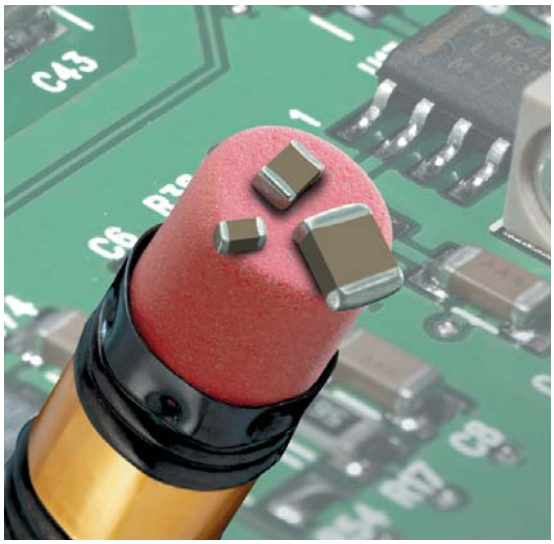
TANCERAM® CHIP CAPACITORS



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. Tancerams® high DC breakdown voltage ratings offer improved reliability and eliminate large voltage de-rating common when designing with tantalums.

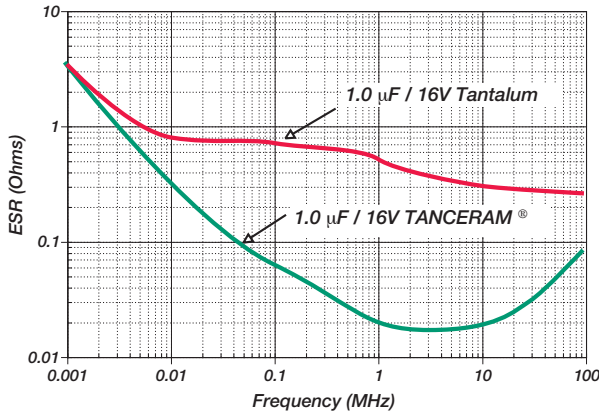
ADVANTAGES

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

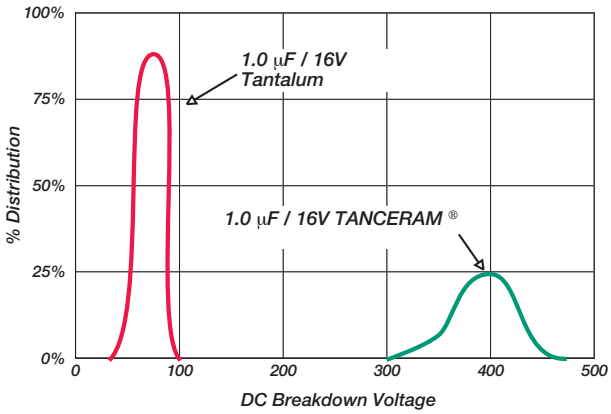
APPLICATIONS

- 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®

250	R18	Y	105	Z	V	4	E

VOLTAGE
500 = 50 V
250 = 25 V
160 = 16 V
100 = 10 V
6R3 = 6.3 V

CASE SIZE
See Chart

DIELECTRIC
W = X7R
X = X5R
Y = Y5V

CAPACITANCE
1st two digits are significant; third digit denotes number of zeros.
474 = 0.47 µF
105 = 1.00 µF

TOLERANCE
Y5V
Z = +80% -20%
X7R/X5R
K = ±10%
M = ±20%

TERMINATION
V = Ni barrier w/ 100% Sn Plating

MARKING
4 = Unmarked

TAPE MODIFIER

Code	Type	Reel
E	Plastic	7”
T	Paper	7”

Tape specifications conform to EIA RS481

P/N written: 250R18Y105ZV4E

TANCERAM® CHIP CAPACITORS

RoHS

CASE SIZE

CAPACITANCE SELECTION

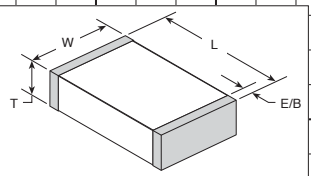
Case Size		Inches	(mm)	VDC	1.0 µF			2.2 µF			4.7 µF			10 µF			22 µF			47 µF			100 µF		
0402 R07	L	.040 ±.004	(1.02 ±.10)																						
	W	.020 ±.004	(0.51 ±.10)																						
	T	.025 Max.	(0.64)	10		*			*																
	E/B	.008 ±.004	(0.20±.10)	6.3		•			*																
0603 R14	L	.063 ±.008	(1.60 ±.20)	25		*																			
	W	.032 ±.008	(0.81 ±.20)	16	*		*	*	*	*															
	T	.035 Max.	(0.89)	10		•			•																
	E/B	.010±.005	(.25±.13)	6.3																					
0805 R15	L	.080 ±.010	(2.03 ±.25)	25	•		•																		
	W	.050 ±.010	(1.27 ±.25)	16	•	•			•	•	*				•										
	T	.060 Max.	(1.52)	10									*		•			•							
	E/B	.020±.010	(0.51±.25)	6.3											•			•							
1206 R18	L	.125 ±.010	(3.17 ±.25)	25	•			•	*				•												
	W	.062 ±.010	(1.57 ±.25)	16	•						•		•												
	T	.070 Max.	(1.78)	10							•	•						•							
	E/B	.020 +.015-0.01	(0.51+.38-.25)	6.3																	•				
1210 S41	L	.125 ±.010	(3.18 ±.25)	50	•								•												
	W	.095 ±.010	(2.41 ±.25)	25		*			*		*	•													
	T	.110 Max.	(2.8)	16								•						•	•		•				
	E/B	.020 +.015-.010	(0.51+.38-.25)	10											*									•	
				6.3																	•			•	
1812 S43	L	.175 ±.010	(4.45 ±.25)	100																					
	W	.125 ±.010	(3.17 ±.25)	50																					
	T	.140 Max.	(3.55)	16														•							
	E/B	.035 ±.020	(0.89 ±0.51)	6.3																				•	
			DIELECTRIC CODE		W	X	Y	W	X	Y	W	X	Y	W	X	Y	W	X	Y	W	X	Y	W	X	Y

DIELECTRIC

W (X7R)

X (X5R)

Y (Y5V)



* = NEW PART • = HIGH VOLUME

ELECTRICAL CHARACTERISTICS

	X7R	X5R	Y5V
Temperature Coefficient:	±15% (-55 to +125°C)	±15% (-55 to +85°C)	+22%, -82% (-30 to +85°C)
Dissipation Factor:	For ≥ 50 VDC: 5% max. For ≤ 25 VDC: 10% max.	For ≥ 50 VDC: 5% max. For ≤ 25 VDC: 10% max.	For ≥ 10 VDC: 16% max. For 6.3 VDC: 20% max.
Insulation Resistance (Min. @ 25°C, WVDC)	100 ΩF or 10 GΩ, whichever is less		
Dielectric Strength:	2.5 X WVDC, 25°C, 50mA max.		
Test Conditions:	Capacitance values ≤ 22 µF: 1.0kHz±50Hz @ 1.0±0.2 Vrms Capacitance values > 22 µF: 120Hz±10Hz @ 0.5V±0.1 Vrms		
Other:	See page 18 for additional dielectric specifications.		