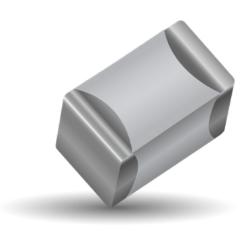
## **RF/Microwave Capacitors RF/Microwave Multilayer Capacitors (MLC) 600L Ultra-Low ESR NPO Capacitors**





### **APPLICATIONS**

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

# · Subscriber-based Wireless

### **CIRCUIT APPLICATIONS**

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

### **ELECTRICAL SPECIFICATIONS**

Temperature Coefficient (TCC)	0 ± 30 PPM/°C			
Capacitance Range	0.1 pF to 27 pF			
Operating Temperature	-55°C to +125°C*			
Quality Factor	Greater than 2,000 at 1 MHz			
Insulation Resistance (IR)	10 <sup>5</sup> Megohms min. @ 25°C at rated WVDC  10 <sup>4</sup> Megohms min. @ 125°C at rated WVDC			
Working Voltage (WVDC)	200 V			
Dielectric Withstanding Voltage (DWV)	250% of rated WVDC for 5 seconds			
Aging Effects	None			
Piezoelectric Effects	None			

### **FEATURES**

- · Lowest ESR in Class
- · Highest Working Voltage in Class 200 V
- · Capacitance Range 0.1 pF to 27 pF
- · High Q
- · High Self-Resonance

#### **600 SERIES OVERVIEW**

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

### PACKAGING OPTIONS





Tape & Reel

### **ENVIRONMENTAL CHARACTERISTICS**

Themal Shock	5 Cycles, -55°C to 125°C		
Moisture Resistance	Mil-STD-202, Method 106		
Life Test	2000 hours at 125°C at 2X		
Solderability	Solder Coverage > 90% of end termination		
Terminal Strength	2 lbs. typ., 1 lb. min.		
Military Approval	DSCC Drawing Number 05003		

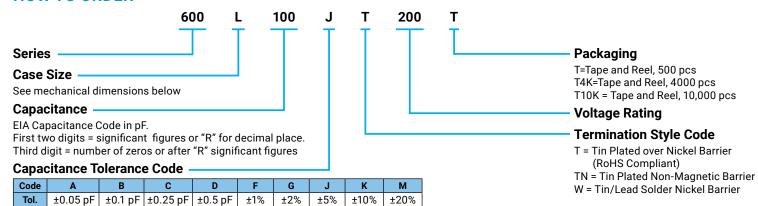
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#### CAPACITANCE VALUES

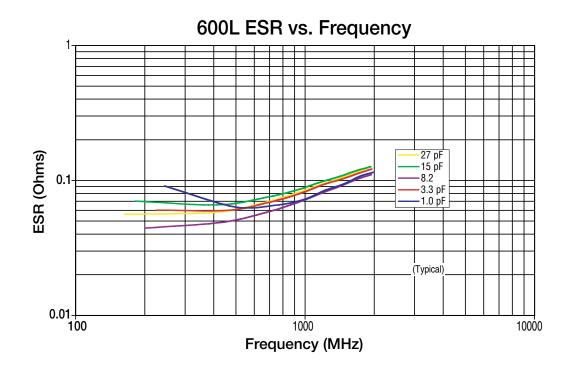
Value (pF)	Cap Code	Tolerances	Value (pF)	Cap Code	Tolerances	Value (pF)	Cap Code	Tolerances
0.1	0R1	A, B	1.6	1R6	A, B, C, D	6.2	6R2	A, B, C, D
0.2	0R2	A, B	1.8	1R8	A, B, C, D	6.8	6R8	B, C, J, K
0.3	0R3	A, B, C	2.0	2R0	A, B, C, D	7.5	7R5	B, C, J, K
0.4	0R4	A, B, C	2.2	2R2	A, B, C, D	8.2	8R2	B, C, J, K
0.5	0R5	A, B, C	2.4	2R4	A, B, C, D	9.1	9R1	B, C, J, K
0.6	0R6	A, B, C	2.7	2R7	A, B, C, D	10	100	F, G, J, K, M
0.7	0R7	A, B, C	3.0	3R0	A, B, C, D	11	110	F, G, J, K, M
0.8	0R8	A, B, C	3.3	3R3	A, B, C, D	12	120	F, G, J, K, M
0.9	0R9	A, B, C	3.6	3R6	A, B, C, D	15	150	F, G, J, K, M
1.0	1R0	A, B, C, D	3.9	3R9	A, B. C. D	18	180	F, G, J, K, M
1.1	1R1	A, B, C, D	4.3	4R3	A, B, C, D	20	200	F, G, J, K, M
1.2	1R2	A, B, C, D	4.7	4R7	A, B, C, D	22	220	F, G, J, K, M
1.3	1R3	A, B, C, D	5.1	5R1	A, B, C, D	24	240	F, G, J, K, M
1.5	1R5	A, B, C, D	5.6	5R6	A, B, C, D	27	270	F, G, J, K, M

