

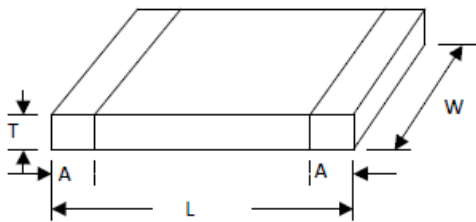
CHIP CAPACITOR

CC TYPE

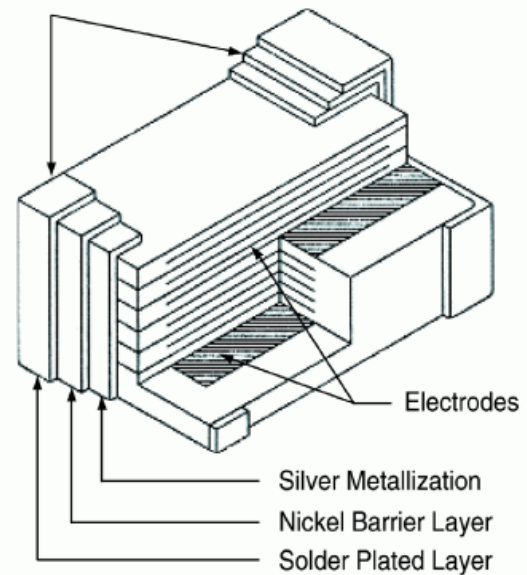
FEATURES

- Thin layers in ceramic dielectric and multilayer technology provides large capacitance.
- Full monolithic structure provides high mechanical intensity.
- Accurate dimensions ensure high yield rate by automatic mounting process.
- Simple metal-ceramic monolithic construction provides high stability and reliability with a wide temperature range.
- Symmetrical construction with no polarity facilitate automatic mounting.
- Leadless construction minimizes stray capacitance and residual inductance, which ensures the electric circuit works as designed.

DIMENSIONS



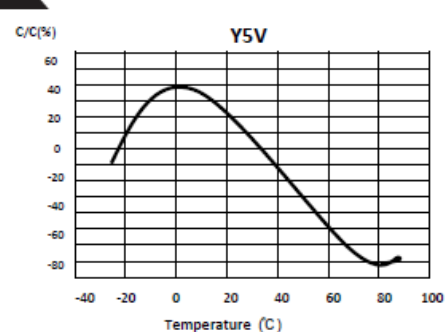
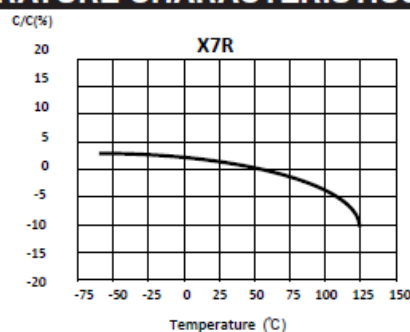
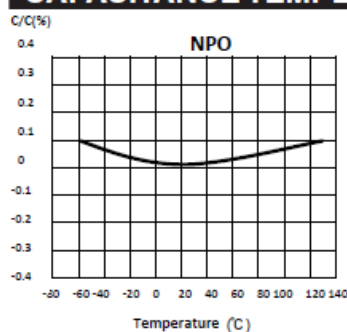
Termination (Nickel Barrier)



Unit : mm

TYPE	L	W	T	A
0201	0.60±0.03	0.30±0.03	0.30±0.03	0.10~0.20
0402	1.0±0.05	0.50±0.05	0.50±0.05	0.15~0.35
0603	1.6±0.15	0.80±0.15	0.65~0.95	0.25~0.65
0805	2.0±0.20	1.25±0.20	0.40~1.55	0.25~0.75
1206	3.2±0.30	1.60±0.30	0.50~1.95	0.35~0.85
1210	3.2±0.40	2.5±0.30	0.80~2.90	0.25
1808	4.6±0.40	2.00±0.30	1.00~2.90	0.45~1.00
1812	4.6±0.40	3.20±0.30	1.00~3.20	0.45~1.00
2220	5.7±0.40	5.00±0.40	1.80~3.00	0.2

