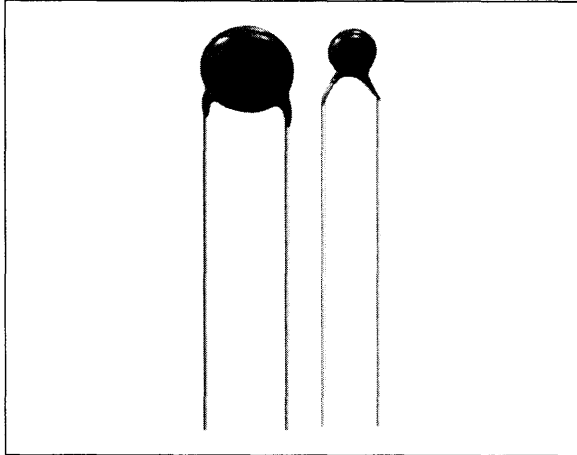


## Ceramic Disc Capacitors Cera-Mite<sup>®</sup>, Low Voltage, General Purpose



**FEATURES**

- Designed for telephones and lighting ballasts to withstand transient voltage and energy surges in accord with FCC and IEEE standards

**DIMENSIONAL CONFIGURATIONS - LOW VOLTAGE 12 V TO 1KV** in inches [millimeters]

Figure 1

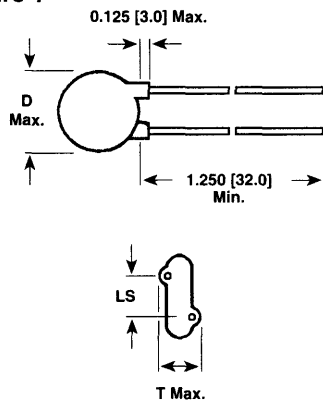


Figure 1a

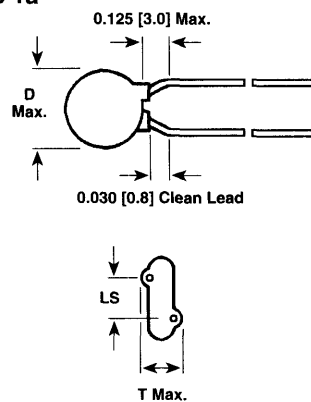
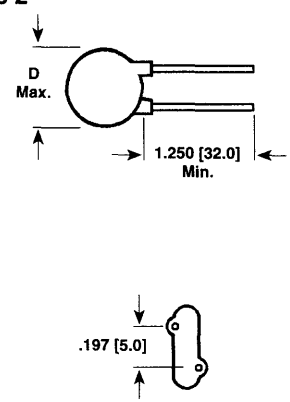


Figure 2



CASE CODE	MAXIMUM DIAMETER	MAXIMUM THICKNESS	FIGURE 1 & 1a LEAD SPACING	STANDARD WIRE SIZE
C	.250 [6.3]	.156 [4.0]	.250 [6.3]	22 Gauge (.025 [.635]) Tin Coated Copper
E	.290 [7.4]	.156 [4.0]	.250 [6.3]	
F	.370 [9.4]	.156 [4.0]	.250 [6.3]	
G	.440 [11.2]	.156 [4.0]	.250 [6.3]	
H	.490 [12.4]	.156 [4.0]	.250 [6.3]	
H <sup>3</sup>	.490 [12.4]	.156 [4.0]	.375 [9.5]	
J	.560 [14.2]	.156 [4.0]	.375 [9.5]	
K	.630 [16.0]	.156 [4.0]	.375 [9.5]	
L	.680 [17.3]	.156 [4.0]	.375 [9.5]	
M	.760 [19.3]	.156 [4.0]	.375 [9.5]	
P	.890 [22.6]	.156 [4.0]	.375 [9.5]	
R	.510 [12.6]	.200 [5.1]	.250 [6.3]	
U	.640 [16.3]	.200 [5.1]	.375 [9.5]	
W	.700 [17.8]	.200 [5.1]	.375 [9.5]	
X	.770 [19.6]	.200 [5.1]	.375 [9.5]	
Y	.900 [22.9]	.200 [5.1]	.375 [9.5]	
Q	.950 [24.1]	.200 [5.1]	.375 [9.5]	



