

# Hi-Q® High RF Power MLC Surface Mount Capacitors

For 600V to 7200V Applications



### PRODUCT OFFERING

Hi-Q®, high RF power, surface mount MLC capacitors from AVX Corporation are characterized with ultra-low ESR and dissipation factor at high frequencies. They are designed to handle high power and high voltage levels for applications in RF power amplifiers, inductive heating, high magnetic field environments (MRI coils), medical and industrial electronics.

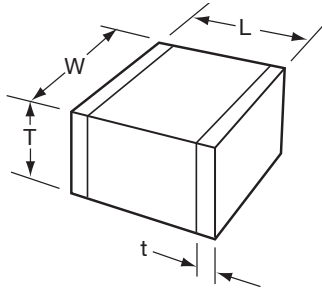
### HOW TO ORDER

<b>HQCC</b>	<b>A</b>	<b>A</b>	<b>271</b>	<b>J</b>	<b>A</b>	<b>T</b>	<b>1</b>	<b>A</b>
<b>AVX Style</b>	<b>Voltage</b>	<b>Temperature Coefficient</b>	<b>Capacitance Code</b> (2 significant digits + no. of zeros) Examples: 4.7 pF = 4R7 10 pF = 100 100 pF = 101 1,000 pF = 102	<b>Capacitance Tolerance</b> C = ±0.25pF (<13pF) D = ±0.50pF (<25pF) F = ±1% (≥25pF) G = ±2% (≥13pF) J = ±5% K = ±10% M = ±20%	<b>Test Level</b> A = Standard	<b>Termination*</b> 1 = Pd/Ag T = Plated Ni and Sn (RoHS Compliant) J = 5% Min Pb	<b>Packaging</b> 1 = 7" Reel 3 = 13" Reel 9 = Bulk	<b>Special Code</b> A = Standard
HQCC HQCE	600V/630V = C 1000V = A 1500V = S 2000V = G 2500V = W 3000V = H 4000V = J 5000V = K 7200V = M	COG = A						

Contact factory for availability of Termination and Tolerance options for Specific Part Numbers.

### DIMENSIONS millimeters (inches)

STYLE	HQCC	HQCE
(L) Length	5.84 ± 0.51 (0.230 ± 0.020)	9.4 ± 0.51 (0.370 ± 0.020)
(W) Width	6.35 ± 0.51 (0.250 ± 0.020)	9.9 ± 0.51 (0.390 ± 0.020)
(T) Thickness Max.	3.3 max. (0.130 max.)	3.3 max. (0.130 max.)
(t) terminal	0.64 ± 0.38 (0.025 ± 0.015)	0.64 ± 0.38 (0.025 ± 0.015)



### DIELECTRIC PERFORMANCE CHARACTERISTICS

<b>Capacitance Range</b>	3.3pF to 6,800pF (25°C, 1.0 ±0.2 Vrms at 1kHz, for ≤ 1000 pF use 1MHz)
<b>Capacitance Tolerances</b>	±0.25pF, ±0.50pF, ±1%, ±2%, ±5%, ±10%, ±20%
<b>Dissipation Factor 25°C</b>	0.1% Max (+25°C, 1.0 ±0.2 Vrms at 1kHz, for ≤ 1000 pF use 1MHz)
<b>Operating Temperature Range</b>	-55°C to +125°C
<b>Temperature Characteristic</b>	COG: 0 ± 30 ppm/°C (-55°C to +125°C)
<b>Voltage Ratings</b>	600, 630, 1000, 1500, 2000, 2500, 3000, 4000, 5000, 7200VDC
<b>Insulation Resistance</b>	100K MΩ min. @ +25°C and 500VDC 10K MΩ min. @ +125°C and 500VDC
<b>Dielectric Strength</b>	Minimum 120% of rated WVDC

