

6040C (.600" x .400")

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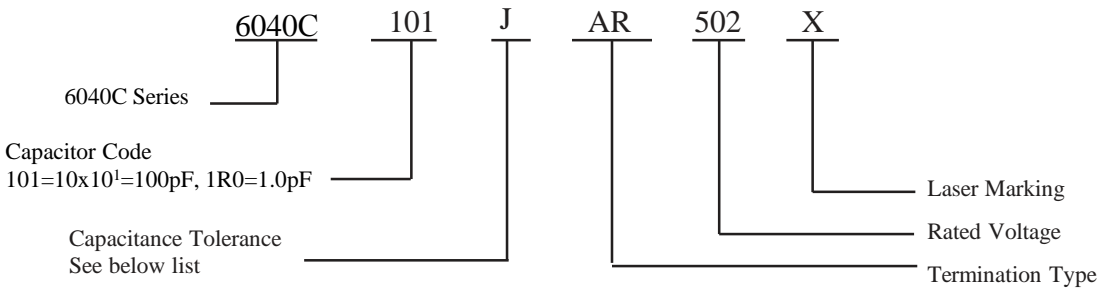
◆ Product Features

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		
3.9	3R9			120	121			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	8000V Code 802	330	331	3000V Code 302 Extended Voltage 5000V Code 502			F,G, J,K	1000V Code 102 Extended Voltage 2000V Code 202	
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	$\pm 0.1\text{pF}$	$\pm 0.25\text{pF}$	$\pm 0.5\text{pF}$	$\pm 1\%$	$\pm 2\%$	$\pm 5\%$	$\pm 10\%$

◆ 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°C at rated WVDC. 10 ⁴ Megohms min. @ +125°C 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°C to +175°C
Temperature coefficient (TC)	0±30ppm/°C
Capacitance Drift	±0.02% or ±0.02pF, whichever is greater.
Piezoelectric Effects	None
Termination Type	See Termination Type Table.

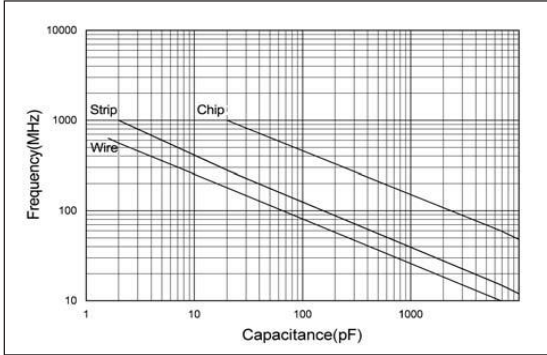
Capacitors are designed and manufactured to meet the requirements of MIL-PRF-55681 and MIL-PRF-123.

◆ Environmental Tests

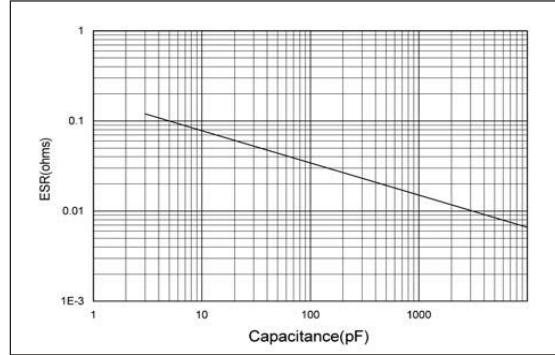
Item	Specifications	Method
Thermal shock	DWV: the initial value IR: Shall not be less than 30% of the initial value Capacitance change:	MIL-STD-202, Method 107, Condition A. At the maximum rated temperature (-55°C and 125°C) stay 30 min, the time of removing shall not be more than 3 minutes. Perform the five cycles.
Moisture resistance	no more than 0.5% or 0.5 pF, whichever is greater.	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°C 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°C, 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

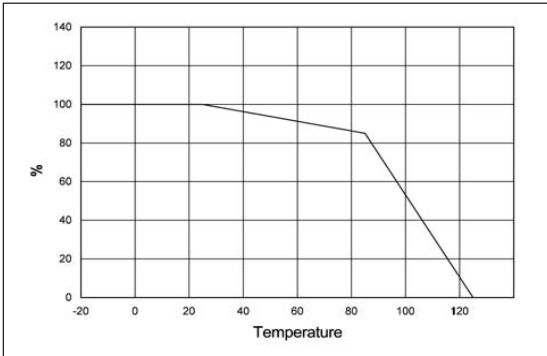
Self Resonant Frequency vs Capacitance



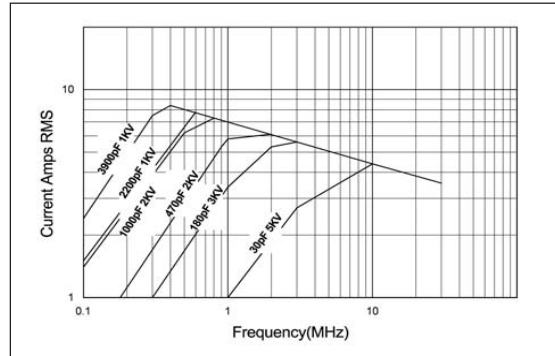
ESR vs Capacitance Measured @ 30MHz



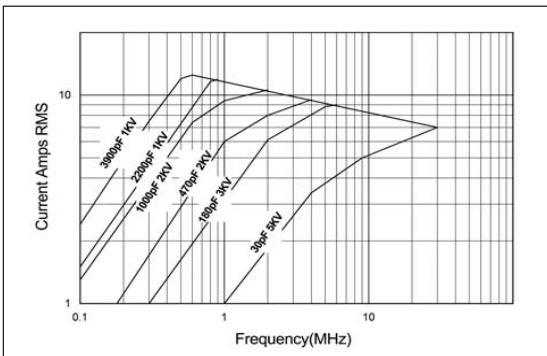
% Maximum Current vs Ambient Temperature



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

