .01%/k hours. Designates reliability level.

Roll Over for Order Info.

Table 1A – T216 Ratings & Part Number Reference cont'd

Rated Voltage	Rated Capacitance	Case Size Code	DC Leakage	DF % @ 25°C	ESR	MIL–PRF–39003 (CSS13) Dash Number Reference Failure Rate Level (%/1,000 Hours) MIL–PRF–39003/10 Graded		KEMET Equivalent Military
VDC	µF		µA @ 25°C Maximum/5 Minimum	120 Hz Maximum	Ω @25°C 100 kHz Max	B (0.1)	C (0.01)	Part Number
75	5.6	C	3.0	4	0.44	2116(1)	3116(1)	T216C565K075(2)S
75	6.8	C	5.0	6	0.44	2117(1)	3117(1)	T216C685K075(2)S
75	8.2	C	5.0	6	0.36	2118(1)	3118(1)	T216C825K075(2)S
75	10.0	C	5.0	6	0.33	2119(1)	3119(1)	T216C106K075(2)S
75	12.0	D	5.0	6	0.26	2120(1)	3120(1)	T216D126K075(2)S
75	15.0	D	7.0	6	0.23	2121(1)	3121(1)	T216D156K075(2)S
VDC	µF	Case Size Code	µA @ 25°C Maximum/5 Minimum	120 Hz Maximum	Ω @25°C 100 kHz Max	B (0.1)	C (0.01)	Part Number
Rated Voltage	Rated Capacitance		DC Leakage	DF % @ 25°C	ESR	MIL–PRF–39003 (CSS13)		

(1) To complete MIL–PRF–39003 dash part number, insert S for sleeved or U for unsleeved. If "U" ordered also use C0100.
(2) To complete KEMET Part Number (T216, T256), insert Graded failure rate - B for .1%/k hours, C for .01%/k hours. Designates reliability level.

Table 1B – T256 Ratings & Part Number Reference

Rated Voltage	Rated Capacitance	Case Size Code	DC Leakage	DF % @ 25°C	ESR	MIL–PRF–39003 (CSS33) Dash Number Reference Failure Rate Level (%/1,000 Hours) MIL–PRF–39003/10 Graded		KEMET Equivalent Military
VDC	µF		µA @ 25°C Maximum/5 Minimum	120 Hz Maximum	Ω @25°C 100 kHz Max	B (0.1)	C (0.01)	Part Number
6	10.0	A	0.5	6	0.70	2500(1)	3500(1)	T256A106K006(2)S
6	12.0	A	0.5	6	0.60	2501(1)	3501(1)	T256A126K006(2)S
6	100.0	B	1.0	8	0.20	2502(1)	3502(1)	T256B107K006(2)S
6	330.0	C	2.0	8	0.065	2503(1)	3503(1)	T256B107K006(2)S
6	390.0	C	2.0	10	0.065	2504(1)	3504(1)	T256C337K006(2)S
6	470.0	C	2.0	10	0.060	2505(1)	3505(1)	T256C397K006(2)S
6	680.0	D	5.0	10	0.060	2506(1)	3506(1)	T256D687K006(2)S
6	820.0	D	5.0	10	0.055	2507(1)	3507(1)	T256D827K006(2)S
6	1000.0	D	5.0	10	0.050	2508(1)	3508(1)	T256D108K006(2)S
10	6.8	A	0.5	6	0.80	2509(1)	3509(1)	T256A685K010(2)S
10	8.2	A	0.5	6	0.70	2510(1)	3510(1)	T256A825K010(2)S
10	47.0	B	1.0	6	0.22	2511(1)	3511(1)	T256B476K010(2)S
10	56.0	B	1.0	6	0.20	2512(1)	3512(1)	T256B566K010(2)S
10	68.0	B	1.0	6	0.18	2513(1)	3513(1)	T256B686K010(2)S
10	82.0	B	1.0	6	0.15	2514(1)	3514(1)	T256B826K010(2)S
VDC	µF	Case Size Code	µA @ 25°C Maximum/5 Minimum	120 Hz Maximum	Ω @25°C 100 kHz Max	B (0.1)	C (0.01)	Part Number
Rated Voltage	Rated Capacitance		DC Leakage	DF % @ 25°C	ESR	MIL–PRF–39003 (CSS33)		

(1) To complete MIL–PRF–39003 dash part number, insert S for sleeved or U for unsleeved. If "U" ordered also use C0100.
(2) To complete KEMET Part Number (T216, T256), insert Graded failure rate - B for .1%/k hours, C for .01%/k hours. Designates reliability level.

Roll Over for Order Info.

