

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.

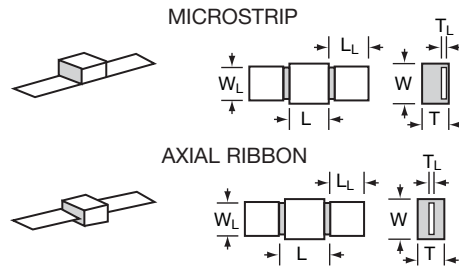
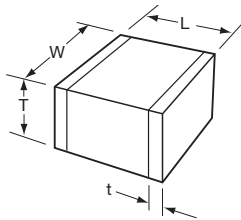
HOW TO ORDER

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

****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.

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	B, C, D	2500	8R2	8.2	B, C, D	2500	680	68	F, G, J K, M	2500	471	470	F, G, J K, M	1500
1R2	1.2			100	10	820		82	561			560	1000		
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	102			1000			
2R7	2.7			220	22	181		180	122			1200	500		
3R3	3.3			270	27	221		220	152			1500			
3R9	3.9			330	33	271		270	182			1800	300		
4R7	4.7			390	39	331		330	222			2200			
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	B, C, D	2500	5R1	5.1	B, C, D	2500	390	39	F, G, J K, M	2500	301	300	F, G, J K, M	1500
1R1	1.1			5R6	5.6	430		43	331			330			
1R2	1.2			6R2	6.2	470		47	361			360			
1R3	1.3			6R8	6.8	510		51	391			390			
1R4	1.4			7R5	7.5	560		56	431			430	1000		
1R5	1.5			8R2	8.2	620		62	471			470			
1R6	1.6			9R1	9.1	680		68	511			510			
1R7	1.7			100	10	750		75	561			560			
1R8	1.8			110	11	820		82	621			260	500		
1R9	1.9	120	12	910	91	681	680								
2R0	2.0	130	13	101	100	751	750	300							
2R1	2.1	150	15	111	110	821	820								
2R2	2.2	160	16	121	120	911	910								
2R4	2.4	180	18	131	130	102	1000								
2R5	2.7	200	20	151	150	112	1100								
3R0	3.0	220	22	161	160	122	1200								
3R3	3.3	240	24	181	180	152	1500								
3R6	3.6	270	27	201	200	182	1800								
3R9	3.9	300	30	221	220	222	2200								
4R3	4.3	330	33	241	240	242	2400								
4R7	4.7	360	36	271	270	272	2700								

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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			
2R7	2.7				390	39				561	560			
3R3	3.3				470	47				681	680			
3R9	3.9				560	56				821	820			
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	1000	NA
120	12				181	180								

HQCE CAPACITANCE VALUES (M DIELECTRIC)

