

Hi-Q® High RF Power MLC Surface Mount Capacitors

For 600V to 7200V Applications



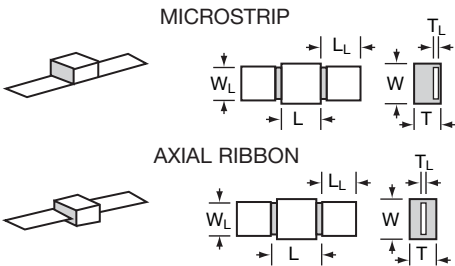
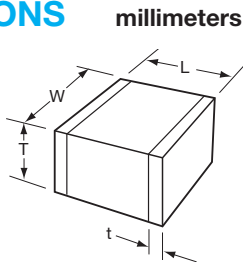
PRODUCT OFFERING

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

HQCC	A	A	271	J	A	T	1A
AVX Style	Voltage	Temperature Coefficient	Capacitance Code (2 significant digits + no. of zeros) Examples:	Capacitance Tolerance	Test Level	Termination*	Packaging
HQCC	300V = 9	C0G = A	4.7 pF = 4R7	B = 0.1pF (<8.2pF)	A = Standard	T = Plated Ni and Sn (RoHS Compliant)	1A = 7" Reel*
HQCE	500V = 7	P90 = M	10 pF = 100	C = ±0.25pF (<8.2pF)		J = 5% Min Pb	6A = Waffle Pack
HQLC	800V = U		100 pF = 101	D = ±0.50pF (<8.2pF)		7 = Plated Ni and Au	
HQLE	1000V = A		1,000 pF = 102	F = ±1% (≥10pF)		A = Axial Ribbon	
	1500V = S			G = ±2%		M = Microstrip	
	2500V = W			J = ±5%		H = Cu/Sn (Non-Magnetic)	
	3000V = H			K = ±10%		4 = Axial Ribbon (Non-Magnetic)	
	3600V = J			M = ±20%		5 = Microstrip (Non-Magnetic)	
	5000V = K						
	7200V = M						

DIMENSIONS



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.

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

Not RoHS Compliant



For RoHS compliant products,
please select correct termination style.



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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		
2R2	2.2			180	18			151	150	F, G, J	2500	102	1000	F, G, J	
2R7	2.7	B, C, D	2500	220	22	F, G, J	2500	181	180	K, M		122	1200	K, M	
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	
			Standard	Extended				Standard	Extended				Standard	Extended
1R0	1.0				100	10				161	160			
1R1	1.1				110	11				181	180			
1R2	1.2				120	12				201	200		2500	3000
1R3	1.3				130	13				221	220			
1R4	1.4				150	15				241	240			
1R5	1.5				160	16				271	270			
1R6	1.6				180	18				301	300			
1R7	1.7				200	20				331	330			
1R8	1.8				220	22				331	330			
1R9	1.9				240	24				361	360		1500	2000
2R0	2.0				270	27				391	390			
2R1	2.1				300	30				431	430			
2R2	2.2				330	33				471	470			
2R4	2.4	B, C, D	2500	3600	360	36	F, G, J	2500	3600	511	510	F, G, J		
2R5	2.5				390	39	K, M			561	560	K, M		
3R0	3.0				430	43				621	620		1000	1500
3R3	3.3				470	47				681	680			
3R6	3.6				510	51				751	750			
3R9	3.9				560	56				821	820			
4R3	4.3				620	62				911	910			
4R7	4.7				680	68				102	1000			
5R1	5.1				750	75				112	1100			
5R6	5.6				820	82				122	1200			
6R2	6.2				910	91				152	1500		500	800
6R8	6.8				101	100				182	1800			
7R5	7.5				111	110				222	2200		300	500
8R2	8.2				121	120				242	2400			
9R1	9.1				131	130				272	2700			
					151	150								

