

CERAMIC DISC CAPACITORS

CLASS 1 (TEMPERATURE COMPENSATING)

■ SPECIFICATIONS

- Standard: JIS C6423 5102 EIA RS-198C
- Class: Class 1
- Temperature range: $-55^{\circ}\text{C} \sim +125^{\circ}\text{C}$
- Capacitance: Shall be within tolerance when measured at a frequency of 1MHz.
- Dielectric strength: Capacitors shall withstand 3 times the rated working voltage for 1 - 5 seconds.
- Insulation resistance: Value obtained will be 10,000 M Ω minimum when measured by applying the rated working voltage for 1 minute.

7. Q: When measured in the same method as capacitance, the Q value will be as follows:

(C = capacitance in pf)

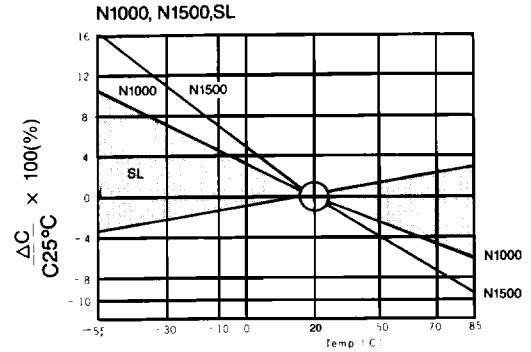
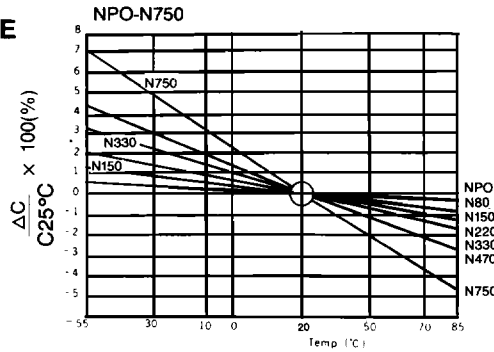
- | | |
|---|--|
| NPO - N750 & SL | N1000, N1500 |
| Cap. < 30 pF, Q $\geq 400+20\text{C}$ | Cap. < 30 pF, Q $\geq 200+10\text{C}$ |
| Cap. $\geq 30\text{pF}$, Q ≥ 1000 | Cap. $\geq 30\text{pF}$, Q ≥ 500 |

8. Temperature coefficient: Shall not exceed limits defined in graphs below. SL: P350-N1000 PPM/ $^{\circ}\text{C}$

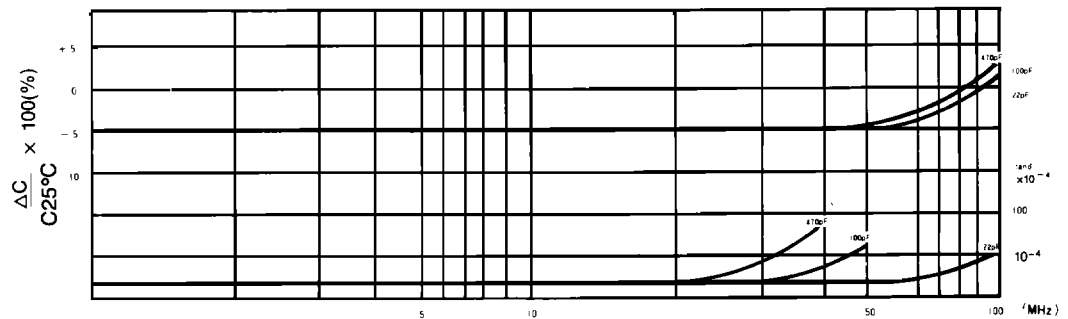
9. Values available in E24 series over 10 pF, under 10 pF consult KCK.

■ PERFORMANCE

(CAPACITANCE VS. TEMPERATURE)



(CAPACITANCE VS. FREQUENCY)



■ MARKING

Diameter	T.C.	5 ϕ			6 ϕ			7 ϕ and above		
		C-U	VW	SL	C-U	VW	SL	C-U	VW	SL
T.C. color code	•				•					
T.C. (e.g.: VW)		•			•					
T.C. (NPO, N1500)								•	•	
Capacitance	•	•	•	•	•	•	•	•	•	•
Cap. Tol.					•	•	•	•	•	•

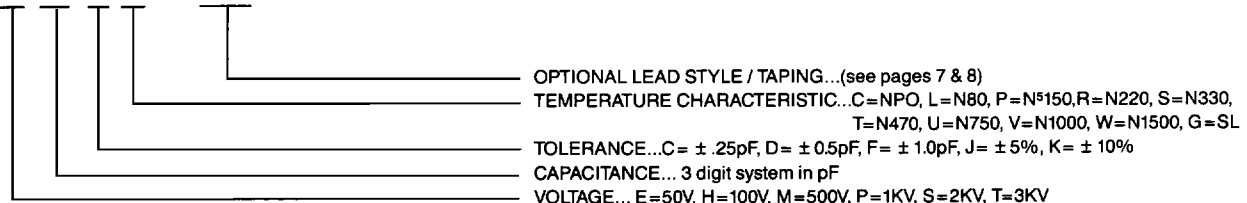
Note:

