Surface Mount Aluminum Electrolytic Capacitors

Type TYEE Low Impedance Series

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Tyco Electronics vertical chip-type aluminum electrolytic capacitors are designed for surface mounting in high density PCB population.

Supplied on tape and reel for use with automatic placement equipment.

The TYEE series offers low impedance and higher ripple current for unit size. Extended temperature range (-55°C to +105°C) for use in applications where high reliability is required under extreme conditions.

Key Features

- Low impedance surface mount aluminum electrolytic capacitors
- 105°C temperature rating
- 1000 hours load life assured
- Taped and Reeled
- 15" diameter reel size
- Designed for reflow soldering
- RoHS Compliant

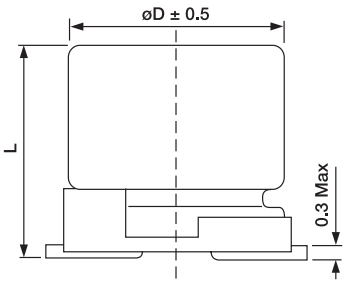
Characteristics - Electrical

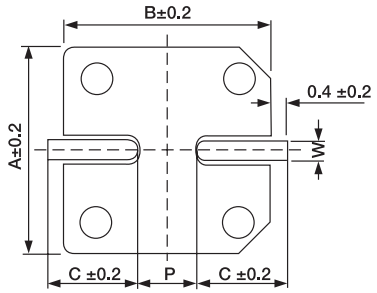
							Test Conditions JIS C5101-1,-18
Operating Temp. Range	-55°C ~ +105°C						—
Rated Voltage	DC 6.3 ~ 35V						105°C
Capacitance	4.7 ~ 220µF						105°C
Capacitance Tolerance	±20%						120Hz, 20°C
Leakage Current	0.01 CV or 3µA whichever is greater						C = rated capacitance (µF) V = rated DC working voltage (V) Temperature = 20°C
Dissipation Factor (Tanδ)	Rated Voltage	6.3	10	16	25	35	120Hz, 20°C
	Tanδ max	0.28	0.24	0.20	0.16	0.14	
Low Temperature Characteristics	Rated Voltage	6.3	10	16	25	35	120Hz
	Impedance Ratio (max)						
	Z(-25°C)/Z(+20°C)	4	3	2	2	2	
	Z(-40°C)/Z(+20°C)	8	5	4	3	3	
Load Life Test	Test Time	1000 Hrs					Specification satisfied when the capacitors are restored to 20°C after the rated voltage applied with rated ripple current for 1000 hrs at 105°C
	Capacitance Change	Within ±25% of initial value					
	Dissipation Factor	Less than 200% of specified value					
	Leakage Current	Within specified value					
Shelf Life Test	Test Time	1000 hrs					Other items same as those for load life test
Ripple Current & Frequency Multipliers	Frequency (Hz)	50,60	120	1k	10k and above		—
	Multiplier (VDC 6.3 ~ 50V)	0.64	0.8	0.93	1.0		

Product Availability Chart

Capacitance		Rated Voltage (V.DC)									
		6.3		10		16		25		35	
µF	Code	Dia x L	Imp.(Ω)	Dia x L	Imp.(Ω)	Dia x L	Imp.(Ω)	Dia x L	Imp.(Ω)	Dia x L	Imp.(Ω)
4.7	475									4x5.3	3.2
10	106					4x5.3	3.2	5x5.3	1.5	5x5.3	1.5
22	226	4x5.3	3.2	5x5.3	1.5	5x5.3	1.5	6.3x5.3	0.85	6.3x5.3	0.85
33	336	5x5.3	1.5	5x5.3	1.5	6.3x5.3	0.85	6.3x5.3	0.85	6.3x5.3	0.85
47	476	5x5.3	1.5	6.3x5.3	0.85	6.3x5.3	0.85	6.3x5.3	0.85	6.3x7.7	0.5
100	107	6.3x5.3	0.85	6.3x5.3	0.85	6.3x5.3	0.85	6.3x7.7	0.5		
150	157					6.3x7.7	0.5				
220	227	6.3x7.7	0.5								

