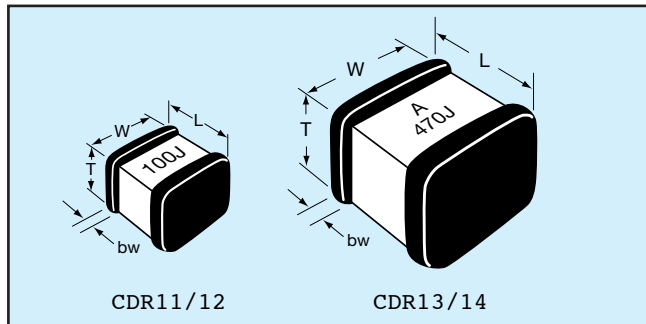


Microwave MLC's



CDR Series — MIL-PRF-55681 (RF/Microwave Chips)

MILITARY DESIGNATION PER MIL-PRF-55681



CROSS REFERENCE: AVX/MIL-PRF-55681

Per MIL-C-55681	AVX Style	Length (L)	Width (W)	Thickness (T)		Termination Band (bw)	
				Max	Min	Max	Min
CDR11	AQ11	.055±.015 (1.40±.381)	.055±.015 (1.40±.381)	.057 (1.45)	.020 (.508)	.020 (.508)	.005 (.127)
CDR12	AQ12	.055±.025 (1.40±.635)	.055±.015 (1.40±.381)	.057 (1.45)	.020 (.508)	.020 (.508)	.005 (.127)
CDR13	AQ13	.110±.020 (2.79±.508)	.110±.020 (2.79±.508)	.102 (2.59)	.030 (.762)	.025 (.635)	.005 (.127)
CDR14	AQ14	.110 +.035 -0.020 (2.79 +.889 -.508)	.110±.020 (2.79±.508)	.102 (2.59)	.030 (.762)	.025 (.635)	.005 (.127)

HOW TO ORDER

CDR12

MIL Style
CDR11, CDR12,
CDR13, CDR14

BG

Voltage Temperature Limits

BG = +90±20 ppm/°C with and without rated voltage from -55°C to +125°C
BP = 0±30ppm/°C with and without rated voltage from -55°C to +125°C

101

Capacitance

EIA Capacitance Code in pF.
First two digits = significant figures or "R" for decimal place.
Third digit = number of zeros or after "R" significant figures.

A

Rated Voltage Code

A = 50V
B = 100V
C = 200V
D = 300V
E = 500V

K

Capacitance Tolerance Code

B = ±.1 pF
C = ±.25 pF
D = ±.5 pF
F = ±1%
G = ±2%
J = ±5%
K = ±10%
M = ±20%

U

Termination Finish (Military Designations) Code

M = Palladium silver
N = Silver-nickel-gold
S = Solder coated final with a minimum of 4 percent lead
T = Silver
U = Base metallization-barrier metal-solder coated (tin/lead alloy, with a minimum of 4 percent lead)
W = Base metallization-barrier metal-tinned (tin or tin/lead alloy)
Y = Base metallization-barrier metal-tin (100 percent)
Z = Base metallization-barrier metal-tinned (tin/lead alloy, with a minimum of 4 percent lead)

S

Failure Rate Level

M = 1.0%
P = .1%
R = .01%
S = .001%

*See MIL-PRF-55681 Specification for more details

PACKAGING

Standard Packaging Quantity

CDR11-12 = 100 pcs per waffle pack

CDR13-14 = 80 pcs per waffle pack

TAPE & REEL: All tape and reel specifications are in compliance with EIA RS481 (equivalent to IEC 286 part 3).

Sizes SQCA through SQCB, CDR11/12 through 13/14.

—8mm carrier

—7" reel: ≤0.040" thickness = 2000 pcs
≤0.075" thickness = 2000 pcs

—13" reel: ≤0.075" thickness = 10,000 pcs

Not RoHS Compliant



For RoHS compliant products, please select correct termination style.



