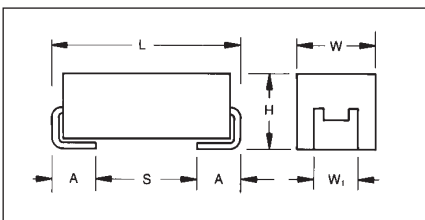


TAZ Series



CWR09 - MIL-PRF-55365/4 Established Reliability, COTS-Plus & Space Level



MARKING

(White marking on black body)



Polarity Stripe (+)

**Capacitance Code
Rated Voltage**

This is the original high reliability molded tantalum chip series and the case sizes still represent the most flexible of surface mount form factors. TAZ offers nine case sizes, eight of which (A through H) are fully qualified to MIL-PRF-55365/4, and also includes the original sub-miniature R case (non-QPL).

This series is fully interchangeable with CWR06 conformal types, while offering the advantages of molded body / compliant termination construction (ensuring no TCE mismatch with any substrate). This construction is compatible with a wide range of SMT board assembly processes including wave or reflow solder, conductive epoxy or compression bonding techniques.

The parts also carry full polarity and capacitance / voltage marking. The five smaller cases are characterized by their low profile construction, with the A case being

the world's smallest molded military tantalum chip.

All 4V to 50V ratings are qualified to MIL-PRF-55365 Weibull "B", "C", "D" and "T" levels, with all surge options ("A", "B" & "C") available, and a new COTS-Plus 63V rating has been introduced.

For Space Level applications, AVX SRC 9000 qualification is recommended (see ratings table for part number availability).

There are four termination finishes available: solder plated, fused solder plated, hot solder dipped and gold plated (these are "H", "K", "C" and "B" termination, respectively, per MIL-PRF-55365). In addition, the molding compound has been selected to meet the requirements of UL94V-0 (Flame Retardancy) and outgassing requirements of NASA SP-R-0022A.

CASE DIMENSIONS:

millimeters (inches)

Case Code	Length (L) ±0.38 (0.015)	Width (W) ±0.38 (0.015) +0.20 (0.008) -0.10 (0.004)	Height (H) ±0.38 (0.015) max	Term. Width (W _t)	Term. Length (A) ±0.13 (0.005) +0.30 (0.012) -0.20 (0.008)	S min	Typical Weight (g)
R	2.05 (0.081) ±0.20 (0.008)	1.30 (0.051) +0.20 (0.008) -0.10 (0.004)	1.20 (0.047) max	1.0±0.10 (0.039±0.004)	0.50 (0.020) +0.30 (0.012) -0.20 (0.008)	0.07 (0.028)	0.010
A	2.54 (0.100)	1.27 (0.050)	1.27 (0.050)	1.27±0.13 (0.050±0.005)	0.76 (0.030)	0.38 (0.015)	0.016
B	3.81 (0.150)	1.27 (0.050)	1.27 (0.050)	1.27±0.13 (0.050±0.005)	0.76 (0.030)	1.65 (0.065)	0.025
C	5.08 (0.200)	1.27 (0.050)	1.27 (0.050)	1.27±0.13 (0.050±0.005)	0.76 (0.030)	2.92 (0.115)	0.035
D	3.81 (0.150)	2.54 (0.100)	1.27 (0.050)	2.41+0.13/-0.25 (0.095+0.005/-0.010)	0.76 (0.030)	1.65 (0.065)	0.045
E	5.08 (0.200)	2.54 (0.100)	1.27 (0.050)	2.41+0.13/-0.25 (0.095+0.005/-0.010)	0.76 (0.030)	2.92 (0.115)	0.065
F	5.59 (0.220)	3.43 (0.135)	1.78 (0.070)	3.30±0.13 (0.130±0.005)	0.76 (0.030)	3.43 (0.135)	0.125
G	6.73 (0.265)	2.79 (0.110)	2.79 (0.110)	2.67±0.13 (0.105±0.005)	1.27 (0.050)	3.56 (0.140)	0.205
H	7.24 (0.285)	3.81 (0.150)	2.79 (0.110)	3.68+0.13/-0.51 (0.145+0.005/-0.020)	1.27 (0.050)	4.06 (0.160)	0.335

CWR09-MIL-PRF 55365/11

CAPACITANCE AND RATED VOLTAGE, V_R (VOLTAGE CODE) RANGE (LETTER DENOTES CASE SIZE)

Capacitance		Rated Voltage DC (V _R) at 85°C								
μF	Code	4V (C)	6V (D)	10V (F)	15V (H)	20V (J)	25V (K)	35V (M)	50V (N)	63V
0.10	104								A	
0.15	154								A	
0.22	224							A	B	
0.33	334	R		R		A	A	B	C	
0.47	474			R	A	B	B	C	D	
0.68	684									
1.0	105			A/R		B	C	D	E	
1.5	155		A		B	C	D	E	F	
2.2	225	A/R		B	C	D	E		F	F*
3.3	335		B	C	D	E		F	G	
4.7	475	B	C	D	E		F	G	H	
6.8	685	C	D	E		F	G	H		
10	106	D	E		F	G	H			
15	156	E		F	G	H				
22	226		F							
33	336	F		G	H					
47	476		G							
68	686	G	H							
100	107	H								
150	157									
220	227									

* Z, B Reliability Levels only available.



HOW TO ORDER

COTS-PLUS & MIL QPL (CWR09):

TAZ	H	686	*	006	C		#	@	0	^	++
Type	Case Size	Capacitance Code	Capacitance Tolerance	Voltage Code	Standard or Low ESR Range	Packaging	Inspection Level	Reliability Grade	Qualification Level	Termination Finish	Surge Test Option
		pF code: 1st two digits represent significant figures 3rd digit represents multiplier (number of zeros to follow)	M = ±20% K = ±10% J = ±5%	004 = 4Vdc 006 = 6Vdc 010 = 10Vdc 015 = 15Vdc 020 = 20Vdc 025 = 25Vdc 035 = 35Vdc 050 = 50Vdc	C = Std ESR L = Low ESR	B = Bulk R = 7" T&R S = 13" T&R W = Waffle See page 5 for additional packaging options.	S = Std. Conformance L = Group A M = MIL (JAN) CWR09	Weibull: B = 0.1%/1000 hrs. 90% conf. C = 0.01%/1000 hrs. 90% conf. D = 0.001%/1000 hrs. 90% conf. T = T Level Z = Non-ER	0 = N/A 9 = SRC9000	H = Solder Plated 0 = Fused Solder Plated 8 = Hot Solder Dipped 9 = Gold Plated 7 = Matte Sn (COTS-Plus only)	00 = None 23 = 10 Cycles, +25°C 24 = 10 Cycles, -55°C & +85°C 45 = 10 cycles, -55°C & +85°C before Weibull

CWR09 P/N CROSS REFERENCE:

CWR09	D	^	686	*	@	+	
Type	Voltage Code	Termination Finish	Capacitance Code	Capacitance Tolerance	Reliability Grade	Surge Test Option	Packaging
	C = 4Vdc D = 6Vdc F = 10Vdc H = 15Vdc J = 20Vdc K = 25Vdc M = 35Vdc N = 50Vdc	H = Solder Plated K = Solder Fused Dipped B = Gold Plated	pF code: 1st two digits represent significant figures 3rd digit represents multiplier (number of zeros to follow)	M = ±20% K = ±10% J = ±5%	Weibull: B = 0.1%/1000 hrs. 90% conf. C = 0.01%/1000 hrs. 90% conf. D = 0.001%/1000 hrs. 90% conf. T = T Level A = Non-ER	A = 10 cycles, +25°C B = 10 cycles, -55°C & +85°C C = 10 cycles, -55°C & +85°C before Weibull If blank, None required	Bulk = Standard TR = 7" T&R W = Waffle See page 5 for additional packaging options.

SPACE LEVEL OPTIONS TO SRC9000*:

TAZ	H	686	*	006	C		L	@	9	^	++
Type	Case Size	Capacitance Code	Capacitance Tolerance	Voltage Code	Standard or Low ESR Range	Packaging	Inspection Level	Reliability Grade	Qualification Level	Termination Finish	Surge Test Option
		pF code: 1st two digits represent significant figures 3rd digit represents multiplier (number of zeros to follow)	M = ±20% K = ±10% J = ±5%	004 = 4Vdc 006 = 6Vdc 010 = 10Vdc 015 = 15Vdc 020 = 20Vdc 025 = 25Vdc 035 = 35Vdc 050 = 50Vdc	C = Std ESR L = Low ESR	B = Bulk R = 7" T&R S = 13" T&R W = Waffle See page 5 for additional packaging options.	L = Group A	Weibull: B = 0.1%/1000 hrs. 90% conf. C = 0.01%/1000 hrs. 90% conf. D = 0.001%/1000 hrs. 90% conf.	9 = SRC9000	H = Solder Plated 0 = Fused Solder Plated 8 = Hot Solder Dipped 9 = Gold Plated	00 = 10 Cycles, -55°C & +85°C 45 = 10 cycles, -55°C & +85°C before Weibull

*Contact factory for AVX SRC9000 Space Level SCD details.

