

Hi-Q® High RF Power MLC Surface Mount Capacitors

For 600V to 7200V Applications

AVX RF



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.

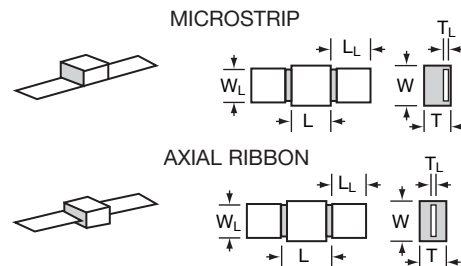
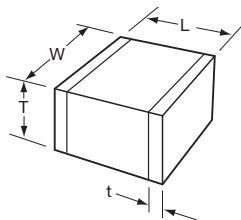
HOW TO ORDER

HQCC	A	A	271	J	A	T	1A
AVX Style	Voltage	Temperature Coefficient	Capacitance Code (2 significant digits + no. of zeros)	Capacitance Tolerance	Test Level	Termination*	Packaging
HQCC	300V = 9	C0G = A	Examples:	B = 0.1pF (<8.2pF)	A = Standard	T = Plated Ni and Sn (RoHS Compliant)	1A = 7" Reel*
HQCE	500V = 7	P90 = M	4.7 pF = 4R7	C = ±0.25pF (<8.2pF)		J = 5% Min Pb	6 = Waffle Pack
HQLC	1000V = A		10 pF = 100	D = ±0.50pF (<8.2pF)		7 = Plated Ni and Au	*HQCC & HQCE only
HQLE	1500V = S		100 pF = 101	F = ±1% (≥10pF)		A = Axial Ribbon	
	2500V = W		1,000 pF = 102	G = ±2%		M = Microstrip	
	3600V = J			J = ±5%		H = Cu/Sn (Non-Magnetic)	
	5000V = K			K = ±10%			
	7200V = M			M = ±20%			

****RoHS compliant**

DIMENSIONS

millimeters (inches)



STYLE	HQCC	HQCE
(L) Length	5.84 +0.51 -0.25 (0.230 +0.020 -0.010)	9.65 +0.38 -0.25 (0.380 +0.015 -0.010)
(W) Width	6.35 ± 0.38 (0.250 ± 0.015)	9.65 ± 0.25 (0.380 ± 0.010)
(T) Thickness Max.	3.68 (0.145) max. for capacitance values ≤ 680pF 4.19 (0.165) max. for capacitance values > 680pF	4.32 (0.170) max.
(Y) Overlap	1.20 ± (0.040) max.	1.02 ± (0.040) max.

Not RoHS Compliant



For RoHS compliant products,
please select correct termination style.

STYLE	HQLC	HQLE
(L) Length	6.22 ± 0.64 (0.245 ± 0.025)	9.65 +0.89 -0.25 (0.380 +0.035 -0.010)
(W) Width	6.35 ± 0.38 (0.250 ± 0.015)	9.65 ± 0.25 (0.380 ± 0.010)
(T) Thickness Max.	3.68 (0.145) max. for capacitance values ≤ 680pF 4.19 (0.165) max. for capacitance values > 680pF	4.32 (0.170) max.
(Y) Overlap	N/A	N/A
(L _L) Lead Length	12.7 min. (0.500)	19.05 (0.750)
(W _L) Lead Width	6.10 ± 0.127 (0.240 ± 0.005)	8.89 ± 0.25 (0.350 ± 0.010)
(T _L) Lead Thickness	0.102 ± 0.025 (0.004 ± 0.001)	0.25 ± 0.13 (0.010 ± 0.005)
Lead Material	High Purity Silver Leads Leads are attached with High Temperature Solder	High Purity Silver Leads Leads are attached with High Temperature Solder