TABLE I: STYLES CDR11 AND CDR12 CAPACITOR CHARACTERISTICS

Type Designation 1/	Capacitance in pF	Capacitance tolerance	Rated temperature and V/Temperature	WVDC	Type Designation 1/	Capacitance in pF	Capacitance tolerance	Rated temperature and V/Temperature	WVDC
CDR1 -B-0R1AB--	0.1	B	BG, BP	50	CDR1 -B-300A--	30	F, G, J, K, M	BG, BP	50
CDR1 -B-0R2AB--	0.2	B	BG, BP	50	CDR1 -B-330A--	33	F, G, J, K, M	BG, BP	50
CDR1 -B-0R3A---	0.3	B, C	BG, BP	50	CDR1 -B-360A--	36	F, G, J, K, M	BG, BP	50
CDR1 -B-0R4A---	0.4	B, C	BG, BP	50	CDR1 -B-390A--	39	F, G, J, K, M	BG, BP	50
CDR1 -B-0R5A---	0.5	B, C, D	BG, BP	50	CDR1 -B-430A--	43	F, G, J, K, M	BG, BP	50
CDR1 -B-0R6A---	0.6	B, C, D	BG, BP	50	CDR1 -B-470A--	47	F, G, J, K, M	BG, BP	50
CDR1 -B-0R7A---	0.7	B, C, D	BG, BP	50	CDR1 -B-510A--	51	F, G, J, K, M	BG, BP	50
CDR1 -B-0R8A---	0.8	B, C, D	BG, BP	50	CDR1 -B-560A--	56	F, G, J, K, M	BG, BP	50
CDR1 -B-0R9A---	0.9	B, C, D	BG, BP	50	CDR1 -B-620A--	62	F, G, J, K, M	BG, BP	50
CDR1 -B-1R0A---	1.0	B, C, D	BG, BP	50	CDR1 -B-680A--	68	F, G, J, K, M	BG, BP	50
CDR1 -B-1R1A---	1.1	B, C, D	BG, BP	50	CDR1 -B-750A--	75	F, G, J, K, M	BG, BP	50
CDR1 -B-1R2A---	1.2	B, C, D	BG, BP	50	CDR1 -B-820A--	82	F, G, J, K, M	BG, BP	50
CDR1 -B-1R3A---	1.3	B, C, D	BG, BP	50	CDR1 -B-910A--	91	F, G, J, K, M	BG, BP	50
CDR1 -B-1R4A---	1.4	B, C, D	BG, BP	50	CDR1 -B-101A--	100	F, G, J, K, M	BG, BP	50
CDR1 -B-1R5A---	1.5	B, C, D	BG, BP	50	CDR1 -B-111A--	110	F, G, J, K, M	BP	50
CDR1 -B-1R6A---	1.6	B, C, D	BG, BP	50	CDR1 -B-121A--	120	F, G, J, K, M	BP	50
CDR1 -B-1R7A---	1.7	B, C, D	BG, BP	50	CDR1 -B-131A--	130	F, G, J, K, M	BP	50
CDR1 -B-1R8A---	1.8	B, C, D	BG, BP	50	CDR1 -B-151A--	150	F, G, J, K, M	BP	50
CDR1 -B-1R9A---	1.9	B, C, D	BG, BP	50	CDR1 -B-161A--	160	F, G, J, K, M	BP	50
CDR1 -B-2R0A---	2.0	B, C, D	BG, BP	50	CDR1 -B-181A--	180	F, G, J, K, M	BP	50
CDR1 -B-2R1A---	2.1	B, C, D	BG, BP	50	CDR1 -B-201A--	200	F, G, J, K, M	BP	50
CDR1 -B-2R2A---	2.2	B, C, D	BG, BP	50	CDR1 -B-221A--	220	F, G, J, K, M	BP	50
CDR1 -B-2R4A---	2.4	B, C, D	BG, BP	50	CDR1 -B-241A--	240	F, G, J, K, M	BP	50
CDR1 -B-2R7A---	2.7	B, C, D	BG, BP	50	CDR1 -B-271A--	270	F, G, J, K, M	BP	50
CDR1 -B-3R0A---	3.0	B, C, D	BG, BP	50	CDR1 -B-301A--	300	F, G, J, K, M	BP	50
CDR1 -B-3R3A---	3.3	B, C, D	BG, BP	50	CDR1 -B-331A--	330	F, G, J, K, M	BP	50
CDR1 -B-3R6A---	3.6	B, C, D	BG, BP	50	CDR1 -B-361A--	360	F, G, J, K, M	BP	50
CDR1 -B-3R9A---	3.9	B, C, D	BG, BP	50	CDR1 -B-391A--	390	F, G, J, K, M	BP	50
CDR1 -B-4R3A---	4.3	B, C, D	BG, BP	50	CDR1 -B-431A--	430	F, G, J, K, M	BP	50
CDR1 -B-4R7A---	4.7	B, C, D	BG, BP	50	CDR1 -B-471A--	470	F, G, J, K, M	BP	50
CDR1 -B-5R1A---	5.1	B, C, D	BG, BP	50	CDR1 -B-511A--	510	F, G, J, K, M	BP	50
CDR1 -B-5R6A---	5.6	B, C, D	BG, BP	50	CDR1 -B-561A--	560	F, G, J, K, M	BP	50
CDR1 -B-6R2A---	6.2	B, C, D	BG, BP	50	CDR1 -B-621A--	620	F, G, J, K, M	BP	50
CDR1 -B-6R8A---	6.8	B, C, J, K, M	BG, BP	50	CDR1 -B-681A--	680	F, G, J, K, M	BP	50
CDR1 -B-7R5A---	7.5	B, C, J, K, M	BG, BP	50	CDR1 -B-751A--	750	F, G, J, K, M	BP	50
CDR1 -B-8R2A---	8.2	B, C, J, K, M	BG, BP	50	CDR1 -B-821A--	820	F, G, J, K, M	BP	50
CDR1 -B-9R1A---	9.1	B, C, J, K, M	BG, BP	50	CDR1 -B-911A--	910	F, G, J, K, M	BP	50
CDR1 -B-100A--	10	F, G, J, K, M	BG, BP	50	CDR1 -B-102A--	1000	F, G, J, K, M	BP	50
CDR1 -B-110A--	11	F, G, J, K, M	BG, BP	50					
CDR1 -B-120A--	12	F, G, J, K, M	BG, BP	50					
CDR1 -B-130A--	13	F, G, J, K, M	BG, BP	50					
CDR1 -B-150A--	15	F, G, J, K, M	BG, BP	50					
CDR1 -B-160A--	16	F, G, J, K, M	BG, BP	50					
CDR1 -B-180A--	18	F, G, J, K, M	BG, BP	50					
CDR1 -B-200A--	20	F, G, J, K, M	BG, BP	50					
CDR1 -B-220A--	22	F, G, J, K, M	BG, BP	50					
CDR1 -B-240A--	24	F, G, J, K, M	BG, BP	50					
CDR1 -B-270A--	27	F, G, J, K, M	BG, BP	50					

1/Complete type designation will include additional symbols to indicate style, voltage-temperature limits, capacitance tolerance (where applicable), termination finish ("M" or "N" for style CDR11, and "S", "U", "W", "Y" or "Z" for style CDR12) and failure rate level.

