

# 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.

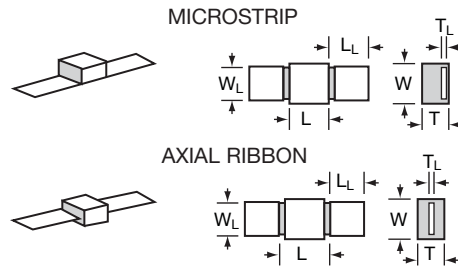
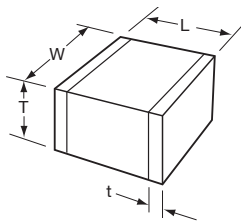
## HOW TO ORDER

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* 6 = 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 <sub>L</sub> ) Lead Length	12.7 min. (0.500)	19.05 (0.750)
(W <sub>L</sub> ) Lead Width	6.10 ± 0.127 (0.240 ± 0.005)	8.89 ± 0.25 (0.350 ± 0.010)
(T <sub>L</sub> ) 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

<b>Capacitance Range</b>	1.0pF to 2,700pF (25°C, 1.0 ±0.2 Vrms at 1kHz, for ≤ 1000 pF use 1MHz)
<b>Capacitance Tolerances</b>	±0.10pF, ±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>	C0G: 0 ± 30 ppm/°C (-55°C to +125°C), P90: 90 ± 30 ppm/°C (-55°C to +125°C)
<b>Insulation Resistance</b>	100K MΩ min. @ +25°C and 500VDC 10K MΩ min. @ +125°C and 500VDC
<b>Dielectric Strength</b>	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			
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			
3R3	3.3			270	27	221		220	152			1500			
3R9	3.9			330	33	271		270	182			1800			
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		
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		
1R9	1.9			120	12			910	91			681	680		
2R0	2.0			130	13			101	100			751	750		
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			2220			
4R3	4.3			330	33	241		240	242			2400			
4R7	4.7			360	36	271		270	272			2700			

## 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	C, D	3600	7200	150	15	G, J, K, M	3600	7200	221	220	G, J, K, M	NA	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			2500	
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	7200	222	2200	G, J, K, M	NA	1000	NA
120	12				181	180				5000					