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DIELECTRIC PERFORMANCE CHARACTERISTICS

Capacitance Range	1.0pF to 2,700pF (25°C, 1.0 ±0.2 Vrms at 1kHz, for ≤ 1000 pF use 1MHz)
Capacitance Tolerances	±0.10pF, ±0.25pF, ±0.50pF, ±1%, ±2%, ±5%, ±10%, ±20%
Dissipation Factor 25°C	0.1% Max (+25°C, 1.0 ±0.2 Vrms at 1kHz, for ≤ 1000 pF use 1MHz)
Operating Temperature Range	-55°C to +125°C
Temperature Characteristic	C0G: 0 ± 30 ppm/°C (-55°C to +125°C), P90: 90 ± 30 ppm/°C (-55°C to +125°C)
Insulation Resistance	100K MΩ min. @ +25°C and 500VDC 10K MΩ min. @ +125°C and 500VDC
Dielectric Strength	250% of WVDC for capacitors rated at 500 volts DC or less for 5 seconds. 150% of WVDC for capacitors rated at 1250 volts DC or less for 5 seconds. 120% of WVDC for capacitors rated above 1250 volts DC or less for 5 seconds.

HQCC CAPACITANCE VALUES (A DIELECTRIC)

Cap Code	Cap (pF)	Tol.	Rated WVDC	Cap Code	Cap (pF)	Tol.	Rated WVDC	Cap Code	Cap (pF)	Tol.	Rated WVDC	Cap Code	Cap (pF)	Tol.	Rated WVDC
1R0	1.0			8R2	8.2	B, C, D		680	68			471	470		1500
1R2	1.2			100	10			820	82			561	560		
1R5	1.5			120	12			101	100			681	680		
1R8	1.8			150	15			121	120			821	820		1000
2R2	2.2	B, C, D	2500	180	18			151	150	F, G, J K, M	2500	102	1000	F, G, J K, M	
2R7	2.7			220	22	F, G, J K, M	2500	181	180			122	1200		
3R3	3.3			270	27			221	220			152	1500		500
3R9	3.9			330	33			271	270			182	1800		
4R7	4.7			390	39			331	330		1500	222	2200		300
5R6	5.6			470	47			391	390			272	2700		
6R8	6.8			560	56										

HQCC CAPACITANCE VALUES (M DIELECTRIC)

Cap Code	Cap (pF)	Tol.	Rated WVDC	Cap Code	Cap (pF)	Tol.	Rated WVDC	Cap Code	Cap (pF)	Tol.	Rated WVDC	Cap Code	Cap (pF)	Tol.	Rated WVDC
1R0	1.0			5R1	5.1			390	39			301	300		
1R1	1.1			5R6	5.6			430	43			331	330		1500
1R2	1.2			6R2	6.2	B, C, D		470	47			361	360		
1R3	1.3			6R8	6.8			510	51			391	390		
1R4	1.4			7R5	7.5			560	56			431	430		
1R5	1.5			8R2	8.2			620	62			471	470		
1R6	1.6			9R1	9.1			680	68			511	510		
1R7	1.7							750	75			561	560		
1R8	1.8			100	10			820	82	F, G, J K, M	2500	621	260		
1R9	1.9	B, C, D	2500	110	11			910	91			681	680	F, G, J K, M	1000
2R0	2.0			120	12			101	100			751	750		
2R1	2.1			130	13			111	110			821	820		
2R2	2.2			150	15			121	120			911	910		
2R4	2.4			160	16			131	130			102	1000		
2R5	2.5			180	18	F, G, J K, M	2500	151	150			112	1100		
3R0	3.0			200	20			161	160			122	1200		
3R3	3.3			220	22			181	180			152	1500		500
3R6	3.6			240	24			201	200			182	1800		
3R9	3.9			270	27			221	220			222	2220		300
4R3	4.3			300	30			241	240			242	2400		
4R7	4.7			330	33			271	270			272	2700		
				360	36										

HQCC CAPACITANCE VALUES (A DIELECTRIC)