Microwave MLC's



CDR Series — MIL-PRF-55681 (RF/Microwave Chips)

TABLE II: STYLES CDR13 AND CDR14 CAPACITOR CHARACTERISTICS

Type Designation 1/	Capacitance in pF	Capacitance tolerance	Rated temperature and V/Temperature	WVDC	Type Designation 1/	Capacitance in pF	Capacitance tolerance	Rated temperature and V/Temperature	WVDC
CDR1 -B-0R1*B--	0.1	B	BG, BP	200/500	CDR1 -B-560*--	56	F, G, J, K, M	BG, BP	200/500
CDR1 -B-0R2*B--	0.2	B	BG, BP	200/500	CDR1 -B-620*--	62	F, G, J, K, M	BG, BP	200/500
CDR1 -B-0R3*--	0.3	B, C	BG, BP	200/500	CDR1 -B-680*--	68	F, G, J, K, M	BG, BP	200/500
CDR1 -B-0R4*--	0.4	B, C	BG, BP	200/500	CDR1 -B-750*--	75	F, G, J, K, M	BG, BP	200/500
CDR1 -B-0R5*--	0.5	B, C, D	BG, BP	200/500	CDR1 -B-820*--	82	F, G, J, K, M	BG, BP	200/500
CDR1 -B-0R6*--	0.6	B, C, D	BG, BP	200/500	CDR1 -B-910*--	91	F, G, J, K, M	BG, BP	200/500
CDR1 -B-0R7*--	0.7	B, C, D	BG, BP	200/500	CDR1 -B-101*--	100	F, G, J, K, M	BG, BP	200/500
CDR1 -B-0R8*--	0.8	B, C, D	BG, BP	200/500	CDR1 -B-111‡--	110	F, G, J, K, M	BG, BP	200/300
CDR1 -B-0R9*--	0.9	B, C, D	BG, BP	200/500	CDR1 -B-121‡--	120	F, G, J, K, M	BG, BP	200/300
CDR1 -B-1R0*--	1.0	B, C, D	BG, BP	200/500	CDR1 -B-131‡--	130	F, G, J, K, M	BG, BP	200/300
CDR1 -B-1R1*--	1.1	B, C, D	BG, BP	200/500	CDR1 -B-151‡--	150	F, G, J, K, M	BG, BP	200/300
CDR1 -B-1R2*--	1.2	B, C, D	BG, BP	200/500	CDR1 -B-161‡--	160	F, G, J, K, M	BG, BP	200/300
CDR1 -B-1R3*--	1.3	B, C, D	BG, BP	200/500	CDR1 -B-181‡--	180	F, G, J, K, M	BG, BP	200/300
CDR1 -B-1R4*--	1.4	B, C, D	BG, BP	200/500	CDR1 -B-201‡--	200	F, G, J, K, M	BG, BP	200/300
CDR1 -B-1R5*--	1.5	B, C, D	BG, BP	200/500	CDR1 -B-221C--	220	F, G, J, K, M	BG, BP	200
CDR1 -B-1R6*--	1.6	B, C, D	BG, BP	200/500	CDR1 -B-241C--	240	F, G, J, K, M	BG, BP	200
CDR1 -B-1R7*--	1.7	B, C, D	BG, BP	200/500	CDR1 -B-271C--	270	F, G, J, K, M	BG, BP	200
CDR1 -B-1R8*--	1.8	B, C, D	BG, BP	200/500	CDR1 -B-301C--	300	F, G, J, K, M	BG, BP	200
CDR1 -B-1R9*--	1.9	B, C, D	BG, BP	200/500	CDR1 -B-331C--	330	F, G, J, K, M	BG, BP	200
CDR1 -B-2R0*--	2.0	B, C, D	BG, BP	200/500	CDR1 -B-361C--	360	F, G, J, K, M	BG, BP	200
CDR1 -B-2R1*--	2.1	B, C, D	BG, BP	200/500	CDR1 -B-391C--	390	F, G, J, K, M	BG, BP	200
CDR1 -B-2R2*--	2.2	B, C, D	BG, BP	200/500	CDR1 -B-431C--	430	F, G, J, K, M	BG, BP	200
CDR1 -B-2R4*--	2.4	B, C, D	BG, BP	200/500	CDR1 -B-471C--	470	F, G, J, K, M	BG, BP	200
CDR1 -B-2R7*--	2.7	B, C, D	BG, BP	200/500	CDR1 -B-511B--	510	F, G, J, K, M	BG, BP	100
CDR1 -B-3R0*--	3.0	B, C, D	BG, BP	200/500	CDR1 -B-561B--	560	F, G, J, K, M	BG, BP	100
CDR1 -B-3R3*--	3.3	B, C, D	BG, BP	200/500	CDR1 -B-621B--	620	F, G, J, K, M	BG, BP	100
CDR1 -B-3R6*--	3.6	B, C, D	BG, BP	200/500	CDR1 -B-681A--	680	F, G, J, K, M	BG, BP	50
CDR1 -B-3R9*--	3.9	B, C, D	BG, BP	200/500	CDR1 -B-751A--	750	F, G, J, K, M	BG, BP	50
CDR1 -B-4R3*--	4.3	B, C, D	BG, BP	200/500	CDR1 -B-821A--	820	F, G, J, K, M	BG, BP	50
CDR1 -B-4R7*--	4.7	B, C, D	BG, BP	200/500	CDR1 -B-911A--	910	F, G, J, K, M	BG, BP	50
CDR1 -B-5R1*--	5.1	B, C, D	BG, BP	200/500	CDR1 -B-102A--	1000	F, G, J, K, M	BG, BP	50
CDR1 -B-5R6*--	5.6	B, C, D	BG, BP	200/500	CDR1 -B-112A--	1100	F, G, J, K, M	BP	50
CDR1 -B-6R2*--	6.2	B, C, D	BG, BP	200/500	CDR1 -B-122A--	1200	F, G, J, K, M	BP	50
CDR1 -B-6R8*--	6.8	B, C, J, K, M	BG, BP	200/500	CDR1 -B-132A--	1300	F, G, J, K, M	BP	50
CDR1 -B-7R5*--	7.5	B, C, J, K, M	BG, BP	200/500	CDR1 -B-152A--	1500	F, G, J, K, M	BP	50
CDR1 -B-8R2*--	8.2	B, C, J, K, M	BG, BP	200/500	CDR1 -B-162A--	1600	F, G, J, K, M	BP	50
CDR1 -B-9R1*--	9.1	B, C, J, K, M	BG, BP	200/500	CDR1 -B-182A--	1800	F, G, J, K, M	BP	50
CDR1 -B-100*--	10	F, G, J, K, M	BG, BP	200/500	CDR1 -B-202A--	2000	F, G, J, K, M	BP	50
CDR1 -B-110*--	11	F, G, J, K, M	BG, BP	200/500	CDR1 -B-222A--	2200	F, G, J, K, M	BP	50
CDR1 -B-120*--	12	F, G, J, K, M	BG, BP	200/500	CDR1 -B-242A--	2400	F, G, J, K, M	BP	50
CDR1 -B-130*--	13	F, G, J, K, M	BG, BP	200/500	CDR1 -B-272A--	2700	F, G, J, K, M	BP	50
CDR1 -B-150*--	15	F, G, J, K, M	BG, BP	200/500	CDR1 -B-302A--	3000	F, G, J, K, M	BP	50
CDR1 -B-160*--	16	F, G, J, K, M	BG, BP	200/500	CDR1 -B-332A--	3300	F, G, J, K, M	BP	50
CDR1 -B-180*--	18	F, G, J, K, M	BG, BP	200/500	CDR1 -B-362A--	3600	F, G, J, K, M	BP	50
CDR1 -B-200*--	20	F, G, J, K, M	BG, BP	200/500	CDR1 -B-392A--	3900	F, G, J, K, M	BP	50
CDR1 -B-220*--	22	F, G, J, K, M	BG, BP	200/500	CDR1 -B-432A--	4300	F, G, J, K, M	BP	50
CDR1 -B-240*--	24	F, G, J, K, M	BG, BP	200/500	CDR1 -B-472A--	4700	F, G, J, K, M	BP	50
CDR1 -B-270*--	27	F, G, J, K, M	BG, BP	200/500	CDR1 -B-502A--	5000	F, G, J, K, M	BP	50
CDR1 -B-300*--	30	F, G, J, K, M	BG, BP	200/500	CDR1 -B-512A--	5100	F, G, J, K, M	BP	50
CDR1 -B-330*--	33	F, G, J, K, M	BG, BP	200/500					
CDR1 -B-360*--	36	F, G, J, K, M	BG, BP	200/500					
CDR1 -B-390*--	39	F, G, J, K, M	BG, BP	200/500					
CDR1 -B-430*--	43	F, G, J, K, M	BG, BP	200/500					
CDR1 -B-470*--	47	F, G, J, K, M	BG, BP	200/500					
CDR1 -B-510*--	51	F, G, J, K, M	BG, BP	200/500					