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HQCE 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	C, D	3600	7200	150	15	G, J, K, M	3600	7200	221	220	G, J, K, M	3600	NA
1R2	1.2				180	18				271	270			
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				470	47				681	680			
3R9	3.9				560	56				821	820		1000	
4R7	4.7				680	68			102	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	3600	7200	151	150	G, J, K, M	3600	5000	222	2200	G, J, K, M		
120	12				181	180								

HQCE CAPACITANCE VALUES (M DIELECTRIC)

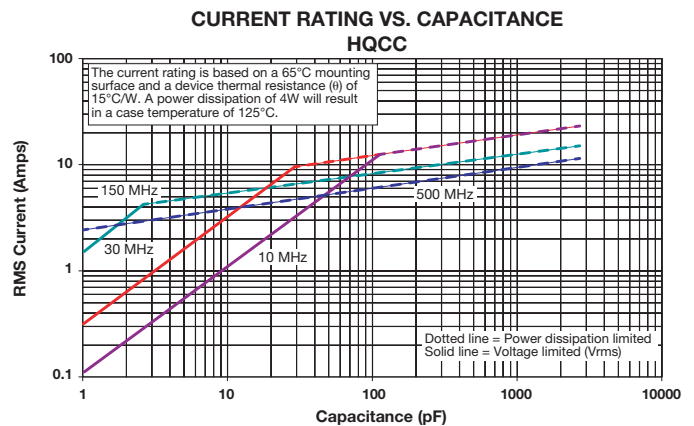
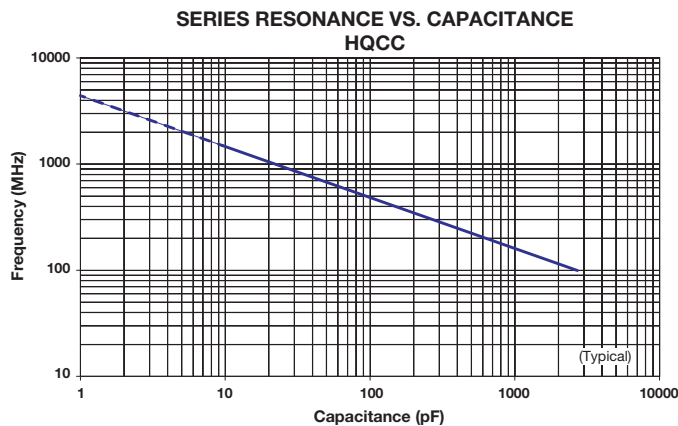
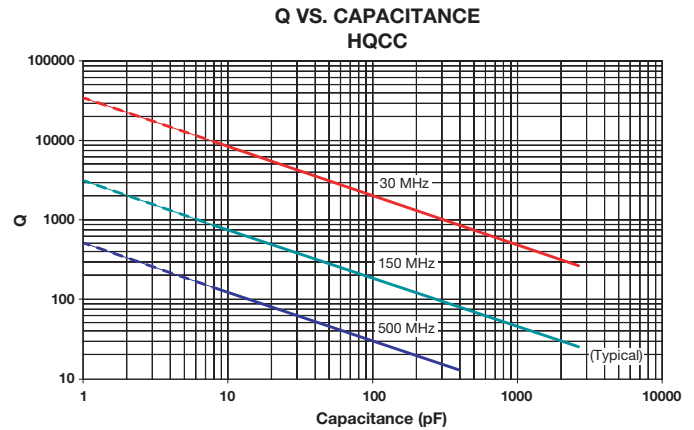
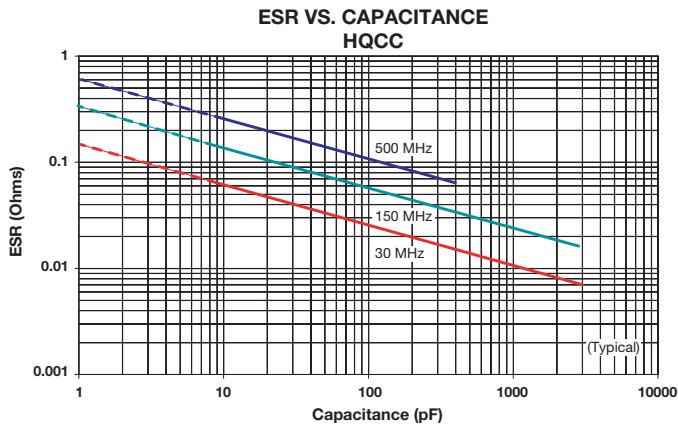
Cap Code	Cap (pF)	Tol.	Rated WVDC		Cap Code	Cap (pF)	Tol.	Rated WVDC		Cap Code	Cap (pF)	Tol.	Rated WVDC	
			Standard	Extended				Standard	Extended				Standard	Extended
1R0	1.0	B, C, D	3600	7200	180	18	F, G, J, K, M	3600	7200	331	330	F, G, J, K, M	3600	NA
1R2	1.2				220	22				391	390			
1R5	1.5				270	27				471	470			
1R8	1.8				330	33				561	560		2500	
2R2	2.2				390	39				681	680			
2R7	2.7				470	47				821	820		1000	
3R3	3.3				560	56				102	1000			
3R9	3.9				680	68				122	1200			
4R7	4.7				820	82				152	1500			
5R6	5.6				101	100				182	1800			
6R8	6.8	121	120	222	2200	500								
8R2	8.2	151	150	272	2700									
100	10	181	180	332	3300									
120	12	F, G, J, K, M			221	220	G, J K, M							
150	15				271	270				472	4700			
										512	5100			