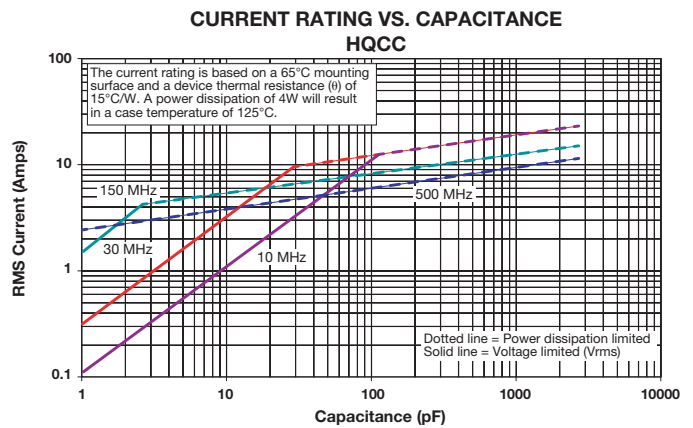
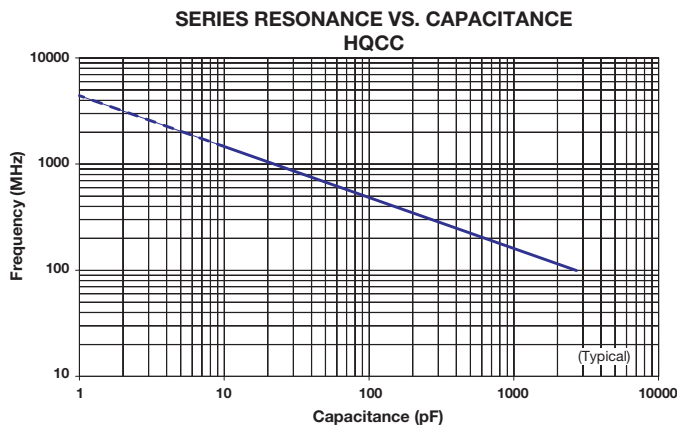
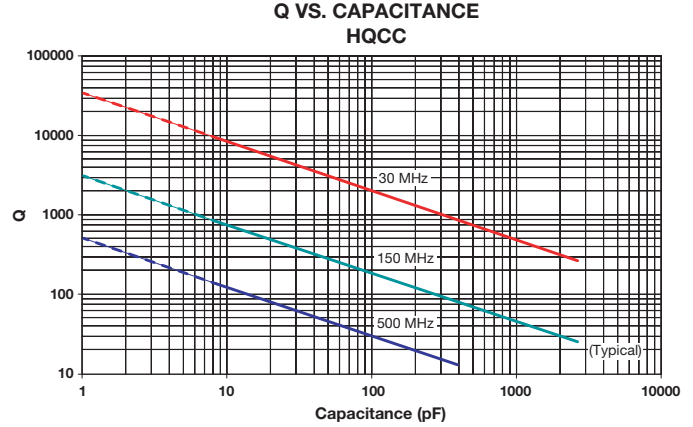
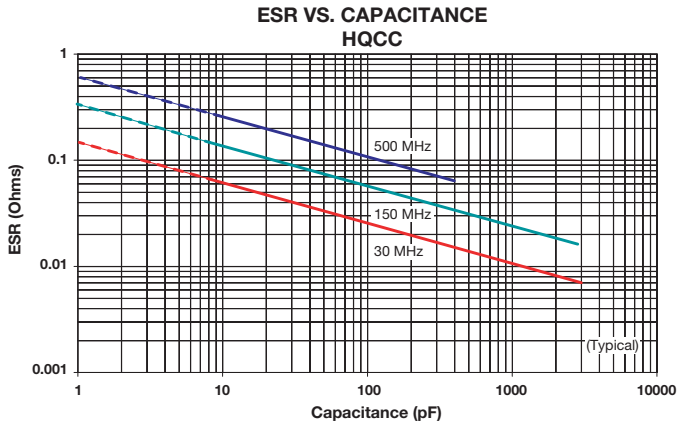
Cap Code	Cap (pF)	Tol.	Rated WVDC		Cap Code	Cap (pF)	Tol.	Rated WVDC		Cap Code	Cap (pF)	Tol.	Rated WVDC	
			Standard	Extended				Standard	Extended				Standard	Extended
1R0	1.0	B, C, D	3600	7200	180	18	F, G, J, K, M	3600	7200	331	330	F, G, J, K, M	3600	NA
1R2	1.2				220	22				391	390			
1R5	1.5				270	27				471	470			
1R8	1.8				330	33				561	560			
2R2	2.2				390	39				681	680			
2R7	2.7				470	47				821	820			
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									
8R2	8.2	151	150	272	2700									
100	10	F, G, J, K, M	3600	7200	181	180	F, G, J, K, M	3600	5000	332	3300	G, J, K, M	500	NA
120	12				221	220								
150	15				271	270								

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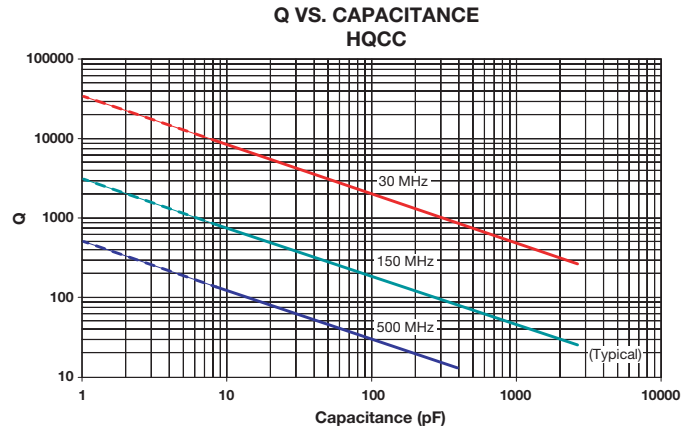
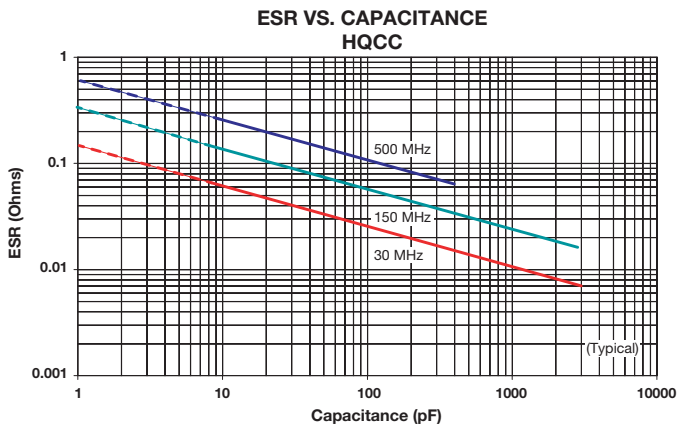