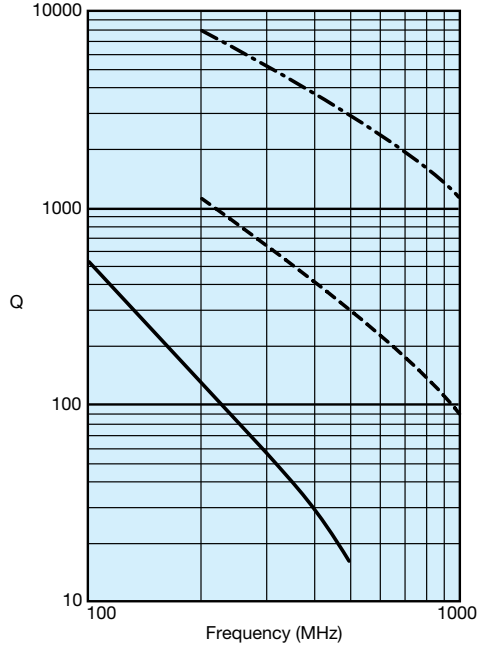
1/Complete type designation will include additional symbols to indicate style, voltage-temperature limits, capacitance tolerance (where applicable), termination finish ("M" or "N" for style CDR13, and "S", "U", "W", "Y" or "Z" for style CDR14) and failure rate level.