Table 1B – T256 Ratings & Part Number Reference cont'd

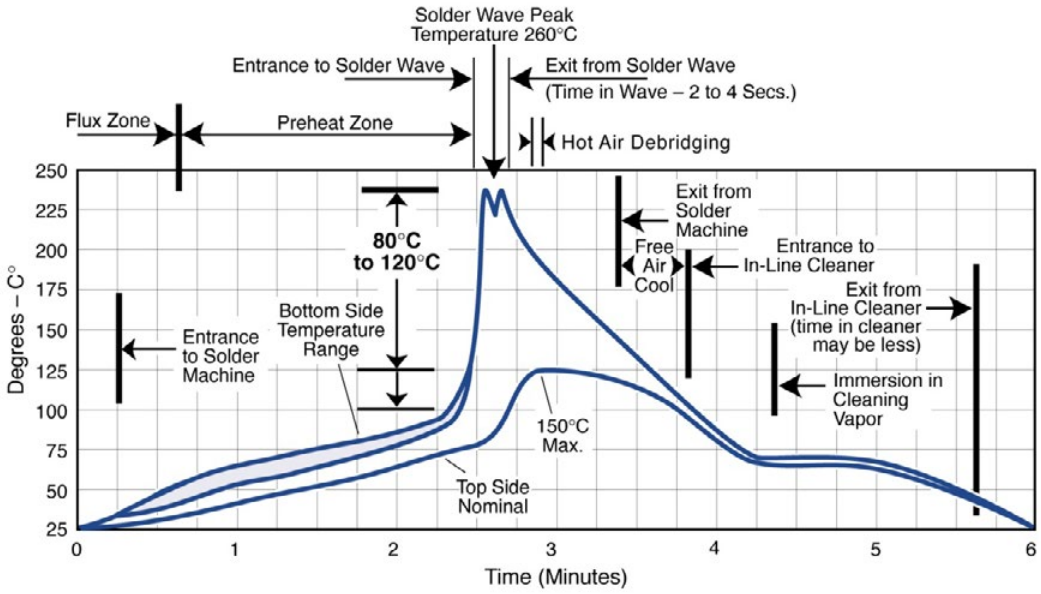
Rated Voltage	Rated Capacitance	Case Size Code	DC Leakage	DF % @ 25°C	ESR	MIL–PRF–39003 (CSS33) Dash Number Reference Failure Rate Level (%/1,000 Hours) MIL–PRF–39003/10 Graded		KEMET Equivalent Military
VDC	µF		µA @ 25°C Maximum/5 Minimum	120 Hz Maximum	Ω @25°C 100 kHz Max	B (0.1)	C (0.01)	Part Number
10	220.0	C	1.0	2	0.090	2515(1)	3515(1)	T256C227K010(2)S
10	270.0	C	2.0	2	0.075	2516(1)	3516(1)	T256C277K010(2)S
10	390.0	D	2.0	10	0.070	2517(1)	3517(1)	T256D397K010(2)S
10	470.0	D	4.0	10	0.065	2518(1)	3518(1)	T256D477K010(2)S
10	560.0	D	4.0	10	0.060	2519(1)	3519(1)	T256D567K010(2)S
15	4.7	A	0.5	4	0.90	2520(1)	3520(1)	T256A475K015(2)S
15	5.6	A	0.5	4	0.80	2521(1)	3521(1)	T256A565K015(2)S
15	33.0	B	1.0	6	0.24	2522(1)	3522(1)	T256B336K015(2)S
15	39.0	B	1.0	6	0.22	2523(1)	3523(1)	T256B396K015(2)S
15	150.0	C	1.0	8	0.10	2524(1)	3524(1)	T256C157K015(2)S
15	180.0	C	2.0	8	0.09	2525(1)	3525(1)	T256C187K015(2)S
15	220.0	D	2.0	8	0.07	2526(1)	3526(1)	T256D227K015(2)S
15	270.0	D	2.0	8	0.065	2527(1)	3527(1)	T256D277K015(2)S
15	330.0	D	2.0	8	0.060	2528(1)	3528(1)	T256D337K015(2)S
20	2.7	A	0.5	4	1.15	2529(1)	3529(1)	T256A275K020(2)S
20	3.3	A	0.5	4	0.95	2530(1)	3530(1)	T256A335K020(2)S
20	3.9	A	0.5	4	0.90	2531(1)	3531(1)	T256A395K020(2)S
20	18.0	B	1.0	6	0.27	2532(1)	3532(1)	T256B186K020(2)S
20	22.0	B	1.0	6	0.26	2533(1)	3533(1)	T256B226K020(2)S
20	27.0	B	1.0	6	0.24	2534(1)	3534(1)	T256B276K020(2)S
20	56.0	C	1.0	6	0.15	2535(1)	3535(1)	T256C566K020(2)S
20	68.0	C	1.0	6	0.14	2536(1)	3536(1)	T256C686K020(2)S
20	82.0	C	1.0	6	0.12	2537(1)	3537(1)	T256C826K020(2)S
20	100.0	C	1.0	6	0.10	2538(1)	3538(1)	T256C107K020(2)S
20	120.0	C	1.0	6	0.09	2539(1)	3539(1)	T256C127K020(2)S
20	150.0	D	2.0	8	0.08	2540(1)	3540(1)	T256D157K020(2)S
20	180.0	D	2.0	8	0.07	2541(1)	3541(1)	T256D187K020(2)S
35	1.8	A	0.5	4	0.20	2542(1)	3542(1)	T256A185K035(2)S
35	8.2	B	1.0	6	0.40	2543(1)	3543(1)	T256B825K035(2)S
35	10.0	B	1.0	6	0.35	2544(1)	3544(1)	T256B106K035(2)S
35	33.0	C	1.0	6	0.19	2545(1)	3545(1)	T256C336K035(2)S
35	39.0	C	1.0	6	0.17	2546(1)	3546(1)	T256C396K035(2)S
35	47.0	C	1.0	6	0.15	2547(1)	3547(1)	T256C476K035(2)S
35	56.0	D	2.0	6	0.13	2548(1)	3548(1)	T256D566K035(2)S
35	68.0	D	2.0	6	0.12	2549(1)	3549(1)	T256D686K035(2)S
50	1.2	A	0.5	4	1.30	2550(1)	3550(1)	T256A125K050(2)S
50	1.5	A	0.5	4	1.20	2551(1)	3551(1)	T256A155K050(2)S
50	5.6	B	1.0	4	0.47	2552(1)	3552(1)	T256B565K050(2)S
50	6.8	B	1.0	6	0.43	2553(1)	3553(1)	T256B685K050(2)S
50	22.0	C	1.0	6	0.22	2554(1)	3554(1)	T256C226K050(2)S
50	27.0	C	1.0	6	0.20	2555(1)	3555(1)	T256C276K050(2)S
50	33.0	D	1.0	6	0.18	2556(1)	3556(1)	T256D336K050(2)S
50	39.0	D	1.0	6	0.16	2557(1)	3557(1)	T256D396K050(2)S
VDC	µF	Case Size Code	µA @ 25°C Maximum/5 Minimum	120 Hz Maximum	Ω @25°C 100 kHz Max	B (0.1)	C (0.01)	Part Number
Rated Voltage	Rated Capacitance		DC Leakage	DF % @ 25°C	ESR	MIL–PRF–39003 (CSS33)		

(1) To complete MIL–PRF–39003 dash part number, insert S for sleeved or U for unsleeved. If "U" ordered also use C0100.

(2) To complete KEMET Part Number (T216, T256), insert Graded failure rate - B for .1%/k hours, C for .01%/k hours. Designates reliability level.

Roll Over for Order Info.

Optimum Solder Wave Profile



Mounting

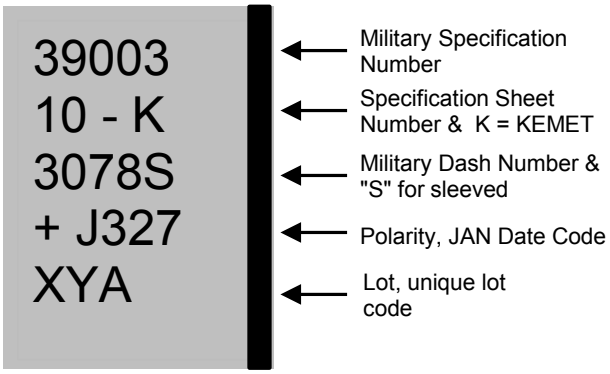
All encased capacitors will pass the Resistance to Soldering Heat Test of MIL–STD–202, Method 210, Condition C. This test simulates wave solder of topside board mount product. This demonstration of resistance to solder heat is in accordance with what is believed to be the industry standard. More severe treatment must be considered reflective of an improper soldering process. The above figure is a recommended solder wave profile for both axial and radial leaded solid tantalum capacitors.