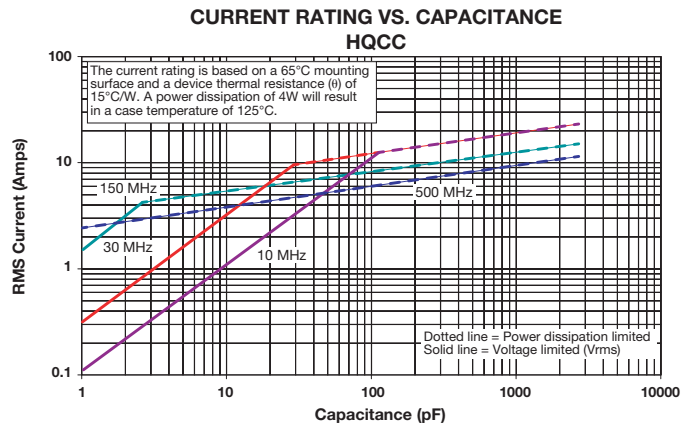
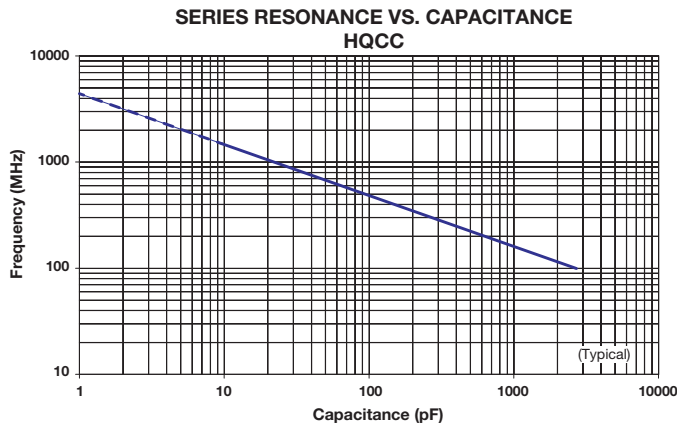
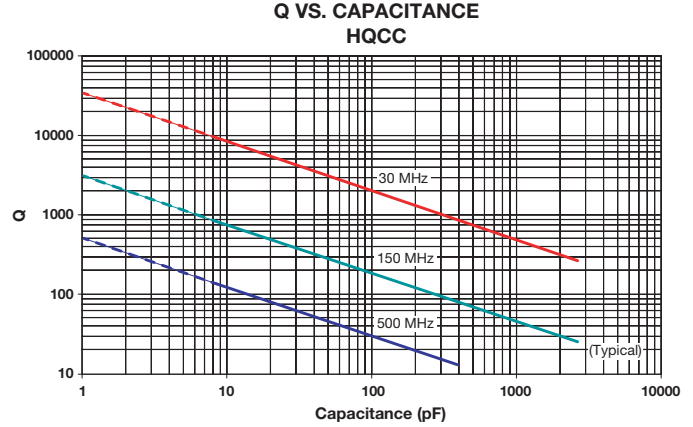
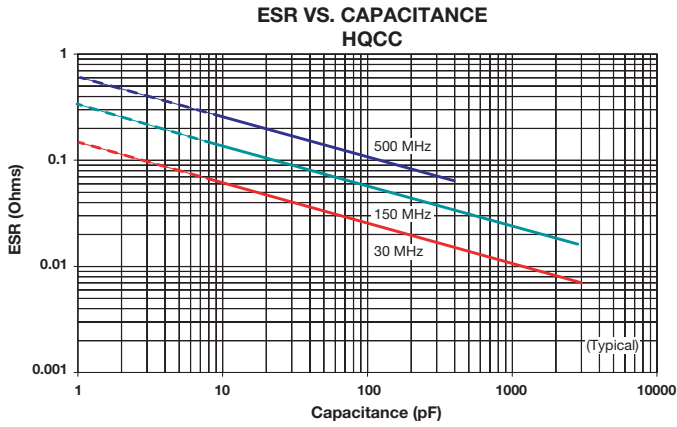


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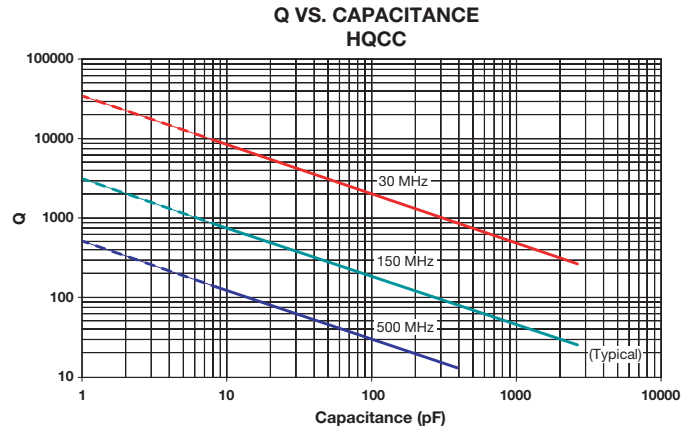
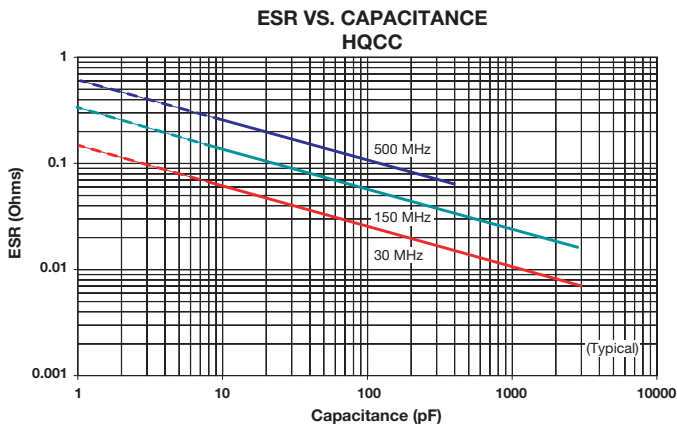
For 600V to 7200V Applications



