High Voltage MLC Chips

For 600V to 5000V Applications

NP0 (C0G) DIELECTRIC – PERFORMANCE CHARACTERISTICS

Capacitance Range	10 pF to 0.100 µF (25°C, 1.0 ±0.2 Vrms at 1kHz, for ≤ 1000 pF use 1 MHz)
Capacitance Tolerances	±5%, ±10%, ±20%
Dissipation Factor	0.1% max. (+25°C, 1.0 ±0.2 Vrms, 1kHz, for ≤ 1000 pF use 1 MHz)
Operating Temperature Range	-55°C to +125°C
Temperature Characteristic	0 ±30 ppm/°C (0 VDC)
Voltage Ratings	600, 630, 1000, 1500, 2000, 2500, 3000, 4000 & 5000 VDC (+125°C)
Insulation Resistance (+25°C, at 500 VDC)	100K MΩ min. or 1000 MΩ - µF min., whichever is less
Insulation Resistance (+125°C, at 500 VDC)	10K MΩ min. or 100 MΩ - µF min., whichever is less
Dielectric Strength	Minimum 120% rated voltage for 5 seconds at 50 mA max. current

NPO (C0G) CAPACITANCE RANGE – PREFERRED SIZES ARE SHADED

Case Size		0805			1206					1210						1808								1812							
Soldering		Reflow/Wave			Reflow/Wave					Reflow Only						Reflow Only								Reflow Only							
(L) Length	mm (in.)	2.10 ± 0.20 (0.085 ± 0.008)			3.30 ± 0.30 (0.130 ± 0.012)					3.30 + 0.40 (0.130 + 0.016)						4.60 + 0.50 (0.181 + 0.020)								4.60 + 0.50 (0.177 + 0.012)							
W) Width	mm (in.)	1.25 ± 0.2 0 (0.049 ± 0.008)			1.60 +0.30/-0.10 (0.063 +0.012/-0.004)					2.50 ± 0.30 (0.098 + 0.012)						2.00 + 0.20 (0.079 + 0.008)								3.20 + 0.30 (0.126 + 0.008)							
(T) Thickness	mm (in.)	1.35 (0.053)			1.80 (0.071)					2.80 (0.110)						2.20 (0.087)								2.80 (0.100)							
(t) Terminal	mm (in.)	0.50 + 0.20 (0.020 + 0.008)			0.60 + 0.20 (0.0 4 + 0.008)					0.75 + 0.35 (.030 0.014)						0.75 + 0.35 (.030 0.014)								0.75 + 0.35 (.030 0.014)							
Voltage (V)		600	630	1000	600	630	1000	1500	2000	600	630	1000	1500	2000	3000	600	630	1000	1500	2000	2500	3000	4000	600	630	1000	1500	2000	2500	3000	4000
Cap (pF)	.5 0R5		A	C																											
	1.0 1R0		A	C																											
	1.2 1R2		A	C																											
	1.5 1R5	A	A	C	X	X	X	X	X																						
	1.8 1R8	A	A	C	X	X	X	X	X																						
	2.2 2R2	A	A	C	X	X	X	X	X								C	C		C		C	C								
	2.7 2R7	A	A	C	X	X	X	X	X								C	C	C	C	C	C	C								
	3.3 3R3	A	A	C	X	X	X	X	X								C	C	C	C	C	C	C								
	3.9 3R9	A	A	C	X	X	X	X	X								C	C	C	C	C	C	C								
	4.7 4R7	A	A	C	X	X	X	X	X								C	C	C	C	C	C	C								
	5.6 5R6	A	A	C	X	X	X	X	X								C	C	C	C	C	C	C								
	6.8 6R8	A	A	C	X	X	X	X	X								C	C	C	C	C	C	C								
	8.2 8R2	A	A	C	X	X	X	X	X								C	C	C	C	C	C	C								
	10 100	A	A	C	C	C	C	C	C	C	M	M	D	M	F	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	E
	12 120	A	A	C	C	C	C	C	C	C	M	M	D	M	F	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	E
	15 150	A	A	C	C	C	C	C	C	C	M	M	D	M	F	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	E
	18 180	A	A	C	C	C	C	C	C	C	M	M	D	M	F	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	E