Packaging

Case Size	Standard Bulk Quantity	Standard Reel Quantity	Reel C-Spec
A	40 / Tray	3,500	C-7200
B	30 / Tray	2,500	C-7200
C	20 / Tray	500	C-7200
D	20 / Tray	400	C-7200

Capacitor Marking

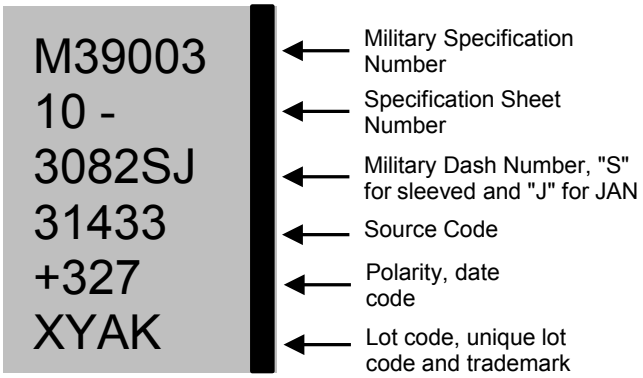
Case A



Date Code – Case A	
1st digit = Last number of Year	2 = 2012 3 = 2013 4 = 2014
2nd and 3rd digit = Week of the Year	27 = 1st week of July

After the MIL dash number would be an S or U (sleeved or unsleeved)
Black band denotes negative end

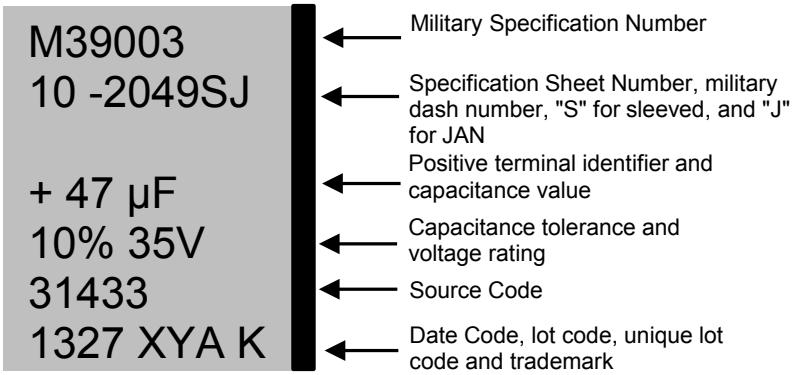
Case B



Date Code – Case B	
1st digit = Last number of Year	2 = 2012 3 = 2013 4 = 2014
2nd and 3rd digits = Week of the Year	27 = 1st week of July

After the MIL dash number would be an S or U (sleeved or unsleeved)
Black band denotes negative end

Case C & D



Date Code – Case C & D	
1st and 2nd digits = Last two digits of Year	12 = 2012 13 = 2013 14 = 2014
3rd and 4th digits = Week of the Year	27 = 1st week of July

After the MIL dash number would be an S or U (sleeved or unsleeved)
Black band denotes negative end

Storage

Tantalum hermetically sealed capacitors should be stored in normal working environments. While the capacitors themselves are quite robust in other environments, solderability will be degraded by exposure to high temperatures, high humidity, corrosive atmospheres, and long term storage. In addition, packaging materials will be degraded by high temperature– reels may soften or warp and tape peel force may increase. KEMET recommends that maximum storage temperature not exceed 40°C and maximum storage humidity not exceed 60% relative humidity. Temperature fluctuations should be minimized to avoid condensation on the parts and atmospheres should be free of chlorine and sulphur bearing compounds. For optimized solderability capacitors stock should be used promptly, preferably within three years of receipt.

T550 Polymer Hermetic Seal (PHS) Series

Overview

The KEMET T550 Polymer Hermetic Seal (PHS) Series is a tantalum capacitor with a Ta anode and Ta_2O_5 dielectric. A conductive organic polymer replaces the traditionally used MnO_2 or wet electrolyte as the cathode plate of the capacitor. This results in very low ESR and improved capacitance retention at high frequency and low temperature. The T550 PHS Series also exhibits a benign failure mode which eliminates the case breach that can occur in wet tantalum types. Additionally, this part may be operated at voltages up to 80% of rated voltage with equivalent or better reliability than traditional MnO_2 or wet tantalum capacitors operated at 50% of rated voltage.

T550 PHS Series also offers higher ripple current handling capability and a lower ESR range than wet tantalums. With reduced ESR and enhanced capacitance retention at higher frequencies and low temperatures, the T550 PHS Series provides the highest total capacitance and the most economical solution for high power applications, all within an approximately 25% lighter package than the equivalent wet tantalum capacitor.

Benefits

- +105°C maximum operating temperature
- Capacitance: 20 µF to 820 µF
- Voltage rating of 6 VDC – 75 VDC
- Polymer cathode technology
- ≤ 0.0075 CV (µA) at rated voltage after 5 minutes
- Extremely low ESR
- High frequency capacitance retention
- Low temperature capacitance retention
- 100% accelerated steady state aging
- 100% surge current tested
- 100% Simulated Breakdown Screening™
- Volumetric efficiency
- Use of up to 80% of rated voltage
- Non-ignition failure mode
- Approximately 25% lighter than equivalent wet tantalum
- Case dimensions equivalent to MIL–PRF–39006/25

Applications

Typical applications include high voltage power management such as buck boost converters, filtering, hold-up capacitors, and other high ripple current applications.

SPICE

For a detailed analysis of specific part numbers, please visit www.kemet.com for a free download of KEMET's SPICE software. The KEMET SPICE program is freeware intended to aid design engineers in analyzing the performance of these capacitors over frequency, temperature, ripple, and DC bias conditions.

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Ordering Information

T	550	B	107	M	025	A	T	4251
Capacitor Class	Series	Case Size	Capacitance Code (pF)	Capacitance Tolerance	Voltage	Failure Rate/ Design	Lead Material	Surge Option
T = Tantalum	550 = Polymer Hermetic Seal	B	First two digits represent significant figures. Third digit specifies number of zeros.	K = ±10% M = ±20%	006 = 6.3 V 008 = 8 V 015 = 15 V 025 = 25 V 040 = 40 V 050 = 50 V 060 = 60 V 075= 75 V	A = N/A	T = 100% tin (Sn) plated H = Tin/lead (SnPb) solder coated (5% Pb minimum)	4250 surge current, 10 cycles +25°C 4251 surge current, 10 cycles, -55°C and +85°C

Performance Characteristics

Item	Performance Characteristics
Operating Temperature	-55°C to 105°C *
Rated Capacitance Range	20 µF to 820 µF @ 120 Hz/25°C *
Capacitance Tolerance	K Tolerance (10%), M Tolerance (20%)
Rated Voltage Range	6 – 75 V
DF (120 Hz @ 25°C)	Refer to Part Number Electrical Specification Table
ESR (100 kHz @ 25°C)	Refer to Part Number Electrical Specification Table
Leakage Current	Refer to Part Number Electrical Specification Table (@ Rated voltage up to +85°C and 78% of rated voltage applied at 105°C)
Packaging	According MIL–PRF–39006

KEMET does not recommend storage above 85ºC.