TECHNICAL SPECIFICATIONS

Technical Data:	Unless otherwise specified, all technical data relate to an ambient temperature of 25°C										
Capacitance Range:	0.1 µF to 100 µF										
Capacitance Tolerance:	±5%; ±10%; ±20%										
Rated Voltage: (V _R)	≤85°C:	4	6	10	15	20	25	35	50	63	
Category Voltage: (V _C)	125°C:	2.7	4	7	10	13	17	23	33	42	
Surge Voltage: (V _S)	≤85°C:	5.2	8	13	20	26	32	46	65	82	
	125°C:	3.4	5	8	13	16	20	28	40	50	
Temperature Range:	-55°C to +125°C										

RATING & PART NUMBER REFERENCE

CWR09 P/N	AVX MIL & COTS-Plus P/N	AVX SRC3000 P/N	Case	µF @ 25°C	V @ +45°C	Ohms @ +25°C	(µA)	(µA)	(%)	(%)	W	A (100kHz)	A (100kHz)	V (100kHz)	V (100kHz)	
TAZ R 334*004 C□□□@0+▲▲			R	0.33	4	45	1	10	12	6	8	0.030	0.03	0.02	0.01	1.16
TAZ R 225*004 C□□□@0+▲▲			R	2.2	4	12	1	10	12	6	8	0.030	0.05	0.06	0.02	0.80
TAZ A 225*004 C□□□@0+▲▲			A	2.2	4	8	1	10	12	6	8	0.060	0.08	0.07	0.03	0.63
TAZ B 475*004 C□□□@0+▲▲			B	4.7	4	8	1	10	12	6	8	0.070	0.09	0.08	0.04	0.75
TAZ C 685*004 C□□□@0+▲▲			C	6.8	4	5.5	1	10	12	6	8	0.075	0.12	0.11	0.05	0.64
TAZ D 106*004 C□□□@0+▲▲			D	10	4	4	1	10	12	8	10	0.080	0.14	0.13	0.06	0.57
TAZ E 156*004 C□□□@0+▲▲			E	15	4	3.5	1	10	12	8	10	0.090	0.16	0.14	0.06	0.51
TAZ F 336*004 C□□□@0+▲▲			F	33	4	2.2	2	20	24	8	10	0.100	0.21	0.19	0.09	0.47
TAZ G 686*004 C□□□@0+▲▲			G	68	4	1.1	3	30	36	10	12	0.125	0.34	0.30	0.13	0.37
TAZ H 107*004 C□□□@0+▲▲			H	100	4	0.9	4	40	48	10	12	0.150	0.41	0.37	0.16	0.37
TAZ A 155*006 C□□□@0+▲▲			A	1.5	6	8	1	10	12	6	8	0.060	0.08	0.07	0.03	0.63
TAZ B 335*006 C□□□@0+▲▲			B	3.3	6	8	1	10	12	6	8	0.070	0.09	0.08	0.04	0.75
TAZ C 475*006 C□□□@0+▲▲			C	4.7	6	5.5	1	10	12	6	8	0.075	0.12	0.11	0.05	0.64
TAZ D 685*006 C□□□@0+▲▲			D	6.8	6	4.5	1	10	12	6	8	0.080	0.13	0.12	0.05	0.60
TAZ E 106*006 C□□□@0+▲▲			E	10	6	3.5	1	10	12	8	10	0.090	0.16	0.14	0.06	0.56
TAZ F 226*006 C□□□@0+▲▲			F	22	6	2.2	2	20	24	8	10	0.100	0.21	0.19	0.09	0.47
TAZ G 476*006 C□□□@0+▲▲			G	47	6	1.1	3	30	36	10	12	0.125	0.34	0.30	0.13	0.37
TAZ H 686*006 C□□□@0+▲▲			H	68	6	0.9	4	40	48	10	12	0.150	0.41	0.37	0.16	0.37
TAZ R 334*010 C□□□@0+▲▲			R	0.33	10	50	1	10	12	6	8	0.030	0.02	0.02	0.01	1.22
TAZ R 474*010 C□□□@0+▲▲			R	0.47	10	50	1	10	12	6	8	0.030	0.02	0.02	0.01	1.22
TAZ R 105*010 C□□□@0+▲▲			R	1	10	10	1	10	12	6	8	0.030	0.05	0.06	0.02	0.55
TAZ A 105*010 C□□□@0+▲▲			A	1	10	10	1	10	12	6	8	0.050	0.07	0.06	0.03	0.71
TAZ B 225*010 C□□□@0+▲▲			B	2.2	10	8	1	10	12	6	8	0.070	0.09	0.08	0.04	0.75
TAZ C 335*010 C□□□@0+▲▲			C	3.3	10	5.5	1	10	12	6	8	0.075	0.12	0.11	0.05	0.64
TAZ D 475*010 C□□□@0+▲▲			D	4.7	10	4.5	1	10	12	6	8	0.080	0.13	0.12	0.05	0.60
TAZ E 685*010 C□□□@0+▲▲			E	6.8	10	3.5	1	10	12	6	8	0.090	0.16	0.14	0.06	0.56
TAZ F 156*010 C□□□@0+▲▲			F	15	10	2.5	2	20	24	8	10	0.100	0.20	0.18	0.08	0.50
TAZ G 336*010 C□□□@0+▲▲			G	33	10	1.1	3	30	36	10	12	0.125	0.34	0.30	0.13	0.37
TAZ H 476*010 C□□□@0+▲▲			H	47	10	0.9	5	50	60	10	12	0.150	0.41	0.37	0.16	0.37
TAZ A 684*015 C□□□@0+▲▲			A	0.68	15	12	1	10	12	6	8	0.050	0.06	0.06	0.03	0.77
TAZ B 155*015 C□□□@0+▲▲			B	1.5	15	8	1	10	12	6	8	0.070	0.09	0.08	0.04	0.75
TAZ C 225*015 C□□□@0+▲▲			C	2.2	15	5.5	1	10	12	6	8	0.075	0.12	0.11	0.05	0.64
TAZ D 335*015 C□□□@0+▲▲			D	3.3	15	5	1	10	12	6	8	0.080	0.13	0.11	0.05	0.63
TAZ E 475*015 C□□□@0+▲▲			E	4.7	15	4	1	10	12	6	8	0.090	0.15	0.14	0.06	0.60
TAZ F 106*015 C□□□@0+▲▲			F	10	15	2.5	2	20	24	8	10	0.100	0.20	0.18	0.08	0.50
TAZ G 226*015 C□□□@0+▲▲			G	22	15	1.1	4	40	48	6	8	0.125	0.34	0.30	0.13	0.37
TAZ H 336*015 C□□□@0+▲▲			H	33	15	0.9	5	50	60	8	10	0.150	0.41	0.37	0.16	0.37
TAZ A 474*020 C□□□@0+▲▲			A	0.47	20	14	1	10	12	6	8	0.050	0.06	0.06	0.02	0.84
TAZ B 684*020 C□□□@0+▲▲			B	0.68	20	10	1	10	12	6	8	0.070	0.08	0.06	0.03	0.84
TAZ C 105*020 C□□□@0+▲▲			C	1	20	12	1	10	12	6	8	0.070	0.08	0.07	0.03	0.92
TAZ D 155*020 C□□□@0+▲▲			D	1.5	20	6	1	10	12	6	8	0.075	0.11	0.10	0.04	0.67
TAZ E 225*020 C□□□@0+▲▲			E	2.2	20	5	1	10	12	6	8	0.080	0.13	0.11	0.05	0.63
TAZ F 335*020 C□□□@0+▲▲			F	3.3	20	4	1	10	12	6	8	0.090	0.15	0.14	0.06	0.60
TAZ G 685*020 C□□□@0+▲▲			G	6.8	20	2.4	2	20	24	8	10	0.100	0.20	0.18	0.08	0.49
TAZ H 106*020 C□□□@0+▲▲			H	10	20	1.1	3	30	36	6	8	0.125	0.34	0.30	0.13	0.37
TAZ A 334*025 C□□□@0+▲▲			A	0.33	25	15	1	10	12	6	8	0.050	0.06	0.06	0.02	0.87
TAZ B 684*025 C□□□@0+▲▲			B	0.68	25	7.5	1	10	12	6	8	0.070	0.10	0.09	0.04	0.72
TAZ C 105*025 C□□□@0+▲▲			C	1	25	6.5	1	10	12	6	8	0.075	0.11	0.10	0.04	0.70
TAZ D 155*025 C□□□@0+▲▲			D	1.5	25	6.5	1	10	12	6	8	0.080	0.11	0.10	0.04	0.72
TAZ E 225*025 C□□□@0+▲▲			E	2.2	25	3.5	1	10	12	6	8	0.090	0.16	0.14	0.06	0.56
TAZ F 475*025 C□□□@0+▲▲			F	4.7	25	2.5	2	20	24	8	10	0.100	0.20	0.18	0.08	0.50
TAZ G 685*025 C□□□@0+▲▲			G	6.8	25	1.2	2	20	24	8	10	0.125	0.32	0.29	0.12	0.39
TAZ H 106*025 C□□□@0+▲▲			H	10	25	1.4	3	30	36	6	8	0.150	0.30	0.27	0.13	0.42
TAZ H 156*025 C□□□@0+▲▲			H	15	25	1	4	40	48	6	8	0.150	0.39	0.35	0.15	0.39

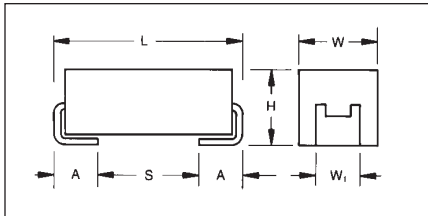
All technical data relates to an ambient temperature of +25°C. Capacitance and DF are measured at 120Hz, 0.5V RMS with a maximum DC bias of 2.2 volts. DCL is measured at rated voltage after 5 minutes. NOTE: AVX reserves the right to supply a higher voltage rating or tighter tolerance part in the same case size, to the same reliability standards.

