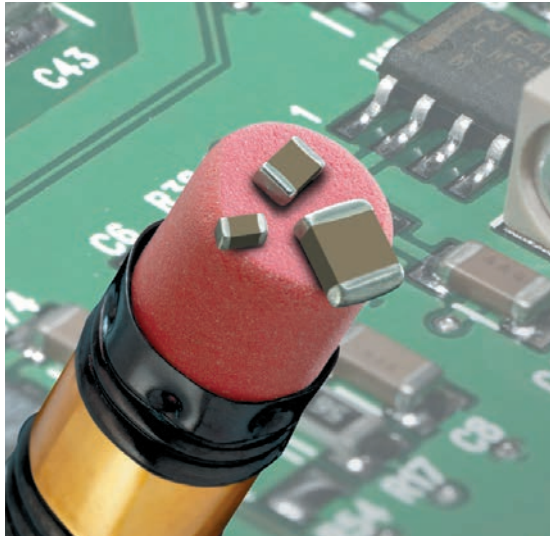




TANCERAM® chip capacitors can replace tantalum capacitors in many applications and offer several key advantages over traditional tantalums. Because TANCERAM® capacitors exhibit extremely low ESR, equivalent circuit performance can often be achieved using considerably lower capacitance values. Low DC leakage reduces current drain, extending the battery life of portable products. TANCERAM® high DC breakdown voltage ratings offer improved reliability and eliminate large voltage de-rating common when designing with tantalums.

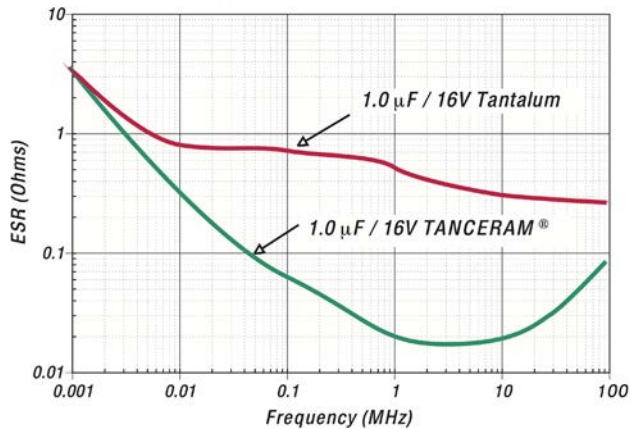
ADVANTAGES

- Low ESR
- Higher Surge Voltage
- Reduced CHIP Size
- Higher Insulation Resistance
- Low DC Leakage
- Non-polarized Devices
- Improved Reliability
- Higher Ripple Current

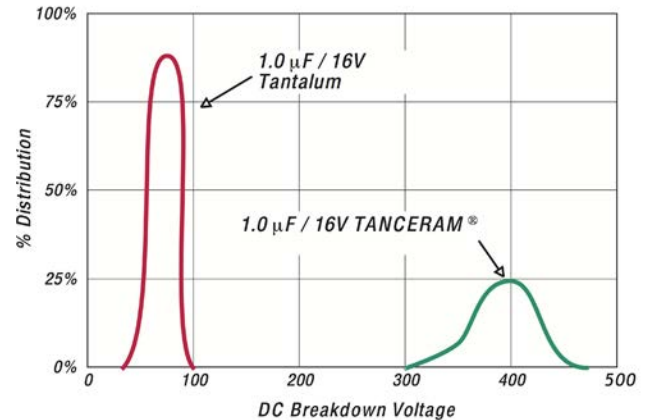
APPLICATIONS

- Switching Power Supply Smoothing (Input/Output)
- DC/DC Converter Smoothing (Input/Output)
- Backlighting Inverters
- General Digital Circuits

Typical ESR Comparison



Typical Breakdown Voltage Comparison



HOW TO ORDER TANCERAM®

Part number written: 100R15X106MV4E

100	R15	X	106	M	V	4	E
VOLTAGE	SIZE	DIELECTRIC	CAPACITANCE	TOLERANCE	TERMINATION	MARKING	PACKING
6R3 = 6.3 V 100 = 10 V 160 = 16 V 250 = 25 V 500 = 50 V 101 = 100 V	See Chart	W = X7R X = X5R	1st two digits are significant; third digit denotes number of zeros. 105 = 1.00 μF 476 = 47.0 μF 107 = 100 μF	K = ±10% M = ±20%	V = Nickel Barrier with 100% Tin Plating (Matte) T = SnPb* (*available on select parts)	4 = Unmarked	Code Type Reel E Plastic 7" T Paper 7" Tape specifications conform to EIA RS481