- Capacitance marking: values less than 100pF marked with actual capacitance, 100 pF and over using 3 digits. (e.g. 10 pF -10, 1000 pF -102)
- Working voltage: 50V-marked with a "--" under capacitance, 500V-no marking. Other voltages will be marked.
- Brand name will be marked on the following: 50 V 6mm & above, 100V: 8mm SL, 9mm & above 500V: All parts are marked, 1KV & over: 9.5mm & above.
- TC: Color Code or Symbol

T.C.	Color	T.C.	Color	T.C.	Color
NPO (C)	Black	N220 (R)	Yellow	N470 (T)	Blue
N80 (L)	Red	N330 (S)	Green	N750 (U)	Violet
N150 (P)	Orange				

■ KCK CATALOG NUMBERING SYSTEM

E 121 J C — RDS



CERAMIC DISC CAPACITORS

CLASS 1

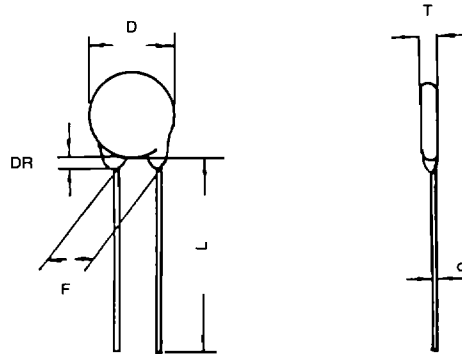
■ CAPACITANCE RANGE (pF)

	DIMENSIONS mm (inch)		CAPACITANCE RANGE (pF)										
	D MAX	F	NPO (C)	N80 (L)	N150 (P)	N220 (R)	N330 (S)	N470 (T)	N750 (U)	N1000 (V)	N1500 (W)	SL	
50V	4.0 (.157)	2.5 (.098)	1~ 24	1~ 12	1~ 24	1.5~ 27	2~ 27	2~ 33	3~ 43	6~ 43	7~ 56	.5~ 75	
	5.0 (.197)	2.5 (.098)	27~ 33	13~ 20	27~ 33	30~ 39	30~ 39	-	47~ 62	47~ 68	62~ 91	82~ 120	
	5.0 (.197)	5.0 (.197)	36~ 39	22	36~ 39	43	43~ 47	36~ 56	68~ 82	-	-	-	
	6.0 (.236)	5.0 (.197)	43~ 56	24~ 33	43~ 56	47~ 68	51~ 68	62~ 82	91~ 120	75~ 100	100~ 130	130~ 180	
	7.0 (.276)	5.0 (.197)	62~ 82	36~ 47	62~ 91	75~ 100	75~ 100	91~ 120	130~ 180	110~ 150	150~ 200	200~ 270	
	8.0 (.315)	5.0 (.197)	91~ 120	51~ 68	100~ 130	110~ 130	110~ 150	130~ 160	200~ 240	160~ 220	220~ 270	300~ 390	
	9.0 (.354)	5.0 (.197)	130~ 160	75~ 91	150~ 160	150~ 180	160~ 200	180~ 240	270~ 330	240~ 300	300~ 390	430~ 510	
	9.5 (.374)	5.0 (.197)	180	100	180	-	220	-	-	330	430	560	
100V	10.5 (.413)	5.0 (.197)	200~ 220	110~ 130	200~ 240	200~ 240	240~ 270	270~ 330	360~ 470	360~ 390	470~ 510	620~ 750	
	12.0 (.472)	5.0 (.197)	240~ 300	150~ 180	270~ 330	270~ 360	300~ 390	360~ 430	540~ 680	430~ 560	560~ 750	820~ 1000	
	6.0 (.236)	6.4 (.250)	1~ 30	1~ 16	1~ 30	1~ 33	2~ 36	2.0~ 43	1.5~ 62	1.5~ 51	1.5~ 68	0.75~ 100	
			33~ 47	18~ 27	33~ 47	36~ 56	39~ 56	47~ 68	68~ 100	56~ 82	75~ 110	110~ 150	
500V	7.0 (.276)	6.4 (.250)	51~ 68	-	51~ 68	62~ 82	62~ 100	75~ 110	110~ 150	-	-	160~ 220	
	8.0 (.315)	6.4 (.250)	75~ 100	30~ 56	75~ 100	91~ 110	91~ 120	110~ 130	160~ 200	91~ 180	120~ 240	240~ 330	
	9.0 (.354)	6.4 (.250)	-	-	-	120~ 150	-	150~ 200	-	-	-	360~ 430	
	9.5 (.374)	6.4 (.250)	110~ 150	62~ 82	110~ 150	-	130~ 180	-	220~ 300	200~ 240	270~ 330	470	
1000V	10.5 (.414)	6.4 (.250)	-	-	160~ 200	160~ 200	-	-	330~ 390	-	-	510~ 620	
	12.0 (.472)	6.4 (.250)	160~ 240	91~ 150	220~ 270	220~ 300	200~ 300	220~ 360	430~ 510	270~ 430	360~ 560	680~ 820	
	6.0 (.236)	6.4 (.250)	1~ 30	1~ 16	1~ 30	1~ 33	2~ 36	2~ 43	1.5~ 62	1.5~ 51	1.5~ 68	0.75~ 100	
			33~ 47	18~ 24	33~ 47	36~ 51	39~ 56	47~ 62	68~ 100	56~ 82	75~ 100	110~ 150	
	9.5 (.375)	6.4 (.250)	51~ 82	27~ 51	51~ 100	56~ 100	62~ 100	68~ 130	100~ 180	91~ 160	110~ 200	160~ 270	
	11.0 (.433)	6.4 (.250)	91~ 120	56~ 68	100~ 130	110~ 130	110~ 150	150~ 180	200~ 270	180~ 220	220~ 300	300~ 390	
	12.5 (.492)	6.4 (.250)	130~ 160	75~ 100	150~ 180	150~ 200	180~ 200	200~ 240	300~ 360	240~ 300	330~ 390	430~ 510	
	14.5 (.570)	9.5 (.375)	180~ 240	110~ 130	200~ 240	220~ 270	220~ 300	270~ 360	390~ 510	330~ 430	430~ 560	560~ 750	
16.3 (.642)	9.5 (.375)	270~ 330	150~ 180	270~ 330	300~ 360	330~ 390	390~ 470	560~ 680	470~ 560	620~ 750	820~ 1000		
2000V	19.0 (.748)	9.5 (.375)	360~ 430	200~ 240	360~ 470	390~ 510	430~ 510	510~ 620	750~ 910	620~ 750	820~ 1000	-	
	8.0 (.315)	6.4 (.25)	1~ 12	-	1~ 12	-	-	-	-	-	-	1~ 36	
			13~ 24	-	13~ 24	-	-	-	-	-	-	39~ 75	
	12.0 (.472)	6.4 (.25)	27~ 36	-	27~ 36	-	-	-	-	-	-	82~ 110	
3000V	15.0 (.590)	9.5 (.375)	39~ 68	-	39~ 68	-	-	-	-	-	-	120~ 220	
	20.0 (.787)	9.5 (.375)	75~ 130	-	75~ 130	-	-	-	-	-	-	240~ 430	
	10.0 (.394)	9.5 (.375)	1~ 16	-	1~ 16	-	-	-	-	-	-	1~ 56	
	12.0 (.472)	9.5 (.375)	18~ 24	-	18~ 24	-	-	-	-	-	-	62~ 82	