RATING & PART NUMBER REFERENCE				Parametric Specifications by Rating per MIL-PRF-55365/4										Typical Ripple Data by Rating											
CWR09 P/N	AVX MIL & COTS-Plus p/n	AVX SRC9000 P/N	Case	Cap @ 120Hz	DC Rated Voltage	ESR @ 100kHz	DCL max			DF Max +65/125°C	+25°C		Power Dissipation	25°C		85°C		125°C		25°C		85°C		125°C	
							+25°C	+85°C	+125°C		(%)	(µA)		(µA)	A (100kHz)	A (100kHz)	A (100kHz)	V (100kHz)	V (100kHz)	A (100kHz)	V (100kHz)	A (100kHz)	V (100kHz)		
CWR09M*224*0+	TAZ A 224*035 C □ # @ 0 A++	TAZ A 224*035 C □ □ □ □ 9 A++	A	0.22	35	18	1	10	12	6	8	8	8	0.050	0.05	0.02	0.95	0.02	0.95	0.02	0.95	0.85	0.85	0.38	
CWR09M*474*0+	TAZ B 474*035 C □ # @ 0 A++	TAZ B 474*035 C □ □ □ □ 9 A++	B	0.47	35	10	1	10	12	6	8	8	8	0.070	0.08	0.03	0.84	0.03	0.84	0.03	0.84	0.75	0.75	0.33	
CWR09M*684*0+	TAZ C 684*035 C □ # @ 0 A++	TAZ C 684*035 C □ □ □ □ 9 A++	C	0.68	35	8	1	10	12	6	8	8	8	0.075	0.10	0.09	0.04	0.04	0.77	0.04	0.77	0.70	0.70	0.31	
CWR09M*105*0+	TAZ D 105*035 C □ # @ 0 A++	TAZ D 105*035 C □ □ □ □ 9 A++	D	1	35	6.5	1	10	12	6	8	8	8	0.080	0.11	0.10	0.04	0.04	0.72	0.04	0.72	0.65	0.65	0.29	
CWR09M*155*0+	TAZ E 155*035 C □ # @ 0 A++	TAZ E 155*035 C □ □ □ □ 9 A++	E	1.5	35	4.5	1	10	12	6	8	8	8	0.090	0.14	0.13	0.06	0.06	0.64	0.06	0.64	0.57	0.57	0.25	
CWR09M*335*0+	TAZ F 335*035 C □ # @ 0 A++	TAZ F 335*035 C □ □ □ □ 9 A++	F	3.3	35	2.5	1	10	12	6	8	8	8	0.100	0.20	0.18	0.08	0.08	0.50	0.08	0.50	0.45	0.45	0.20	
CWR09M*475*0+	TAZ G 475*035 C □ # @ 0 A++	TAZ G 475*035 C □ □ □ □ 9 A++	G	4.7	35	1.5	2	20	24	6	8	8	8	0.125	0.29	0.26	0.12	0.12	0.43	0.12	0.43	0.39	0.39	0.17	
CWR09M*685*0+	TAZ H 685*035 C □ # @ 0 A++	TAZ H 685*035 C □ □ □ □ 9 A++	H	6.8	35	1.3	3	30	36	6	8	8	8	0.150	0.34	0.31	0.14	0.14	0.44	0.14	0.44	0.40	0.40	0.18	
CWR09M*104*0+	TAZ A 104*050 C □ # @ 0 A++	TAZ A 104*050 C □ □ □ □ 9 A++	A	0.1	50	22	1	10	12	6	8	8	8	0.050	0.05	0.04	0.02	0.02	1.05	0.02	1.05	0.94	0.94	0.42	
CWR09M*154*0+	TAZ A 154*050 C □ # @ 0 A++	TAZ A 154*050 C □ □ □ □ 9 A++	A	0.15	50	17	1	10	12	6	8	8	8	0.050	0.05	0.05	0.02	0.02	0.92	0.02	0.92	0.83	0.83	0.37	
CWR09M*224*0+	TAZ B 224*050 C □ # @ 0 A++	TAZ B 224*050 C □ □ □ □ 9 A++	B	0.22	50	14	1	10	12	6	8	8	8	0.070	0.07	0.06	0.03	0.03	0.99	0.03	0.99	0.89	0.89	0.40	
CWR09M*334*0+	TAZ B 334*050 C □ # @ 0 A++	TAZ B 334*050 C □ □ □ □ 9 A++	B	0.33	50	12	1	10	12	6	8	8	8	0.070	0.08	0.07	0.03	0.03	0.92	0.03	0.92	0.82	0.82	0.37	
CWR09M*474*0+	TAZ C 474*050 C □ # @ 0 A++	TAZ C 474*050 C □ □ □ □ 9 A++	C	0.47	50	8	1	10	12	6	8	8	8	0.075	0.10	0.09	0.04	0.04	0.77	0.04	0.77	0.70	0.70	0.31	
CWR09M*684*0+	TAZ D 684*050 C □ # @ 0 A++	TAZ D 684*050 C □ □ □ □ 9 A++	D	0.68	50	7	1	10	12	6	8	8	8	0.080	0.11	0.10	0.04	0.04	0.75	0.04	0.75	0.67	0.67	0.30	
CWR09M*105*0+	TAZ E 105*050 C □ # @ 0 A++	TAZ E 105*050 C □ □ □ □ 9 A++	E	1	50	6	1	10	12	6	8	8	8	0.090	0.12	0.11	0.05	0.05	0.73	0.05	0.73	0.66	0.66	0.29	
CWR09M*155*0+	TAZ F 155*050 C □ # @ 0 A++	TAZ F 155*050 C □ □ □ □ 9 A++	F	1.5	50	4	1	10	12	6	8	8	8	0.100	0.16	0.14	0.06	0.06	0.63	0.06	0.63	0.57	0.57	0.25	
CWR09M*225*0+	TAZ F 225*050 C □ # @ 0 A++	TAZ F 225*050 C □ □ □ □ 9 A++	F	2.2	50	2.5	2	20	24	6	8	8	8	0.100	0.20	0.18	0.08	0.08	0.50	0.08	0.50	0.45	0.45	0.20	
CWR09M*335*0+	TAZ G 335*050 C □ # @ 0 A++	TAZ G 335*050 C □ □ □ □ 9 A++	G	3.3	50	2	2	20	24	6	8	8	8	0.125	0.25	0.23	0.10	0.10	0.50	0.10	0.50	0.45	0.45	0.20	
CWR09M*475*0+	TAZ H 475*050 C □ # @ 0 A++	TAZ H 475*050 C □ □ □ □ 9 A++	H	4.7	50	1.5	3	30	36	6	8	8	8	0.150	0.32	0.28	0.13	0.13	0.47	0.13	0.47	0.43	0.43	0.19	
	TAZ F 225*063 C □ # @ 0 A++		F	2.2	63	3	3	21	25.2	6	8	8	8	0.100	0.18	0.16	0.07	0.07	0.55	0.07	0.55	0.49	0.49	0.22	

* Z, B Reliability Levels only available.

All technical data relates to an ambient temperature of +25°C. Capacitance and DF are measured at 120Hz, 0.5V RMS with a maximum DC bias of 2.2 volts. DCL is measured at rated voltage after 5 minutes.

NOTE: AVX reserves the right to supply a higher voltage rating or tighter tolerance part in the same case size, to the same reliability standards.



MARKING

(White marking on black body)



Polarity Stripe (+)

**Capacitance Code
Rated Voltage**

An extended range of capacitor ratings beyond CWR09 that is fully qualified to MIL-PRF-55365/11, this series represents the most flexible of surface mount form factors, offering nine case sizes (the original A through H of CWR09) and adds the new X case size.

The molded body / compliant termination construction ensures no TCE mismatch with any substrate. This construction is compatible with a wide range of SMT board assembly processes including wave or reflow solder, conductive epoxy or compression bonding techniques. The parts also carry full polarity and capacitance / voltage marking.