	22 220	A	A	C	C	C	C	C	C	C	M	M	D	M	F	C	C	C	C	C	C	C	E	C	C	C	C	C	C	C	E
	27 270	A	A	C	C	C	C	C	C	C	M	M	D	M	F	C	C	C	C	C	C	C	E	C	C	C	C	F	C	C	E
	33 330	A	A	C	C	C	C	C	C	C	M	M	D	M	F	C	C	C	C	C	C	C	F	C	C	C	C	F	C	C	E
	39 390	A	A	C	C	C	C	C	C	C	M	M	D	M	F	C	C	C	C	C	C	C	F	C	C	C	C	F	C	C	E
	47 470	A	A	C	C	C	C	C	C	C	M	M	D	M	F	C	C	C	C	C	C	C	C	C	C	C	C	F	C	C	E
	56 560	A	A	C	C	C	C	C	C	C	M	M	C	C	F	C	C	C	C	C	C	C		C	C	C	C	F	C	C	F
	68 680	A	A	C	C	C	C	C	C	C	M	M	C	C	F	C	C	C	C	C	C	C		C	C	C	C	F	C	C	F
	82 820	X	X	X	C	C	C	C	C	C	M	M	C	C	F	C	C	C	C	C	C	C		C	C	C	C	F	C	C	F
	100 101	X	X	X	C	C	C	C	C	C	M	C	C	C	F	C	C	C	C	C	F	F		C	C	C	C	F	C	C	F
	120 121	C	C	C	C	C	C	E	E	C	M	C	C	C	F	C	C	C	C	C	F	F		C	C	C	C	F	C	C	G
	150 151	C	C	C	C	C	C	E	E	C	M	C	E	E	F	C	C	C	F	F	F	F		C	C	C	C	F	C	C	G
	180 181	C	C	C	C	C	E	E	E	C	M	E	E	E	F	C	C	C	F	F	F	F		C	C	C	C	F	F	F	
	220 221	C	C	C	C	C	E	E	E	C	M	E	E	E	F	C	C	C	F	F	F	F		C	C	C	C	F	F	F	
	270 271	C	C	C	C	C	E	E	E	C	M	E	E	E	G	C	F	C	F	F	F	F		C	C	C	C	F	F	F	
	330 331	C	C	C	C	C	E	E	E	C	M	E	E	E		C	F	F	F	F	F	F		C	C	C	F	F	F	F	
	390 391	C	C	C	C	C	E	E	E	C	M	E	E	E		C	F	F	F	F	F	F		C	C	C	F	F	F	F	
	470 471	C	C		C	C	E	E	E	C	M	E	E	E		C	F	F	F	F	F	F		C	C	F	F	F	F	F	
	560 561	C	C		C	C	E			C	M	E	E	E		C	F	F	F	F		F		C	C	F	F	F	F	F	
	680 681	C	C		C	C	E			C	M	E	F	E		C	F	F	F	F				C	C	F	F	F	G	G	
	750 751	C	C		E	E	E			C	M	E	G	E		C	F	F	F	F				C	C	F	F	F	G	G	
	820 821	C	C		E	E	E			C	M	E	G	E		C	F	F	E	F				C	C	F	F	F	G	G	
	1000 102		C		E	E	E			C	C	E	F	F		C	F	F	E	F				C	C	F	F	F	G	G	
	1200 122		C		E	E	E			C	C	E		F		C	F	F	E	F				C	C	F	E	E			
	1500 152		C		E	E				C	C	F		G		E	F	F		F				C	C	F	F	F			
	1800 182		C		E	E				C	C	G		G		E	F	F		F				C	C	F	G	F			
	2200 222		C		E	E				E	C	G				E	F	F						C	C	E	G	G			
	2700 272				E	E				E	C	G				E	F	F						C	C	E	G	G			
	3300 332				E	E				E	C	G				E	F	F						C	C	F		G			
	3900 392				E	E				E	C	G				E	F							C	C	F					
	4700 472				E	E				E	C					E	F							C	C	G					
	5600 562									E	E					E	F							C	C	G					
	6800 682										E					F	F							C	C						
	8200 822										F						F							E	C						
Cap (µF)	0.010 103										F						F							F	F						
	0.012 123										G													F	F						
	0.015 153																							G	G						
	0.018 183																							G	G						
	0.022 223																								F						
	0.027 273																								G						
	0.033 333																								G						
	0.047 473																														
	0.056 563																														
	0.068 683																														
	0.100 104																														
Voltage (V)		600	630	1000	600	630	1000	1500	2000	600	630	1000	1500	2000	3000	600	630	1000	1500	2000	2500	3000	4000	600	630	1000	1500	2000	2500	3000	4000
Case Size		0805			1206					1210						1808								1812							

Letter	A	C	E	F	G	X	7
Max. Thickness	0.813 (0.032)	1.448 (0.057)	1.8034 (0.071)	2.2098 (0.087)	2.794 (0.110)	0.940 (0.037)	3.30 (0.130)