*C=200V; E=500V.

‡C=200V; D=300V.

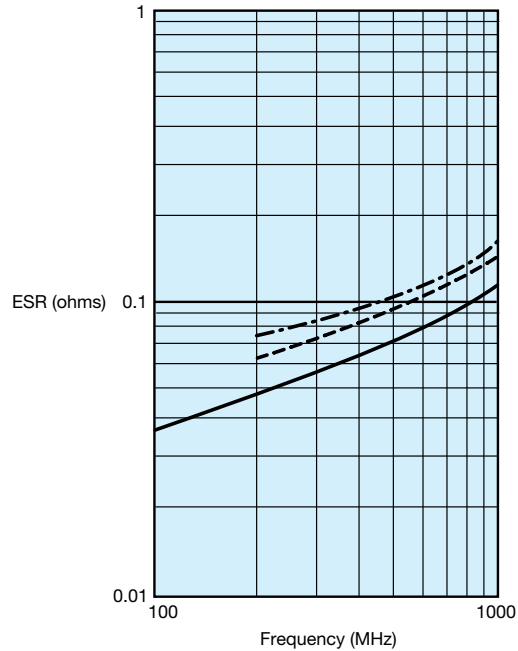


TYPICAL Q vs. FREQUENCY
AQ11/12
MIL-PRF-55681E - BG
STANDARD - M



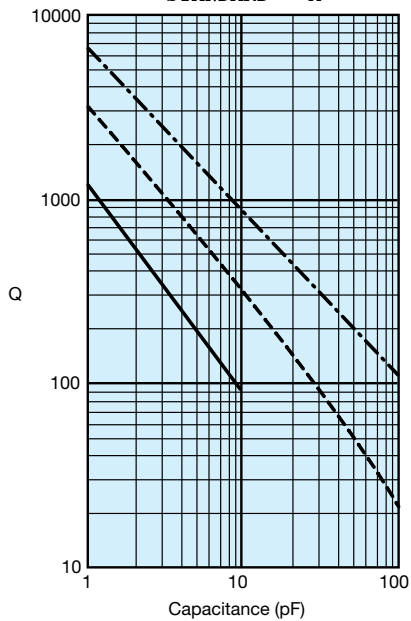
AVX CORPORATION
- - - 1 Picofarad - - - 10 Picofarad — 100 Picofarad

TYPICAL ESR vs. FREQUENCY
AQ11/12
MIL-PRF-55681E - BG
STANDARD - M



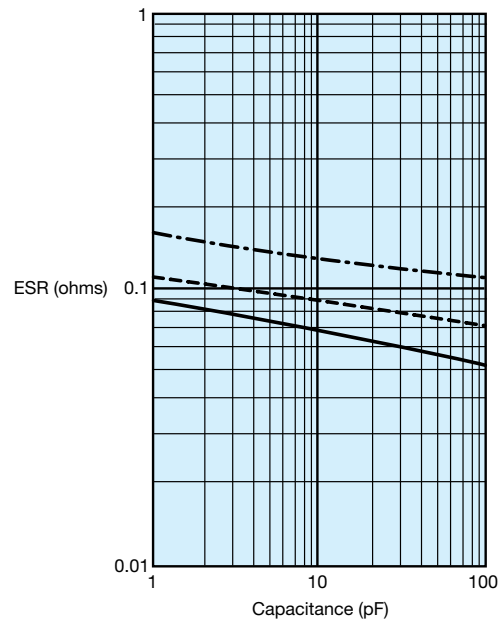
AVX CORPORATION
- - - 3.3 Picofarad - - - 10 Picofarad — 100 Picofarad

TYPICAL Q vs. CAPACITANCE
AQ11/12
MIL-PRF-55681E - BG
STANDARD - M



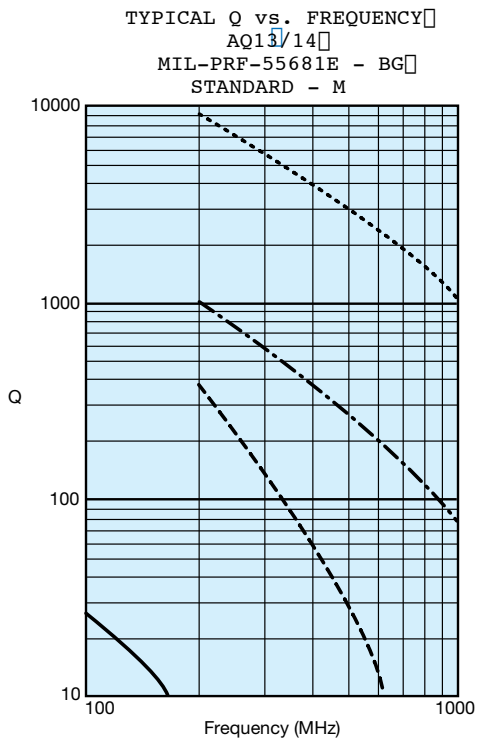
AVX CORPORATION
- - - 250 MHz - - - 500 MHz — 1000 MHz