The four smaller cases are characterized by their low profile construction, with the

A case being the world's smallest molded military tantalum chip.

The series is qualified to MIL-PRF-55365 Weibull "B", "C", "D" and "T" levels, with all surge options ("A", "B" & "C") available.

For Space Level applications, AVX SRC 9000 qualification is recommended (see ratings table for part number availability).

There are four termination finishes available: solder plated, fused solder plated, hot solder dipped and gold plated (these are "H", "K", "C" and "B" termination, respectively, per MIL-PRF-55365). In addition, the molding compound has been selected to meet the requirements of UL94V-0 (Flame Retardancy) and out-gassing requirements of NASA SP-R-0022A.

CASE DIMENSIONS:

millimeters (inches)

Case Code	Length (L) ±0.38 (0.015)	Width (W) ±0.38 (0.015)	Height (H) ±0.38 (0.015)	Term. Width (W _t)	Term. Length (A) ±0.13 (0.005)	S min	Typical Weight (g)
A	2.54 (0.100)	1.27 (0.050)	1.27 (0.050)	1.27±0.13 (0.050±0.005)	0.76 (0.030)	0.38 (0.015)	0.016
B	3.81 (0.150)	1.27 (0.050)	1.27 (0.050)	1.27±0.13 (0.050±0.005)	0.76 (0.030)	1.65 (0.065)	0.025
C	5.08 (0.200)	1.27 (0.050)	1.27 (0.050)	1.27±0.13 (0.050±0.005)	0.76 (0.030)	2.92 (0.115)	0.035
D	3.81 (0.150)	2.54 (0.100)	1.27 (0.050)	2.41±0.13/-0.25 (0.095±0.005/-0.010)	0.76 (0.030)	1.65 (0.065)	0.045
E	5.08 (0.200)	2.54 (0.100)	1.27 (0.050)	2.41±0.13/-0.25 (0.095±0.005/-0.010)	0.76 (0.030)	2.92 (0.115)	0.065
F	5.59 (0.220)	3.43 (0.135)	1.78 (0.070)	3.30±0.13 (0.130±0.005)	0.76 (0.030)	3.43 (0.135)	0.125
G	6.73 (0.265)	2.79 (0.110)	2.79 (0.110)	2.67±0.13 (0.105±0.005)	1.27 (0.050)	3.56 (0.140)	0.205
H	7.24 (0.285)	3.81 (0.150)	2.79 (0.110)	3.68±0.13/-0.51 (0.145±0.005/-0.020)	1.27 (0.050)	4.06 (0.160)	0.035
X	6.93 Max (0.273)	5.41 Max (0.213)	2.74 Max (0.108)	3.05±0.13 (0.120±0.005)	1.19 (0.047)	N/A	0.420

CWR19-MIL-PRF 55365/11

CAPACITANCE AND RATED VOLTAGE, V_R (VOLTAGE CODE) RANGE (LETTER DENOTES CASE SIZE)

Capacitance		Rated voltage DC (V _R) at 85°C						
μF	Code	4V (C)	6V (D)	10V (F)	15V (H)	20V (J)	25V (K)	35V (M)
0.10	104							
0.15	154							
0.22	224							
0.33	334							A
0.47	474						A	
0.68	684					A		
1.0	105				A	A	B	
1.5	155				A	B		
2.2	225			A	A	B	D	
3.3	335	A	A	A	B	D	E	
4.7	475	A	A	B/C	B/C/D	E		
6.8	685	A	B	B/C/D	D/E	E	F	G
10	106	B	B	B/C/D/E	D/E	E/F		H
15	156	B	B/D/E	D/E	E/F	F	G	
22	226	B/D	D/E	E	F	G	G/H	
33	336	D/E	E	F	F/G	H	H	
47	476	E	F	F/G	G/H	H/X		
68	686	E	F/G	G	G/H			
100	107	F	G	G/H	H			
150	157	G	G	H/X				
220	227	H	H	H				
330	337	H	H					

HOW TO ORDER

COTS-PLUS & MIL QPL (CWR19):

TAZ	H	227	*	006	C	□	#	@	0	^	++
Type	Case Size	Capacitance Code pF code: 1st two digits represent significant figures 3rd digit represents multiplier (number of zeros to follow)	Capacitance Tolerance M = ±20% K = ±10% J = ±5%	Voltage Code 004 = 4Vdc 006 = 6Vdc 010 = 10Vdc 015 = 15Vdc 020 = 20Vdc 025 = 25Vdc 035 = 35Vdc 050 = 50Vdc	Standard or Low ESR Range C = Std ESR L = Low ESR	Packaging B = Bulk R = 7" T&R S = 13" T&R W = Waffle See page 5 for additional packaging options.	Inspection Level S = Std. Conformance L = Group A M = MIL (JAN) CWR09	Reliability Grade Weibull: B = 0.1%/1000 hrs. 90% conf. C = 0.01%/1000 hrs. 90% conf. D = 0.001%/1000 hrs. 90% conf. T = T Level Z = Non-ER	Qualification Level 0 = N/A 9 = SRC9000	Termination Finish H = Solder Plated 0 = Fused Solder Plated 8 = Hot Solder Dipped 9 = Gold Plated 7 = Matte Sn (COTS-Plus only)	Surge Test Option 00 = None 23 = 10 Cycles, +25°C 24 = 10 Cycles, -55°C & +85°C 45 = 10 cycles, -55°C & +85°C before Weibull

CWR19 P/N CROSS REFERENCE:

CWR19	D	^	227	*	@	H	+	□
Type	Voltage Code C = 4Vdc D = 6Vdc F = 10Vdc H = 15Vdc J = 20Vdc K = 25Vdc M = 35Vdc N = 50Vdc	Termination Finish H = Solder Plated K = Solder Fused C = Hot Solder Dipped B = Gold Plated	Capacitance Code pF code: 1st two digits represent significant figures 3rd digit represents multiplier (number of zeros to follow)	Capacitance Tolerance M = ±20% K = ±10% J = ±5%	Reliability Grade Weibull: B = 0.1%/1000 hrs. 90% conf. C = 0.01%/1000 hrs. 90% conf. D = 0.001%/1000 hrs. 90% conf. T = T Level A = Non-ER	Case Size	Surge Test Option A = 10 cycles, +25°C B = 10 cycles, -55°C & +85°C C = 10 cycles, -55°C & +85°C before Weibull Z = None required	Packaging Bulk = Standard TR = 7" T&R W = Waffle See page 5 for additional packaging options.

SPACE LEVEL OPTIONS TO SRC9000*:

TAZ	H	227	*	006	C	□	L	@	9	^	++
Type	Case Size	Capacitance Code pF code: 1st two digits represent significant figures 3rd digit represents multiplier (number of zeros to follow)	Capacitance Tolerance M = ±20% K = ±10% J = ±5%	Voltage Code 004 = 4Vdc 006 = 6Vdc 010 = 10Vdc 015 = 15Vdc 020 = 20Vdc 025 = 25Vdc 035 = 35Vdc 050 = 50Vdc	Standard or Low ESR Range C = Std ESR L = Low ESR	Packaging B = Bulk R = 7" T&R S = 13" T&R W = Waffle See page 5 for additional packaging options.	Inspection Level L = Group A	Reliability Grade Weibull: B = 0.1%/1000 hrs. 90% conf. C = 0.01%/1000 hrs. 90% conf. D = 0.001%/1000 hrs. 90% conf.	Qualification Level 9 = SRC9000	Termination Finish H = Solder Plated 0 = Fused Solder Plated 8 = Hot Solder Dipped 9 = Gold Plated	Surge Test Option 00 = 10 Cycles, -55°C & +85°C 45 = 10 cycles, -55°C & +85°C before Weibull

*Contact factory for AVX SRC9000 Space Level SCD details.

TECHNICAL SPECIFICATIONS

Technical Data:	Unless otherwise specified, all technical data relate to an ambient temperature of 25°C									
Capacitance Range:	0.33 µF to 330 µF									
Capacitance Tolerance:	±5%; ±10%; ±20%									
Rated Voltage: (V _R)	≤85°C:	4	6	10	15	20	25	35	50	
Category Voltage: (V _C)	125°C:	2.7	4	7	10	13	17	23	33	
Surge Voltage: (V _S)	≤85°C:	5.2	8	13	20	26	32	46	65	
	125°C:	3.4	5	8	13	16	20	28	40	
Temperature Range:	-55°C to +125°C									

CWR19 - MIL-PRF-55365/11 Established Reliability, COTS-Plus & Space Level

[illegible]

NOTE: AVX reserves the right to supply a higher voltage rating or tighter tolerance part in the same case size, to the same reliability standards.

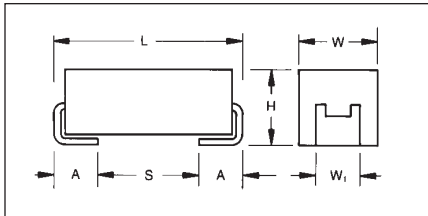
CWR19 - MIL-PRF-55365/11 Established Reliability, COTS-Plus & Space Level



age after 5 minutes.

age after 5 minutes.

age after 5 minutes.