NOTE: Contact factory for non-specified capacitance values

NP0 (C0G) CAPACITANCE RANGE – PREFERRED SIZES ARE SHADED

Case Size		1825								2220									2225									3640								
Soldering		Reflow Only								Reflow Only									Reflow Only									Reflow Only								
(L) Length	mm	4.60 ± 0.50								5.70 0.50									5.70 ± 0.50									9.14 ± 0.25								
	(in.)	(0.181 ± 0.020)								(0.224 0.020)									(0.225 ± 0.010)									(0.360 ± 0.010)								
W) Width	mm	6.30 ± 0.40								5.00 0.40									6.30 0.40									10.2 ± 0.25								
	(in.)	(0.248 ± 0.016)								(0.197 0.016)									(0.250 ± 0.010)									(0.400 ± 0.010)								
(T) Thickness	mm	3.40								3.40									3.40									2.54								
	(in.)	(0.134)								(0.134)									(0.100)									(0.100)								
(t) Terminal	mm	0.75 ± 0.35								0.85 0.35									0.85 ± 0.35									0.76 (0.030)								
	max	(0.030 ± 0.014)								(0.033 ± 0.014)									(0.033 ± 0.014)									1.52 (0.060)								
Voltage (V)		600	630	1000	1500	2000	2500	3000	4000	600	630	1000	1500	2000	2500	3000	4000	5000	600	630	1000	1500	2000	2500	3000	4000	5000	600	630	1000	1500	2000	2500	3000	4000	5000
Cap (pF)	1.5 1R5																																		
	1.8 1R8																																		
	2.2 2R2																																		
	2.7 2R7																																		
	3.3 3R3																																		
	3.9 3R9																																		
	4.7 4R7																																		
	5.6 5R6																																		
	6.8 6R8																																		
	8.2 8R2																																		
	10 100	E	E	G	E	F	E	F	F	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	F	F								
	12 120	E	E	G	E	F	E	F	F	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	F	F								
	15 150	E	E	G	E	F	E	F	F	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	F	F								
	18 180	E	E	G	E	F	E	F	F	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	F	F								
	22 220	E	E	G	E	F	E	F	F	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	F	F								
	27 270	E	E	G	E	F	E	F	F	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	F	F								
	33 330	E	E	G	E	F	E	F	F	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	F	F								
	39 390	E	E	G	E	F	E	F	F	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	F	F								
	47 470	E	E	G	E	F	E	F	F	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	F	G								G
	56 560	E	E	G	E	F	E	F	F	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	F	G								G
	68 680	E	E	G	E	F	E	F	F	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	F	G								G
	82 820	E	E	G	E	F	E	F	F	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	F	G								G
	100 101	E	E	G	E	F	E	F	F	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	G	G				G	G	G	G	G	G
	120 121	E	E	G	E	F	E	F	F	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	G	G				G	G	G	G	G	G
	150 151	E	E	G	E	F	E	F	F	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	G	G				G	G	G	G	G	G
	180 181	E	E	G	E	F	E	F	F	E	E	E	E	E	E	E	F	F	E	E	E	E	E	E	E	G	G				G	G	G	G	G	G
	220 221	E	E	G	E	F	E	F	F	E	E	E	E	E	E	E	F	F	E	E	E	E	E	E	E	G	G				G	G	G	G	G	G
	270 271	E	E	G	E	F	E	F	F	E	E	E	E	E	E	E			E	E	E	E	E	E	E	G	G				G	G	G	G	G	G
	330 331	E	E	G	E	F	E	F	F	E	E	E	E	E	E	E			E	E	E	E	E	E	E	G					G	G	G	G	G	G
	390 391	E	E	G	E	F	E	F		E	E	E	E	E	E	E			E	E	E	E	E	E	E	G					G	G	G	G	G	G
	470 471	E	E	G	E	F	E	F		E	E	E	E	E	E	E			E	E	E	E	E	E	E	G					G	G	G	G	G	G
	560 561	E	E	G	E	F	E	F		E	E	E	E	E	E	E			E	E	E	E	E	E	E	G					G	G	G	G	G	G
	680 681	E	E	G	E	F	F	G		E	E	E	E	E	F	F			E	E	E	E	E	E	E						G	G	G	G	G	G
	750 751	E	E	G	E	F	F	G		E	E	E	E	E	F	F			E	E	E	E	E	E	E						G	G	G	G	G	G
	820 821	E	E	G	E	F	F	G		E	E	E	E	E	F	F			E	E	E	E	E	F	E						G	G	G	G	G	G
	1000 102	E	E	G	E	F	F	G		E	E	E	E	E	F	F			E	E	E	E	E	E	E			G	G	G	G	G	G	G	G	
	1200 122	E	E	G	E	F	G	G		E	E	E	E	E	G	G			E	E	E	E	E	F	F			G	G	G	G	G	G	G	G	
	1500 152	E	E	G	F	G	G	G		E	E	E	F	F	G	G			E	E	E	E	E	F	F			G	G	G	G	G	G	G		
	1800 182	E	E	G	F	G	G	G		E	E	E	F	F	G	G			E	E	E	E	E	G	G			G	G	G	G	G	G	G		
	2200 222	E	E	G	G	G		G		E	E	E	G	G					E	E	E	E	E					G	G	G	G	G	G	G		
	2700 272	E	E	G	G	G		G		E	E	E	G	G					E	E	E	F	F					G	G	G	G	G	G	G		
	3300 332	E	E	G	G	G				E	E	E	G	G					E	E	E	F	F					G	G	G	G	G	G			
	3900 392	E	E	G	G	G				E	E	E	G	G					E	E	E	G	G					G	G	G	G	G	G			
	4700 472	E	E	G	G	G				E	E	E	G	G					F	F	F	G	G					G	G	G	G	G				
	5600 562	F	F	G	G	G				F	F	F	G	G					F	F	F	G	G					G	G	G	G	G				
	6800 682	F	F	G		G				F	F	F							F	F	F	G	G					G	G	G	G	G				
	8200 822	F	F	G		G				G	G	G							G	G	G							G	G	G	G					
Cap (µF)	0.010 103	F	F	G						7	7	7							G	G	G							G	G	G	G					
	0.012 123	F	F	G															G	G								G	G	G						
	0.015 153	F	F																G	G								G	G	G						
	0.018 183	F	F																G	G								G	G	G						
	0.022 223	F	F																G	G								G	G	G						
	0.027 273	F	F																																	
	0.033 333	F	F																G	G								G	G							
	0.039 393	G	G																																	
	0.047 473	G	G																G	G								G	G							
	0.056 563	G	G																G	G																
	0.068 683	G	G																G	G																
	0.100 104																																			
Voltage (V)		600	630	1000	1500	2000	2500	3000	4000	600	630	1000	1500	2000	2500	3000	4000	5000	600	630	1000	1500	2000	2500	3000	4000	5000	600	630	1000	1500	2000	2500	3000	4000	5000
Case Size		1825								2220									2225									3640								