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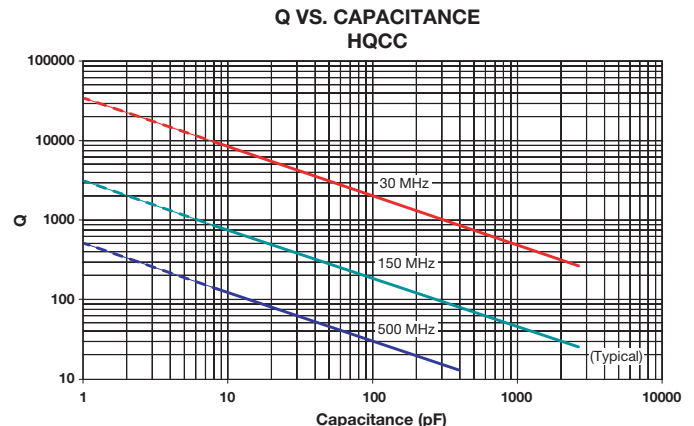
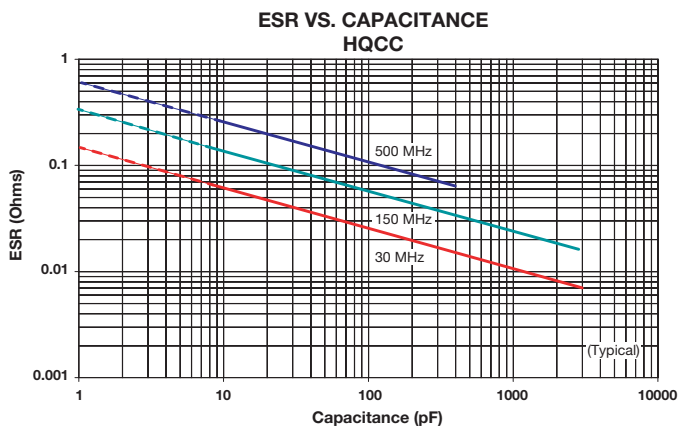
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HQCC PERFORMANCE CHARACTERISTICS (A DIELECTRIC)

