



This series features:

- CWR11 form factor in Standard and Extended ratings.
- Low ESR Ratings (Cases A through E).
- Extended Case size (E) for ratings to 470 μ F.
- Weibull Reliability Grading and Surge Test options.

All ratings in this series offer the advantages of molded body/compliant termination construction, polarity, capacitance and voltage marking. The molded construction is compatible with a wide range of SMT board assembly processes including wave or reflow solder, conductive epoxy or compression bonding techniques.

HOW TO ORDER

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Type	Case Size	Capacitance Code	Capacitance Tolerance	Voltage Code	Standard or Low ESR Range	Packaging	Qualification/Reliability	Termination Finish	Surge Test Option
		pF code: 1st two digits represent significant figures 3rd digit represents multiplier (number of zeros to follow)	M = \pm 20% K = \pm 10% J = \pm 5%	004 = 4Vdc 006 = 6Vdc 010 = 10Vdc 016 = 16Vdc 020 = 20Vdc 025 = 25Vdc 035 = 35Vdc 050 = 50Vdc	C = Std ESR L = Low ESR	B = Bulk R = 7" T&R S = 13" T&R	# = Inspection Level S = Std. Conformance L = Group A @ = Failure Level Weibull: B = 0.1%/1000 hrs, 90% conf. C = 0.01%/1000 hrs, 90% conf. D = 0.001%/1000 hrs, 90% conf. Comm: Z = Non ER	09 = Gold Plated 08 = Hot Solder Dipped 07 = 100% Tin 00 = Solder Fused	00 = None 23 = 10 cycles, +25°C 24 = 10 cycles, -55°C & +85°C 45 = 10 cycles, -55°C & +85°C before Weibull

Datasheet Technology

CAPACITANCE AND RATED VOLTAGE, V_R (VOLTAGE CODE) RANGE (LETTER DENOTES CASE SIZE) (ESR OPTIONS IN PARENTHESIS)

Capacitance		Rated voltage DC (V_R) to 85°C							
μ F	Code	4	6	10	16	20	25	35	50
0.15	154								A(15000)
0.22	224								A(18000)
0.47	474							A(12000)	A(9500), B(9500)
0.68	684						A(10000)	A(8000)	A(7900)
1.0	105						A(8000)	A(7500)	A(6600), B(7000)
1.5	155					A(6500)	A(3000, 7500)	A(7500), B(5200)	C(2000), D(1500)
2.2	225				A(5500)	A(3000)	A(7000), B(2000)	B(2000)	D(1200)
3.3	335		A(8000)		A(3500, 5000)		B(2000)	B(1000)	D(800)
4.7	475		A(6000)	A(5000)	A(2000)	A(1800, 4000)	A(3100)	B(1500)	D(300)
6.8	685		A(5000)	A(4000)	A(1500), B(1200)	B(1000)	B(700, 2800)	C(600)	3(300)
10	106		A(4000)	A(1800, 3000)	A(3000), B(900)	B(500, 1000) C(700)	C(300, 500)	C(350), D(400) E(300)	D(300, 600)
16	156		A(3500)	A(1000, 3200) B(600)	B(500, 800)	B(500), C(450) D(275)	D(275), E(200)	C(1600) D(125, 300) E(250)	D(250), E(250)
22	226		A(3000) B(600)	B(500, 700) C(300)	B(600)	B(600) C(400) D(275)	C(275, 400) D(100, 200) E(225)	D(400) D(125) E(125, 300)	
33	336	A(3000)	B(600)	A(700) B(425, 650) C(500)	C(100, 300) D(250)	C(300) D(100, 200)	D(100, 300) E(100, 175)	D(200, 300) E(300)	
47	476		C(300)	C(200, 350) D(200)	C(110, 350) D(80, 150)	D(100, 2000) E(150)	D(175, 250)	E(250) V(200)	
68	686	A(1500)	B(500), C(200) D(175)	C(80, 300) D(150), E(150)	D(150)	D(70, 200) 3(125, 200)	V(95)		
100	107	A(1400), B(900)	C(75, 150)	C(75, 200) D(50, 100), E(100)	D(50, 125) E(100)	V(60)			
150	157		D(125), E(125)	D(50, 100), E(100)	D(60, 150) V(45)				
220	227		D(50, 125), E(100)	D(50, 150) E(50, 100)	V(50)				
330	337		E(50, 150)	D(50, 150) E(50, 100), V(40)					
470	477		E(50, 200), V(40)	E(50, 200), V(40)					
1000	108	E(200)							

Released codes (M tolerance only)