

RF/Microwave Capacitors

RF/Microwave Multilayer Capacitors (MLC)

600S Ultra-Low ESR, High Q, NPO Capacitors



FEATURES

- Lowest ESR in Class
- Highest Working Voltage in Class - 250 V
- Standard EIA Size: 0603
- Laser Marking (Optional)
- High Self-Resonance Frequencies

600 SERIES OVERVIEW

Series	Case Size	EIA Case Size
600	L	0402
600	S	0603
600	F	0805

APPLICATIONS

- Cellular Base Stations
- Broadband Wireless Services
- Satellite Communications
- Subscriber-based Wireless Devices
- WiFi (802.11)
- Public Safety Radio

CIRCUIT APPLICATIONS

- Filter Networks
- High Q Frequency Sources
- Matching Networks
- Tuning, Coupling, Bypass and DC Blocking

ELECTRICAL SPECIFICATIONS

Capacitance	0.1 to 100 pF
Tolerances	See Cap Value Chart
Working Voltage (WVDC)	250 V
Quality Factor (Q)	> 2000 @ 1 MHz
Operating Temperature Range	-55°C to +125°C (no derating of working voltage)
Temperature Coefficient of Capacitance (TCC)	0 ± 30 ppm/°C, -55°C to +125°C 10 ⁵ MΩ min. at +25°C at rated WVDC 10 ⁴ MΩ min. at +125°C at rated WVDC
Dielectric Withstanding Voltage (DWV)	2.5 x WVDC for 5 seconds
Aging	None
Piezo Effects	None

PACKAGING OPTIONS



Tape & Reel



Vertical Orientation Tape & Reel



ENVIRONMENTAL CHARACTERISTICS

Thermal Shock	5 Cycles, -55°C to 125°C
Moisture Resistance	Mil-STD-202, Method 106
Life Test	2000 hours at 125°C at 2X WVDC
Solderability	Solder Coverage > 90% of end termination
Terminal Strength	4 lbs. typ., 2 lb. min.
Military Approval	DSCC Drawing Number 05002

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CAPACITANCE VALUES

Value (pF)	Cap Code	Marking	Tolerances	Value (pF)	Cap Code	Marking	Tolerances	Value (pF)	Cap Code	Marking	Tolerances
0.1	0R1	A9	A, B	2.7	2R7	L0	A, B, C, D	20	200	H1	F, G, J, K, M
0.2	0R2	H9	A, B	3.0	3R0	M0	A, B, C, D	22	220	J1	F, G, J, K, M
0.3	0R3	M9	A, B, C	3.3	3R3	N0	A, B, C, D	24	240	K1	F, G, J, K, M
0.4	0R4	d9	A, B, C	3.6	3R6	P0	A, B, C, D	27	270	L1	F, G, J, K, M
0.5	0R5	f9	A, B, C	3.9	3R9	Q0	A, B, C, D	30	300	M1	F, G, J, K, M
0.6	0R6	m9	A, B, C	4.3	4R3	R0	A, B, C, D	33	330	N1	F, G, J, K, M
0.7	0R7	n9	A, B, C	4.7	4R7	S0	A, B, C, D	36	360	P1	F, G, J, K, M
0.8	0R8	t9	A, B, C	5.1	5R1	T0	A, B, C, D	39	390	Q1	F, G, J, K, M
0.9	0R9	y9	A, B, C	5.6	5R6	U0	A, B, C, D	43	430	R1	F, G, J, K, M
1.0	1R0	A0	A, B, C, D	6.2	6R2	V0	A, B, C, D	47	470	S1	F, G, J, K, M
1.1	1R1	B0	A, B, C, D	6.8	6R8	W0	B, C, J, K	51	510	T1	F, G, J, K, M
1.2	1R2	C0	A, B, C, D	7.5	7R5	X0	B, C, J, K	56	560	U1	F, G, J, K, M
1.3	1R3	D0	A, B, C, D	8.2	8R2	Y0	B, C, J, K	62	620	V1	F, G, J, K, M
1.5	1R5	E0	A, B, C, D	9.1	9R1	Z0	B, C, J, K	68	680	W1	F, G, J, K, M
1.6	1R6	F0	A, B, C, D	10	100	A1	F, G, J, K, M	75	750	X1	F, G, J, K, M
1.8	1R8	G0	A, B, C, D	11	110	B1	F, G, J, K, M	82	820	Y1	F, G, J, K, M
2.0	2R0	H0	A, B, C, D	12	120	C1	F, G, J, K, M	91	910	Z1	F, G, J, K, M
2.2	2R2	J0	A, B, C, D	15	150	E1	F, G, J, K, M	100	101	A2	F, G, J, K, M
2.4	2R4	K0	A, B, C, D	18	180	G1	F, G, J, K, M				