TYPICAL ESR vs. CAPACITANCE
AQ11/12
MIL-PRF-55681E - BG
STANDARD - M

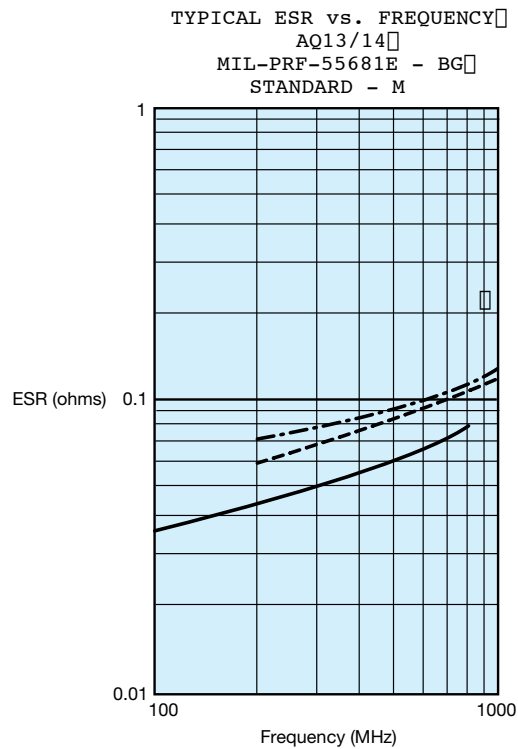


AVX CORPORATION
— 250 MHz - - - 500 MHz - - - 1000 MHz

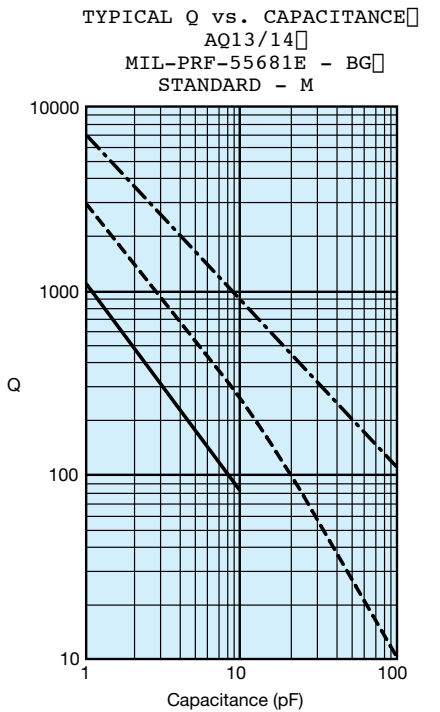
Performance Curves



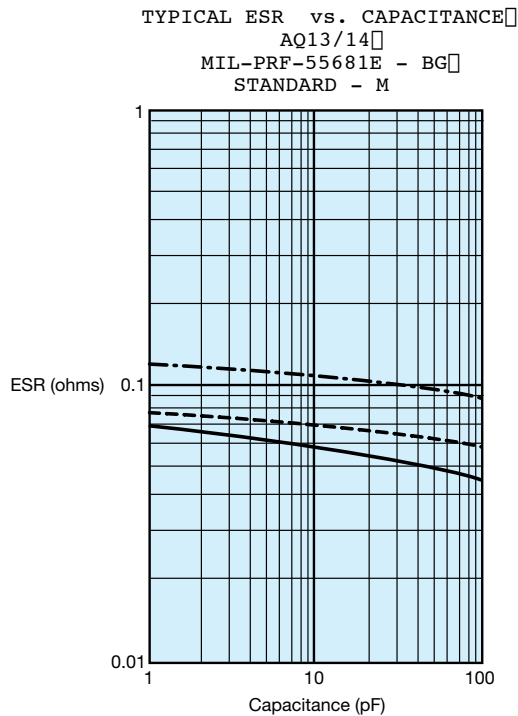
AVX CORPORATION
 - - - - 1 Picofarad - - - - 10 Picofarad - - - - 47 Picofarad - - - - 330 Picofarad



AVX CORPORATION
 - - - - 1 Picofarad - - - - 15 Picofarad - - - - 100 Picofarad

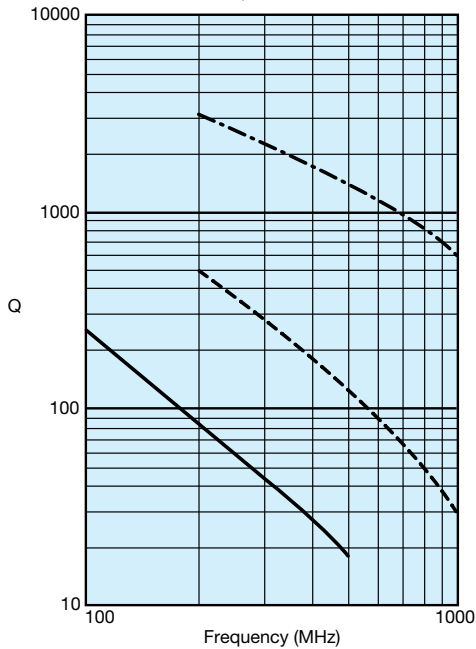


AVX CORPORATION
 - - - - 250 MHz - - - - 500 MHz - - - - 1000 MHz



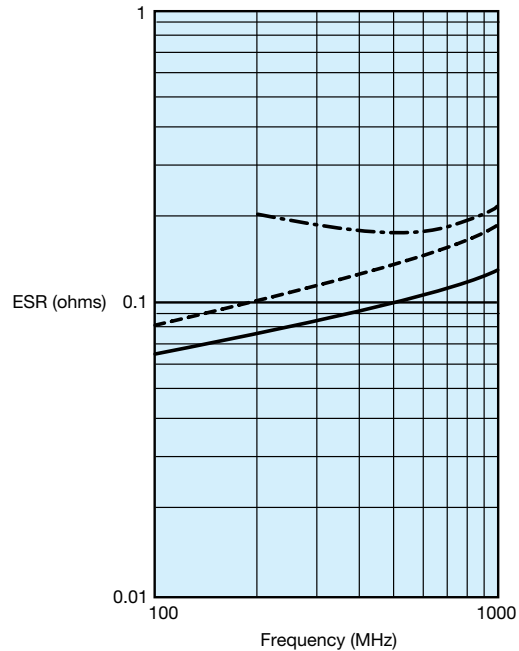
AVX CORPORATION
 - - - - 250 MHz - - - - 500 MHz - - - - 1000 MHz