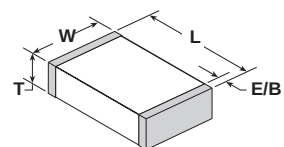


CAPACITANCE SELECTION

DIELECTRIC

W (X7R)

X (X5R)



EIA / JDI	INCHES	(mm)	VDC	1.0 μ F	1.5 μ F	2.2 μ F	3.3 μ F	4.7 μ F	10 μ F	22 μ F	47 μ F	100 μ F	220 μ F
0201 R05	L	.024 $\pm$.001	(0.60 $\pm$.03)	Dielectric	W	X	W	X	W	X	W	X	X
	W	.011 $\pm$.001	(0.28 $\pm$.03)	10									
	T	.013 Max.	(0.33 Max.)	6.3									
	EB	.004 Min.	(0.10 Min.)	4									
				35									
0402 R07	L	.039 $\pm$.002	(0.99 $\pm$.05)	25									
	W	.020 $\pm$.002	(0.51 $\pm$.05)	16									
	T	.022 Max.	(0.55 Max.)	10									
	EB	.002 Min.	(0.05 Min.)	6.3									
				4									
0603 R14	L	.063 $\pm$.004	(1.60 $\pm$.10)	50									
	W	.031 $\pm$.004	(0.79 $\pm$.10)	35									
	T	.037 Max.	(0.93 Max.)	25									
	EB	.006 Min.	(0.15 Min.)	16									
				10									
0805 R15	L	.079 $\pm$.012	(2.01 $\pm$.30)	6.3									
	W	.049 $\pm$.008	(1.24 $\pm$.20)	4									
	T	.057 Max.	(1.44 Max.)	50									
	EB	.008 Min.	(0.20 Min.)	35									
				25									
1206 R18	L	.126 $\pm$.012	(3.20 $\pm$.30)	16									
	W	.063 $\pm$.008	(1.60 $\pm$.20)	10									
	T	.071 Max.	(1.80)	6.3									
	EB	.010 Min.	(0.25 Min.)	50									
				35									
1210 S41	L	.126 $\pm$.012	(3.20 $\pm$.30)	25									
	W	.098 $\pm$.012	(2.49 $\pm$.30)	16									
	T	.106 Max.	(2.69 Max.)	10									
	EB	.012 Min.	(0.30 Min.)	6.3									
				50									
1812 S43	L	.177 $\pm$.016	(4.50 $\pm$.41)	25									
	W	.126 $\pm$.012	(3.20 $\pm$.30)	16									
	T	.118 Max.	(2.99 Max.)	10									
2220 S47	L	.220 $\pm$.016	(5.59 $\pm$.41)	25									
	W	.197 $\pm$.016	(3.20 $\pm$.30)	16									
	T	.118 Max.	(2.99 Max.)	10									
	L	.220 $\pm$.016	(5.59 $\pm$.41)	25									
	W	.197 $\pm$.016	(3.20 $\pm$.30)	16									
	T	.118 Max.	(2.99 Max.)	10									

"K" OR "M" TOLERANCE, 0201 ONLY AVAILABLE IN M

ONLY "M" TOLERANCE

ELECTRICAL CHARACTERISTICS

DIELECTRIC:	X7R	X5R
TEMPERATURE COEFFICIENT:	$\pm$ 15% (-55 to +125°C)	$\pm$ 15% (-55 to +85°C)
DISSIPATION FACTOR:	For $\geq$ 50 VDC: 5% max. For $\leq$ 35 VDC: 10% max.	For $\geq$ 50 VDC: 5% max. For $\leq$ 35 VDC: 10% max.
INSULATION RESISTANCE (MIN. @ 25°C, WVDC)	100 Ω F or 10 G Ω , whichever is less	
DIELECTRIC STRENGTH:	2.5 X WVDC, 25°C, 50mA max.	
TEST CONDITIONS:	Capacitance values $\leq$ 10 μ F: 1.0kHz $\pm$ 50Hz @ 1.0 $\pm$ 0.2 Vrms Capacitance values $>$ 10 μ F: 120Hz $\pm$ 10Hz @ 0.5V $\pm$ 0.1 Vrms	
OTHER:	See page 81 for additional dielectric specifications.	