<b>561C SERIES STANDARD RATINGS*</b>						
CAPACITANCE (pF)	TOLERANCE CODE	CASE			TEMPERATURE COEFFICIENT	
		PART NUMBER	FIGURE	CODE		
<b>1 kV NPO/N750 PRECISION DISC CAPACITORS</b> Temperature/Frequency/Voltage Stable						
<ul style="list-style-type: none"> <li>Application range: Up to 1500 VDC, 300 VAC rms**</li> <li>dv/dt up to 10,000 V/usec</li> </ul>		<ul style="list-style-type: none"> <li>Insulation Resistance: 100,000 MΩ minimum; 1000 ΩF</li> <li>Dielectric Strength: 2500 VDC, 750 VAC rms</li> <li>High Q: 1000; Dissipation Factor 0.1%</li> </ul>		<ul style="list-style-type: none"> <li>Application: NPO capacitors are used when the ultimate in stability is required.</li> <li>N750/S3L are smaller and ideal for "lossless snubbers."</li> </ul>		
1.0	J	10TCCV10	1a	C	—	
2.2	J	10TCCV22	1a	C	—	
2.7	J	10TCCV27	1a	C	—	
3.0	J	10TCCV30	1a	C	—	
3.3	J	10TCCV33	1a	C	—	
3.9	J	10TCCV39	1a	C	—	
4.7	J	10TCCV47	1a	C	—	
5.0	J	10TCCV50	1a	C	—	
5.6	J	10TCCV56	1a	C	—	
6.8	J	10TCCV68	1a	C	—	
8.2	J	10TCCV82	1a	C	—	
10	J	10TCCQ10	1a	C	—	
12	J	10TCCQ12	1a	C	—	
15	J	10TCCQ15	1a	C	—	
18	J	10TCCQ18	1a	E	—	
20	J	10TCCQ20	1a	E	—	
22	J	10TCCQ22	1a	E	—	
25	J	10TCCQ25	1a	E	—	
27	J	10TCCQ27	1a	F	—	
30	J	10TCCQ30	1a	F	—	
33	J	10TCCQ33	1a	F	—	
39	J	10TCCQ39	1a	F	—	
47	J	10TCCQ47	1	G	—	
50	J	10TCCQ50	1	G	—	
56	J	10TCCQ56	1	G	—	
68	J	10TCCQ68	1	H	—	
82	J	10TCCQ82	1	H <sup>3</sup>	—	
100	J	10TCCT10	1	J	—	
120	J	10TCCT12	1	J	—	
150	J	10TCCT15	1	K	—	
180	J	10TCCT18	1	L	—	
220	J	10TCCT22	1	M	—	
270	J	10TCCT27	1	P	—	
<b>N750/S3L DISC CAPACITORS</b>						
33	J	10TCUQ33	1a	C	U	
47	J	10TCUQ47	1a	C	U	
68	J	10TCUQ68	1a	F	U	
100	J	10TCUT10	1a	F	U	
220	J	10TCUT22	1	G	V	
330	J	10TCUT33	1	H	V	
470	J	10TCUT47	1	J	V	
560	J	10TCUT56	1	J	V	
680	J	10TCUT68	1	K	W	
1000	J	10TCUD10	1	L	W	

\* These capacitors are stocked at the factory and are in distribution. See Electrical and Mechanical Options for other options.

\*\* See Application Notes for limits on AC voltage.