MARKING

(White marking on black body)



Polarity Stripe (+)

Capacitance Code
Rated Voltage

A low ESR version of CWR09 and CWR19 that is fully qualified to MIL-PRF-55365/11, the CWR29 series represents the most flexible of surface mount form factors and the optimum power handling for all filtering applications. It is offered in nine case sizes (the original A through H of CWR09 and adding the new X case size).

The molded body / compliant termination construction ensures no TCE mismatch with any substrate. This construction is compatible with a wide range of SMT board assembly processes including wave or reflow solder, conductive epoxy or compression bonding techniques. The parts also carry full polarity and capacitance / voltage marking.

The five smaller cases are characterized by their low profile construction, with the

A case being the world's smallest molded military tantalum chip.

The series is qualified to MIL-PRF-55365 Weibull "B", "C", "D" and "T" levels, with all surge options ("A", "B" & "C") available.

For Space Level applications, AVX SRC 9000 qualification is recommended (see ratings table for part number availability).

There are four termination finishes available: solder plated, fused solder plated, hot solder dipped and gold plated (these are "H", "K", "C" and "B" termination, respectively, per MIL-PRF-55365). In addition, the molding compound has been selected to meet the requirements of UL94V-0 (Flame Retardancy) and out-gassing requirements of NASA SP-R-0022A.

CASE DIMENSIONS:

millimeters (inches)

Case Code	Length (L) ±0.38 (0.015)	Width (W) ±0.38 (0.015)	Height (H) ±0.38 (0.015)	Term. Width (W _t)	Term. Length (A) ±0.13 (0.005)	S min	Typical Weight (g)
A	2.54 (0.100)	1.27 (0.050)	1.27 (0.050)	1.27±0.13 (0.050±0.005)	0.76 (0.030)	0.38 (0.015)	0.016
B	3.81 (0.150)	1.27 (0.050)	1.27 (0.050)	1.27±0.13 (0.050±0.005)	0.76 (0.030)	1.65 (0.065)	0.025
C	5.08 (0.200)	1.27 (0.050)	1.27 (0.050)	1.27±0.13 (0.050±0.005)	0.76 (0.030)	2.92 (0.115)	0.035
D	3.81 (0.150)	2.54 (0.100)	1.27 (0.050)	2.41±0.13/-0.25 (0.095±0.005/-0.010)	0.76 (0.030)	1.65 (0.065)	0.045
E	5.08 (0.200)	2.54 (0.100)	1.27 (0.050)	2.41±0.13/-0.25 (0.095±0.005/-0.010)	0.76 (0.030)	2.92 (0.115)	0.065
F	5.59 (0.220)	3.43 (0.135)	1.78 (0.070)	3.30±0.13 (0.130±0.005)	0.76 (0.030)	3.43 (0.135)	0.125
G	6.73 (0.265)	2.79 (0.110)	2.79 (0.110)	2.67±0.13 (0.105±0.005)	1.27 (0.050)	3.56 (0.140)	0.205
H	7.24 (0.285)	3.81 (0.150)	2.79 (0.110)	3.68±0.13/-0.51 (0.145±0.005/-0.020)	1.27 (0.050)	4.06 (0.160)	0.035
X	6.93 Max (0.273)	5.41 Max (0.213)	2.74 Max (0.108)	3.05±0.13 (0.120±0.005)	1.19 (0.047)	N/A	0.420

CWR29-MIL-PRF 55365/11

CAPACITANCE AND RATED VOLTAGE, V_R (VOLTAGE CODE) RANGE (LETTER DENOTES CASE SIZE)

Capacitance		Rated voltage DC (V _R) at 85°C							
μF	Code	4V (C)	6V (D)	10V (F)	15V (H)	20V (J)	25V (K)	35V (M)	50V (N)
0.10	104								A
0.15	154								A
0.22	224								B
0.33	334						A	A	B
0.47	474					A	A	B	C
0.68	684				A	A/B	B	C	D
1.0	105			A	A	A/B	B/C	D	E
1.5	155		A		A/B	B/C	D	E	F
2.2	225	A		A/B	A/C	B/D	D/E		F
3.3	335	A	A/B	A/C	B/D	D/E	E	F	G
4.7	475	A/B	A/C	B/C/D	B/C/D/E	E	F	G	H
6.8	685	A/C	B/D	B/C/D/E	D/E	E/F	F/G	G/H	
10	106	B/D	B/E	B/C/D/E	D/E/F	E/F	G	H	
15	156	B/E	B/D/E	D/E/F	E/F	F/G	G/H		
22	226	B/D	D/E/F	E	F/G	G/H	G/H		
33	336	D/E/F	E	F/G	F/G/H	H	H		
47	476	E	F/G	F/G/H	G/H	H/X			
68	686	E/G	F/G/H	G	G/H				
100	107	F/H	G	G/H	H				
150	157	G	G	H/X					
220	227	H	H	H					
330	337	H	H						

HOW TO ORDER

COTS-PLUS & MIL QPL (CWR29):

TAZ	H	227	*	006	C		#	@	0	^	++
Type	Case Size	Capacitance Code pF code: 1st two digits represent significant figures 3rd digit represents multiplier (number of zeros to follow)	Capacitance Tolerance M = ±20% K = ±10% J = ±5%	Voltage Code 004 = 4Vdc 006 = 6Vdc 010 = 10Vdc 015 = 15Vdc 020 = 20Vdc 025 = 25Vdc 035 = 35Vdc 050 = 50Vdc	Standard or Low ESR Range C = Std ESR L = Low ESR	Packaging B = Bulk R = 7" T&R S = 13" T&R W = Waffle See page 5 for additional packaging options.	Inspection Level S = Std. Conformance L = Group A M = MIL (JAN) CWR09	Reliability Grade Weibull: B = 0.1%/1000 hrs. 90% conf. C = 0.01%/1000 hrs. 90% conf. D = 0.001%/1000 hrs. 90% conf. T = T Level Z = Non-ER	Qualification Level 0 = N/A 9 = SRC9000	Termination Finish H = Solder Plated 0 = Fused Solder Plated 8 = Hot Solder Dipped 9 = Gold Plated 7 = Matte Sn (COTS-Plus only)	Surge Test Option 00 = None 23 = 10 Cycles, +25°C 24 = 10 Cycles, -55°C & +85°C 45 = 10 cycles, -55°C & +85°C before Weibull

CWR29 P/N CROSS REFERENCE:

CWR29	D	^	227	*	@	H	+	
Type	Voltage Code C = 4Vdc D = 6Vdc F = 10Vdc H = 15Vdc J = 20Vdc K = 25Vdc M = 35Vdc N = 50Vdc	Termination Finish H = Solder Plated K = Solder Fused C = Hot Solder Dipped B = Gold Plated	Capacitance Code pF code: 1st two digits represent significant figures 3rd digit represents multiplier (number of zeros to follow)	Capacitance Tolerance M = ±20% K = ±10% J = ±5%	Reliability Grade Weibull: B = 0.1%/1000 hrs. 90% conf. C = 0.01%/1000 hrs. 90% conf. D = 0.001%/1000 hrs. 90% conf. T = T Level A = Non-ER	Case Size	Surge Test Option A = 10 cycles, +25°C B = 10 cycles, -55°C & +85°C C = 10 cycles, -55°C & +85°C before Weibull Z = None required	Packaging Bulk = Standard TR = 7" T&R TR13 = 13" T&R W = Waffle See page 5 for additional packaging options.

SPACE LEVEL OPTIONS TO SRC9000*:

TAZ	H	227	*	006	C		L	@	9	^	++
Type	Case Size	Capacitance Code pF code: 1st two digits represent significant figures 3rd digit represents multiplier (number of zeros to follow)	Capacitance Tolerance M = ±20% K = ±10% J = ±5%	Voltage Code 004 = 4Vdc 006 = 6Vdc 010 = 10Vdc 015 = 15Vdc 020 = 20Vdc 025 = 25Vdc 035 = 35Vdc 050 = 50Vdc	Standard or Low ESR Range C = Std ESR L = Low ESR	Packaging B = Bulk R = 7" T&R S = 13" T&R W = Waffle See page 5 for additional packaging options.	Inspection Level L = Group A	Reliability Grade Weibull: B = 0.1%/1000 hrs. 90% conf. C = 0.01%/1000 hrs. 90% conf. D = 0.001%/1000 hrs. 90% conf.	Qualification Level 9 = SRC9000	Termination Finish H = Solder Plated 0 = Fused Solder Plated 8 = Hot Solder Dipped 9 = Gold Plated	Surge Test Option 00 = 10 Cycles, -55°C & +85°C 45 = 10 cycles, -55°C & +85°C before Weibull

*Contact factory for AVX SRC9000 Space Level SCD details.

