6040C (.600" x .400")

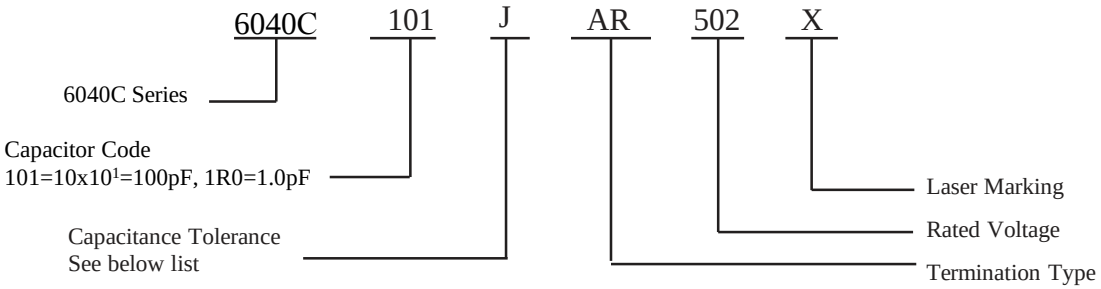
◆ Product Features

High Q, High RF Current/Voltage, High RF Power, Low ESR/ESL, Low Noise, Ultra-Stable Performance.

◆ 6040C Capacitance Table

Cap. pF	Code	Tol.	Rated WVDC	Cap. pF	Code	Tol.	Rated WVDC	Cap. pF	Code	Tol.	Rated WVDC
1.0	1R0	B,C,D	5000V Code 502 Extended Voltage 8000V Code 802	33	330	F,G, J,K	5000V Code 502 Extended Voltage 8000V Code 802	820	821	F,G, J,K	2000V Code 202 Extended Voltage 3000V Code 302
1.2	1R2			39	390			1000	102		
1.5	1R5			47	470			1200	122		
1.8	1R8			56	560			1500	152		
2.2	2R2			68	680			1800	182		
2.7	2R7			82	820			2200	222		
3.3	3R3			100	101			2700	272		1000V Code 102 Extended Voltage 2000V Code 202
3.9	3R9			120	121		3000V Code 302 Extended Voltage 5000V Code 502	3300	332		
4.7	4R7			150	151			4700	472		
5.6	5R6			180	181			5100	512		
6.8	6R8			220	221			5600	562		
8.2	8R2			270	271			6800	682		
10	100	F,G, J,K		330	331						
12	120			390	391						
15	150			470	471						
18	180			560	561						
22	220			680	681						
27	270										

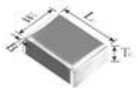
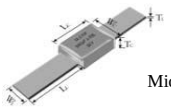
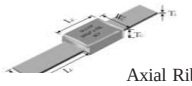
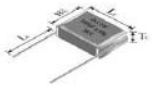
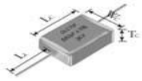
◆ Part Numbering

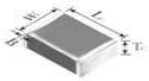
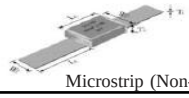
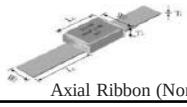
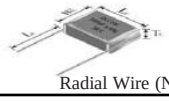
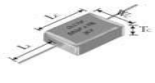


Capacitance Tolerance							
Code	B	C	D	F	G	J	K
Tolerance	±0.1pF	±0.25pF	±0.5pF	±1%	±2%	±5%	±10%

◆ 6040C Lead Type and Dimensions

unit: inch(millimeter)

Series	Term. Code	Type/ Outlines	Capacitor Dimensions				Lead Dimensions			Plated Material
			Length Lc	Width Wc	Thick-ness Tc	Overlap B	Length L_L	Width W_L	Thick-ness T_L	
6040C	W	 Chip	.614 +.015 to -.010 (15.6 +0.38 to -0.25)	.433 ±.010 (11.0± 0.25)	.154 ± .008 (3.90 ±0.20)	.063 (1.60) max	-	-	-	100%Sn Solder over Nickel Plating RoHS Compliant
	L									90%Sn10%Pb Tin/Lead Solder over Nickel Plating
6040C	MS	 Microstrip				-	.787 (20.00) min	.35 ± .01 (8.89± 0.25)	.008 ± .001 (0.20± 0.025)	Silver-plated Copper
6040C	AR	 Axial Ribbon								
6040C	RW	 Radial Wire					.787 (20.00) min	Dia.=.03±.004 (0.80 ± 0.10)		
6040C	AW	 Axial Wire					.984 (25.00) min			