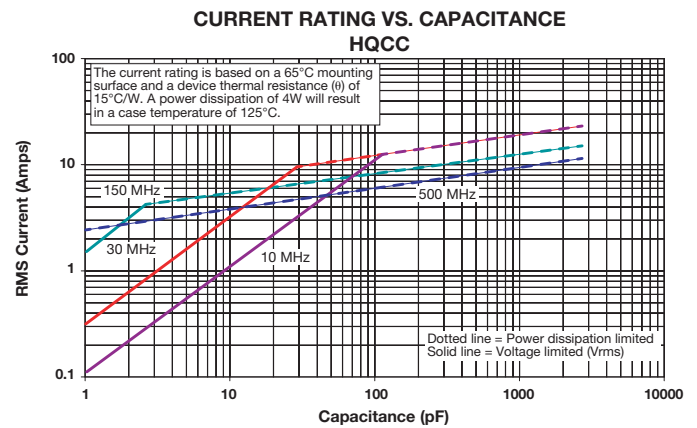
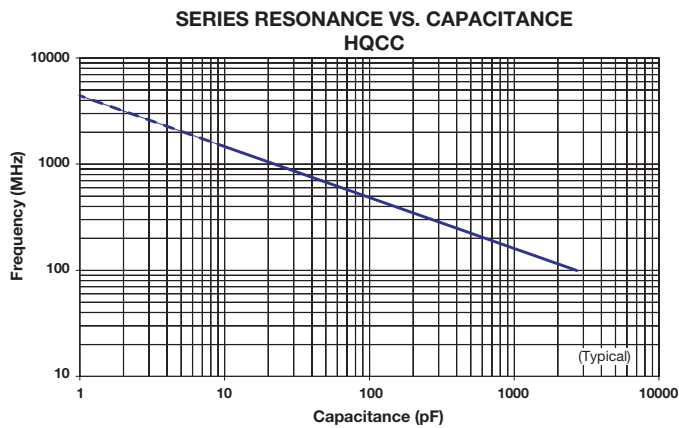


HQCC PERFORMANCE CHARACTERISTICS (M DIELECTRIC)

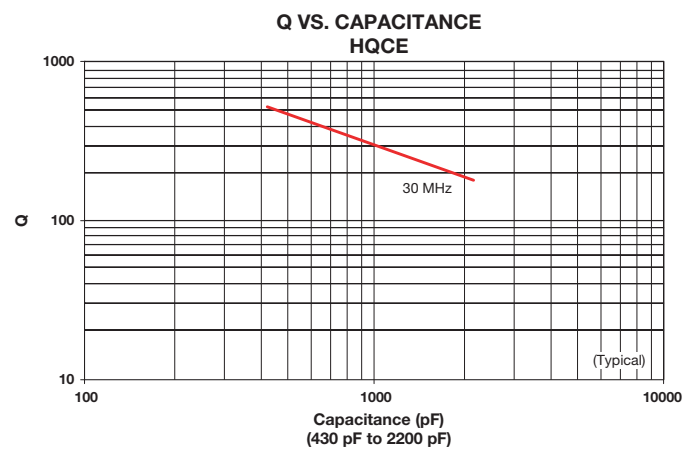
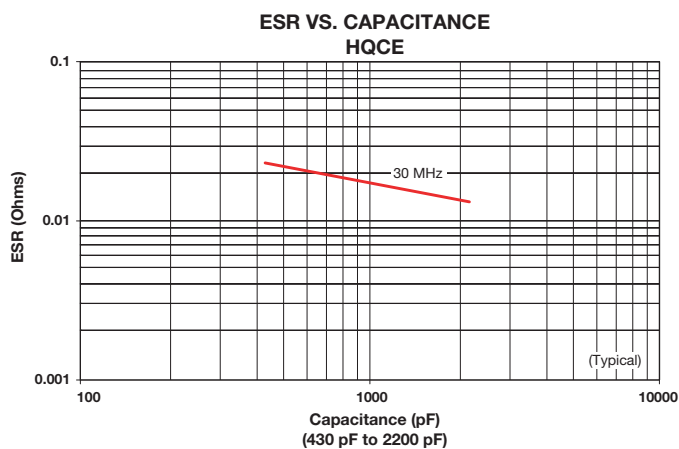
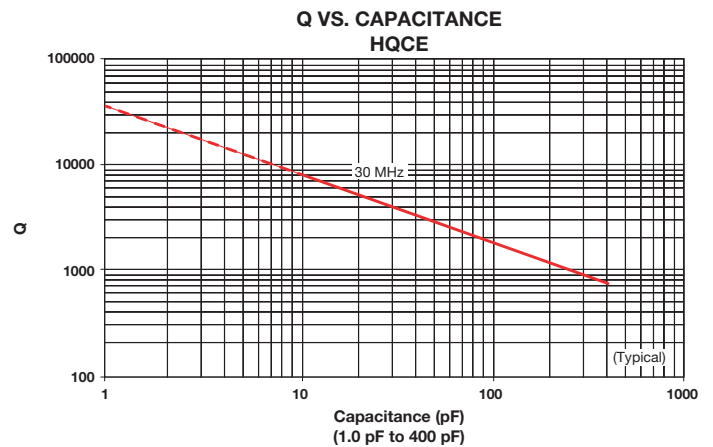
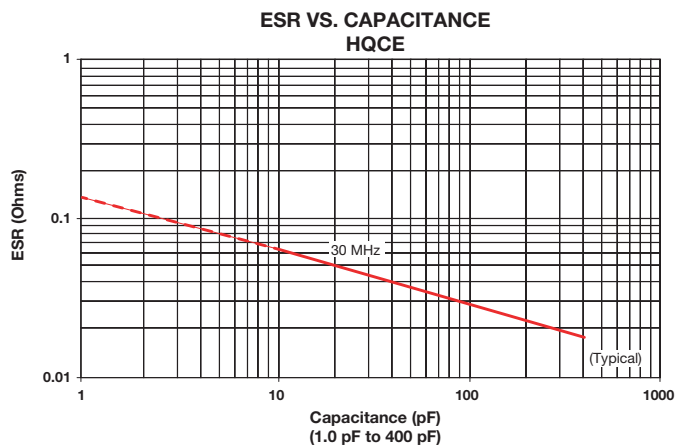