TYPICAL Q vs. FREQUENCY
AQ11/12
MIL-PRF-55681E - BP
STANDARD - A



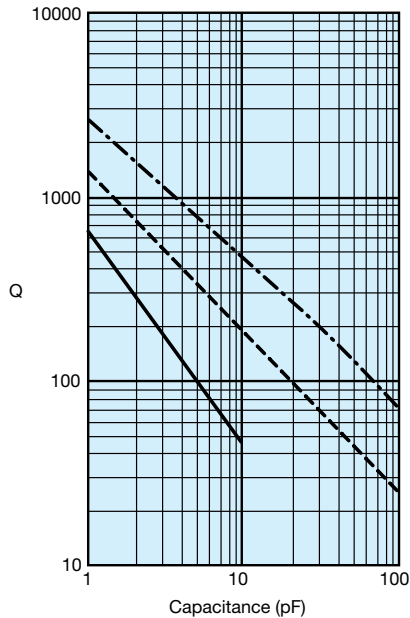
AVX CORPORATION
--- 1 Picofarad - - - 15 Picofarad — 100 Picofarad

TYPICAL ESR vs. FREQUENCY
AQ11/12
MIL-PRF-55681E - BP
STANDARD - A



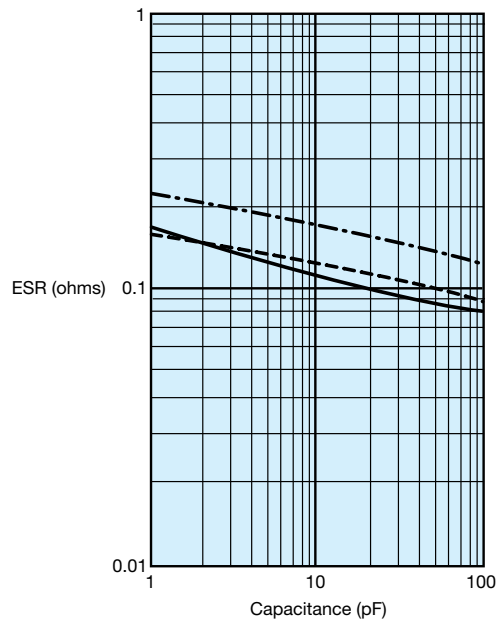
AVX CORPORATION
--- 1 Picofarad - - - 15 Picofarad — 100 Picofarad

TYPICAL Q vs. CAPACITANCE
AQ11/12
MIL-PRF-55681E - BP
STANDARD - A



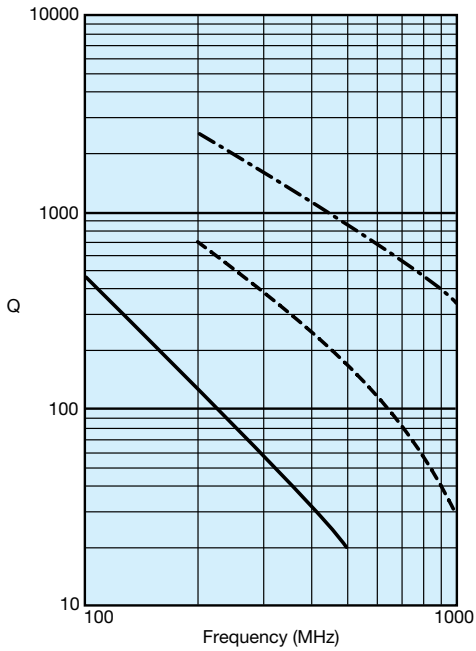
AVX CORPORATION
--- 250 MHz - - - 500 MHz — 1000 MHz

TYPICAL ESR vs. CAPACITANCE
AQ11/12
MIL-PRF-55681E - BP
STANDARD - A



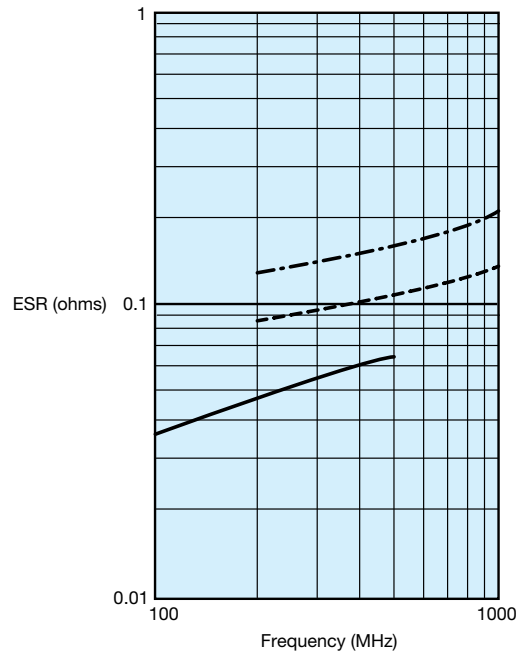
AVX CORPORATION
— 250 MHz - - - 500 MHz --- 1000 MHz