TECHNICAL SPECIFICATIONS

Technical Data:	Unless otherwise specified, all technical data relate to an ambient temperature of 25°C									
Capacitance Range:	0.1 µF to 330 µF									
Capacitance Tolerance:	±5%; ±10%; ±20%									
Rated Voltage: (V _R)	≤85°C:	4	6	10	15	20	25	35	50	
Category Voltage: (V _C)	125°C:	2.7	4	7	10	13	17	23	33	
Surge Voltage: (V _S)	≤85°C:	5.2	8	13	20	26	32	46	65	
	125°C:	3.4	5	8	13	16	20	28	40	
Temperature Range:	-55°C to +125°C									

CWR29 - MIL-PRF-55365/11 Established Reliability, COTS-Plus & Space Level



NOTE: AVX reserves the right to supply a higher voltage rating or tighter tolerance part in the same case size, to the same reliability standards.



Parametric Specifications by Rating per MIL-PRF-55365/11										Typical Ripple Data by Rating									
Cap @ 120Hz	DC Rated Voltage	ESR @ 100kHz	DF Max (65/125°C)			Power Dissipation	25°C			85°C			125°C						
			+25°C	+125°C	+25°C		(%)	(µA)	(µA)	A (100kHz)	W	A (100kHz)	V (100kHz)	A (100kHz)	V (100kHz)				
µF @ 25°C	V @ +85°C	Ohms @ +25°C	(%)	(µA)	(%)	W	(µA)	(%)	(µA)	(%)	A (100kHz)	V (100kHz)	A (100kHz)	V (100kHz)	A (100kHz)	V (100kHz)			
CWR29F475@D++	TAZ D 475 * 010 L L @ 9 A ++	1	10	12	6	8	0.080	0.23	0.09	0.35	0.31	0.14							
CWR29F685@D++	TAZ B 685 * 010 L L @ 9 A ++	3.2	10	12	6	8	0.070	0.15	0.06	0.47	0.43	0.19							
CWR29F685@C++	TAZ C 685 * 010 L L @ 9 A ++	2.2	10	12	6	8	0.075	0.18	0.07	0.41	0.37	0.16							
CWR29F685@D++	TAZ D 685 * 010 L L @ 9 A ++	1	10	12	6	8	0.080	0.22	0.09	0.37	0.33	0.15							
CWR29F685@E++	TAZ E 685 * 010 L L @ 9 A ++	1	10	12	6	8	0.090	0.30	0.27	0.12	0.30	0.27	0.12						
CWR29F106@D++	TAZ B 106 * 010 L L @ 9 A ++	3.2	10	12	6	8	0.070	0.15	0.06	0.47	0.43	0.19							
CWR29F106@C++	TAZ C 106 * 010 L L @ 9 A ++	2.2	10	12	6	8	0.075	0.18	0.07	0.41	0.37	0.16							
CWR29F106@D++	TAZ D 106 * 010 L L @ 9 A ++	1	10	12	6	8	0.080	0.25	0.22	0.10	0.32	0.29	0.13						
CWR29F106@E++	TAZ E 106 * 010 L L @ 9 A ++	1	10	12	6	8	0.090	0.30	0.27	0.12	0.30	0.27	0.12						
CWR29F156@D++	TAZ B 156 * 010 L L @ 9 A ++	1.7	20	24	6	8	0.080	0.22	0.09	0.37	0.33	0.15							
CWR29F156@C++	TAZ C 156 * 010 L L @ 9 A ++	0.9	20	24	8	10	0.090	0.32	0.28	0.13	0.28	0.26	0.11						
CWR29F156@D++	TAZ D 156 * 010 L L @ 9 A ++	0.7	20	24	8	10	0.100	0.38	0.34	0.15	0.26	0.24	0.11						
CWR29F226@E++	TAZ E 226 * 010 L L @ 9 A ++	0.6	30	36	8	10	0.090	0.39	0.35	0.15	0.23	0.21	0.09						
CWR29F336@F++	TAZ F 336 * 010 L L @ 9 A ++	0.4	30	36	8	10	0.100	0.50	0.45	0.20	0.20	0.18	0.08						
CWR29F336@G++	TAZ G 336 * 010 L L @ 9 A ++	0.275	30	36	10	12	0.125	0.67	0.61	0.27	0.19	0.17	0.07						
CWR29F476@F++	TAZ F 476 * 010 L L @ 9 A ++	0.4	40	48	10	12	0.100	0.50	0.45	0.20	0.20	0.18	0.08						
CWR29F476@G++	TAZ G 476 * 010 L L @ 9 A ++	0.25	40	48	10	12	0.125	0.71	0.64	0.28	0.18	0.16	0.07						
CWR29F476@H++	TAZ H 476 * 010 L L @ 9 A ++	0.18	50	60	10	12	0.150	0.91	0.82	0.37	0.16	0.15	0.07						
CWR29F686@G++	TAZ G 686 * 010 L L @ 9 A ++	0.275	60	72	10	12	0.125	0.67	0.61	0.27	0.19	0.17	0.07						
CWR29F107@G++	TAZ G 107 * 010 L L @ 9 A ++	0.275	100	120	10	12	0.125	0.67	0.61	0.27	0.19	0.17	0.07						
CWR29F107@H++	TAZ H 107 * 010 L L @ 9 A ++	0.18	100	120	10	12	0.150	0.91	0.82	0.37	0.16	0.15	0.07						
CWR29F157@H++	TAZ H 157 * 010 L L @ 9 A ++	0.18	150	180	10	12	0.150	0.91	0.82	0.37	0.16	0.15	0.07						
CWR29F157@X++	TAZ X 157 * 010 L L @ 9 A ++	0.065	150	180	10	12	0.200	1.75	1.58	0.70	0.11	0.10	0.05						
CWR29F227@H++	TAZ H 227 * 010 L L @ 9 A ++	0.18	200	240	10	12	0.150	0.91	0.82	0.37	0.16	0.15	0.07						
CWR29H684@A++	TAZ A 684 * 015 L L @ 9 A ++	6	10	12	6	8	0.050	0.09	0.08	0.04	0.55	0.49	0.22						
CWR29H105@A++	TAZ A 105 * 015 L L @ 9 A ++	1	10	12	6	8	0.050	0.08	0.07	0.03	0.61	0.55	0.24						
CWR29H155@A++	TAZ A 155 * 015 L L @ 9 A ++	7.5	10	12	6	8	0.050	0.08	0.07	0.03	0.61	0.55	0.24						
CWR29H155@B++	TAZ B 155 * 015 L L @ 9 A ++	3.2	10	12	6	8	0.070	0.15	0.13	0.06	0.47	0.43	0.19						
CWR29H225@A++	TAZ A 225 * 015 L L @ 9 A ++	7.5	10	12	6	8	0.050	0.08	0.07	0.03	0.61	0.55	0.24						
CWR29H225@C++	TAZ C 225 * 015 L L @ 9 A ++	2.2	10	12	6	8	0.075	0.18	0.17	0.07	0.41	0.37	0.16						
CWR29H335@B++	TAZ B 335 * 015 L L @ 9 A ++	3.6	10	12	6	8	0.070	0.14	0.13	0.06	0.50	0.45	0.20						
CWR29H335@D++	TAZ D 335 * 015 L L @ 9 A ++	1.7	10	12	6	8	0.080	0.22	0.20	0.09	0.37	0.33	0.15						
CWR29H475@B++	TAZ B 475 * 015 L L @ 9 A ++	2	10	12	6	8	0.070	0.19	0.17	0.07	0.37	0.34	0.15						
CWR29H475@C++	TAZ C 475 * 015 L L @ 9 A ++	2.2	10	12	6	8	0.075	0.18	0.17	0.07	0.41	0.37	0.16						
CWR29H475@D++	TAZ D 475 * 015 L L @ 9 A ++	1	10	12	6	8	0.080	0.20	0.18	0.08	0.40	0.36	0.16						
CWR29H475@E++	TAZ E 475 * 015 L L @ 9 A ++	2	10	12	6	8	0.090	0.27	0.25	0.11	0.33	0.30	0.13						
CWR29H685@E++	TAZ E 685 * 015 L L @ 9 A ++	0.9	10	12	8	10	0.090	0.32	0.28	0.13	0.28	0.26	0.11						
CWR29H106@D++	TAZ D 106 * 015 L L @ 9 A ++	1.2	20	24	6	8	0.080	0.20	0.18	0.08	0.40	0.36	0.16						
CWR29H106@D++	TAZ E 106 * 015 L L @ 9 A ++	2	20	24	6	8	0.090	0.27	0.25	0.11	0.33	0.30	0.13						
CWR29H156@D++	TAZ F 156 * 015 L L @ 9 A ++	0.8	20	24	8	10	0.100	0.35	0.32	0.14	0.28	0.25	0.11						
CWR29H156@F++	TAZ F 156 * 015 L L @ 9 A ++	0.8	20	24	8	10	0.100	0.35	0.32	0.14	0.28	0.25	0.11						
CWR29H226@F++	TAZ F 226 * 015 L L @ 9 A ++	0.8	30	36	8	10	0.100	0.35	0.32	0.14	0.28	0.25	0.11						
CWR29H226@G++	TAZ G 226 * 015 L L @ 9 A ++	0.275	40	48	6	8	0.125	0.67	0.61	0.27	0.19	0.17	0.07						
CWR29H336@F++	TAZ F 336 * 015 L L @ 9 A ++	0.275	60	72	8	10	0.100	0.35	0.32	0.14	0.28	0.25	0.11						
CWR29H336@G++	TAZ G 336 * 015 L L @ 9 A ++	0.275	60	72	8	10	0.125	0.67	0.61	0.27	0.19	0.17	0.07						
CWR29H476@H++	TAZ H 476 * 015 L L @ 9 A ++	0.18	100	120	8	10	0.150	0.91	0.82	0.37	0.16	0.15	0.07						
CWR29H476@G++	TAZ G 476 * 015 L L @ 9 A ++	0.18	100	120	8	10	0.150	0.91	0.82	0.37	0.16	0.15	0.07						
CWR29H686@G++	TAZ G 686 * 015 L L @ 9 A ++	0.275	100	120	8	10	0.125	0.67	0.61	0.27	0.19	0.17	0.07						
CWR29H686@H++	TAZ H 686 * 015 L L @ 9 A ++	0.18	100	120	8	10	0.150	0.91	0.82	0.37	0.16	0.15	0.07						
CWR29H107@H++	TAZ H 107 * 015 L L @ 9 A ++	0.18	150	180	10	12	0.150	0.91	0.82	0.37	0.16	0.15	0.07						
CWR29J474@A++	TAZ A 474 * 020 L L @ 9 A ++	7.5	10	12	6	8	0.050	0.08	0.07	0.03	0.61	0.55	0.24						
CWR29J684@A++	TAZ A 684 * 020 L L @ 9 A ++	20	20	20	6	8	0.050	0.08	0.07	0.03	0.61	0.55	0.24						