HQCC PERFORMANCE CHARACTERISTICS (A DIELECTRIC)

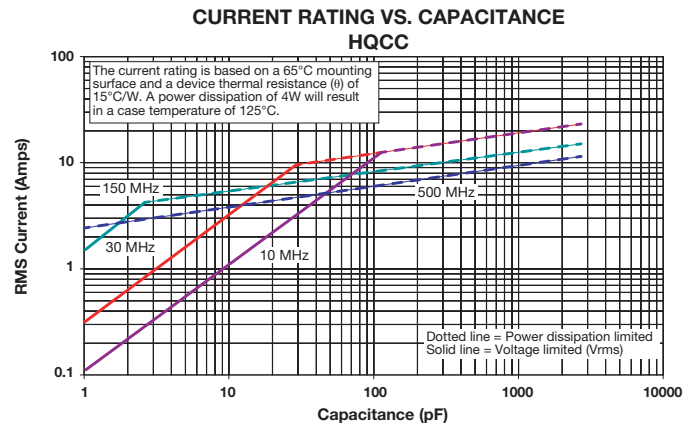
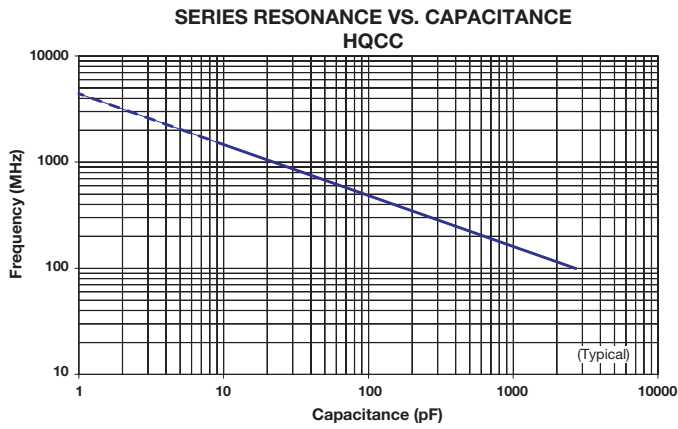