Letter	A	C	E	F	G	X	7
Max. Thickness	0.813 (0.032)	1.448 (0.057)	1.8034 (0.071)	2.2098 (0.087)	2.794 (0.110)	0.940 (0.037)	3.30 (0.130)

NOTE: Contact factory for non-specified capacitance values

X7R Dielectric

Performance Characteristics

Capacitance Range	10 pF to 0.82 µF (25°C, 1.0 ±0.2 Vrms at 1kHz)
Capacitance Tolerances	±10%; ±20%; +80%, -20%
Dissipation Factor	2.5% max. (+25°C, 1.0 ±0.2 Vrms, 1kHz)
Operating Temperature Range	-55°C to +125°C
Temperature Characteristic	±15% (0 VDC)
Voltage Ratings	600, 630, 1000, 1500, 2000, 2500, 3000, 4000 & 5000 VDC (+125°C)
Insulation Resistance (+25°C, at 500 VDC)	100K MΩ min. or 1000 MΩ - µF min., whichever is less
Insulation Resistance (+125°C, at 500 VDC)	10K MΩ min. or 100 MΩ - µF min., whichever is less
Dielectric Strength	Minimum 120% rated voltage for 5 seconds at 50 mA max. current

X7R CAPACITANCE RANGE – PREFERRED SIZES ARE SHADED

Case Size		0805			1206					1210					1808								1812							
Soldering		Reflow/Wave			Reflow/Wave					Reflow Only					Reflow Only								Reflow Only							
(L) Length	mm (in.)	2.10 0.20 (0.085 ± 0.008)			3.30 ± 0.30 (0.130 ± 0.012)					3.30 0.40 (0.130 0.016)					4.60 ± 0.50 (0.181 ± 0.020)								4.60 ± 0.50 (0.177 ± 0.012)							
W) Width	mm (in.)	1.25 ± 0.20 (0.049 ± 0.008)			1.60 +0.30/-0.10 (0.063 +0.012/-0.004)					2.50 0.30 (0.098 0.012)					2.00 0.20 (0.079 ± 0.008)								3.20 ± 0.30 (0.126 ± 0.008)							
(T) Thickness	mm (in.)	1.35 (0.053)			1.80 (0.071)					2.80 (0.110)					2.20 (0.087)								2.80 (0.100)							
(t) Terminal	mm max	0.50 ± 0.20 (0.020 ± 0.008)			0.60 ± 0.20 (0.024 ± 0.008)					0.75 0.35 (0.030 ± 0.014)					0.75 ± 0.35 (0.030 ± 0.014)								0.75 ± 0.35 (0.030 ± 0.014)							
Voltage (V)		600	630	1000	600	630	1000	1500	2000	600	630	1000	1500	2000	600	630	1000	1500	2000	2500	3000	4000	600	630	1000	1500	2000	2500	3000	4000
Cap (pF)	100 101	X	X	C	C	C	E	E	E	E	E	E	E	E																
	120 121	X	X	C	C	C	E	E	E	E	E	E	E	E																
	150 151	X	X	C	C	C	E	E	E	E	E	E	E	E																
	180 181	X	X	C	C	C	E	E	E	E	E	E	E	E																
	220 221	X	X	C	C	C	E	E	E	E	E	E	E	E																
	270 271	X	X	C	C	C	E	E	E	E	E	E	E	E									E	E	E	E	E			
	330 331	X	X	C	C	C	E	E	E	E	E	E	E	E	E	E	E	E	E	E	F		E	E	E	E	E			
	390 391	X	X	C	C	C	E	E	E	E	E	E	E	E	E	E	E	E	E	E	F		E	E	E	E	E			
	470 471	X	X	C	C	C	E	E	E	E	E	E	E	E	E	E	E	E	E	E	F		E	E	E	E	E	E	E	