All technical data relates to an ambient temperature of +25°C. Capacitance and DF are measured at 120Hz, 0.5V RMS with a maximum DC bias of 2.2 volts. DCL is measured at rated voltage after 5 minutes. NOTE: AVX reserves the right to supply a higher voltage rating or tighter tolerance part in the same case size, to the same reliability standards.

Parametric Specifications by Rating per MIL-PRF-55365/11										Typical Ripple Data by Rating									
Rating & Part Number Reference										Typical Ripple Data by Rating									
Cap @ 120Hz µF @ 25°C	DC Rated Voltage V @ +85°C	ESR @ 100kHz Ohms @ +25°C	DCL max +85°C (µA)	+125°C (µA)	+25°C (%)	DF Max +65/125°C (%)	-55°C (%)	Power Dissipation W	25°C Ripple A (100kHz)	85°C Ripple A (100kHz)	125°C Ripple A (100kHz)	25°C Ripple V (100kHz)	85°C Ripple V (100kHz)	125°C Ripple V (100kHz)					
CWR29J1684@H+	TAZ B 684 * 020 L L @ 9 A ++	0.68	20	5.6	1	10	12	6	8	8	0.070	0.11	0.10	0.04	0.63	0.56	0.25		
CWR29J1105@A+	TAZ A 105 * 020 L L @ 9 A ++	B	1	20	7.5	1	10	12	6	8	0.050	0.08	0.07	0.03	0.61	0.55	0.24		
CWR29J1105@B+	TAZ B 105 * 020 L L @ 9 A ++	B	1	20	4.8	1	10	12	6	8	0.070	0.12	0.11	0.05	0.58	0.52	0.23		
CWR29J1155@B+	TAZ B 155 * 020 L L @ 9 A ++	B	1.5	20	3.6	1	10	12	6	8	0.070	0.14	0.13	0.06	0.50	0.45	0.20		
CWR29J1555@C+	TAZ C 155 * 020 L L @ 9 A ++	C	1.5	20	2.4	1	10	12	6	8	0.075	0.18	0.16	0.07	0.42	0.38	0.17		
CWR29J2255@B+	TAZ B 225 * 020 L L @ 9 A ++	B	2.2	20	3.6	1	10	12	6	8	0.070	0.14	0.13	0.06	0.50	0.45	0.20		
CWR29J2255@D+	TAZ D 225 * 020 L L @ 9 A ++	D	2.2	20	1.7	1	10	12	6	8	0.080	0.22	0.20	0.09	0.37	0.33	0.15		
CWR29J3355@D+	TAZ D 335 * 020 L L @ 9 A ++	D	3.3	20	2	1	10	12	6	8	0.080	0.20	0.18	0.08	0.40	0.36	0.16		
CWR29J3355@E+	TAZ E 335 * 020 L L @ 9 A ++	E	3.3	20	1.2	1	10	12	6	8	0.090	0.27	0.25	0.11	0.33	0.30	0.13		
CWR29J4755@E+	TAZ E 475 * 020 L L @ 9 A ++	E	4.7	20	1.7	1	10	12	6	8	0.090	0.23	0.21	0.09	0.33	0.35	0.16		
CWR29J6855@E+	TAZ E 685 * 020 L L @ 9 A ++	E	6.8	20	1.5	2	20	24	6	8	0.090	0.24	0.22	0.10	0.37	0.33	0.15		
CWR29J6855@F+	TAZ F 685 * 020 L L @ 9 A ++	F	6.8	20	0.7	2	20	24	6	8	0.100	0.38	0.34	0.15	0.26	0.24	0.11		
CWR29J1065@F+	TAZ F 106 * 020 L L @ 9 A ++	F	10	20	0.8	2	20	24	6	8	0.100	0.35	0.32	0.14	0.28	0.25	0.11		
CWR29J1565@G+	TAZ G 156 * 020 L L @ 9 A ++	F	15	20	0.8	3	30	36	6	8	0.100	0.35	0.32	0.14	0.28	0.25	0.11		
CWR29J1565@H+	TAZ H 156 * 020 L L @ 9 A ++	G	15	20	0.275	3	30	36	6	8	0.125	0.67	0.61	0.27	0.19	0.17	0.07		
CWR29J2265@G+	TAZ G 226 * 020 L L @ 9 A ++	G	22	20	0.625	4	40	48	6	8	0.125	0.45	0.40	0.18	0.28	0.25	0.11		
CWR29J2265@H+	TAZ H 226 * 020 L L @ 9 A ++	H	22	20	0.18	4	40	48	6	8	0.150	0.91	0.82	0.37	0.16	0.15	0.07		
CWR29J3365@H+	TAZ H 336 * 020 L L @ 9 A ++	H	33	20	0.18	6	60	72	8	10	0.150	0.91	0.82	0.37	0.16	0.15	0.07		
CWR29J4765@H+	TAZ H 476 * 020 L L @ 9 A ++	H	47	20	0.18	10	100	120	8	10	0.150	0.91	0.82	0.37	0.16	0.15	0.07		
CWR29K1334@A+	TAZ X 476 * 025 L L @ 9 A ++	X	47	20	0.11	10	100	120	8	10	0.200	1.35	1.21	0.54	0.15	0.13	0.06		
CWR29K474@A+	TAZ A 334 * 025 L L @ 9 A ++	A	0.33	25	7.5	1	10	12	6	8	0.050	0.08	0.07	0.03	0.61	0.55	0.24		
CWR29K474@A+	TAZ A 474 * 025 L L @ 9 A ++	A	0.47	25	7.5	1	10	12	6	8	0.050	0.08	0.07	0.03	0.61	0.55	0.24		
CWR29K684@B+	TAZ B 684 * 025 L L @ 9 A ++	B	0.68	25	4	1	10	12	6	8	0.070	0.13	0.12	0.05	0.53	0.48	0.21		
CWR29K1055@B+	TAZ B 105 * 025 L L @ 9 A ++	B	1	25	4	1	10	12	6	8	0.070	0.13	0.12	0.05	0.53	0.48	0.21		
CWR29K1055@C+	TAZ C 105 * 025 L L @ 9 A ++	C	1	25	2.6	1	10	12	6	8	0.075	0.17	0.15	0.07	0.44	0.40	0.18		
CWR29K12255@D+	TAZ D 125 * 025 L L @ 9 A ++	D	1.5	25	1.7	1	10	12	6	8	0.080	0.22	0.20	0.09	0.37	0.33	0.15		
CWR29K12255@E+	TAZ E 125 * 025 L L @ 9 A ++	E	2.2	25	2	1	10	12	6	8	0.080	0.20	0.18	0.08	0.40	0.36	0.16		
CWR29K12255@F+	TAZ F 125 * 025 L L @ 9 A ++	F	2.2	25	1	1	10	12	6	8	0.090	0.30	0.27	0.12	0.30	0.27	0.12		
CWR29K3355@F+	TAZ F 335 * 025 L L @ 9 A ++	F	3.3	25	1.2	1	10	12	6	8	0.090	0.27	0.25	0.11	0.33	0.30	0.13		
CWR29K4755@F+	TAZ F 475 * 025 L L @ 9 A ++	F	4.7	25	0.7	2	20	24	6	8	0.100	0.38	0.34	0.15	0.26	0.24	0.11		
CWR29K6855@G+	TAZ F 685 * 025 L L @ 9 A ++	F	6.8	25	0.8	2	20	24	6	8	0.100	0.35	0.32	0.14	0.28	0.25	0.11		
CWR29K6855@H+	TAZ G 685 * 025 L L @ 9 A ++	G	6.8	25	0.3	2	20	24	6	8	0.125	0.65	0.68	0.26	0.19	0.17	0.08		
CWR29K1065@G+	TAZ G 106 * 025 L L @ 9 A ++	G	10	25	0.35	3	30	36	6	8	0.125	0.60	0.54	0.24	0.21	0.19	0.08		
CWR29K1565@G+	TAZ G 156 * 025 L L @ 9 A ++	G	15	25	0.35	4	40	48	6	8	0.125	0.60	0.54	0.24	0.21	0.19	0.08		
CWR29K1565@H+	TAZ H 156 * 025 L L @ 9 A ++	H	15	25	0.2	4	40	48	6	8	0.150	0.87	0.78	0.35	0.17	0.16	0.07		
CWR29K2265@G+	TAZ G 226 * 025 L L @ 9 A ++	G	22	25	0.35	6	60	72	6	8	0.125	0.60	0.54	0.24	0.21	0.19	0.08		
CWR29K2265@H+	TAZ H 226 * 025 L L @ 9 A ++	H	22	25	0.18	6	60	72	6	8	0.150	0.91	0.82	0.37	0.16	0.15	0.07		
CWR29K3365@H+	TAZ H 336 * 025 L L @ 9 A ++	H	33	25	0.18	10	100	120	8	10	0.150	0.91	0.82	0.37	0.16	0.15	0.07		
CWR29M1555@E+	TAZ A 224 * 035 L L @ 9 A ++	A	0.22	35	12	1	10	12	6	8	0.050	0.06	0.06	0.03	0.77	0.70	0.31		
CWR29M1555@F+	TAZ A 334 * 035 L L @ 9 A ++	A	0.33	35	12	1	10	12	6	8	0.050	0.06	0.06	0.03	0.77	0.70	0.31		
CWR29M474@B+	TAZ B 474 * 035 L L @ 9 A ++	B	0.47	35	6.8	1	10	12	6	8	0.070	0.10	0.09	0.04	0.69	0.62	0.28		
CWR29M684@C+	TAZ C 684 * 035 L L @ 9 A ++	C	0.68	35	4	1	10	12	6	8	0.075	0.14	0.12	0.05	0.55	0.49	0.22		
CWR29M1055@D+	TAZ D 105 * 035 L L @ 9 A ++	D	1	35	2.2	1	10	12	6	8	0.080	0.19	0.17	0.08	0.42	0.38	0.17		
CWR29M1555@E+	TAZ E 155 * 035 L L @ 9 A ++	E	1.5	35	1.3	1	10	12	6	8	0.090	0.26	0.24	0.11	0.34	0.31	0.14		
CWR29M3355@F+	TAZ F 335 * 035 L L @ 9 A ++	F	3.3	35	0.7	1	10	12	6	8	0.100	0.38	0.34	0.15	0.26	0.24	0.11		
CWR29M4755@G+	TAZ G 475 * 035 L L @ 9 A ++	G	4.7	35	0.375	2	20	24	6	8	0.125	0.58	0.52	0.23	0.22	0.19	0.09		
CWR29M6855@G+	TAZ G 685 * 035 L L @ 9 A ++	G	6.8	35	0.375	3	30	36	6	8	0.125	0.58	0.52	0.23	0.22	0.19	0.09		
CWR29M6855@H+	TAZ H 685 * 035 L L @ 9 A ++	H	6.8	35	0.5	3	30	36	6	8	0.150	0.55	0.49	0.22	0.27	0.25	0.11		
CWR29M1065@H+	TAZ H 106 * 035 L L @ 9 A ++	H	10	35	0.5	4	40	48	8	10	0.150	0.55	0.49	0.22	0.27	0.25	0.11		
CWR29N104@A+	TAZ A 104 * 050 L L @ 9 A ++	A	0.1	50	12	1	10	12	6	8	0.050	0.06	0.06	0.03	0.77	0.70	0.31		
CWR29N154@A+	TAZ A 154 * 050 L L @ 9 A ++	A	0.15	50	12	1	10	12	6	8	0.050	0.06	0.06	0.03	0.77	0.70	0.31		