CAPACITANCE TEMPERATURE CHARACTERISTICS



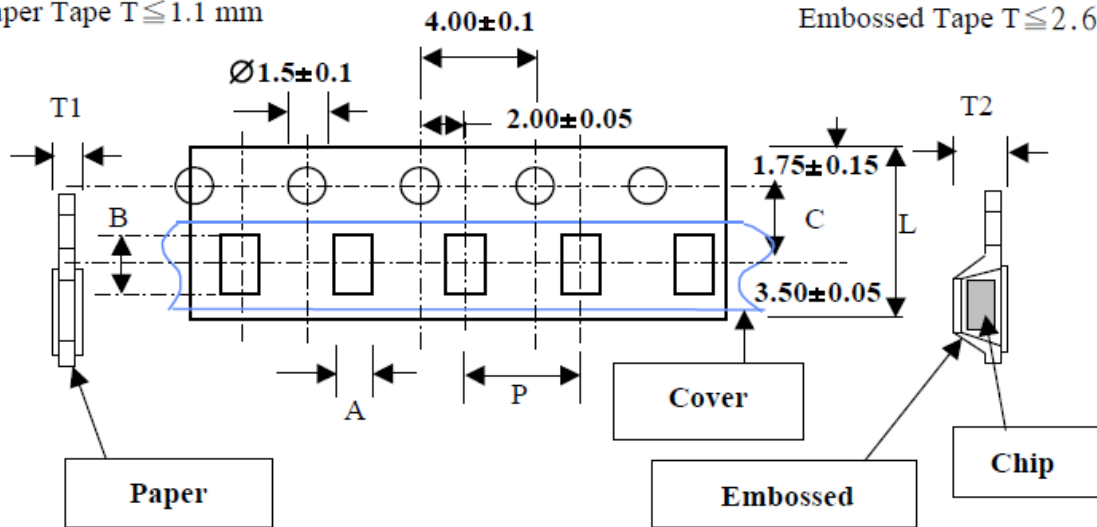
ENVIRONMENTAL AND TEST CHARACTERISTICS

TEST	TEST METHOD	LIMITS
CAPACITANCE	Class I : NPO Cap \leq 1000PF 1.0 \pm 0.2Vrms, 1MHz \pm 10% Cap>1000PF 1.0 \pm 0.2Vrms, 1KHz \pm 10% Class II : X7R, X5R, Y5V Cap \leq 10uF, 1.0 \pm 0.2Vrms, 1KHz \pm 10% Cap>10Uf,0.5 \pm 0.2Vrms, 120Hz \pm 20%	Within specified tolerance
DISSIPATION FACTOR (D.F.)	Class I : NPO Cap \leq 1000PF 1.0 \pm 0.2Vrms, 1MHz \pm 10% Cap>1000PF 1.0 \pm 0.2Vrms, 1KHz \pm 10% Class II : X7R, X5R, Y5V Cap \leq 10uF, 1.0 \pm 0.2Vrms, 1KHz \pm 10% Cap>10Uf,0.5 \pm 0.2Vrms, 120Hz \pm 20%	In accordance with specification
INSULATION RESISTANCE	To apply rated voltage for 2 minutes at Max.	In accordance with specification
VOLTAGE-PROOF	Specified stress voltage applied for 1 minute Vr \leq 100V : series applied 2.5Vr 100V<Vr \leq 200V series applied (1.5Vr+ 100) 200V<Vr \leq 500V series applied (1.3Vr+ 100) Vr >500V : 1.3Vr, I : 7.5mA	No breakdown or flashover
STRENGTH OF TERMINATION	A force applied for 10 seconds to the line joining the terminations and in a plane parallel to the substrate	Force Size \geq 0603 : 5N Size=0402 : 2.5N Size=0201 : 1N
BENDING TEST	The middle part of substrate shall be pressurized by means of the pressurizing rod at a rate of about 1mm per second until the deflection becomes 1mm and then the pressure shall be maintained for 5 \pm 1sec Measurement to be made after keeping at room Temp. for 24 \pm 2 hrs	No visible damage NPO : within \pm 5%or 0.5PF Whichever is greater X7R/X5R ; within \pm 12.5% Y5V : within \pm 30%
RESISTANCE TO SOLDERING HEAT	Soldering temperature : 260 \pm 5 $^{\circ}$ C for 10+ 0.5s	
DIELECTRIC WITHSTANDING VOLTAGE	Resistors shall be clamped in the trough of a 90 degree metallic V- block, apply AC between this electrode and another lead wire for 1 minute.	Resistance shall not change more than \pm 3%. No evidence of mechanical damage
NOISE	Quan-Tech Laboratories Inc. Model 515B	100K ohm below : 0.3 μ V/V 100K ohm ~ 1M ohm below : 0.5 μ V/V 1M ohm ~ 5.6M ohm : 1.0 μ V/V
