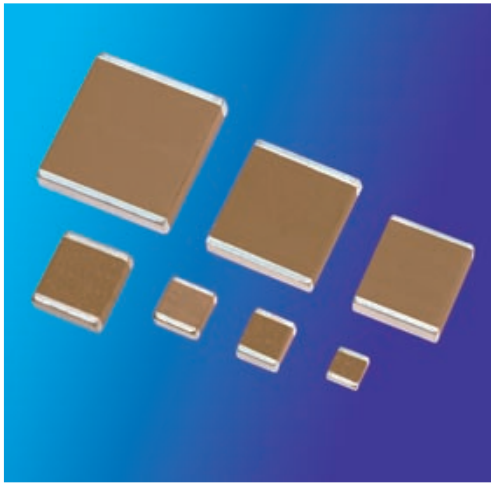


LARGE SIZE CAPACITOR CHIPS 50 - 5,000 VDC






KEY FEATURES

- Rated Working Voltages from 50 to 15,000 VDC
- Low ESR Ceramic Out-performs Tantalums
- Compact MLC Designs Smaller Than Film or Disc
- MIL-PRF-55681 & Hi-Rel Screened Versions Available
- Custom Sizes, Voltages, and Values Available

APPLICATIONS

- Power Supplies
- Voltage Multipliers
- Data Isolation
- Surge Protection
- Industrial Control Circuits
- Custom Applications

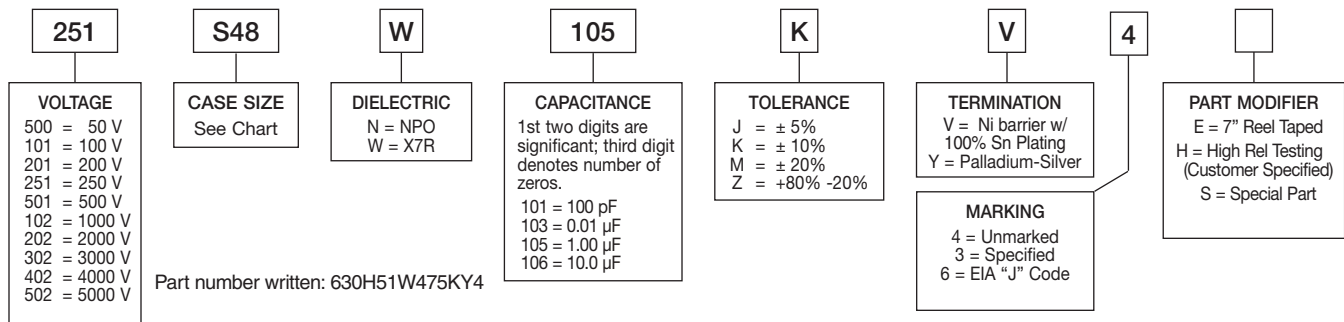
MAXIMUM CAPACITANCE VS DC VOLTAGE RATING

			50 V	100 V	250 V	500 V	1K V	2K V	3K V	4K V	5K V	
S49 / 1825	 Inches (mm) L .180 ±.010 (4.57 ±.25) W .250 ±.010 (6.35 ±.25) T .140 Max. (3.56 Max) E/B .025 ±.015 (0.64±.38)	NPO	473	383	273	273	153	562	222	102	271	
		X7R	185	105	125	564	154	223	682	272	122	
S47 / 2220	 Inches (mm) L .225 ±.015 (5.72 ±.38) W .200 ±.015 (5.08 ±.38) T .150 Max. (3.81 Max) E/B .025 ±.015 (0.64±.38)	NPO	683	473	333	273	183	682	272	122	391	
		X7R	185	125	105	564	184	273	822	332	152	
S48 / 2225	 Inches (mm) L .225 ±.010 (5.72 ±.25) W .255 ±.015 (6.48 ±.38) T .150 Max. (3.81 Max) E/B .025 ±.015 (0.64±.38)	NPO	753	563	393	333	223	822	472	222	681	
		X7R	225	225	125	824	224	473	153	563	222	







Available capacitance values include the following significant retma values and their multiples:

1.0 1.2 1.5 1.8 2.2 2.7 3.3 3.9 4.7 5.6 6.8 8.2 (1.0 = 1.0, 10, 100, 1000, etc.)

