

X7R 介质电容器 X7R DIELECTRIC CAPACITORS

X7R類介質電容器是在工業中廣泛使用的一種溫度穩定型電容器，屬於Ⅱ類介質材料，具有中等介電常數，在使用溫度(-55℃~+125℃)範圍內容值變化率在±15%以內，容值老化率為1%。

X7R formulations are called "temperature stable" ceramics and fall into eia class Ⅱ dielectric materials.

X7R is the most popular of these intermediate dielectric constant materials. Its temperature variation of capacitance is within ±15% from -55 to 125°C. Its aging rate is 1%.

主要性能參數 PERFORMANCE CHARACTERISTICS

容值範圍 Capacitance Range	100pF~4.7nF
容差 Capacitance Tolerance	通常: ±10%, ±20%. Preferred ±10%, ±20%
使用溫度 Operating Temperature Range	-55~125°C
溫度特性 Temperature Characteristics	±15%以內 within ±15%
額定電壓 Rated Voltage	6.3V, 10V, 16V, 25V, 50V, 100V
損耗 Dissipation Factor	額定電壓6.3V時, DF ≤ 5.0% For 6.3V: DF ≤ 5.0% 額定電壓16V和10V時, DF ≤ 3.5% For 16V and 10V: DF ≤ 3.5% 額定電壓25V以上時, DF ≤ 2.5% For 25V min: DF ≤ 2.5%
絕緣電阻 Insulation Resistance	100GΩ或500Ω以上, 取最小值以上 100GΩ min. or 500Ω F min whichever is less
耐壓 Dielectric Withstanding Voltage	2.5倍額定電壓 250% rated voltage
測試電壓 Test Voltage	1±0.2Vrms
測試頻率 Test Frequency	1KHz

尺寸與容值範圍 CAPACITANCE RANGE VS. CHIP SIZE

尺寸 Size	10V	16V	25V	50V	100V
0402	100pF~47nF	100pF~22nF	100pF~10nF	100pF~4.7nF	--
0603	100pF~0.47μF	100pF~0.22μF	100pF~0.1μF	100pF~47μF	100pF~4.7nF
0805	1.0pF~2.2μF	100pF~1.0μF	100pF~0.47μF	100pF~0.22μF	100pF~22nF
1206	1.0pF~4.7μF	1.0pF~2.2μF	1.0pF~1.0μF	1.0pF~0.47μF	1.0pF~0.1μF

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特征曲綫 TYPICAL CHARACTERISTIC CURVES