All technical data relates to an ambient temperature of +25°C. Capacitance and DF are measured at 120Hz, 0.5V RMS with a maximum DC bias of 2.2 volts. DCL is measured at rated voltage after 5 minutes.

NOTE: AVX reserves the right to supply a higher voltage rating or tighter tolerance part in the same case size, to the same reliability standards.

RATING & PART NUMBER REFERENCE				Parametric Specifications by Rating per MIL-PRF-55365/11										Typical Ripple Data by Rating													
CWR29 P/N	AVX MIL & COTS-Plus P/N	AVX SRC9000 P/N	Case	Cap @ 120Hz	DC Rated Voltage	ESR @ 100kHz	DCL max		+25°C		+125°C		+25°C		DF Max +(85/125)°C	25°C		85°C		125°C		25°C		85°C		125°C	
				µF @ 25°C	V @ +85°C	Ohms @ +25°C	(µA)	(µA)	(%)	(%)	(%)	(%)	(%)	(%)	A (100kHz)	Ripple (100kHz)	V (100kHz)	A (100kHz)	Ripple (100kHz)	V (100kHz)	A (100kHz)	Ripple (100kHz)	V (100kHz)	A (100kHz)	Ripple (100kHz)	V (100kHz)	
CWR29N224*0B+□	TAZ B 224 * 050 L □ # 0 0 + +	TAZ B 224 * 050 L L @ 9 0 + +	B	0.22	50	6.8	1	10	12	12	6	8	8	8	8	0.070	0.10	0.09	0.04	0.09	0.04	0.69	0.62	0.62	0.28	0.28	0.23
CWR29N334*0B+□	TAZ B 334 * 050 L □ # 0 0 + +	TAZ B 334 * 050 L L @ 9 0 + +	B	0.33	50	4.8	1	10	12	12	6	8	8	8	8	0.070	0.12	0.11	0.05	0.08	0.05	0.58	0.52	0.52	0.23	0.23	0.20
CWR29N474*0C+□	TAZ C 474 * 050 L □ # 0 0 + +	TAZ C 474 * 050 L L @ 9 0 + +	C	0.47	50	3.2	1	10	12	12	6	8	8	8	8	0.075	0.15	0.14	0.06	0.09	0.06	0.49	0.44	0.44	0.20	0.17	0.17
CWR29N684*0D+□	TAZ D 684 * 050 L □ # 0 0 + +	TAZ D 684 * 050 L L @ 9 0 + +	D	0.68	50	2.3	1	10	12	12	6	8	8	8	8	0.080	0.19	0.17	0.07	0.07	0.07	0.43	0.39	0.39	0.17	0.17	0.16
CWR29N105*0E+□	TAZ E 105 * 050 L □ # 0 0 + +	TAZ E 105 * 050 L L @ 9 0 + +	E	1	50	1.7	1	10	12	12	6	8	8	8	8	0.090	0.23	0.21	0.09	0.09	0.09	0.39	0.35	0.35	0.16	0.16	0.13
CWR29N155*0F+□	TAZ F 155 * 050 L □ # 0 0 + +	TAZ F 155 * 050 L L @ 9 0 + +	F	1.5	50	1.1	1	10	12	12	6	8	8	8	8	0.100	0.30	0.27	0.12	0.12	0.12	0.33	0.30	0.30	0.13	0.13	0.11
CWR29N225*0F+□	TAZ F 225 * 050 L □ # 0 0 + +	TAZ F 225 * 050 L L @ 9 0 + +	F	2.2	50	0.7	2	20	24	24	6	8	8	8	8	0.100	0.38	0.34	0.15	0.15	0.15	0.26	0.24	0.24	0.11	0.11	0.10
CWR29N335*0G+□	TAZ G 335 * 050 L □ # 0 0 + +	TAZ G 335 * 050 L L @ 9 0 + +	G	3.3	50	0.5	2	20	24	24	6	8	8	8	8	0.125	0.50	0.45	0.20	0.20	0.20	0.25	0.23	0.23	0.10	0.10	0.11
CWR29N475*0H+□	TAZ H 475 * 050 L □ # 0 0 + +	TAZ H 475 * 050 L L @ 9 0 + +	H	4.7	50	0.5	3	30	36	36	6	8	8	8	8	0.150	0.55	0.49	0.22	0.22	0.22	0.27	0.25	0.25	0.11	0.11	0.11

All technical data relates to an ambient temperature of +25°C. Capacitance and DF are measured at 120Hz, 0.5V RMS with a maximum DC bias of 2.2 volts. DCL is measured at rated voltage after 5 minutes.

NOTE: AVX reserves the right to supply a higher voltage rating or tighter tolerance part in the same case size, to the same reliability standards.