	560 561	X	X	C	C	C	E	E	E	E	E	E	E	E	E	E	E	E	E	F	F		E	E	E	E	E	E	E	
	680 681	X	X	C	C	C	E	E	E	E	E	E	E	E	E	E	E	E	E	F	F		E	E	E	E	E	F	F	
	750 751	X	X	C	C	C	E	E	E	E	E	E	E	E	E	E	E	E	E	F	F		E	E	E	E	E	F	F	
	820 821	X	X	C	C	C	E	E	E	E	E	E	E	E	E	E	E	E	E	F	F		E	E	E	E	E	F	F	
	1000 102	X	X	X	C	C	E	E	E	E	E	E	E	E	E	E	E	E	E	F	F		E	E	E	E	E	F	F	
	1200 122	X	X	X	C	C	E	E	E	E	E	E	E	E	E	E	E	E	E	F	F		F	F	F	F	F	F	F	
	1500 152	X	X	X	C	C	E	E	E	E	E	E	E	E	E	E	E	E	E	F	F		F	F	F	F	F	G	G	
	1800 182	X	X	C	C	C	E	E	E	E	E	E	E	E	E	E	E	E	E	F	F		F	F	F	F	F	G	G	
	2200 222	X	X	X	C	C	E	E	E	E	E	E	F	E	E	E	E	F	F	F			F	F	F	F	F	G	G	
	2700 272	C	C		C	C	E	E		E	E	E	F	E	E	E	E	F	F				F	F	F	F	F	G	G	
	3300 332	C	C		C	C	E			E	E	E	F	E	E	E	E	F	F				F	F	F	F	F	G	G	
	3900 392	C	C		C	C	E			E	E	E	F		E	E	E	F					F	F	F	F	F	G	G	
	4700 472	C	C		C	C	E			E	E	E	F		E	E	E	F					F	F	F	F	F	G	G	
	5600 562	C	C		C	C	E			E	E	E	F		E	E	E	F					F	F	F	G	G	G		
	6800 682	C	C		C	C	E			E	E	E			E	E	E	F					F	F	F	G	G			
	8200 822	C	C		C	C	E			E	E	E			E	E	E						F	F	F	G	G			
Cap (µF)	0.010 103	C	C		C	C	E			E	E	E			E	E	E						F	F	F	G	G			
	0.015 153	C	C		E	E	E			E	E	E			F	F	F						F	F	F	G				
	0.018 183	C	C		E	E				E	E	E			F	F	F						F	F	G					
	0.022 223	C	C		E	E				E	E	F			F	F	F						F	F	G					
	0.027 273				E	E				E	E				F	F							F	F	G					
	0.033 333				E	E				E	E				F	F							F	F	G					
	0.039 393									E	E				F	F							F	F	G					
	0.047 473									E	E				F	F							F	F	G					
	0.056 563									F	F				F	F							F	F						
	0.068 683									F	F				F	F							F	F						
	0.082 823									F	F												F	F						
	0.100 104									F	F												F	F						
	0.150 154																						G	G						
	0.220 224																						G	G						
	0.270 274																													
	0.330 334																													
	0.390 394																													
	0.470 474																													
	0.560 564																													
	0.680 684																													
	0.820 824																													
	1.000 105																													
Voltage (V)		600	630	1000	600	630	1000	1500	2000	600	630	1000	1500	2000	600	630	1000	1500	2000	2500	3000	4000	600	630	1000	1500	2000	2500	3000	4000
Case Size		0805			1206					1210					1808								1812							

Letter	A	C	E	F	G	X	7
Max. Thickness	0.813 (0.032)	1.448 (0.057)	1.8034 (0.071)	2.2098 (0.087)	2.794 (0.110)	0.940 (0.037)	3.30 (0.130)