HOW TO ORDER



MAXIMUM CAPACITANCE VS DC VOLTAGE RATING

H42 / 1515 	Inches	(mm)		500 V	1K V	2K V	3K V	4K V	5K V				
	L	.150 ±.015	(3.81 ±.38)	NPO	472	152	681	331	151	101			
	W	.150 ±.015	(3.81 ±.38)	X7R	683	223	332	222	681	331			
	T	.150 Max.	(3.81 Max)										
	E/B	.025 ±.015	(0.64±.38)										
H47 / 2520 	Inches	(mm)		500 V	1K V	2K V	3K V	4K V	5K V				
	L	.250 ±.018	(6.35 ±.46)	NPO	223	332	152	681	331	221			
	W	.200 ±.015	(5.08 ±.38)	X7R	224	683	153	682	222	102			
	T	.150 Max.	(3.81 Max)										
	E/B	.025 ±.015	(0.64±.38)										
H51 / 3530 	Inches	(mm)		500 V	1K V	2K V	3K V	4K V	5K V				
	L	.350 ±.035	(8.89 ±.89)	NPO	563	472	332	152	102	471			
	W	.300 ±.030	(7.62 ±.76)	X7R	474	154	473	333	103	682			
	T	.200 Max	(5.08 Max)										
	E/B	.025 ±.015	(0.64±.38)										
H54 / 3640 	Inches	(mm)		50 V	100 V	250 V	500 V	1K V	2K V	3K V	4K V	5K V	
	L	.360 ± .030	(9.14 ± .76)	NPO	224	184	154	683	822	332	222	152	681
	W	.400 ± .030	(10.16 ±.76)	X7R	825	565	475	155	474	683	473	153	822
	T	.200 Max	(5.08 Max)										
	E/B	.025 ±.015	(0.64±.38)										
H62 / 4540 	Inches	(mm)		500 V	1K V	2K V	3K V	4K V	5K V				
	L	.450 ± .045	(11.4 ±1.1)	NPO	104	103	682	332	222	102			
	W	.400 ± .040	(10.16 ±1.0)	X7R	105	334	104	683	223	103			
	T	.200 Max	(5.08 Max)										
	E/B	.025 ±.015	(0.64±.38)										
H70 / 6560 	Inches	(mm)		50 V	100 V	250 V	500 V	1K V	2K V	3K V	4K V	5K V	
	L	.650±.065	(16.5±1.7)	NPO	564	474	334	224	223	153	682	472	332
	W	.600±.060	(15.2±1.5)	X7R	186	126	106	225	105	224	154	473	333
	T	.200 Max	(5.08 Max)										
	E/B	.025 ±.015	(0.64±.38)										

Available capacitance values include the following significant retma values and their multiples:
 1.0 1.2 1.5 1.8 2.2 2.7 3.3 3.9 4.7 5.6 6.8 8.2 (1.0 = 1.0, 10, 100, 1000, etc.)
 Consult factory for sizes, values, & voltages not shown.

ELECTRICAL CHARACTERISTICS

Meets the standard NPO & X7R dielectric specifications listed on page 28 & 29 except

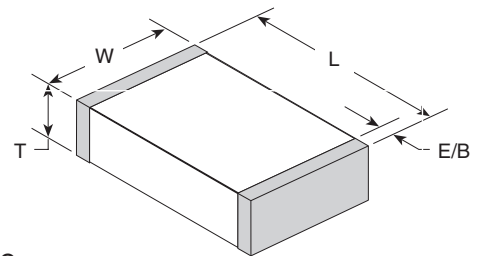
Dielectric Withstanding Voltage

DWV = 750 VDC for 500 WVDC rated units,

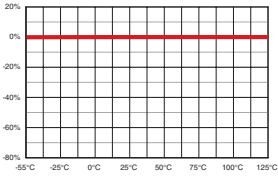
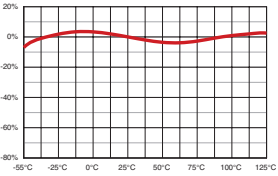
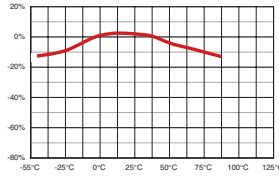
DWV = 945 VDC for 630 WVDC rated units,