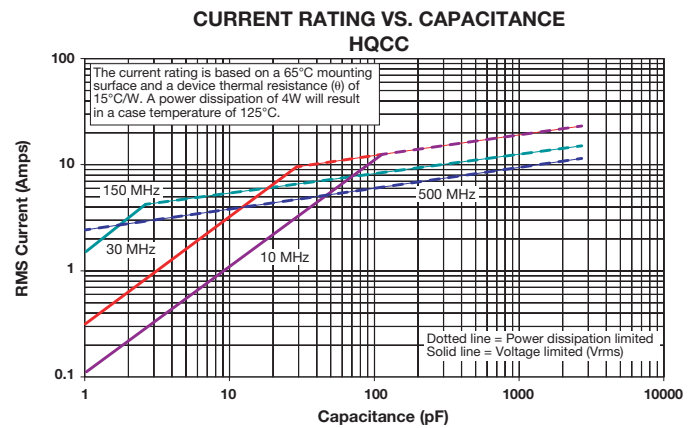
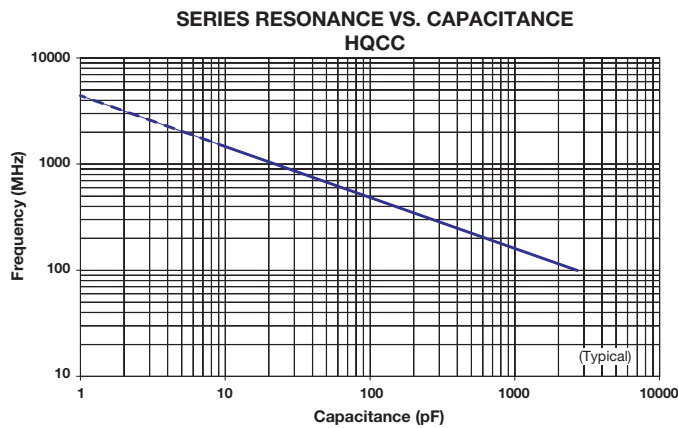
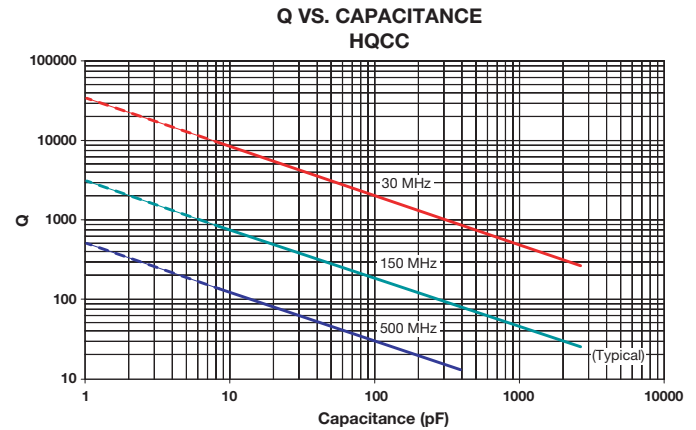
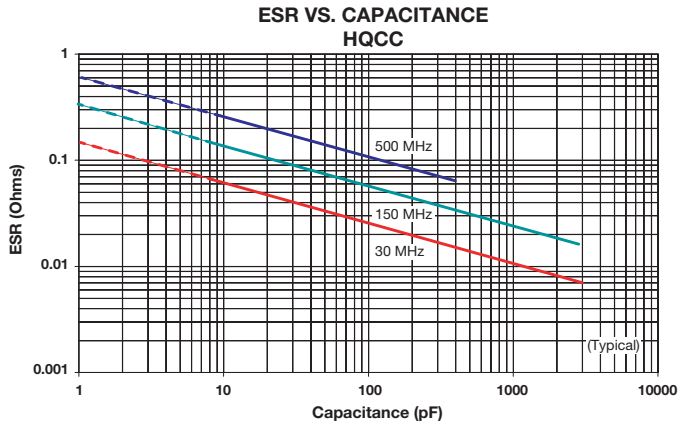
Cap Code	Cap (pF)	Tol.	Rated WVDC		Cap Code	Cap (pF)	Tol.	Rated WVDC		Cap Code	Cap (pF)	Tol.	Rated WVDC	
			Standard	Extended				Standard	Extended				Standard	Extended
1R0	1.0				150	15				221	220			
1R2	1.2				180	18				271	270		3600	
1R5	1.5				220	22				331	330			
1R8	1.8				270	27				391	390			
2R2	2.2				330	33				471	470		2500	
2R7	2.7				390	39				561	560			
3R3	3.3	C, D			470	47				681	680	G, J, K, M		
3R9	3.9				560	56	G, J, K, M	3600	7200	821	820			
4R7	4.7				680	68				102	1000		1000	
5R6	5.6				820	82				122	1200			
6R8	6.8				101	100				152	1500			
8R2	8.2				121	120				182	1800			
100	10	G, J, K, M			151	150			5000	222	2200			
120	12				181	180								