562C SERIES STANDARD RATINGS*						
CAPACITANCE (pF) (μF)	TOLERANCE CODE	PART NUMBER	CASE		TEMPERATURE COEFFICIENT	
			FIGURE	CODE		
<b>100 V GENERAL PURPOSE</b>						
• Application range: Up to 250 VDC, 75 VAC rms**		• Insulation Resistance: 10,000 MΩ minimum; 500 ΩF • Dissipation Factor: 3.0% maximum		• Dielectric Strength: 750 VDC, 250 VAC rms		
10pF	J	TSQ10	2	C	NPO	
22pF	J	TCQ22	2	C	NPO	
33pF	K	TCQ33	2	C	U2J	
47pF	K	TSQ47	2	C	U2J	
100pF	K	TST10	2	C	X7R	
220pF	K	TST22	2	C	X7R	
330pF	K	TST33	2	C	X7R	
470pF	K	TST47	2	C	X7R	
.001μF	K	TSD10	2	C	X7R	
.0022μF	K	TSD22	2	E	X7R	
.0033μF	K	TSD33	2	F	X7R	
.0047μF	K	TSD47	2	F	X7S	
.0068μF	K	TSD68	2	G	X7S	
.01μF	K	TSS10	2	H	X7S	
.005μF	M	TSD50	1	E	Z5U	
.01μF	M	TGS10	1	F	Z5U	
.02μF	M	TGS20	1	G	Z5U	
.022μF	M	TSS22	1	R	X7S	
.047μF	M	TSS47	1	W	X7S	
.050μF	M	TGS50	1	R	Z5U	
.10μF	M	TGP10	1	W	Z5U	
<b>500 V GENERAL PURPOSE</b>						
• Application range: Up to 600 VDC, 100 VAC rms**		• Insulation Resistance: 15,000 MΩ minimum; 750 ΩF • Dissipation Factor: 3.0% maximum		• Dielectric Strength: 1500 VDC, 300 VAC rms		
.001μF	K	5TSD10	1a	E	X7R	
.001μF	M	5TSSD10	1a	C	Y5U	
.0022μF	K	5TSD22	1a	F	X7R	
.0033μF	K	5TSD33	1	G	X7R	
.0047μF	K	5TSD47	1	H	X7R	
.005μF	Z	5TSD50	1	F	Z5U	
.0068μF	K	5TSD68	1	H	X7R	
.01μF	K	5TSS10	1	J	X7R	
.01μF	M	5GASS10	1	G	Z5U	
.01μF	Z	5HKSS10	1	G	Z5U	
.02μF	M	5GASS20	1	J	Z5U	
.022μF	M	5TSS22	1	K	X7S	
.033μF	M	5TSS33	1	X	X7S	
.05μF	M	5GAS50	1	P	Z5U	
.05μF	Z	5HKS50	1	U	Z5U	
.10μF	M	5GAP10	1	X	Z5U	
.10μF	Y	5HKSP10	1	Q	Y5V	
.10μF	Z	5HKP10	1	X	Z5U	
.15μF	Y	5GAP15	1	Y	Z5U	
.20μF	M	5GAP20	1	Q	Z5U	
<b>1000 V GENERAL PURPOSE</b>						
• Application Range: Up to 1000 VDC, 150 VAC rms**		• Insulation Resistance: 20,000 MΩ minimum; 1000 ΩF • Dissipation Factor: 2.5%		• Dielectric Strength: 2500 VDC, 500 VAC rms		
10pF	M	5GAQ10	1a	C	NPO	
20pF	M	5GAQ20	1a	C	NPO	
33pF	M	5GAQ33	1a	E	U2J	
47pF	M	5GAQ47	1a	E	U2J	
100pF	M	5GAT10	1a	C	X5F	
150pF	M	5GAT15	1a	C	X5F	
200pF	M	5GAT20	1a	C	X5F	
220pF	M	5GAT22	1a	C	X5F	
330pF	M	5GAT33	1a	C	X5F	
470pF	M	5GAT47	1a	C	X5F	
500pF	M	5GAT50	1a	C	X5F	
.001μF	M	5GAD10	1a	E	X5S	
.001μF	P	5HKD10	1a	E	Y5U	
.0012μF	M	5GAD12	1a	E	Z5U	

\* These capacitors are stocked at the factory and are in distribution. See Electrical and Mechanical Options for other options.