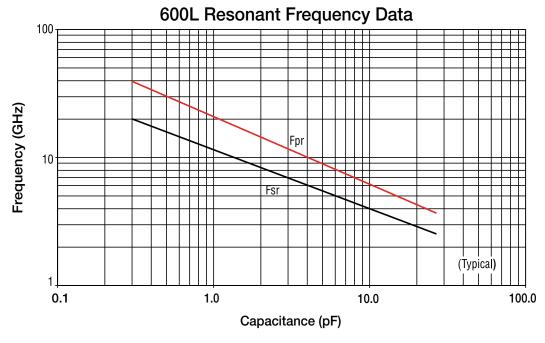
#### **HOW TO ORDER**



<sup>\*</sup>All Tape and Reel Packaging comes on 7" reels. The above part number refers to a 600L Series (case size L) 11 pF capacitor, J tolerance (±5%), 200 WVDC, with T termination (Tin Plated over Nickel Barrier, RoHS Compliant), Tape and Reel packaging.







ATC 600L Series Data Sheet Test Condition Description

Capacitors mounted in series microstrip configuration on 10-mil thick Rogers RO4350® softboard, 22-mils wide 1/2 oz. Cu traces.

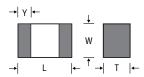
FSR = lowest frequency at which S11 response, referenced at capacitor edge, crosses real axis on Smith Chart.

FPR = lowest frequency at which there is a notch in S21 magnitude response.

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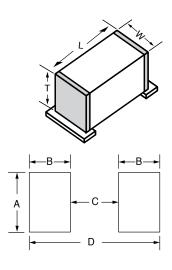
### **OUTLINE DIMENSIONS**



	T: .024 max (0.60 max) Y: .010 ± .006 (0.25 ± 0.15)
WUZU ± .UU4 (.J I ± U. I)	1010 ± .000 (0.23 ± 0.13)

inches (mm)

### SUGGESTED MOUNTING PAD DIMENSIONS



### Case Size L, S, and F

Case Size	A Min.	B Min.	C Min.	D Min.	
0402 (1005)	.0275	.0354	.0157	.0866	
	(0.70)	(0.90)	(0.40)	(2.20)	
0603 (1608)	.0393	.0433	.0236	.110	
	(1.00)	(1.10)	(0.60)	(2.80)	
0805 (2012)	.0590	.0512	.0236	.1259	
	(1.50)	(1.30)	(0.60)	(3.20)	

inches (mm)

### **DESIGN KITS**

Kit #	RoHS Compliant	Item #	Description	Cap. Value Range (pF)	Cap. Value (pF)	Tol. (pF)	Price
Kit 36T	ROHS	DK0036T	600L Series Ultra-low ESR, High Q Microwave Capacitors 16 different values, 15 pcs. min. per value	0.1 to 2.0	0.1, 0.2, 0.3, 0.4, 0.5, 0.6, 0.7, 0.8, 0.9, 1.0, 1.1, 1.2, 1.5		\$100.00
Kit 37T	ROHS	DK0037T	600L Series Ultra-low ESR, High Q Microwave Capacitors 16 different values, 15 pcs. min. per value	0.1 to 10	1.0, 1.2, 1.5, 1.8, 2.0. 2.2, 2.4, 2.7, 3.0, 3.3	±0.25	\$100.00
Kit 38T	RoHS	DK0038T	600L Series Ultra-low ESR, High Q Microwave Capacitors 8 different values, 15 pcs. min. per value	10 to 27	10, 12, 15, 18, 20, 22, 24, 27	±5%	\$100.00

For Online Kit Orders, Catalog & Application Notes, Visit: www.avx.com