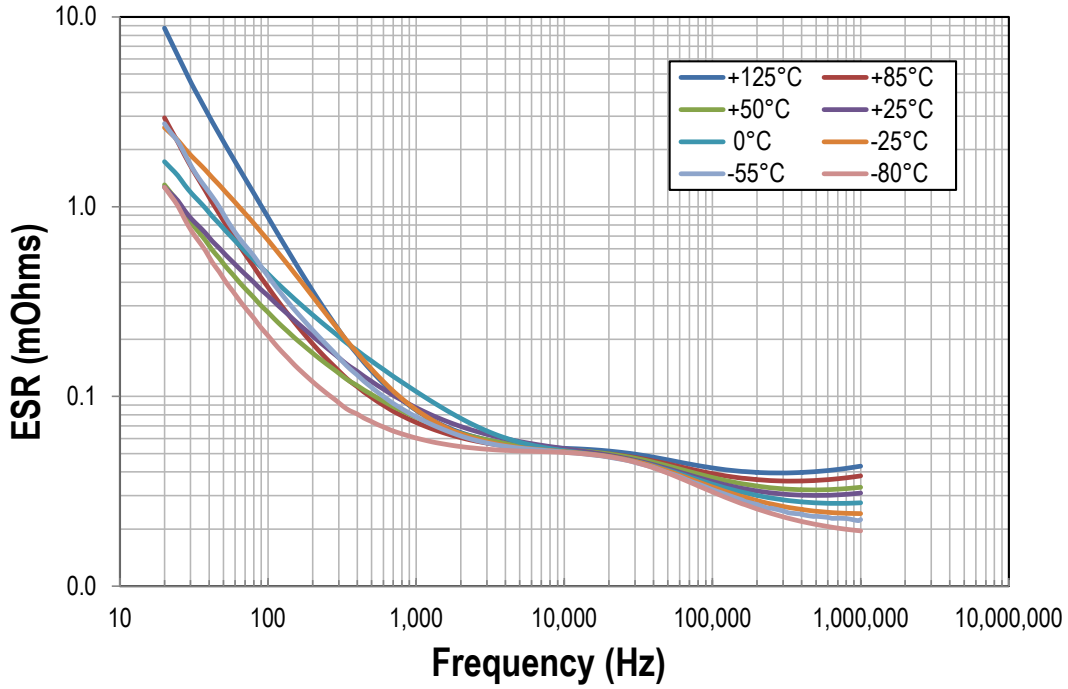
** Additional case sizes, capacitance/voltage and operating temperature under development.*

Qualification

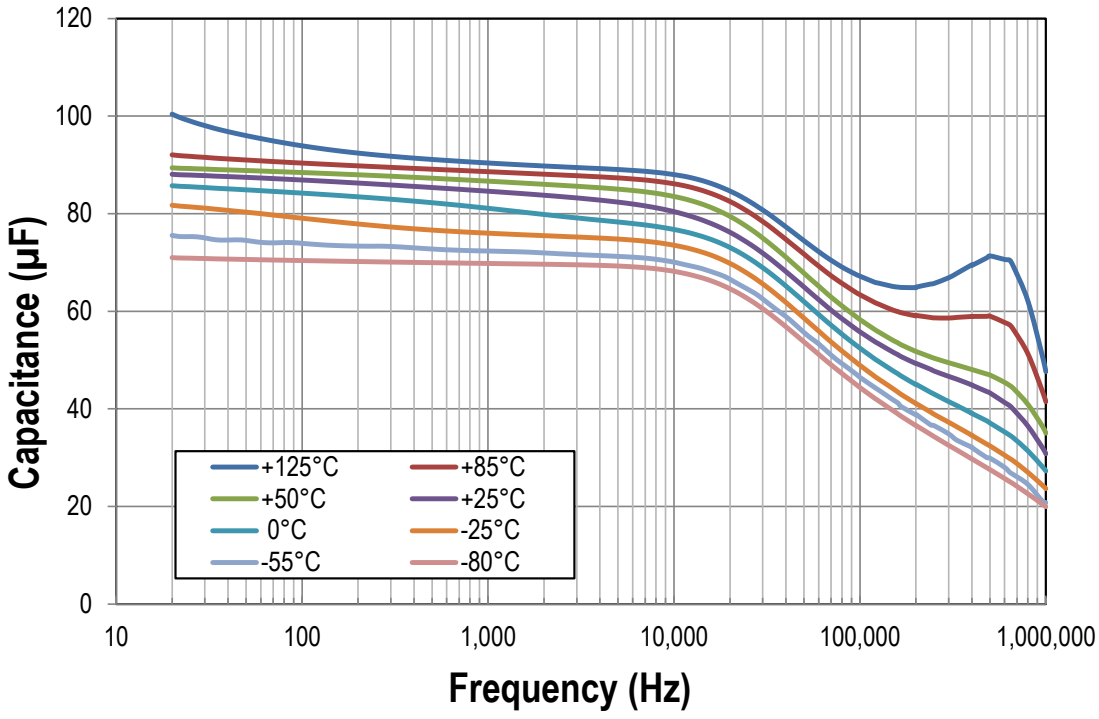
Test Performed	Method Reference	Test Conditions
Reliability and Environmental Tests		
AC Ripple Life at 85˚C	MIL–PRF–39006	85˚C, 40 kHz ripple current, 2,000 hours
85˚C Life	MIL–PRF–39006	85˚C, rated voltage, 2,000 hours
105˚C Life		105°C, 0.78 x rated voltage, 2,000 hours
Surge Voltage	MIL–PRF–39006	85˚C, 1.15 x rated voltage, 1,000 cycles, except Delta Cap shall be +10%/-20%
Surge Current	MIL–PRF–39003	+25 °C, 10 cycles (Option A): Option B available
Low Temperature Storage	MIL–PRF–39006	-62˚C for 72 hours followed by 1 hour at 125˚C
Reverse Voltage	KEMET Catalog	1 V for 8 hours maximum at 25°C, 1 V for 2 hours maximum at 70°C
Physical, Mechanical and Process Tests		
Visual and Mechanical Examination (Internal and External)	MIL–PRF–39006	Case dimensions, marking
Terminal Strength	MIL–PRF–39006	Pull test and wire lead bend test
Resistance to Solvents	MIL–PRF–39006	Immersion in (3) solvents
Resistance to Soldering Heat	MIL–PRF–39006	Immersed to within 0.05 inch of capacitor body
Solderability	MIL–PRF–39006	Depth of insertion in flux and solder to within 0.062 inch of welded joint
Shock and Vibration	MIL–STD–202, Method 213, 204	Shock Method 213: Condition I, 100 g peak; Vibration Method 204: Condition D, 20 g peak
Barometric Pressure (reduced)	MIL–PRF–39006	150,000 feet for 5 minutes, voltage applied for 1 minute
Salt Atmosphere (corrosion)	MIL–PRF–39006	Subjected to fine mist of salt solution
Moisture Resistance	MIL–PRF–39006	65˚C at 6 volts
Dielectric Withstanding Voltage	MIL–PRF–39006	2,000 VDC, 60 seconds, sleeving examined for evidence of breakdown
Insulation Resistance	MIL–PRF–39003	500 VDC, 1 minute, insulation resistance not less than 1,000 MΩ
Electrical Characterization		
Temperature Stability	Reference MIL–PRF–39006	-55˚C to 105˚C
Frequency Scan	KEMET Standard	Impedance, ESR and capacitance versus frequency