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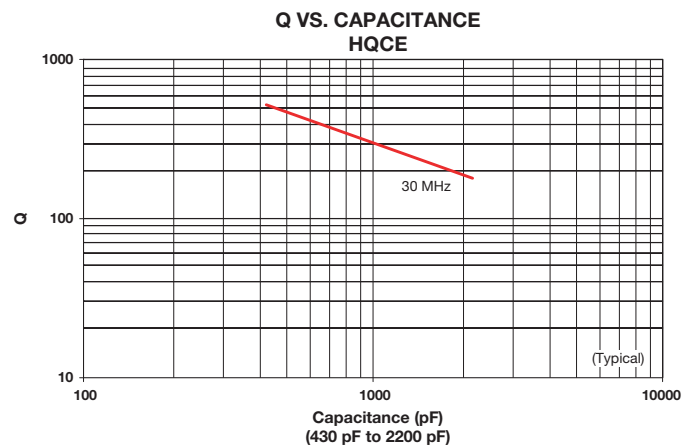
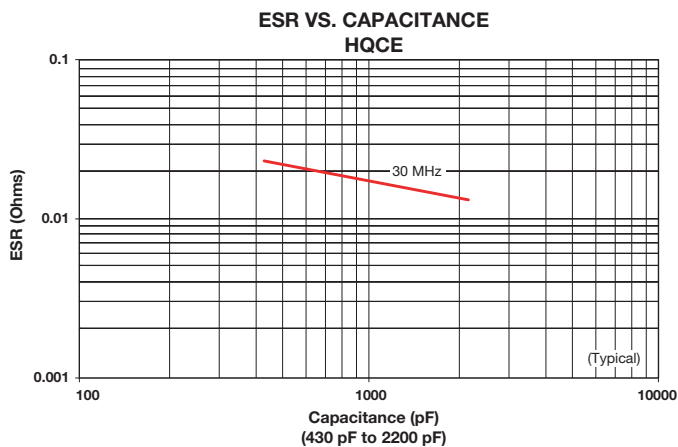
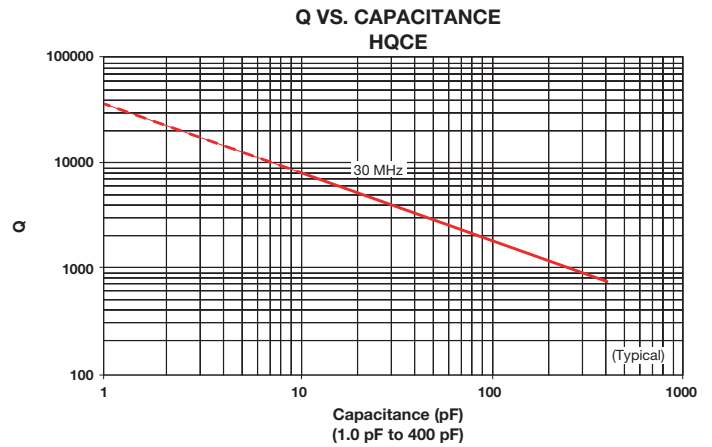
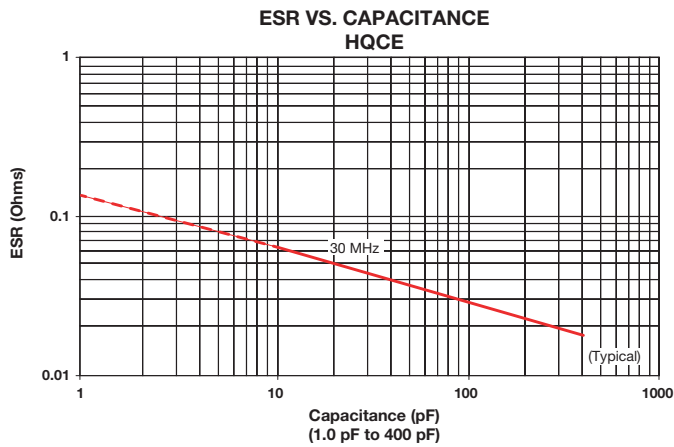
HQCC PERFORMANCE CHARACTERISTICS (M DIELECTRIC)



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HQCE PERFORMANCE CHARACTERISTICS (A DIELECTRIC)



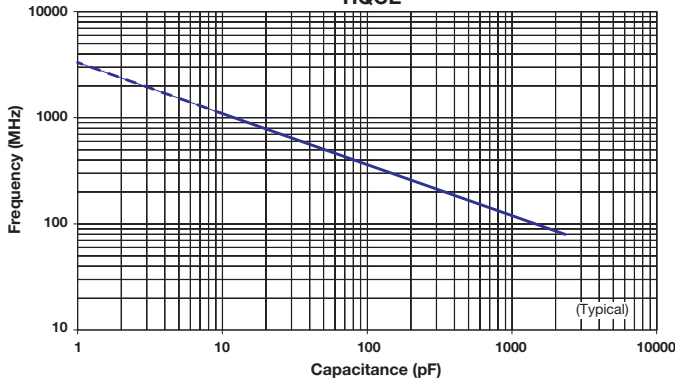
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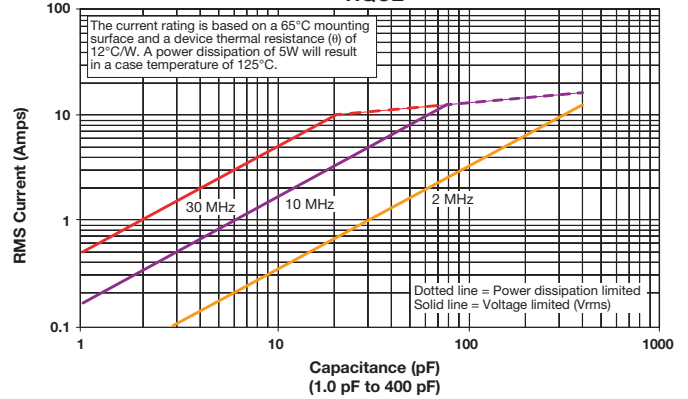
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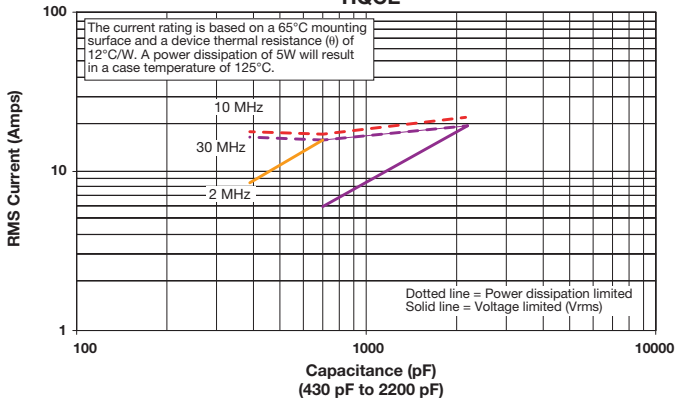
SERIES RESONANCE VS. CAPACITANCE
HQCE