\*\* See Application Notes for limits on AC voltage.



<b>562C SERIES STANDARD RATINGS*</b>						
CAPACITANCE (pF) (μF)	TOLERANCE CODE	PART NUMBER	CASE		TEMPERATURE COEFFICIENT	
			FIGURE	CODE		
<b>1000 V GENERAL PURPOSE</b>						
• Application Range: Up to 1000 VDC, 150 VAC rms**		• Insulation Resistance: 20,000 MΩ minimum; 1000 ΩF • Dissipation Factor: 2.5%		• Dielectric Strength: 2500 VDC, 500 VAC rms		
.0015μF	M	5GAD15	1a	E	Z5U	
.0020μF	M	5GAD20	1	E	Z5U	
.0022μF	M	5GAD22	1	E	Z5U	
.0025μF	M	5GAD25	1	E	Z5U	
.0027μF	M	5GAD27	1	E	Z5U	
.0030μF	M	5GAD30	1	E	Z5U	
.0033μF	M	5GAD33	1	E	Z5U	
.0047μF	M	5GAD47	1	F	Z5U	
.0050μF	M	5GAD50	1	F	Z5U	
.0068μF	M	5GAD68	1	G	Z5U	
.0082μF	M	5GAD82	1	H	Z5U	
.01μF	M	5GAS10	1	H <sup>3</sup>	Z5U	
.01μF	M	5HKMS10	1	H	Z5U	
.01μF	P	5HKS10	1	H <sup>3</sup>	Z5U	
.015μF	M	5GAS15	1	J	Z5U	
.020μF	M	5GAS20	1	L	Z5U	
.050μF	M	10HKS50	1	X	Z5U	
.10μF	M	10GAP10	1	Q	Z5U	
.15μF	M	10GAP15	1	Q	Y5V	
<b>1kV TEMPERATURE AND VOLTAGE STABILIZED</b>						
• Application Range: Up to 1250 VDC, 200 VAC rms**		• Insulation Resistance: 50,000 MΩ minimum; 1000 ΩF • Dissipation Factor: 2.0%		• Dielectric Strength: 2500 VDC, 750 VAC rms		
10pF	K	10TSQ10	1a	C	NPO	
25pF	K	10TSQ25	1a	E	NPO	
27pF	K	10TSQ27	1a	C	U2J	
30pF	K	10TSQ30	1a	C	U2J	
33pF	K	10TSQ33	1a	E	U2J	
39pF	K	10TSQ39	1a	E	U2J	
47pF	K	10TSQ47	1a	E	U2J	
50pF	K	10TSQ50	1a	E	U2J	
56pF	K	10TSQ56	1a	C	X5F	
68pF	K	10TSQ68	1a	C	X5F	
75pF	K	10TSQ75	1a	C	X5F	
82pF	K	10TSQ82	1a	C	X5F	
100pF	K	10TST10	1a	C	X5F	
120pF	K	10TST12	1a	C	X5F	
150pF	K	10TST15	1a	C	X5F	
180pF	K	10TST18	1a	C	X5F	
200pF	K	10TST20	1a	C	X5F	
220pF	K	10TST22	1a	C	X5F	
250pF	K	10TST25	1a	C	X5F	
270pF	K	10TST27	1a	C	X5F	
300pF	K	10TST30	1a	C	X5F	
330pF	K	10TST33	1a	C	X5F	
390pF	K	10TST39	1a	C	X5F	
470pF	K	10TST47	1a	C	X5F	
500pF	K	10TST50	1a	C	X5F	
560pF	K	10TST56	1a	E	X5F	
680pF	K	10TST68	1a	E	X5F	
750pF	K	10TST75	1a	E	X5F	
820pF	K	10TST82	1a	E	X5F	
.001μF	K	10TSD10	1a	E	X5F	
.0015pF	K	10TSD15	1	G	X5F	
.0020pF	K	10TSD20	1	H <sup>3</sup>	X5F	
.0022pF	K	10TSD22	1	H <sup>3</sup>	X5F	
.0027pF	K	10TSD27	1	J	X5F	
.0033pF	K	10TSD33	1	J	X5F	
.0047pF	K	10TSD47	1	L	X5F	
.01pF	K	10TSS10	1	K	X5S	