Electrical Characteristics

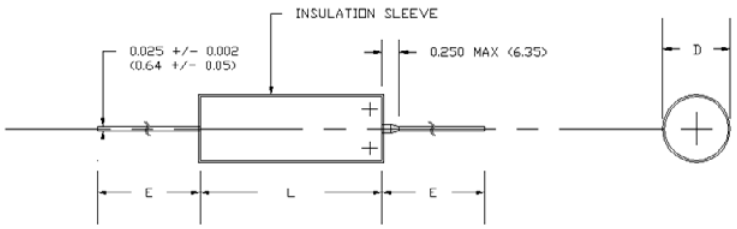
ESR vs. Frequency



Capacitance vs. Frequency



Dimensions – Millimeters



		Uninsulated Case		Insulated Case	
Case Code	MIL–PRF–39006/22/25/30/31 Case Size	L +0.031(0.79) -0.016(0.41)	D ±0.016(0.41)	D Maximum	E ±0.25(6.35)
B	T2	0.641(16.28)	0.281(7.14)	0.312(7.92)	*1.50(38.10)

** Lead length of 2.25" available upon request*

Table 1 – Ratings & Part Number Reference

Rated Voltage	Rated Capacitance	Case Size	KEMET Part Number	DC Leakage	DF	Maximum ESR	Ripple Current[1]
(V) 85°C	µF	KEMET/EIA	(See below for part options)	µA @ 25°C Maximum/5 Minutes	% @ 25°C 120 Hz Max	mΩ @ 25°C 100 kHz	mArms @ 85°C/40 kHz
6	140	B	T550B147(1)006A(2)	6.3	5.0	120	1510
6	820	B	T550B827(1)006A(2)	36.9	5.0	90	1750
8	220	B	T550B227(1)008A(2)	13.2	5.0	120	1510
8	680	B	T550B687(1)008A(2)	40.8	5.0	90	1750
10	100	B	T550B107(1)010A(2)	7.5	5.0	140	1400
10	180	B	T550B187(1)010A(2)	13.5	5.0	110	1580
10	560	B	T550B567(1)010A(2)	42.0	5.0	90	1750
15	70	B	T550B706(1)015A(2)	7.9	5.0	140	1400
15	120	B	T550B127(1)015A(2)	13.5	5.0	110	1580
15	390	B	T550B397(1)015A(2)	43.9	5.0	90	1750
25	50	B	T550B506(1)025A(2)	9.4	5.0	170	1275
25	100	B	T550B107(1)025A(2)	18.8	5.0	190	1200
30	40	B	T550B406(1)030A(2)	9.0	5.0	170	1275
30	68	B	T550B686(1)030A(2)	15.3	5.0	140	1400
40	100	B	T550B107(1)040A(2)	30.0	5.0	150	1350
40	120	B	T550B127(1)040A(2)	36.0	5.0	120	1510
50	25	B	T550B256(1)050A(2)	9.4	5.0	170	1275
50	47	B	T550B476(1)050A(2)	17.6	5.0	150	1350
50	100	B	T550B107(1)050A(2)	37.5	5.0	130	1450
50	120	B	T550B127(1)050A(2)	45.0	5.0	90	1750
60	20	B	T550B206(1)060A(2)	9.0	5.0	200	1175
60	39	B	T550B396(1)060A(2)	17.6	5.0	160	1310
60	100	B	T550B107(1)060A(2)	45.0	5.0	100	1660
75	75	B	T550B756(1)075A(2)	42.2	5.0	110	1580

(1) To complete KEMET part number, insert M for ±20% or K for ±10%. Designates capacitance tolerance.
(2) To complete KEMET part number, insert T = 100% Matte Tin (Sn) Plated, H = Standard Solder coated (SnPb 5% Pb minimum). Designates termination finish. Refer to Ordering Information for additional detail.
Higher voltage ratings and tighter tolerance product including ESR may be substituted within the same size at KEMET's option. Voltage substitution will be marked with the higher voltage rating. Substitutions can include better than series.
[1] The 85°C 40 kHz ripple limit is based on the maximum allowed power at 85°C and the maximum expected ESR at 40 kHz. For this calculation, the 100 kHz ESR limit is multiplied by a factor of 1.3 to account for the frequency dependence of ESR.

Roll Over for Order Info.

Ripple Current/Ripple Voltage

Permissible AC ripple voltage and current are related to equivalent series resistance (ESR) and the power dissipation capabilities of the device. Permissible AC ripple voltage that may be applied is limited by two criteria:

1. The positive peak AC voltage plus the DC bias voltage, if any, must not exceed the DC voltage rating of the capacitor.
2. The negative peak AC voltage in combination with bias voltage, if any, must not exceed the allowable limits specified for reverse voltage.

The maximum power dissipation by case size can be determined using the below left table. The maximum power dissipation rating stated in the table must be reduced with increasing environmental operating temperatures. Refer to the below right table for temperature compensation requirements.

Temperature Compensation Multipliers for Maximum Power Dissipation (P max)		
≤ 45°C	45°C < T ≤ 85°C	85°C < T ≤ 105°C
1.00	0.50	0.10

T= Environmental Temperature

Case Code		Maximum Power Dissipation (P max) mWatts @ 25°C with +60°C Rise
KEMET	MIL–PRF–39006/22/ 25/30/31 Case Size	
B	T2	715

The maximum power dissipation rating must be reduced with increasing environmental operating temperatures. Refer to the Temperature Compensation Multiplier table for details.

Using the P max of the device, the maximum allowable rms ripple current or voltage may be determined.

$I(max) = \sqrt{P\ max/R}$
$E(max) = Z\sqrt{P\ max/R}$

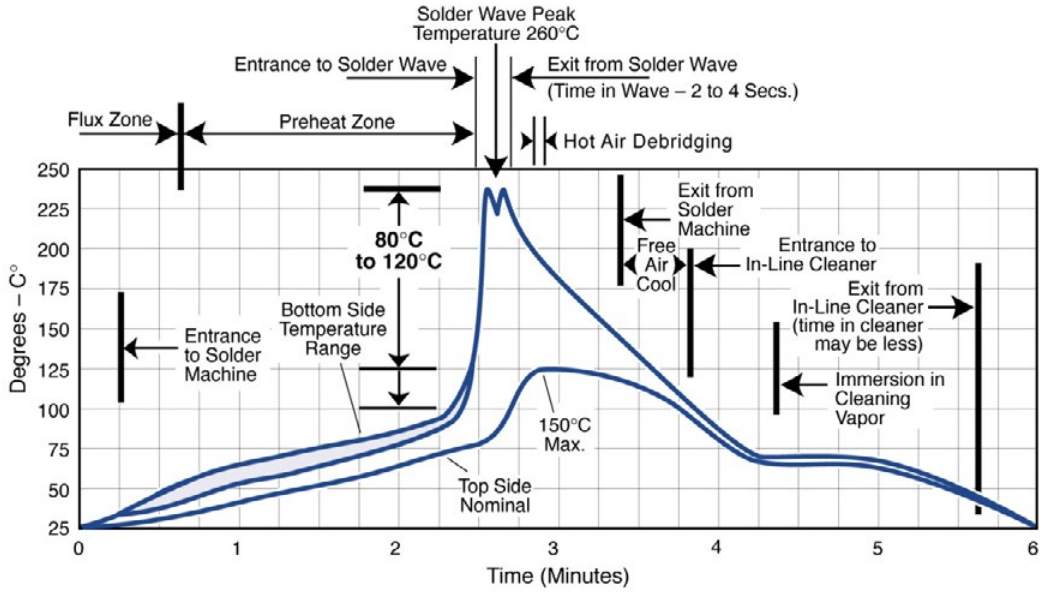
I = rms ripple current (amperes)
E = rms ripple voltage (volts)
P max = maximum power dissipation (watts)
R = ESR at specified frequency (ohms)
Z = Impedance at specified frequency (ohms)