NOTE: Contact factory for non-specified capacitance values

High Voltage MLC Chips

For 600V to 5000V Applications

X7R CAPACITANCE RANGE

PREFERRED SIZES ARE SHADED

Case Size		1825								2220									2225									3640								
Soldering		Reflow Only								Reflow Only									Reflow Only									Reflow Only								
(L) Length	mm (in.)	4.60 ± 0.50 (0.181 ± 0.020)								5.70 ± 0.50 (0.224 ± 0.020)									5.70 ± 0.50 (0.225 ± 0.010)									9.14 ± 0.25 (0.360 ± 0.010)								
W) Width	mm (in.)	6.30 ± 0.40 (0.248 ± 0.016)								5.00 ± 0.40 (0.197 ± 0.016)									6.30 ± 0.40 (0.250 ± 0.010)									10.2 ± 0.25 (0.400 ± 0.010)								
(T) Thickness	mm (in.)	3.40 (0.134)								3.40 (0.134)									3.40 (0.100)									2.54 (0.100)								
(t) Terminal	mm max	0.75 ± 0.35 (0.030 ± 0.014)								0.85 ± 0.35 (0.033 ± 0.014)									0.85 ± 0.35 (0.033 ± 0.014)									0.76 (0.030) 1.52 (0.060)								
Voltage (V)		600	630	1000	1500	2000	2500	3000	4000	600	630	1000	1500	2000	2500	3000	4000	5000	600	630	1000	1500	2000	2500	3000	4000	5000	600	630	1000	1500	2000	2500	3000	4000	5000
Cap (pF)	100																																			
	101																																			
	120																																			
	121																																			
	150																																			
	151																																			
	180																																			
	181																																			
	220																																			
	221																																			
	270																																			
	271																																			
	330																																			
	331																																			
	390																																			
	391																																			
	470																																			
	471																																			
	560																																			
	561																																			
	680																																			
	681																																			
	750																																			
	751																																			
	820																																			
	821																																			
	1000	F	F	F	F	F	F	F		F	F	F	F	F	F	G			F	F	F	F	F	F	F			G	G	G	G	G	G	G	G	G
	102	F	F	F	F	F	F	F		F	F	F	F	F	F	G			F	F	F	F	F	F	F			G	G	G	G	G	G	G	G	G
	1200	F	F	F	F	F	F	F		F	F	F	F	F	F	G			F	F	F	F	F	F	F			G	G	G	G	G	G	G	G	G
	122	F	F	F	F	F	F	F		F	F	F	F	F	F	G			F	F	F	F	F	F	F			G	G	G	G	G	G	G	G	G
	1500	F	F	F	F	F	F	F		F	F	F	F	F	F	G			F	F	F	F	F	F	F			G	G	G	G	G	G	G	G	G
	152	F	F	F	F	F	F	F		F	F	F	F	F	F	G			F	F	F	F	F	F	F			G	G	G	G	G	G	G	G	G
	1800	F	F	F	F	F	F	F		F	F	F	F	F	F	G			F	F	F	F	F	F	F			G	G	G	G	G	G	G	G	G
	182	F	F	F	F	F	F	F		F	F	F	F	F	F	G			F	F	F	F	F	F	F			G	G	G	G	G	G	G	G	G
	2200	F	F	F	F	F	F	F		F	F	F	F	F	F	G			F	F	F	F	F	F	F			G	G	G	G	G	G	G	G	G
	222	F	F	F	F	F	F	F		F	F	F	F	F	F	G			F	F	F	F	F	F	F			G	G	G	G	G	G	G	G	G
	2700	F	F	F	F	F	F	F		F	F	F	F	F	F	G			F	F	F	F	F	F	F			G	G	G	G	G	G	G	G	G
	272	F	F	F	F	F	F	F		F	F	F	F	F	F	G			F	F	F	F	F	F	F			G	G	G	G	G	G	G	G	G
	3300	F	F	F	F	F	F	F		F	F	F	F	F	F	G			F	F	F	F	F	F	F			G	G	G	G	G	G	G	G	G
	332	F	F	F	F	F	F	F		F	F	F	F	F	F	G			F	F	F	F	F	F	F			G	G	G	G	G	G	G	G	G
	3900	F	F	F	F	F	F	F		F	F	F	F	F	F	G			F	F	F	F	F	F	F			G	G	G	G	G	G	G	G	