## HQCC PERFORMANCE CHARACTERISTICS (A DIELECTRIC)

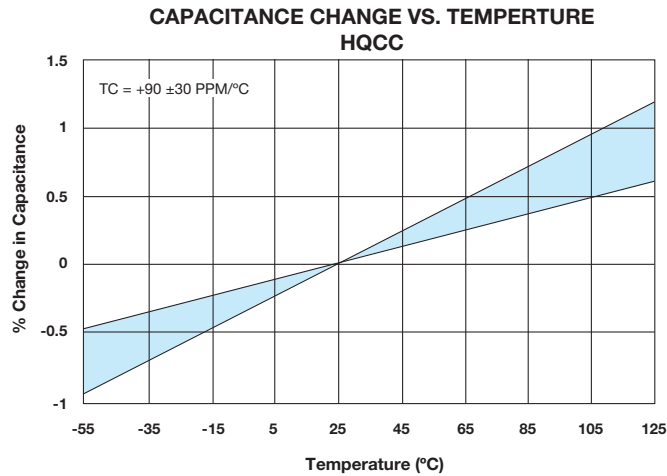
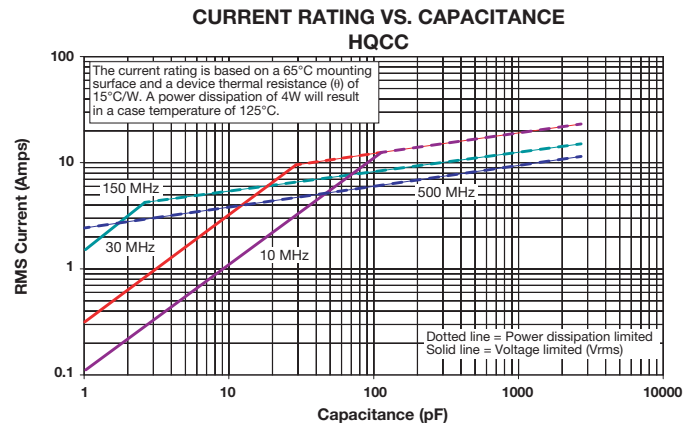
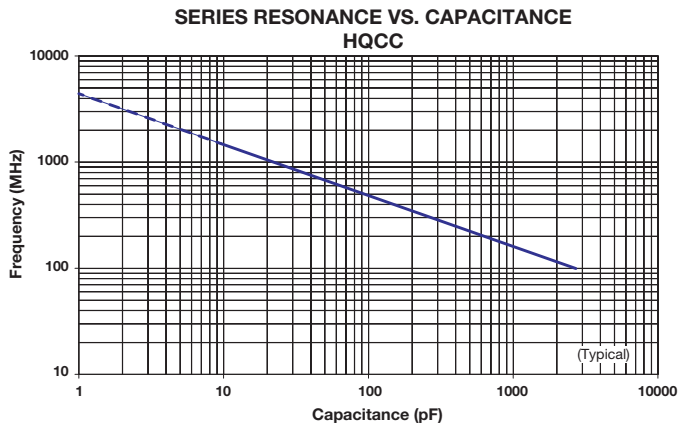