Reverse Voltage

Solid tantalum polymer capacitors are polar devices and may be permanently damaged or destroyed if connected with the wrong polarity. A small reverse voltage is permissible for time periods per the below table.
KEMET can offer lower capacitance in this voltage with higher reverse voltage capability.
In addition, we continue to improve our capability for this characteristic.

Temperature	Permissible Reverse Voltage
25°C	1 V for 8 hours Maximum
70°C	1 V for 2 hours Maximum

Optimum Solder Wave Profile



Mounting

T550 capacitors will pass the Resistance to Soldering Heat Test of MIL–STD–202, Method 210, Condition C. This test simulates wave solder of topside board mount product. This demonstration of resistance to solder heat is in accordance with what is believed to be the industry standard. More severe treatment must be considered reflective of an improper soldering process. The above figure is a recommended solder wave profile for T550 tantalum capacitors.

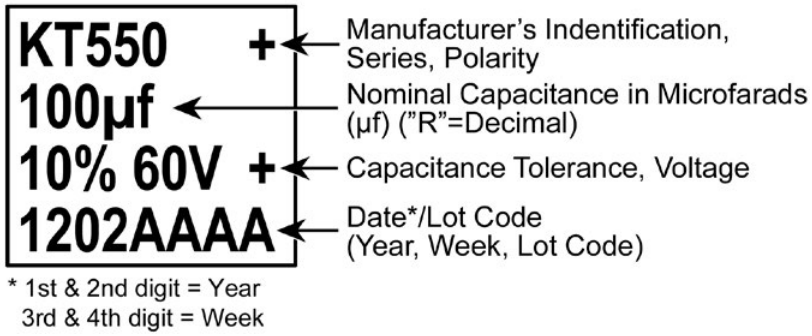
Packaging

Case Size		Pieces per Tray
KEMET	EIA	
B	T2	20

Weight

Case Size		Average Weight (grams)
KEMET	EIA	
B	T2	3.63

Capacitor Marking



Storage

Tantalum hermetically sealed capacitors should be stored in normal working environments. While the capacitors themselves are quite robust in other environments, solderability will be degraded by exposure to high temperatures, high humidity, corrosive atmospheres, and long term storage. In addition, packaging materials will be degraded by high temperature– reels may soften or warp and tape peel force may increase. KEMET recommends that maximum storage temperature not exceed 40ºC and maximum storage humidity not exceed 60% relative humidity. Temperature fluctuations should be minimized to avoid condensation on the parts and atmospheres should be free of chlorine and sulphur bearing compounds. For optimized solderability capacitors stock should be used promptly, preferably within three years of receipt.

Tape & Reel Packaging Information

KEMET's molded tantalum and aluminum chip capacitor families are packaged in 8 and 12 mm plastic tape on 7" and 13" reels in accordance with *EIA Standard 481–1*: Embossed Carrier Taping of Surface Mount Components for Automatic Handling. This packaging system is compatible with all tape-fed automatic pick-and-place systems.

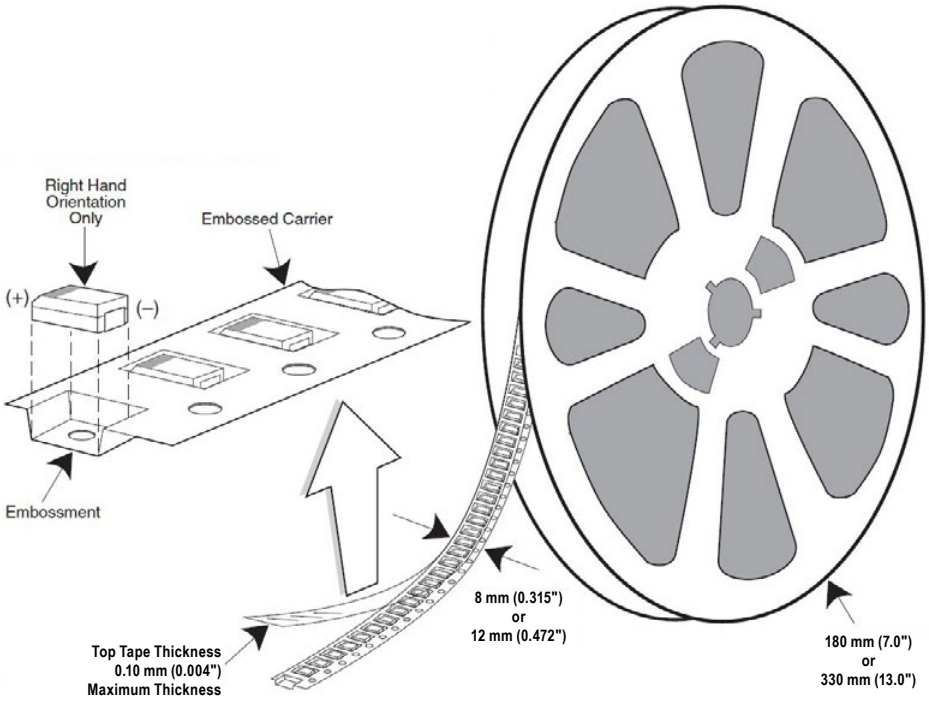


Table 3 – Packaging Quantity

Case Code		Tape Width (mm)	7" Reel*	13" Reel*
KEMET	EIA			
I	3216-10	8	3,000	12,000
S	3216-12	8	2,500	10,000
T	3528-12	8	2,500	10,000
M	3528-15	8	2,000	8,000
U	6032-15	12	1,000	5,000
L	6032-19	12	1,000	5,000
W	7343-15	12	1,000	3,000
Z	7343-17	12	1,000	3,000
V	7343-20	12	1,000	3,000
A	3216-18	8	2,000	9,000
B	3528-21	8	2,000	8,000
C	6032-28	12	500	3,000
D	7343-31	12	500	2,500
Y	7343-40	12	500	2,000
X	7343-43	12	500	2,000
E/T428P	7360-38	12	500	2,000
H	7360-20	12	1,000	2,500

