

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.

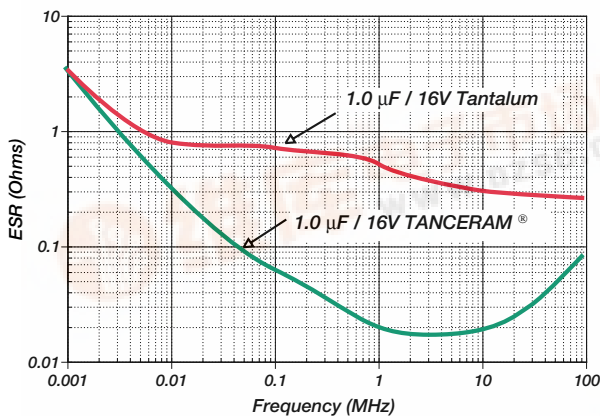
ADVANTAGES

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

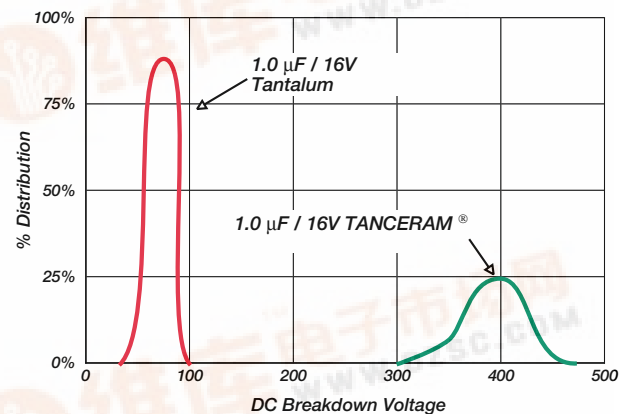
APPLICATIONS

- 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

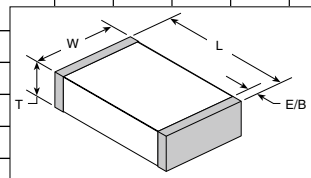
P/N written: 250R18Y105ZV4E



TANCERAM® CHIP CAPACITORS

				CAPACITANCE SELECTION													
CASE SIZE					.047 pF	0.10 µF	0.22 µF	0.33 µF	0.47 µF	1.0 µF	2.2 µF	3.3 µF	4.7 µF	10 µF	22 µF	47 µF	100 µF
0402 R07	L	Inches	(mm)	50 V													
		.040 ±.004	(1.02 ±.10)	25 V													
		W	.020 ±.004	16 V													
		T	.025 Max.	10 V													
		E/B	.008 ±.004	6.3 V													
0603 R14	L	Inches	(mm)	50 V													
		.063 ±.008	(1.60 ±.20)	25 V													
		W	.032 ±.008	16 V													
		T	.035 Max.	10 V													
		E/B	.010±.005	6.3 V													
0805 R15	L	Inches	(mm)	50 V													
		.080 ±.010	(2.03 ±.25)	25 V													
		W	.050 ±.010	16 V													
		T	.060 Max.	10 V													
		E/B	.020±.010	6.3 V													
1206 R18	L	Inches	(mm)	50 V													
		.125 ±.010	(3.17 ±.25)	25 V													
		W	.062 ±.010	16 V													
		T	.070 Max.	10 V													
		E/B	.020 +.015-.010	6.3 V													
1210 S41	L	Inches	(mm)	50 V													
		.125 ±.010	(3.18 ±.25)	25 V													
		W	.095 ±.010	16 V													
		T	.110 Max.	10 V													
		E/B	.020 +.015-.010	6.3 V													
1812 S43	L	Inches	(mm)	50 V													
		.175 ±.010	(4.45 ±.25)	25 V													
		W	.125 ±.010	16 V													
		T	.110 Max.	10 V													
		E/B	.035±.020	6.3 V													
		* T	.140 Max.														*

DIELECTRIC	
X7R	
X5R	
Y5V	



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)	500 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 20 for additional dielectric specifications.		