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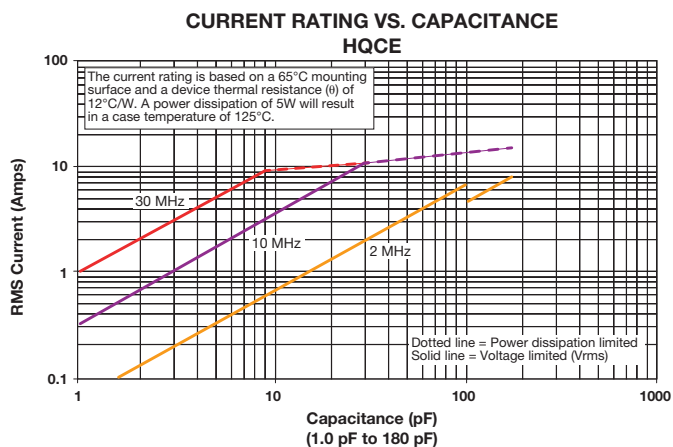
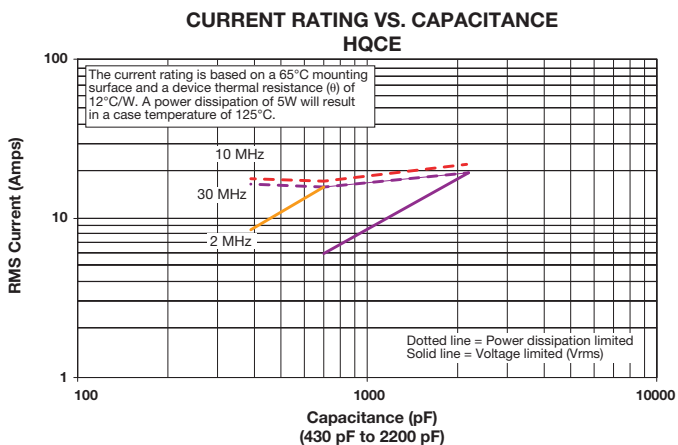
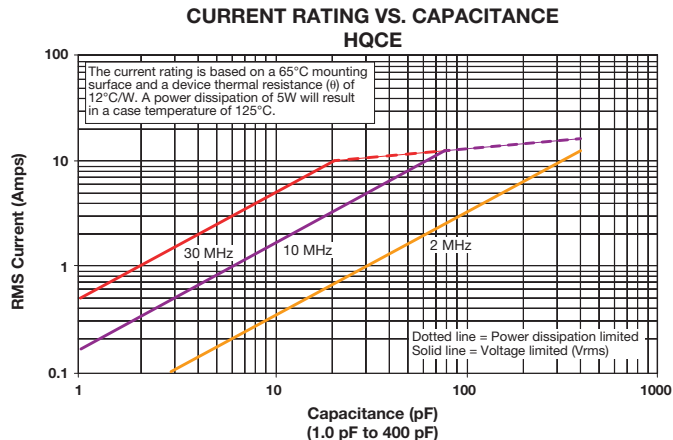
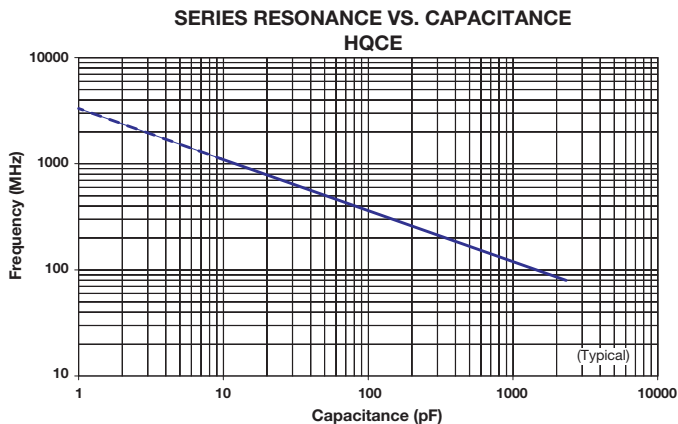