** No C-Spec required for 7" reel packaging. C-7280 required for 13" reel packaging.*

Figure 1 – Embossed (Plastic) Carrier Tape Dimensions

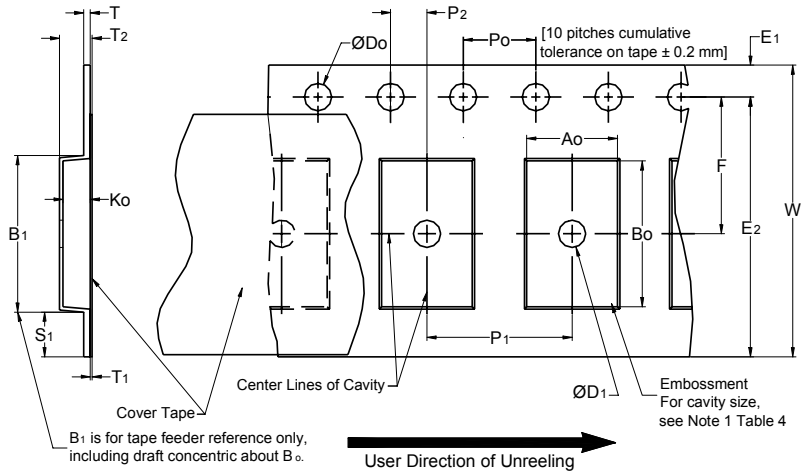


Table 4 – Embossed (Plastic) Carrier Tape Dimensions

Metric will govern

Constant Dimensions — Millimeters (Inches)									
Tape Size	D_0	D_1 Minimum Note 1	E_1	P_0	P_2	R Reference Note 2	S_1 Minimum Note 3	T Maximum	T_1 Maximum
8 mm	1.5 +0.10/-0.0 (0.059 +0.004/-0.0)	1.0 (0.039)	1.75 ±0.10 (0.069 ±0.004)	4.0 ±0.10 (0.157 ±0.004)	2.0 ±0.05 (0.079 ±0.002)	25.0 (0.984)	0.600 (0.024)	0.600 (0.024)	0.100 (0.004)
12 mm		1.5 (0.059)				30 (1.181)			
16 mm									

Variable Dimensions — Millimeters (Inches)								
Tape Size	Pitch	B_1 Maximum Note 4	E_2 Minimum	F	P_1	T_2 Maximum	W Maximum	A_0,B_0 & K_0
8 mm	Single (4 mm)	4.35 (0.171)	6.25 (0.246)	3.5 ±0.05 (0.138 ±0.002)	4.0 ±0.10 (0.157 ±0.004)	2.5 (0.098)	8.3 (0.327)	Note 5
12 mm	Single (4 mm) & Double (8 mm)	8.2 (0.323)	10.25 (0.404)	5.5 ±0.05 (0.217 ±0.002)	8.0 ±0.10 (0.315 ±0.004)	4.6 (0.181)	12.3 (0.484)	
16 mm	Triple (12 mm)	12.1 (0.476)	14.25 (0.561)	5.5 ±0.05 (0.217 ±0.002)	8.0 ±0.10 (0.315 ±0.004)	4.6 (0.181)	16.3 (0.642)	

1. The embossment hole location shall be measured from the sprocket hole controlling the location of the embossment. Dimensions of embossment location and hole location shall be applied independent of each other.

2. The tape, with or without components, shall pass around R without damage (see Figure 5).

3. If S_1 < 1.0 mm, there may not be enough area for cover tape to be properly applied (see EIA Standard 481–D, paragraph 4.3, section b).

4. B_1 dimension is a reference dimension for tape feeder clearance only.

5. The cavity defined by A_0, B_0 and K_0 shall surround the component with sufficient clearance that:

(a) the component does not protrude above the top surface of the carrier tape.

(b) the component can be removed from the cavity in a vertical direction without mechanical restriction, after the top cover tape has been removed.

(c) rotation of the component is limited to 20° maximum for 8 and 12 mm tapes and 10° maximum for 16 mm tapes (see Figure 2).

(d) lateral movement of the component is restricted to 0.5 mm maximum for 8 mm and 12 mm wide tape and to 1.0 mm maximum for 16 mm tape (see Figure 3).

(e) see Addendum in EIA Standard 481–D for standards relating to more precise taping requirements.

Packaging Information Performance Notes

1. Cover Tape Break Force: 1.0 Kg minimum.
2. Cover Tape Peel Strength: The total peel strength of the cover tape from the carrier tape shall be:

Tape Width	Peel Strength
8 mm	0.1 to 1.0 Newton (10 to 100 gf)
12 and 16 mm	0.1 to 1.3 Newton (10 to 130 gf)

The direction of the pull shall be opposite the direction of the carrier tape travel. The pull angle of the carrier tape shall be 165° to 180° from the plane of the carrier tape. During peeling, the carrier and/or cover tape shall be pulled at a velocity of 300 ±10 mm/minute.
3. Labeling: Bar code labeling (standard or custom) shall be on the side of the reel opposite the sprocket holes. *Refer to EIA Standards 556 and 624.*