Series	Term. Code	Type/ Outlines	Capacitor Dimensions				Lead Dimensions			Plated Material
			Length Lc	Width Wc	Thick-ness Tc	Overlap B	Length L_L	Width W_L	Thick-ness T_L	
6040C	P	 Chip (Non-Mag)	.614 +.015 to -.010 (15.6 +0.38 to -0.25)	.433 ±.010 (11.0± 0.25)	.154 ± .008 (3.90 ±0.20)	.063 (1.60) max	-	-	-	100% Sn Solder over Copper Plating Non-Mag
6040C	MN	 Microstrip (Non-Mag)				-	.787 (20.00) min	.35 ± .01 (8.89± 0.25)	.008 ± .001 (0.20± 0.025)	Silver-plated Copper
6040C	AN	 Axial Ribbon (Non-Mag)								
6040C	RN	 Radial Wire (Non-Mag)					.787 (20.00) min	Dia.=.03±.004 (0.80 ± 0.10)		
6040C	BN	 Axial Wire (Non-Mag)					.984 (25.00) min			

Note: "Non-Mag" means no magnetic materials. All leads are attached with high temperature solder and parts are RoHS Compliant.

◆ Performance

Item	Specifications
Quality Factor (Q)	No less than 1000pF, Q value more than 2000, Test frequency 1MHz; More than 1000pF, Q value more than 2000, Test frequency 1KHz;
Insulation Resistance (IR)	Test Voltage: 500V 10^5 Megohms min. @ +25℃ at rated WVDC. 10^4 Megohms min. @ +125℃ at rated WVDC.
Rated Voltage	See Rated Voltage Table.
Dielectric Withstanding Voltage (DWV)	250% of Voltage for 5 seconds, Rated Voltage ≦500VDC 150% of Voltage for 5 seconds, 500VDC< Rated Voltage ≦1250VDC 120% of Voltage for 5 seconds, Rated Voltage >1250VDC
Operating Temperature Range	-55℃ to +175℃
Temperature coefficient (TC)	0±30ppm/℃
Capacitance Drift	±0.02% or ±0.02pF, whichever is greater.
Piezoelectric Effects	None
Termination Type	See Termination Type Table.

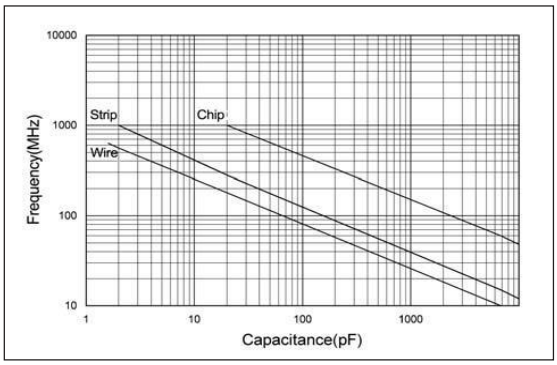
Capacitors are designed and manufactured to meet the requirements of MIL-PRF-55681 and MIL-PRF-123.