TYPICAL Q vs. FREQUENCY
AQ13/14
MIL-PRF-55681E - BP
STANDARD - A



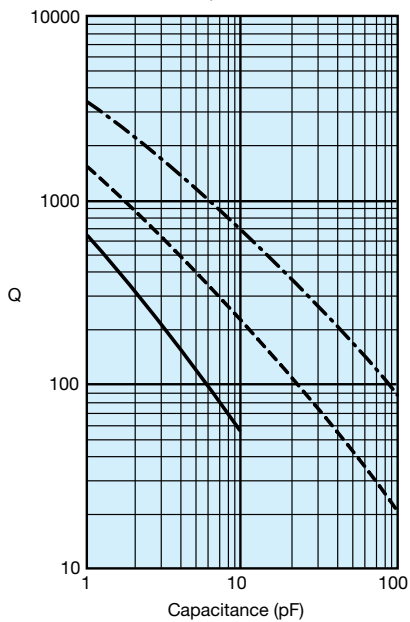
AVX CORPORATION
--- 2 Picofarad - - - 15 Picofarad — 100 Picofarad

TYPICAL ESR vs. FREQUENCY
AQ13/14
MIL-PRF-55681E - BP
STANDARD - A



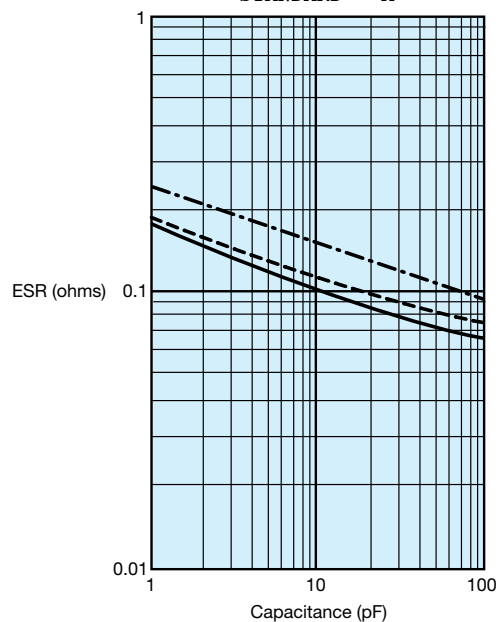
AVX CORPORATION
--- 15 Picofarad - - - 47 Picofarad — 100 Picofarad

TYPICAL Q vs. CAPACITANCE
AQ13/14
MIL-PRF-55681E - BP
STANDARD - A



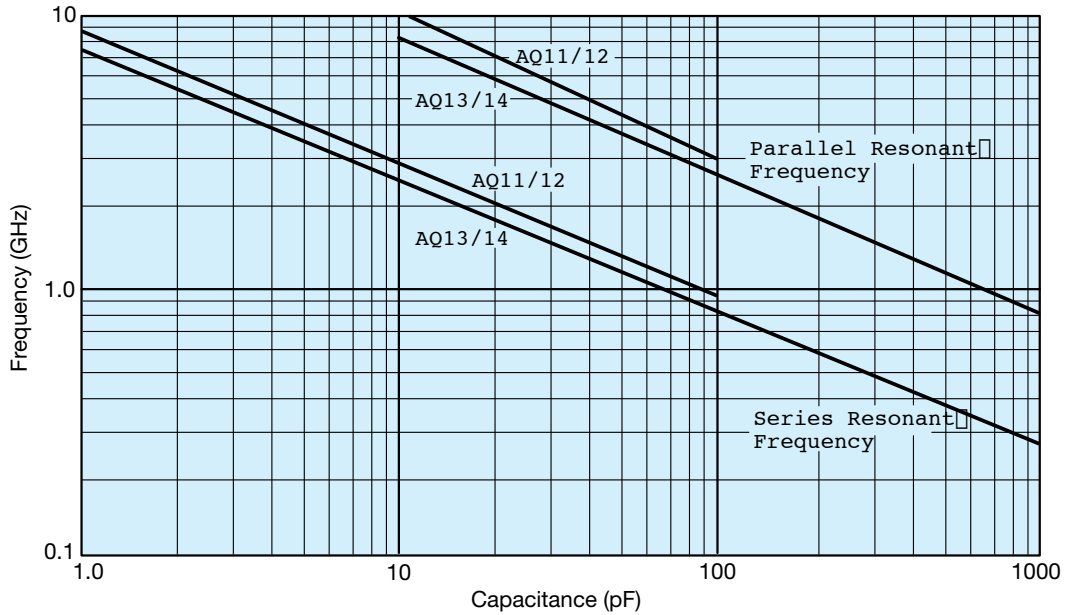
AVX CORPORATION
--- 250 MHz - - - 500 MHz — 1000 MHz

TYPICAL ESR vs. CAPACITANCE
AQ13/14
MIL-PRF-55681E - BP
STANDARD - A



AVX CORPORATION
--- 250 MHz - - - 500 MHz - - - 1000 MHz

TYPICAL RESONANT FREQUENCY vs. CAPACITANCE
AVX AQ11-14 (CDR11-14)



TYPICAL RESONANT FREQUENCY vs. CAPACITANCE
AVX 0603