	392	F	F	F	F	F	F	F		F	F	F	F	F	F	G			F	F	F	F	F	F	F			G	G	G	G	G	G	G	G	
	4700	F	F	F	F	F	F	F		F	F	F	F	F	F	G			F	F	F	F	F	F	F			G	G	G	G	G	G	G	G	
	472	F	F	F	F	F	F	F		F	F	F	F	F	F	G			F	F	F	F	F	F	F			G	G	G	G	G	G	G	G	
	5600	F	F	F	F	F	F	F		F	F	F	F	F	F	G			F	F	F	F	F	F	F			G	G	G	G	G	G	G	G	
	562	F	F	F	F	F	F	F		F	F	F	F	F	F	G			F	F	F	F	F	F	F			G	G	G	G	G	G	G	G	
	6800	F	F	F	G	G	G	G		F	F	F	F	F	G	G			F	F	F	F	F	G	G			G	G	G	G	G	G	G	G	
	682	F	F	F	G	G	G	G		F	F	F	F	F	G	G			F	F	F	F	F	G	G			G	G	G	G	G	G	G	G	
	8200	F	F	F	G	G	G	G		F	F	F	G	G	G	G			F	F	F	F	F	G	G			G	G	G	G	G	G	G		
	822	F	F	F	G	G	G	G		F	F	F	G	G	G	G			F	F	F	F	F	G	G			G	G	G	G	G	G	G		
Cap (µF)	0.010	F	F	F	G	G	G	G		F	F	F	G	G	G	G			F	F	F	F	F	G	G			G	G	G	G	G	G	G		
	103	F	F	F	G	G	G	G		F	F	F	G	G	G	G			F	F	F	F	F	G	G			G	G	G	G	G	G	G		
	0.015	F	F	F	G	G	G			F	F	F	G	G	G				F	F	F	G	G	G	G			G	G	G	G	G	G			
	153	F	F	F	G	G	G			F	F	F	G	G	G				F	F	F	G	G	G	G			G	G	G	G	G	G			
	0.018	F	F	F	G	G				F	F	F	G	G	G				F	F	F	G	G	G				G	G	G	G	G	G			
	183	F	F	F	G	G				F	F	F	G	G	G				F	F	F	G	G	G				G	G	G	G	G	G			
	0.022	F	F	F	G	G				F	F	F	G	G					F	F	F	G	G	G				G	G	G	G	G	G			
	223	F	F	F	G	G				F	F	F	G	G					F	F	F	G	G	G				G	G	G	G	G	G			
	0.027	F	F	F	G					F	F	F	G	G					F	F	F	G	G					G	G	G	G	G				
	273	F	F	F	G					F	F	F	G	G					F	F	F	G	G					G	G	G	G	G				
	0.033	F	F	F	G					F	F	F	G						F	F	F	G	G					G	G	G	G					
	333	F	F	F	G					F	F	F	G						F	F	F	G	G					G	G	G	G					
	0.039	F	F	F	G					F	F	F	G						F	F	F	G						G	G	G	G					
	393	F	F	F	G					F	F	F	G						F	F	F	G						G	G	G	G					
	0.047	F	F	F	P					F	F	F	G						F	F	F	G						G	G	G	G					
	473	F	F	F	P					F	F	F	G						F	F	F	G						G	G	G	G					
	0.056	F	F	F	G					F	F	F	G						F	F	F	G						G	G	G	G					
	563	F	F	F	G					F	F	F	G						F	F	F	G						G	G	G	G					
	0.068	F	F	G						F	F	G							F	F	F	G						G	G	G	G					
	683	F	F	G						F	F	G							F	F	F	G						G	G	G	G					
	0.082	F	F	G						F	F	G							F	F	G							G	G							
	823	F	F	G						F	F	G							F	F	G							G	G							
	0.100	F	F	G						F	F	G							F	F	G							G	G							
	104	F	F	G						F	F	G							F	F	G							G	G							
	0.150	F	F							F	F	G							F	F	G							G	G							
	154	F	F							F	F	G							F	F	G							G	G							
	0.220	F	F							F	F	G							F	F								G	G							
	224	F	F							F	F	G							F	F								G	G							
	0.270	F	F							F	F								F	F								G	G							
	274	F	F							F	F								F	F								G	G							
	0.330	F	F							F	F								F	F								G	G							
	334	F	F							F	F								F	F								G	G							
	0.390	F	F							F	F								F	F								G	G							
	394	F	F							F	F								F	F								G	G							
	0.470	F	F							F	F								F	F								G	G							
	474	F	F							F	F								F	F								G	G							
	0.560	G	G							G	G								F	F								G	G							
	564	G	G							G	G								F	F								G	G							
	0.680									G	G								G	G																
	684									G	G								G	G																
	0.820																		G	G																
	824																		G	G																
	1.000																																			
	105																																			
Voltage (V)		600	630	1000	1500	2000	2500	3000	4000	600	630	1000	1500	2000	2500	3000	4000	5000	600	630	1000	1500	2000	2500	3000	4000	5000	600	630	1000	1500	2000	2500	3000	4000	5000
Case Size		1825								2220									2225									3640								