### HIGH VOLTAGE CAPACITANCE VALUES (pF)

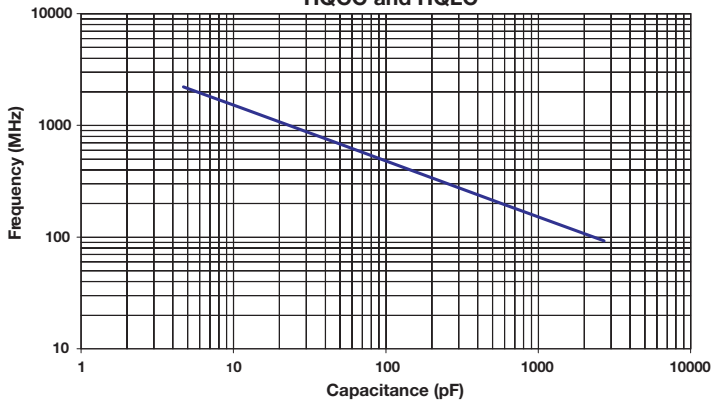
Style	600/630 WDC min./max.	1000 WVDC min./max.	1500 WVDC min./max.	2000 WVDC min./max.	2500 WVDC min./max.	3000 WVDC min./max.	4000 WVDC min./max.	5000 WVDC min./max.	7200 WVDC min./max.
<b>HQCC</b>	2,200 - 2,700	1,500 - 1,800	820 - 1,200	470 - 680	330 - 390	3.3 - 270	3.3 - 6.8		
<b>HQCE</b>	3.3 - 6,800	3.3 - 4,700	3.3 - 2,700	3.3 - 1,800	3.3 - 1,000	3.3 - 680	3.3 - 390	3.3 - 180	3.3 - 100

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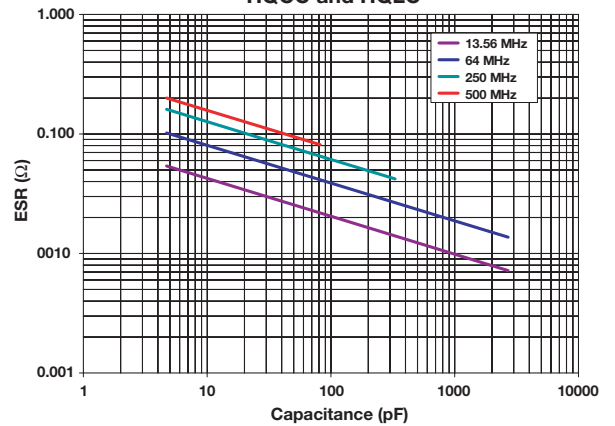


## PERFORMANCE CHARACTERISTICS

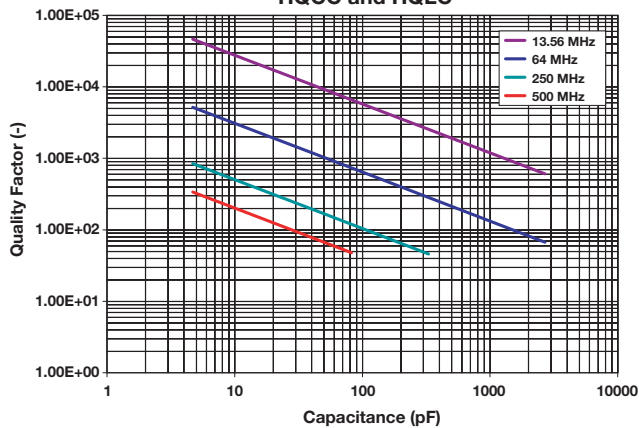
Typical Series Resonant Frequency vs. Capacitance  
HQCC and HQLC