INSULATION RESISTANCE	Resistors shall be clamped in the trough of a 90 degree metallic V- block, apply DC 100V between this electrode and another lead wire for 1 minute.	1,000M ohm above.
SHORT-TIME OVERLOAD	Resistors shall be tested at 2.5 times rated voltage for 5 seconds at ambient room temperature.	Resistance shall not change more than \pm 1%. No evidence of mechanical damage.
RESISTANCE TO SOLVENTS	Immerse a resistor completely in reagent at a temperature of 20-25 $^{\circ}$ C for 30 \pm 5 seconds.	No evidence of mechanical damage.
SOLDERABILITY	Apply flux to the terminal wire of a resistor up to 4 \pm 0.8mm away from the resistor body and immerse the flux applied portion in the solder tank at 260 \pm 5 $^{\circ}$ C for 3 \pm 0.5 seconds.	More than 95%of a circumference of the immersed portion shall be completely covered with new solder.
TEMPERATURE COEFFICIENT	With no electrical load NPO/X7R : -55 $^{\circ}$ C ~ + 125 $^{\circ}$ C at 25 $^{\circ}$ C X5R : -55 $^{\circ}$ C ~ +85 $^{\circ}$ C at 25 $^{\circ}$ C Y5V : -25 $^{\circ}$ C ~ +85 $^{\circ}$ C at 25 $^{\circ}$ C	No visible damage NPO : within \pm 30PPM/ $^{\circ}$ C X7R/X5R : within \pm 15% Y5V : within+ 30%/- 80%
DAMP HEAT, STEADY STATE	Test temp. : 40 \pm 2 $^{\circ}$ C Humidity : 90 ~ 95% RH Test time : 500+ 24/- 0 hours	No visual damage after recovery

TAPING SPECIFICATIONS

Paper Tape $T \leq 1.1$ mm

Embossed Tape $T \leq 2.60$



Unit : mm

SYMBOL	POCKET SIZE CODE								
	0201	0402	0603	0805	1206	1210	1808	1812	2220
A	0.38±0.05	0.62±0.05	1.10±0.10	1.50±0.25	2.00±0.10	2.80±0.20	2.50±0.30	3.60±0.30	5.60max.
B	0.68±0.10	1.12±0.05	1.90±0.10	2.40±0.05	3.50±0.10	3.70±0.20	4.90±0.30	4.90±0.30	6.30max.
C	3.50±0.05	3.50±0.05	3.50±0.05	3.50±0.05	3.50±0.05	3.50±0.05	5.50±0.05	5.50±0.05	5.50±0.05
P	2.00±0.05	2.00±0.05	4.00±0.10	4.00±0.10	4.00±0.10	4.00±0.10	4.00±0.10	8.00±0.10	8.00±0.10
L	8.00±0.20	8.00±0.20	8.00±0.20	8.00±0.20	8.00±0.20	8.00±0.20	12.0±0.30	12.0±0.30	12.0±0.30
T1	0.42±0.05	0.60±0.05	0.95±0.05	1.00±0.05	1.00±0.05	-	-	-	-
T2	-	-	-	2.50max.	2.50max.	3.00max.	2.50max.	2.50max.	4.00max.

REEL DIMENSION