Letter	A	C	E	F	G	X	7
Max. Thickness	0.813 (0.032)	1.448 (0.057)	1.8034 (0.071)	2.2098 (0.087)	2.794 (0.110)	0.940 (0.037)	3.30 (0.130)

NOTE: Contact factory for non-specified capacitance values

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

AVX:

1206AC562KAJ1A 1206CC101KAJ1A 1206CC562KAJ1A 1206CC562MAJ1A 1210AC102KAJ1A 1210AC103KAJ1A 1210CC102KAJ1A 1808AC102MAJ1A 1808CC153KBT9A 1812AC103JAJ1A 1812CC102KAJ1A 1812CC103KAJ1A 1825AC272KAJ1A 1825CC272KAJ1A 1808AC472KAJ1A 1808CC272KAJ1A 1808CC273KAJ9A 1808CC273KBJ9A 1812AC103KAJ1A 1812CC104KBJ9A 1206AC391KAJ1A 1206AC682KAJ1A 1206GC100KAJ1A 1206GC152KAJ1A 1206GC391KAJ1A 1210AC682KAJ1A 1210CC333KAJ1A 1808AC100JAJ1A 1808CC100JAJ1A 1808CC100KAJ1A 1808CC101KAJ1A 1808CC473KAJ1A 1812AC223KAJ1A 1812AC273KAJ1A 1812CC104JAJ1A 1812CC223KAJ1A 1825AC104KAJ1A 1825AC333KAJ1A 1825CC683KAJ1A 2220CC224KAJ1A 2225CC334KAJ1A 1206SC182KAJ1A 1206AC102MAJ1A 1206CC102MAJ1A 1206CC332KAJ1A 1206GC102MAJ1A 1210AC272KAJ1A 1210CC272KAJ1A 1210CC563KAJ1A 1210CC563MAJ1A 1206AC152KAJ1A 1206AC561KAJ1A 1206CC152KAJ1A 1206CC223KAJ1A 1210AC512KAJ1A 1206AC221KAJ1A 1206CC103JAJ1A 1206GC221KAJ1A 1210AC822KAJ1A 1206AC272KAJ1A 1210CC473KAJ1A 1808CC153KAJ1A 1812CC683KAJ1A 2220AC223KAJ1A 2220CC223KAJ1A 1808AC152KAJ1A 1812CC124KAJ1A 1825AC272KAJ3A 1825CC154KAJ3A 1825CC224KAJ1A 2220AC104KAJ1A 2220CC154KAJ1A 2225AC104MAJ1A 2225CC154KAJ1A 2225CC154MAJ1A 1210CC273KAJ1A 1210CC223KAJ1A 1812CC563KAJ1A 1812VA223JAT2A 1812VA333JAT2A 1812VA473JAT2A

Kyocera AVX:

1206AA101JAT1A 1206AA101KAM1A 1206AA220KAT1A 1206AA221JAT1A 1206AA330JAT1A 1206AA470KAT1A 1206AA471JAT1A 1206AC102KAT1A 1206AC222KAT1A 1206AC272KAT1A 1206AC392KAT1A 1206AC471KAT1A 1206AC472KA11A 1206AC472KAT1A 1206AC472MAT1A 1206CA101JAT3A 1206CC102KAT1A 1206CC102MAT1A 1206CC103KAT1A 1206CC153KAT1A 1206CC153MAT1A 1206CC271KAT1A 1206CC471KAT1A 1206CC472KBT1A 1206CC822KAT1A 1206GA220JAT1A 1206GA330KAT1A 1206GC101KAT1A 1206GC101MAT1A 1206GC102KAT1A 1206GC221KAT1A 1206GC471KA11A 1206GC471KAT1A 1206GC471MAT1A 1206JA102KAT2A 1206SA101JAT1A 1206SA390JAT1A 1206SC102KAT1A 1206SC122KA11A 1206SC122KAT1A 1206SC471KAT1A 1210AA331KAT1A 1210AC103KAT1A 1210AC222MAT1A 1210AC272KAT1A 1210AC472KAT1A 1210AC822KAT1A 1210CC102KAT1A 1210CC103KAT1A 1210CC153KAT1A 1210CC223KAT1A 1210CC273KAT1A 1210GC101KAT1A 1210GC102KAT1A 1210GC102MAT1A 1210GC471KAT1A 1210GC821KAT1A 1210SC222MAT1A 1210SC272KAT1A 1210SC272MAT1A 1808AA101KAT1A 1808AA102KAT1A

1808AA330KAT1A 1808AA331KAT1A 1808AA331KAT2A 1808AA560JAT1A 1808AA680KAT1A 1808AC102KAT1A 1808AC103KAT1A 1808AC103KBT1A 1808AC103MAT1A 1808AC152KAT1A 1808AC153KA11A 1808AC153KAT1A 1808AC153KAT3A 1808AC153MAT1A 1808AC153MAT3A 1808AC202MAT1A 1808AC222KAT1A 1808AC471KBT1A 1808AC472KAT1A 1808AC682KAT1A 1808CC103KA11A 1808CC103KAT1A 1808CC393KAT1A 1808CC393MA11A 1808CC393MAT1A 1808CC472KAT1A 1808GA101JAT1A 1808GA221JAT1A 1808GA221JAT3A 1808GA221KAT1A 1808GA331KAT1A 1808GC101KAT1A 1808GC102KAT1A 1808GC102MAT1A 1808GC152KA11A 1808GC152KAT1A 1808GC152KAT3A 1808GC152MAT1A