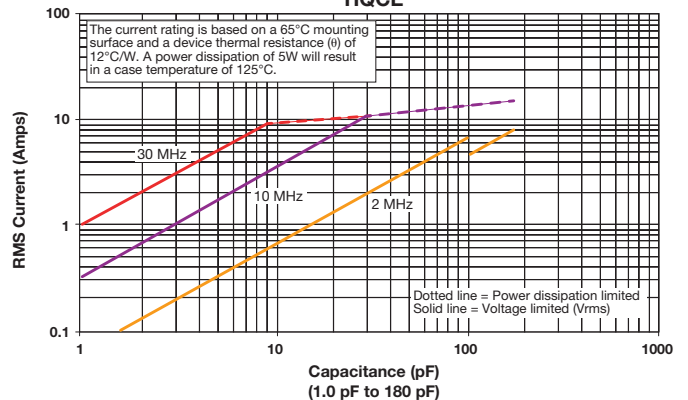
CURRENT RATING VS. CAPACITANCE
HQCE



CURRENT RATING VS. CAPACITANCE
HQCE



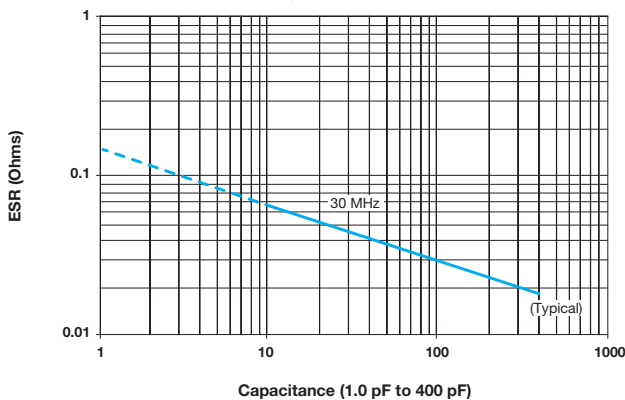
CURRENT RATING VS. CAPACITANCE
HQCE



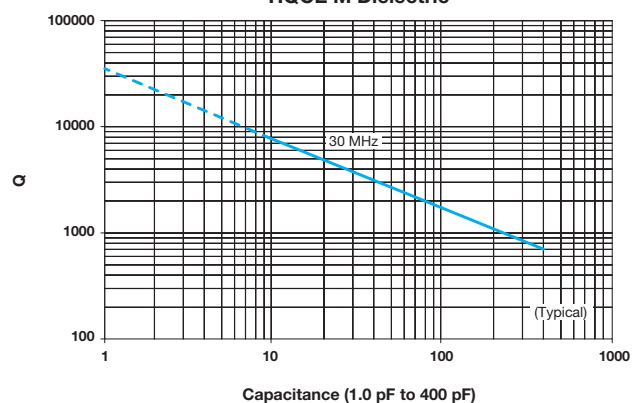
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HQCE PERFORMANCE CHARACTERISTICS (M DIELECTRIC)