## HQCC PERFORMANCE CHARACTERISTICS (M DIELECTRIC)



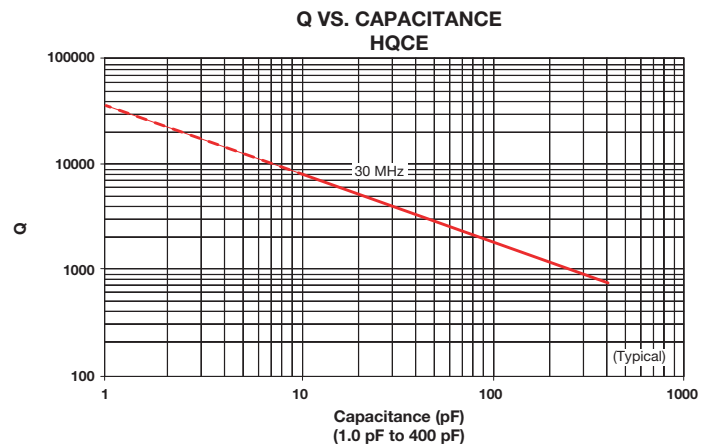
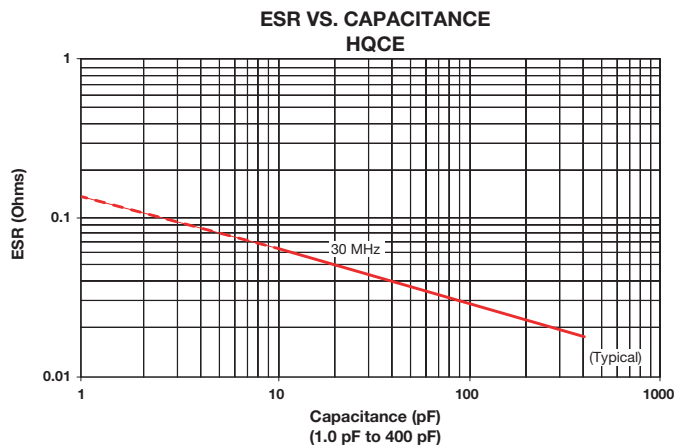
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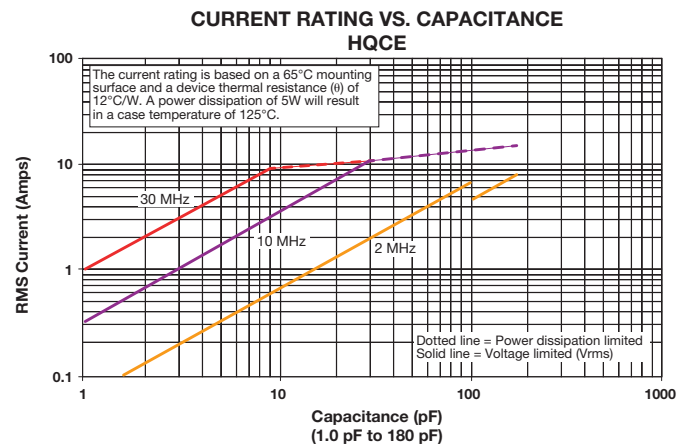
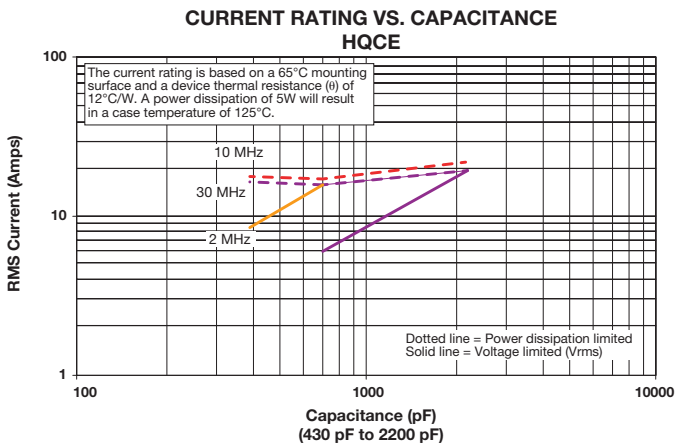