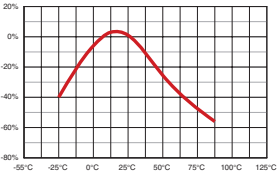
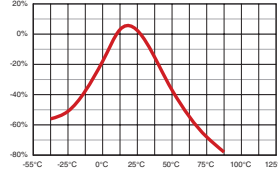
DWV = 1.2 X rated WVDC for ratings ≥ 1,000 WVDC

NOTE: Circuit applications above 1KVDC may require surface coating to prevent external arcing.



ELECTRICAL CHARACTERISTICS

PARAMETER	NPO		X7R		X5R	
TEMPERATURE COEFFICIENT:	0± 30 ppm/°C	-55 to +125°C	± 15%	-55 to +125°C	± 15%	-55 to +85°C
						
DISSIPATION FACTOR:	.001 (0.1%) max		For Vrated ≥ 50 VDC, DF = 2.5% max For Vrated = 125 VDC, DF = 3.0% max For Vrated = 116 VDC, DF = 3.5% max		For Vrated = 25 VDC, DF = 3.0% max For Vrated = 16 VDC: DF = 3.5% max For Vrated = 10 VDC: DF = 5.0% max	
AGING:	None		2.5% / decade hour			
INSULATION RESISTANCE:	IR @ 25°C, WVDC = 1000 F or 100G whichever is less ¹ IR @ 125°C, WVDC = 10% of 25°C rating				IR @ 25°C, WVDC = 1000 F or 100G whichever is less ²	
DIELECTRIC STRENGTH:	For Vrated = 6 - 200 VDC, DWV = 2.5 X WVDC, 25°C, 50mA max. For Vrated = 201 - 499 VDC, DWV = 2.0 X WVDC, 25°C, 50mA max. For Vrated = 500 - 999 VDC, DWV = 1.5 X WVDC, 25°C, 50mA max. For Vrated = 1000+ VDC, DWV = 1.2 X WVDC, 25°C, 50mA max.				DWV = 2.5 X WVDC, 25°C, 50mA max.	
TEST PARAMETERS:	C > 100 pF; 1kHz ±50Hz; 1.0±0.2 VRMS C 100 pF 1Mhz ±50kHz; 1.0±0.2 VRMS		1kHz ±50Hz; 1.0±0.2 VRMS		1kHz ±50Hz; 1.0±0.2 VRMS	
NOTES:			1) Tanceram X7R IR = 500 F or 10 G ,		2) Tanceram X5R IR = 500 F or 10 G	

PARAMETER	Z5U		Y5V	
TEMPERATURE COEFFICIENT:	+22% -56%	+10 to +85°C	+22% -82%	-30 to +85°C
				
DISSIPATION FACTOR:	For Vrated ≥ 25 VDC, DF = 4.0 % max For Vrated = 16 VDC, DF = 5.0 % max		For Vrated = 25 VDC, DF = 5.0% max For Vrated = 16 VDC, DF = 7.0% max For Vrated = 10 VDC, DF = 9.0% max	
AGING:	5.0 % / decade hour		7.0% / decade hour	
INSULATION RESISTANCE:	IR @ 25°C, WVDC = 100 F or 10G whichever is less			
DIELECTRIC STRENGTH:	DWV = 2.5 X WVDC, 25°C, 50mA max.			
TEST PARAMETERS:	1kHz ±50Hz; 0.5±0.2 VRMS		1kHz ±50Hz; 1.0±0.2 VRMS	
NOTES:				