ESR VS CAPACITANCE
HQCE M Dielectric



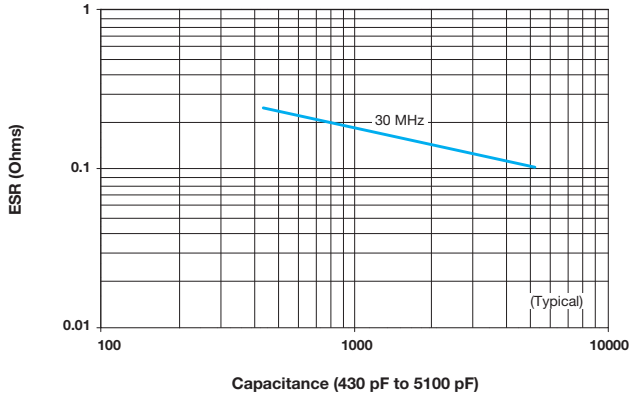
Q VS CAPACITANCE
HQCE M Dielectric



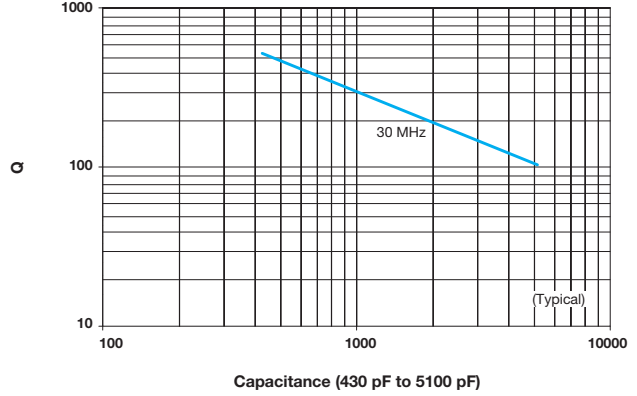
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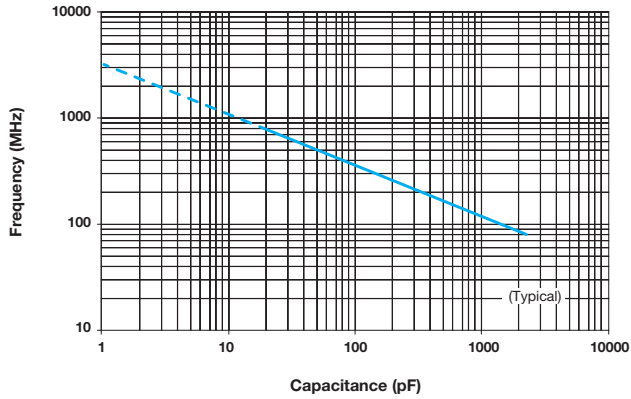
ESR VS CAPACITANCE
HQCE M Dielectric



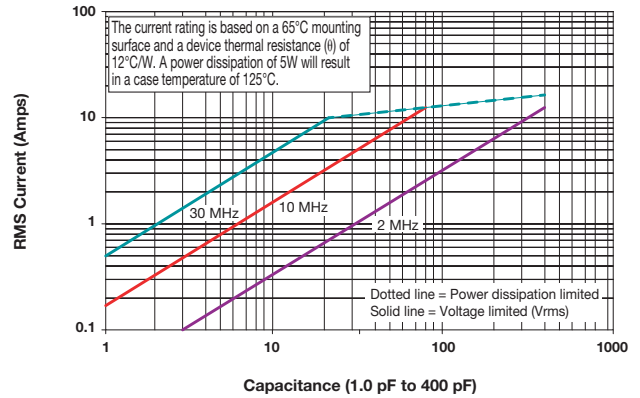
Q VS CAPACITANCE
HQCE M Dielectric



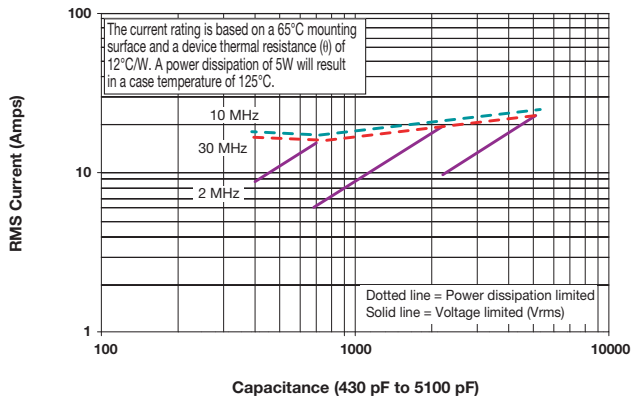
SERIES RESONANCE VS CAPACITANCE
HQCE M Dielectric



CURRENT RATING VS CAPACITANCE
HQCE M Dielectric



CURRENT RATING VS CAPACITANCE
HQCE M Dielectric



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