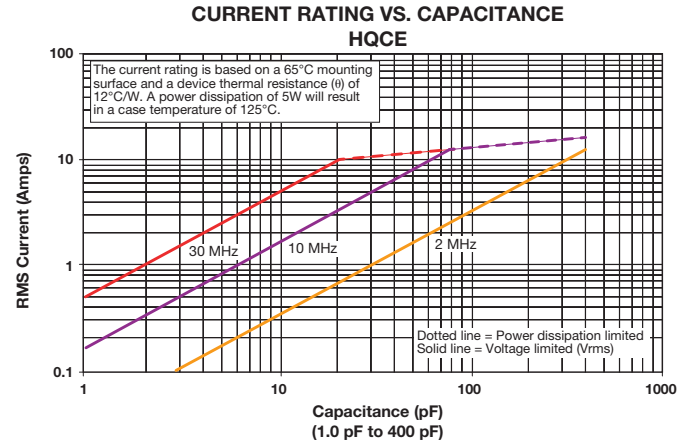
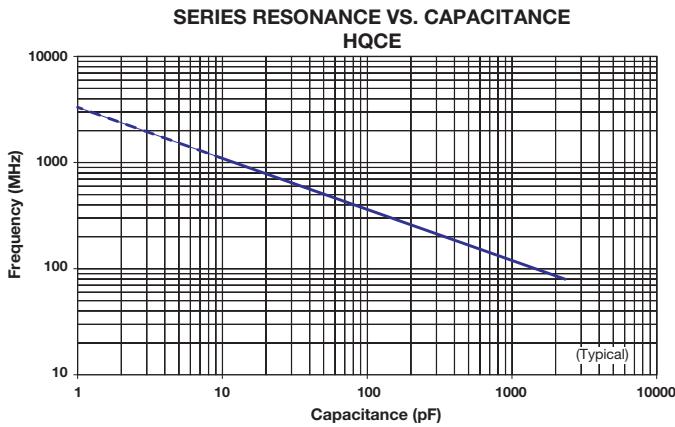
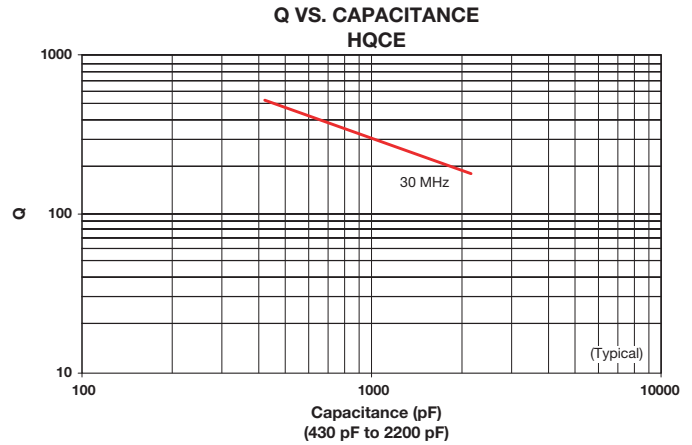
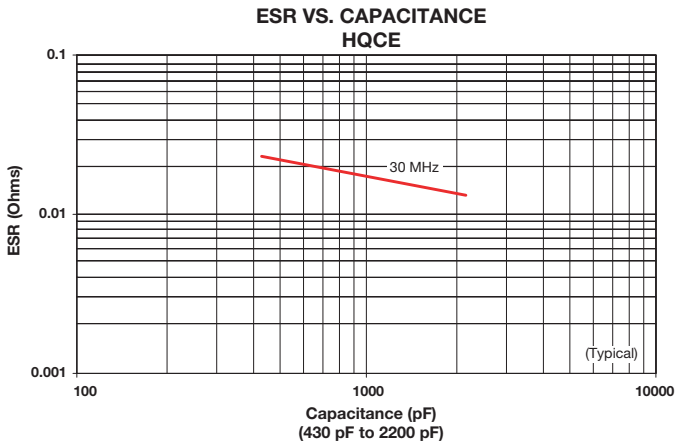


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## HQCE PERFORMANCE CHARACTERISTICS



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