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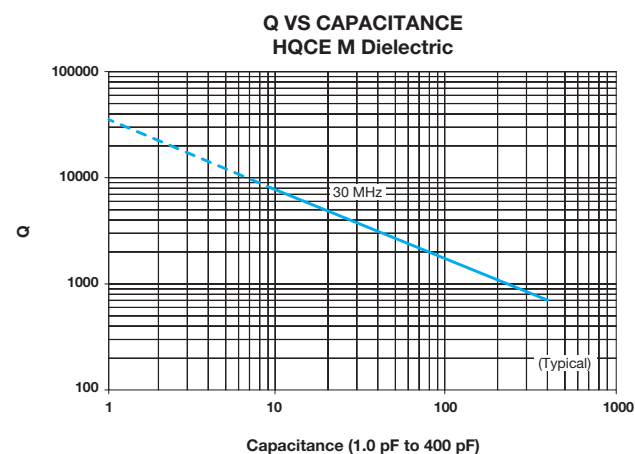
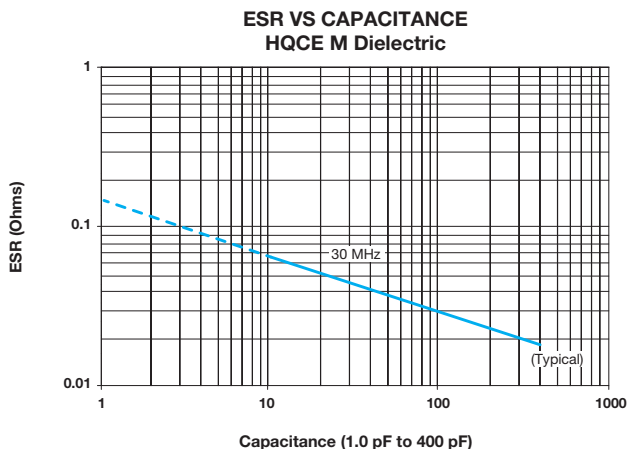