\* These capacitors are stocked at the factory and are in distribution. See Electrical and Mechanical Options for other options.

\*\* See Application Notes for limits on AC voltage.

<b>563C SERIES CLASS IV DIELECTRIC STANDARD RATINGS*</b>				
12/25/50/100 V HYPERCON HIGH CAPACITANCE DISCS				
• Application: Low Voltage Bulk Filter				
CAPACITANCE ( $\mu$ F)	TOLERANCE CODE	PART NUMBER	CASE	
			FIGURE	CODE
<b>12 VDC, Y5R, 2.5<math>\Omega</math>F, 5% DF</b>				
.05 $\mu$ F	Y	HY105	1a	E
.10 $\mu$ F	M	HY110	1	G
.22 $\mu$ F	M	HY122	1	J
.47 $\mu$ F	M	HY147	1	P
<b>25 VDC, Y5R, 5<math>\Omega</math>F, 5% DF</b>				
.01 $\mu$ F	M	HY820	1a	C
.022 $\mu$ F	M	HY825	1a	E
.033 $\mu$ F	M	HY530	1a	E
.047 $\mu$ F	M	HY835	1	F
.10 $\mu$ F	M	HY850	1	G
<b>50 VDC, Y5R, 25<math>\Omega</math>F, 4% DF</b>				
.01 $\mu$ F	M	HY920	1a	C
.022 $\mu$ F	M	HY925	1a	F
.047 $\mu$ F	M	HY935	1	G
.10 $\mu$ F	M	HY950	1	H
<b>100 VDC, Y5S, 100<math>\Omega</math>F, 3% DF</b>				
.0022 $\mu$ F	M	HMMD22	2	C
.0047 $\mu$ F	M	HMMD47	2	C
.01 $\mu$ F	M	HMMS10	1a	E
.1 $\mu$ F	M	HMMP10	1	L

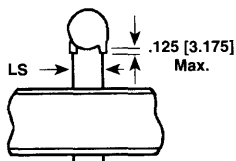
\* These capacitors are stocked at the factory and are in distribution. See Electrical and Mechanical Options for other options.

## TAPE AND REEL in inches [millimeters]

Cataloged product 12 volts through 1000 volts with case codes C to H are available tape and reeled to EIA RS-468 on a special order basis. 10,000 piece minimum, three lead styles are available.

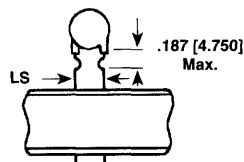
To order tape and reel, add to Part Number the lead style type: Example: TGS10QA (Style)

### TYPE QA/QR



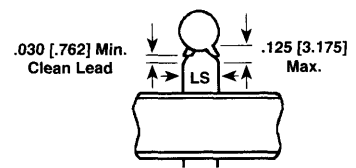
Use if leads are to be formed. Will furnish if nothing else specified.

### TYPE RE/RR



Most stable seating plane for auto insertion. Keeps rundown out of holes.

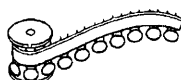
### TYPE TK/TR



Controls coating rundown with low seated height. (Figure 1a only)

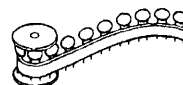
LS is .197 [5.0] for tape and reel.

### QA RE TK



Cera-Mite® Standard

### QR RR TR



EIA RS-468A Standard