HOW TO ORDER

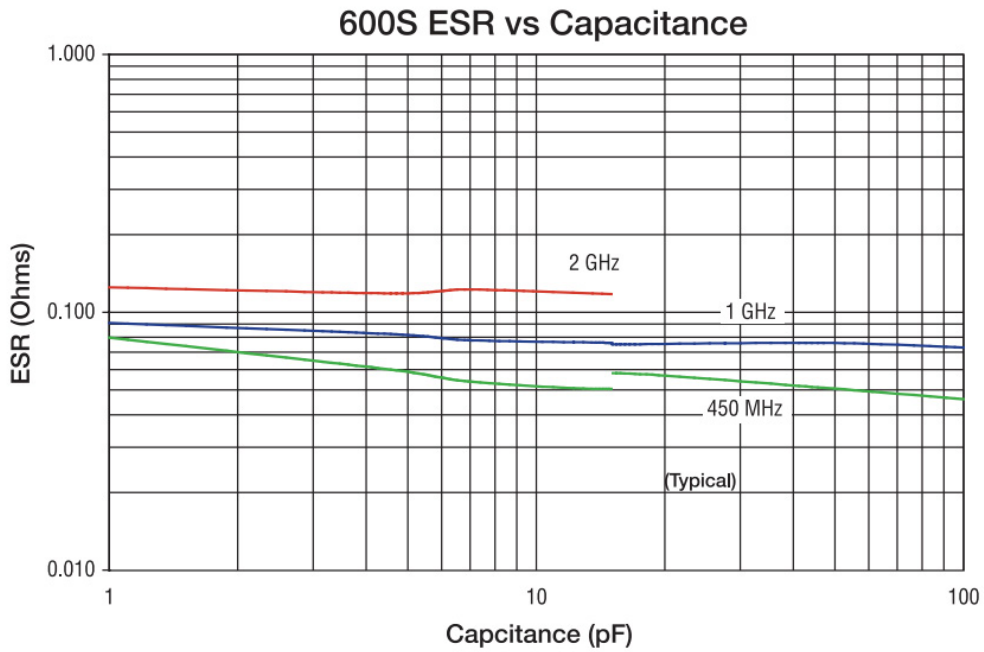
Series 600
Case Size S
 See mechanical dimensions below
Capacitance Code 0R2
 EIA Capacitance Code in pF.
 Third digit = number of zeros or after "R" significant figures
Capacitance Tolerance Code B