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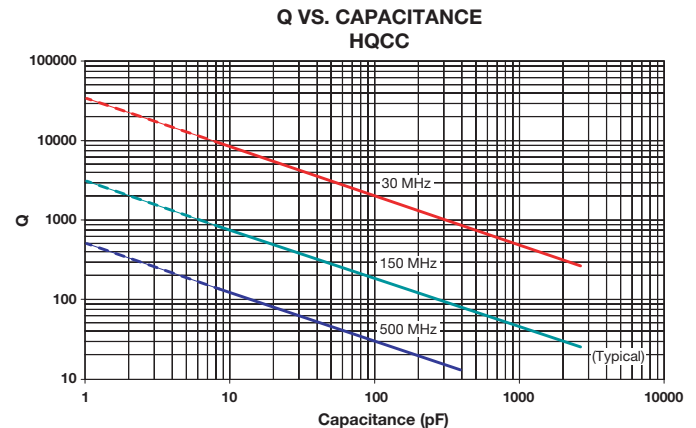
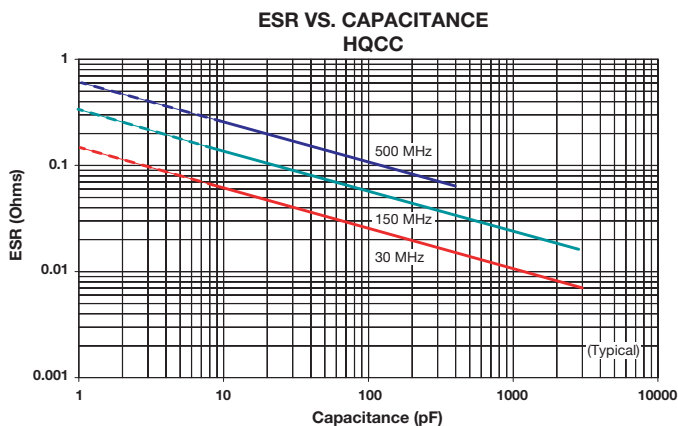
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HQCC PERFORMANCE CHARACTERISTICS (A DIELECTRIC)