Figure 2 – Maximum Component Rotation

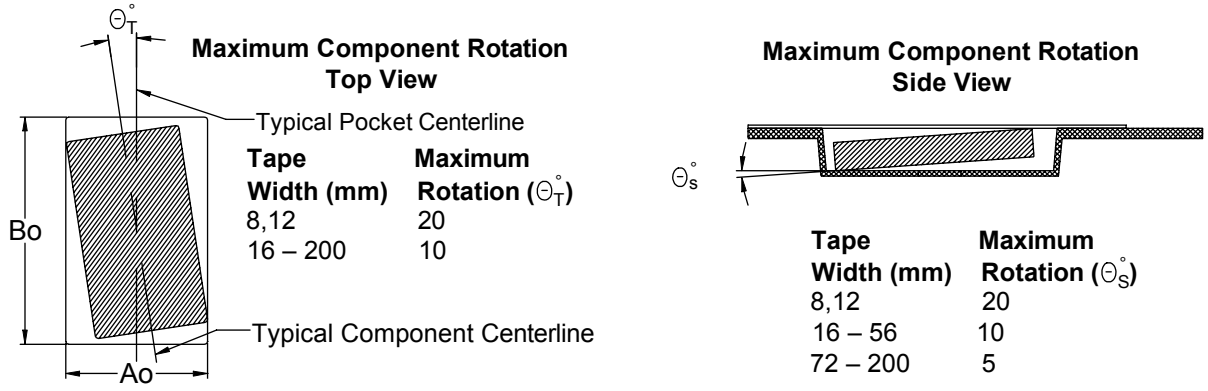


Figure 3 – Maximum Lateral Movement

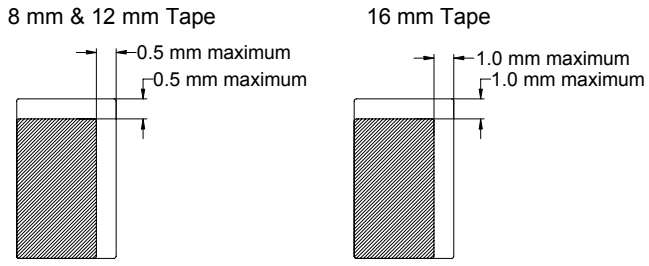


Figure 4 – Bending Radius

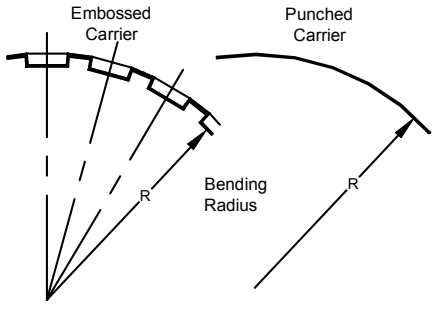
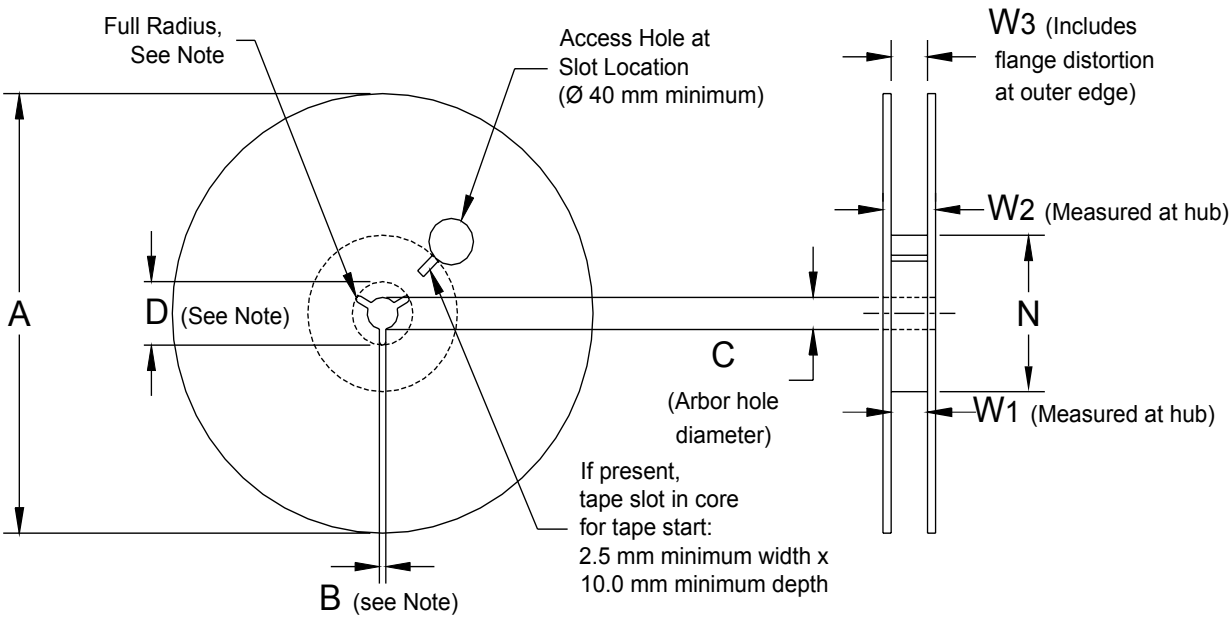


Figure 5 – Reel Dimensions



Note: Drive spokes optional; if used, dimensions B and D shall apply.

Table 5 – Reel Dimensions

Metric will govern

Constant Dimensions — Millimeters (Inches)				
Tape Size	A	B Minimum	C	D Minimum
8 mm	178 ±0.20 (7.008 ±0.008) or 330 ±0.20 (13.000 ±0.008)	1.5 (0.059)	13.0 +0.5/-0.2 (0.521 +0.02/-0.008)	20.2 (0.795)
12 mm				
16 mm				

Variable Dimensions — Millimeters (Inches)				
Tape Size	N Minimum	W_1	W_2 Maximum	W_3
8 mm	50 (1.969)	8.4 +1.5/-0.0 (0.331 +0.059/-0.0)	14.4 (0.567)	Shall accommodate tape width without interference
12 mm		12.4 +2.0/-0.0 (0.488 +0.078/-0.0)	18.4 (0.724)	
16 mm		16.4 +2.0/-0.0 (0.646 +0.078/-0.0)	22.4 (0.882)	

Figure 6 – Tape Leader & Trailer Dimensions

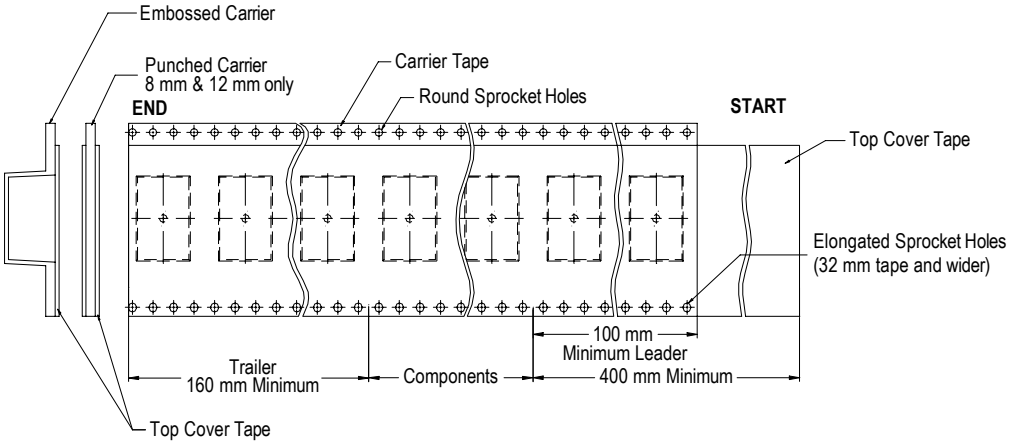
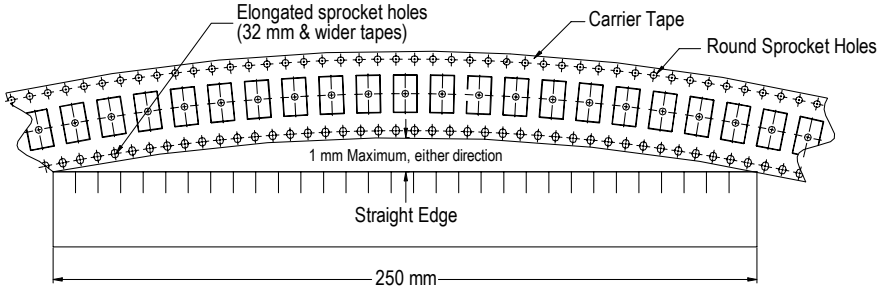


Figure 7 – Maximum Camber



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