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HQCE PERFORMANCE CHARACTERISTICS (M DIELECTRIC)

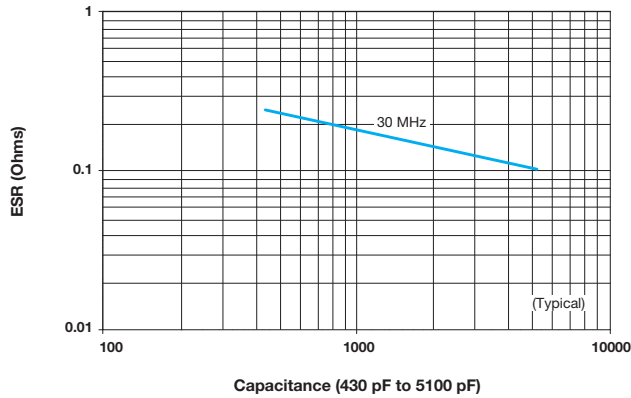


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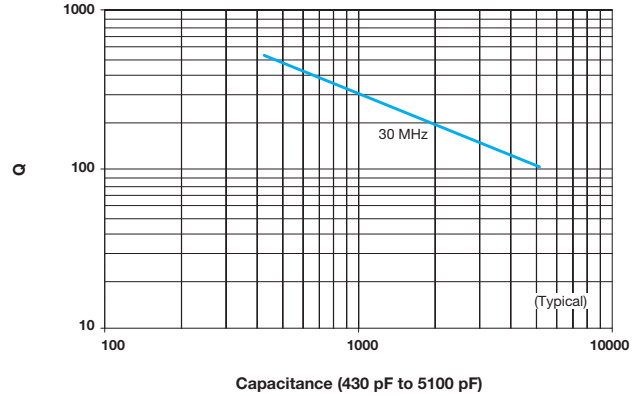
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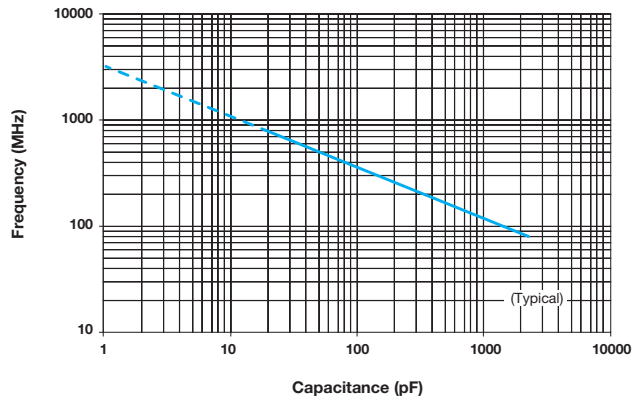
ESR VS CAPACITANCE
HQCE M Dielectric



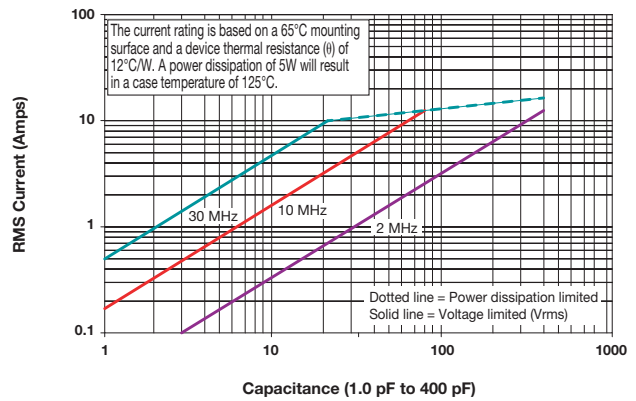
Q VS CAPACITANCE
HQCE M Dielectric



SERIES RESONANCE VS CAPACITANCE
HQCE M Dielectric



CURRENT RATING VS CAPACITANCE
HQCE M Dielectric



CURRENT RATING VS CAPACITANCE
HQCE M Dielectric