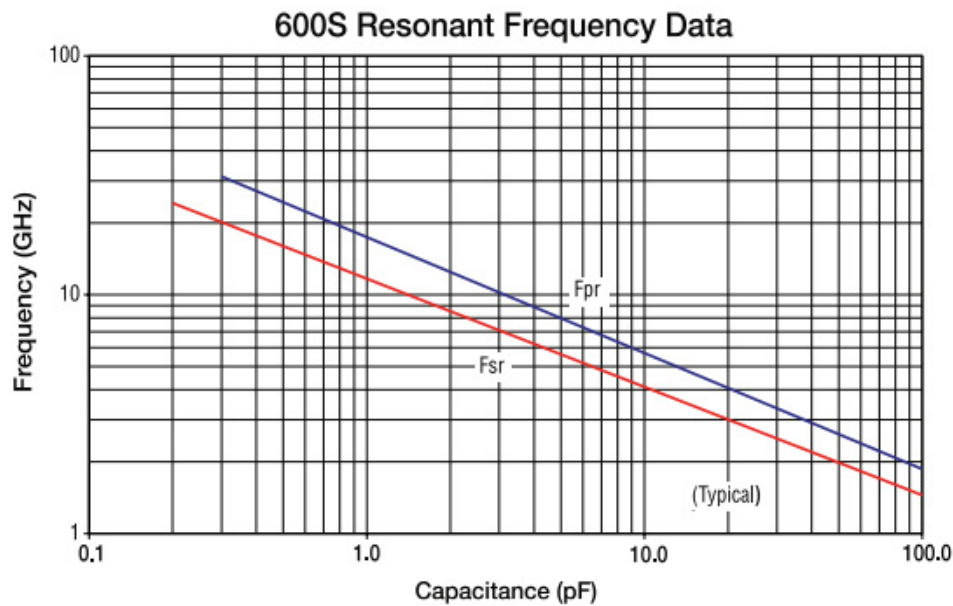
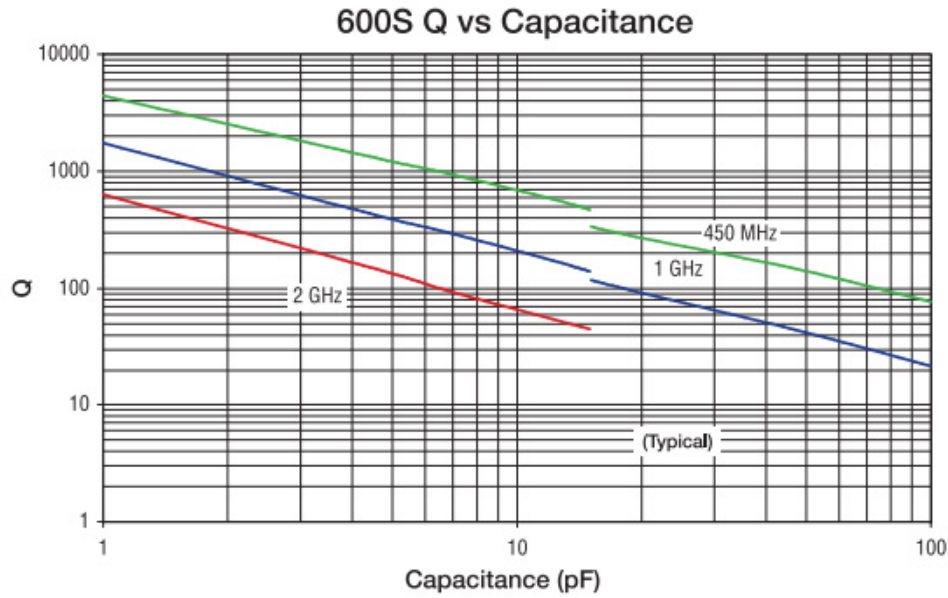
Code	A	B	C	D	F	G	J	K	M
Tol.	±0.05 pF	±0.1 pF	±0.25 pF	±0.5 pF	±1%	±2%	±5%	±10%	±20%

Termination Style Code T
 T = Tin Plated over Nickel Barrier (RoHS Compliant)
 TN = Tin Plated Non-Magnetic Barrier
 W = Tin/Lead Solder Nickel Barrier
Voltage Rating 250
Laser Marking (Optional) X**
Packaging T
 T = Tape and Reel, 500 pcs
 T4K = Tape and Reel, 4000 pcs
 TV = Vertical Tape and Reel, 500 pcs

The above part number refers to a 600F Series (case size F) 10 pF capacitor, J tolerance (±5%), 250 WVDC, with T termination (Tin Plated over Nickel Barrier, RoHS Compliant), Laser Marking and Tape and Reel packaging.

**Laser Marking is optional





600F Series Data Sheet Condition Description

Capacitors horizontally mounted on 13.3-mil thick Rogers R0435® softboard 29-mils wide 1/2 oz. Cu traces
FSR = lowest frequency at which S11 response, referenced at capacitor edge, crosses real axis on Smith Chart.
FPR = lowest frequency at which there is a notch in S21 magnitude response.