◆ Environmental Tests

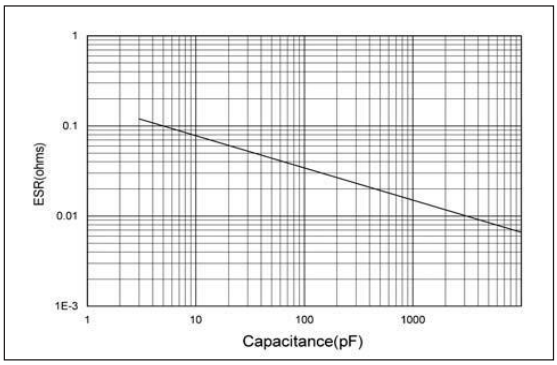
Item	Specifications	Method
Thermal shock	DWV: the initial value IR: Shall not be less than 30% of the initial value Capacitance change: no more than 0.5% or 0.5 pF, whichever is greater.	MIL-STD-202, Method 107, Condition A. At the maximum rated temperature (-55℃ and 125℃) stay 30 min, the time of removing shall not be more than 3 minutes. Perform the five cycles.
Moisture resistance		MIL-STD-202, Method 106.
Humidity (steady state)	DWV: the initial value IR: the initial value Capacitance change: no more than 0.3% or 0.3 pF, whichever is greater.	MIL-STD-202, Method 103, Condition A, With 1.5 Volts D.C. applied while subjected to an environment of 85℃ with 85% relative humidity for 240 hours minimum.
Life	IR: Shall not be less than 30% of the initial value Capacitance change: no more than 2.0% or 0.5 pF, whichever is greater.	MIL-STD-202, Method 108, for 2000 hours, at 125℃, 200% of Voltage for Capacitors, Rated Voltage ≦500VDC; 120% of Voltage for Capacitors, 500VDC < Rated Voltage ≦ 1250VDC; 100% of Voltage for Capacitors, Rated Voltage >1250VDC.
Terminal strength	Force : 25lbs typical, 20 lbs min., Duration time: 5 to 10 seconds.	MIL-STD-202, Method 211A, Test condition A. Applied a force and maintained for a period of 5 to 10 seconds. The force shall be in the direction of the axes of the terminations.

◆ 6040C Performance Curves

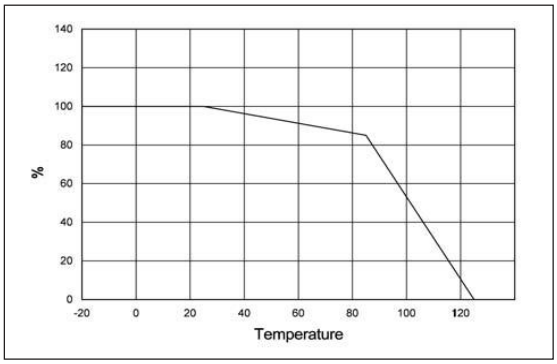
Self Resonant Frequency vs Capacitance



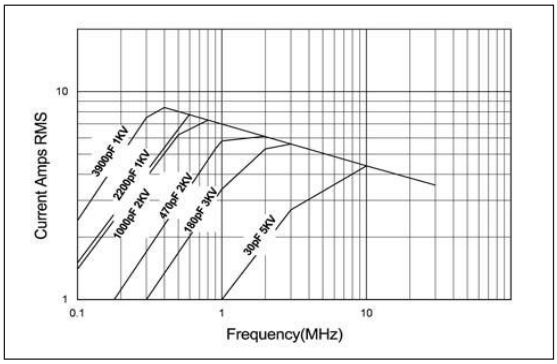
ESR vs Capacitance
Measured @ 30MHz



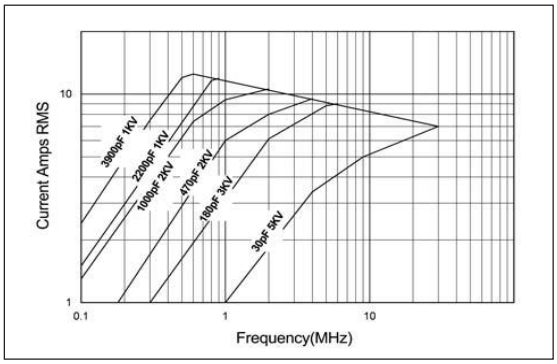
% Maximum Current vs Ambient Temperature



6040C Wire Terminals
Rated Current vs Frequency



6040C Strip Terminals
Rated Current vs Frequency



◆ Recommended Land Pattern Dimensions

When mounting the capacitor to substrate, it's important to carefully consider that the amount of solder (size of fillet) used has a direct effect upon the capacitor once it's mounted.

1) The greater the amount of solder, the greater the stress to the elements. This may cause the substrate to break or crack.

2) In the situation where two or more devices are mounted onto a common land, be sure to separate the device into exclusive pads by using soldering resist.

● Horizontal Mounting

Orientation	EIA	A	B	C
Horizontal	6040	13.00	3.30	11.30