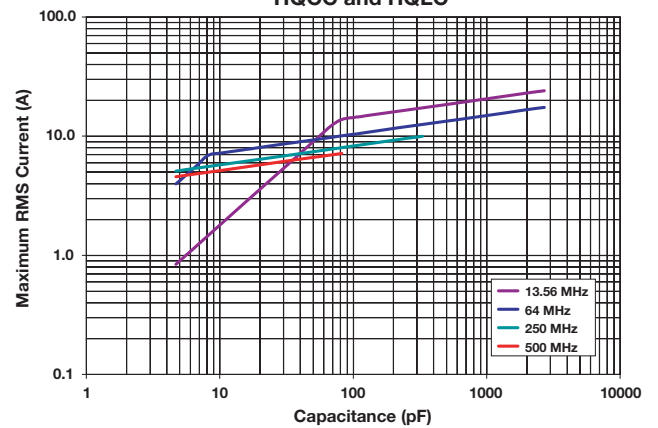
Typical ESR vs. Capacitance  
HQCC and HQLC



Typical Quality Factor vs. Capacitance  
HQCC and HQLC



Maximum RMS Current vs. Capacitance  
HQCC and HQLC

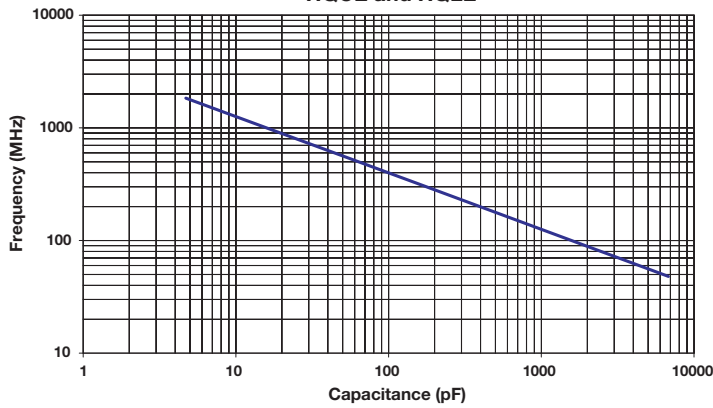


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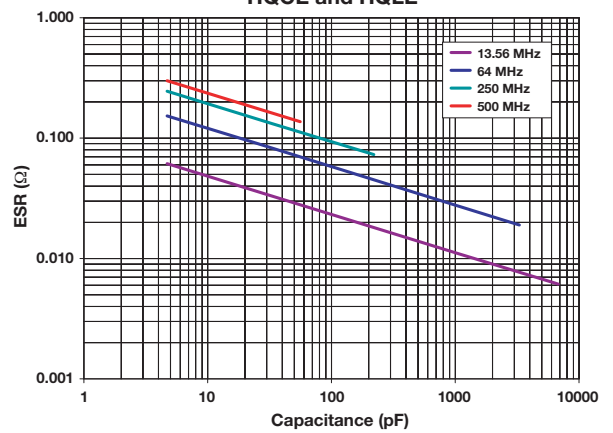


## PERFORMANCE CHARACTERISTICS

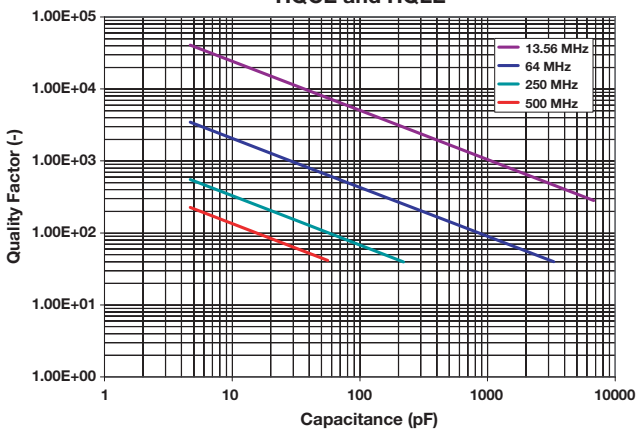
Typical Series Resonant Frequency vs. Capacitance  
HQCE and HQLE



Typical ESR vs. Capacitance  
HQCE and HQLE



Typical Quality Factor vs. Capacitance  
HQCE and HQLE



Maximum RMS Current vs. Capacitance  
HQCE and HQLE