■ STANDARD CAPACITANCE TOLERANCE

5~5pF C(±.25pF, D(±.5pF)
 5.1~10pF; D(±.5pF), F(±1pF)
 Over 10pF; J(±5%), K(±10%)

■ DIMENSIONS



WVDC	DIMENSIONS mm (inch)			
	DR	L	T	d
50V	2.0 MAX (.079)	25.0 MIN (1.0)	3.0 MAX (.118)	d=0.4 (.015) F=2.5 mm (.098) d=0.5 (.0196) F=5.0 mm (.197)
100V	2.0 MAX (.079)	25.0 MIN (1.0)	3.0 MAX (.118)	AWG#22 (.025)
500V	3.0 MAX (.118)	25.0 MIN (1.0)	4.0 MAX (.157)	AWG#22 (.025)
1KV	4.0 MAX (.157)	25.0 MIN (1.0)	4.5 MAX (.177)	AWG#22 (.025)
2KV	4.0 MAX (.157)	25.0 MIN (1.0)	5.0 MAX (.196)	AWG#20 (.032)
3KV	4.0 MAX (.157)	25.0 MIN (1.0)	6.0 MAX (.236)	AWG#20 (.032)

	DIMENSIONS mm (inch)		CAPACITANCE RANGE (pF)	
	D (MAX)	F ± 1.5	NPO	SL
1000V	6.0 (.236)	6.4 (.25)	1~22	1~68
	7.4 (.291)	6.4 (.25)	24~33	75~110
	9.5 (.374)	6.4 (.25)	36~62	120~200
	11.0 (.433)	6.4 (.25)	68~91	220~300
	13 (.512)	6.4 (.25)	100~130	330~390
	15.0 (.590)	9.5 (.375)	150~180	430~560
2000V	17 (.669)	9.5 (.375)	200~240	620~750
	19.0 (.748)	9.5 (.375)	270~330	820~1000
	8.0 (.315)	6.4 (.25)	1~12	1~36
	10.0 (.394)	6.4 (.25)	13~24	39~75
	12.0 (.472)	6.4 (.25)	27~36	82~110
	15.0 (.590)	9.5 (.375)	39~68	120~220
3000V	20.0 (.787)	9.5 (.375)	75~130	240~430
	10.0 (.394)	9.5 (.375)	1~16	1~56
	12.0 (.472)	9.5 (.375)	18~24	62~82
	15.0 (.590)	9.5 (.375)	27~51	91~160
20.0 (.787)	9.5 (.375)	56~91	180~300	