Dimensions





Case Code	Dimensions (mm)						
	Dia	L	A	B	C	W	P±0.2
D55	4.0	5.3±0.3	4.3	4.3	2.0	0.5 to 0.8	1.0
E55	5.0	5.3±0.3	5.3	5.3	2.3	0.5 to 0.8	1.5
F55	6.3	5.3±0.3	6.6	6.6	2.7	0.5 to 0.8	2.0
F80	6.3	7.7±0.3	6.6	6.6	2.7	0.5 to 0.8	2.0

Tyco Electronics

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Standard Product Table

Rated Voltage V.DC	Capacitance µF	Capacitance Code	Case Size Dia x L	Case Code	Dissipation Factor (%)*	Ripple Current (mA)*	Impedance (Ω)*	Part Number
6.3	22	226	4x5.3	D55	28	65	3.2	TYEE0J226D55MTR
6.3	33	336	5x5.3	E55	28	110	1.5	TYEE0J336E55MTR
6.3	47	476	5x5.3	E55	28	110	1.5	TYEE0J476E55MTR
6.3	100	107	6.3x5.3	F55	28	170	0.85	TYEE0J107F55MTR
6.3	220	227	6.3x7.7	F80	28	255	0.5	TYEE0J227F80MTR
10	22	226	5x5.3	E55	24	110	1.5	TYEE1A226E55MTR
10	33	336	5x5.3	E55	24	110	1.5	TYEE1A336E55MTR
10	47	476	6.3x5.3	F55	24	170	0.85	TYEE1A476F55MTR
10	100	107	6.3x5.3	F55	24	170	0.85	TYEE1A107F55MTR
16	10	106	4x5.3	D55	20	65	3.2	TYEE1C106D55MTR
16	22	226	5x5.3	E55	20	110	1.5	TYEE1C226E55MTR
16	33	336	6.3x5.3	F55	20	170	0.85	TYEE1C336F55MTR
16	47	476	6.3x5.3	F55	20	170	0.85	TYEE1C476F55MTR
16	100	107	6.3x5.3	F55	20	170	0.85	TYEE1C107F55MTR
16	150	157	6.3x7.7	F80	20	255	0.5	TYEE1C157F80MTR
25	10	106	5x5.3	E55	16	110	1.5	TYEE1E106E55MTR
25	22	226	6.3x5.3	F55	16	170	0.85	TYEE1E226F55MTR
25	33	336	6.3x5.3	F55	16	170	0.85	TYEE1E336F55MTR
25	47	476	6.3x5.3	F55	16	170	0.85	TYEE1E476F55MTR
25	100	107	6.3x7.7	F80	16	255	0.5	TYEE1E107F80MTR
35	4.7	475	4x5.3	D55	14	65	3.2	TYEE1V475D55MTR
35	10	106	5x5.3	E55	14	110	1.5	TYEE1V106E55MTR
35	22	226	6.3x5.3	F55	14	170	0.85	TYEE1V226F55MTR
35	33	336	6.3x5.3	F55	14	170	0.85	TYEE1V336F55MTR
35	47	476	6.3x7.7	F80	14	255	0.5	TYEE1V476F80MTR

* DF measured at 120Hz, 20°C

* RC measured at 100kHz, 105°C

* ESR measured at 100kHz, 20°C

How to Order

TYEE	0J	226	D55	M	TR
Common Part	**Voltage Code**	**Capacitance**	**Case Code**	**Tolerance**	**Packaging**
TYEE	0J (6.3V) 1A (10V) 1C (16V) 1E (25V) 1V (35V)	e.g. 226	e.g. D55	M (20%)	TR = 15" Reels D55 Case - 2000 pcs E55,F55 and F80 Case - 1000 pcs