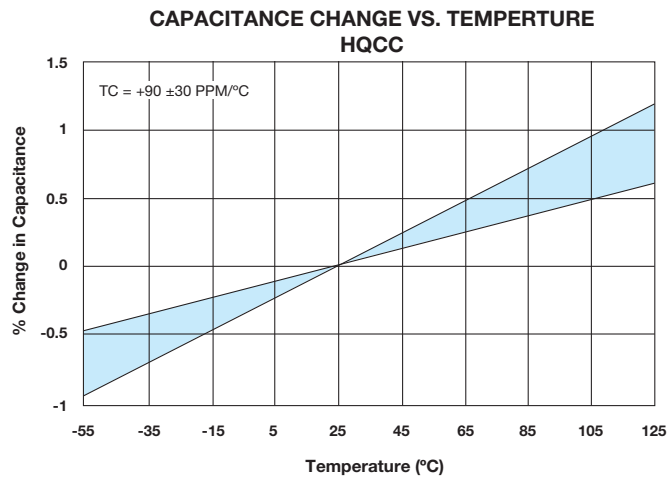
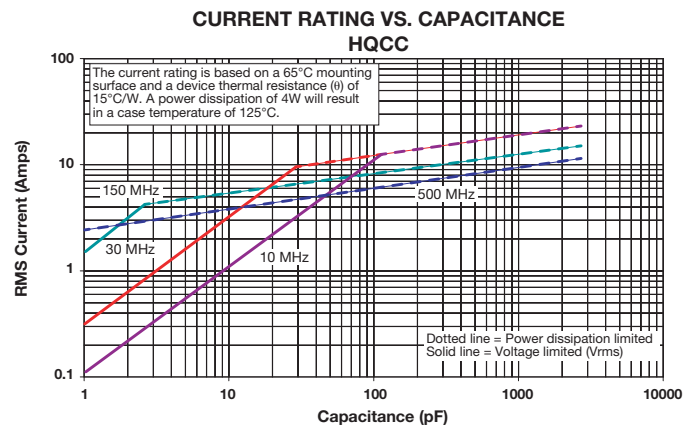
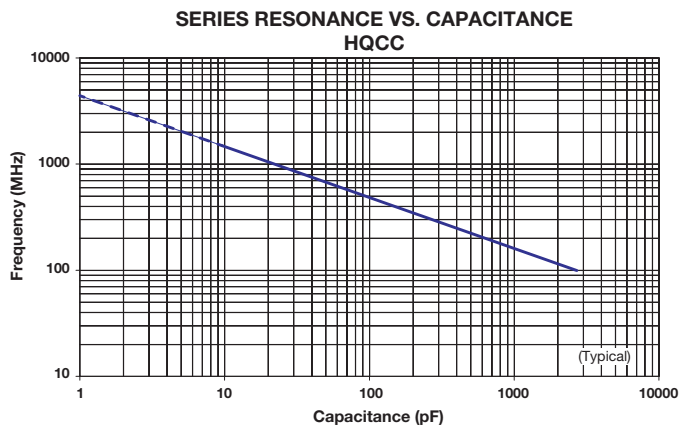


HQCC PERFORMANCE CHARACTERISTICS (M DIELECTRIC)



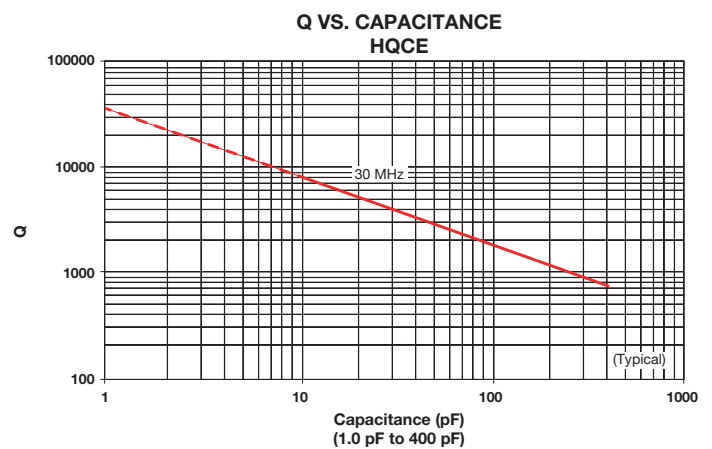
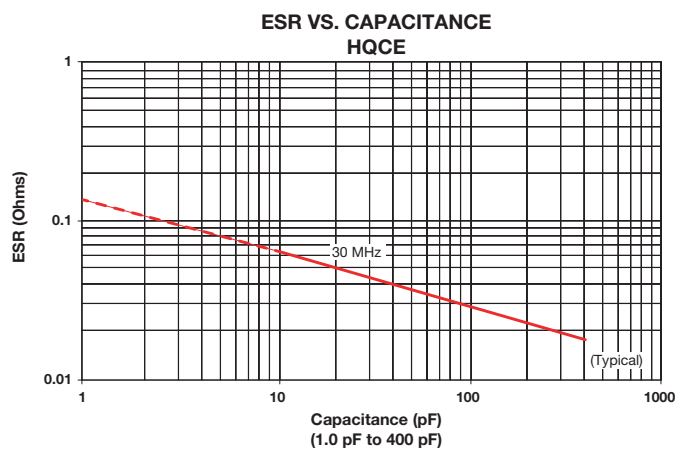
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HQCE PERFORMANCE CHARACTERISTICS



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