

# TAZ Series

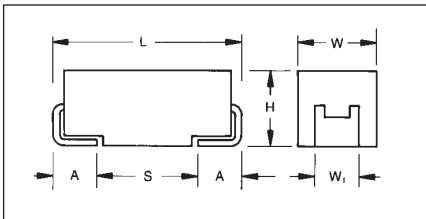


## CWR09 - MIL-PRF-55365/4



Fully qualified to MIL-PRF-55365/4, this series represents the most flexible of surface mount form factors, offering eight case sizes (A through H). This series is fully interchangeable with CWR06 conformal types, while offering the advantages of molded body/compliant termination construction, polarity and capacitance. 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.

The five smaller cases are characterized by their low profile construction, with the A case being the world's smallest molded military tantalum. There are three termination finishes available: fused solder plated ("K" per MIL-PRF-55365), hot solder dipped ("C") and gold plated ("B"). In addition, the molding compound has been selected to meet the requirements of UL94V-0 and outgassing requirements of NASA SP-R-0022A.



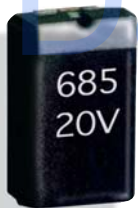
### CASE DIMENSIONS:

millimeters (inches)

Case Code	Length (L) ±0.38 (0.015)	Width (W) ±0.38 (0.015)	Height (H) ±0.38 (0.015)	Term. Width (W <sub>t</sub> )	Term. Length (A) ±0.13 (0.005)	S min
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)	1.80 (0.071)
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)
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)
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)
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)
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)
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)
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)	0.70 (0.028)

### MARKING

(White marking on black body)



Polarity Stripe (+)

Capacitance Code  
Rated Voltage

### HOW TO ORDER

**CWR09**

Type

**J**

Voltage Code

C = 4Vdc  
D = 6Vdc  
F = 10Vdc  
H = 15Vdc  
J = 20Vdc  
K = 25Vdc  
M = 35Vdc  
N = 50Vdc

**^**

Termination Finish

K = Solder Fused  
C = Hot Solder Dipped  
B = Gold Plated

**225**

Capacitance Code

pF code:  
1st two digits represent significant figures  
3rd digit represents multiplier  
(number of zeros to follow)

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Capacitance Tolerance

M = ±20%  
K = ±10%  
J = ±5%

**@**

Reliability Grade

Weibull: B = 0.1%/1000 Hrs.  
(90% C = 0.01%/1000 Hrs. conf.)  
Comm: Z = Non ER

**+**

Surge Test Option

A = 10 cycles, +25°C  
B = 10 cycles, -55°C & +85°C  
C = 10 cycles, -55°C & +85°C before Weibull

**□**

Packaging

Bulk = Standard  
TR = 7" T&R  
TR13 = 13" T&R  
W = Waffle

### 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 <sub>R</sub> )	≤85°C:	4	6	10	15	20	25	35	50	
Category Voltage: (V <sub>C</sub> )	125°C:	2.7	4	7	10	13	17	23	33	
Surge Voltage: (V <sub>S</sub> )	≤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									



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

Capacitance		Rated voltage DC ( $V_R$ ) at 85°C							
$\mu\text{F}$	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							A	B
0.33	334						A		B
0.47	474					A		B	C
0.68	684				A	B	B	C	D
1.0	105			A		B	C	D	E
1.5	155		A		B	C	D	E	F
2.2	225	A		B	C	D	E		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		
15	156	E		F		G	H		
22	226		F		G	H			
33	336	F		G	H				
47	476		G	H					
68	686	G	H						
100	107	H							
150	157								
220	227								

## CWR09 - MIL-PRF-55365/4

Part Number	Case Size	Cap (nom) (μF)	DC rated voltage (85°C) (volts)	ESR (max) 100 kHz +25°C (ohms)	DC Leakage (max)			Dissipation Factor (max)		
					+25°C (μA)	+85°C (μA)	+125°C (μA)	+25°C (%)	+85/125°C (%)	-55°C (%)
CWR09C^225*@+□	A	2.2	4	8	1	10	12	6	8	8
CWR09C^475*@+□	B	4.7	4	8	1	10	12	6	8	8
CWR09C^685*@+□	C	6.8	4	5.5	1	10	12	6	8	8
CWR09C^106*@+□	D	10	4	4	1	10	12	8	8	10
CWR09C^156*@+□	E	15	4	3.5	1	10	12	8	10	12
CWR09C^336*@+□	F	33	4	2.2	2	20	24	8	10	12
CWR09C^686*@+□	G	68	4	1.1	3	30	36	10	12	12
CWR09C^107*@+□	H	100	4	0.9	4	40	48	10	12	12
CWR09D^155*@+□	A	1.5	6	8	1	10	12	6	8	8
CWR09D^335*@+□	B	3.3	6	8	1	10	12	6	8	8
CWR09D^475*@+□	C	4.7	6	5.5	1	10	12	6	8	8
CWR09D^685*@+□	D	6.8	6	4.5	1	10	12	6	8	8
CWR09D^106*@+□	E	10	6	3.5	1	10	12	8	10	12
CWR09D^226*@+□	F	22	6	2.2	2	20	24	8	10	12
CWR09D^476*@+□	G	47	6	1.1	3	30	36	10	12	12
CWR09D^686*@+□	H	68	6	0.9	4	40	48	10	12	12
CWR09F^105*@+□	A	1	10	10	1	10	12	6	8	8
CWR09F^225*@+□	B	2.2	10	8	1	10	12	6	8	8
CWR09F^335*@+□	C	3.3	10	5.5	1	10	12	6	8	8
CWR09F^475*@+□	D	4.7	10	4.5	1	10	12	6	8	8
CWR09F^685*@+□	E	6.8	10	3.5	1	10	12	6	8	8
CWR09F^156*@+□	F	15	10	2.5	2	20	24	8	8	10
CWR09F^336*@+□	G	33	10	1.1	3	30	36	10	12	12
CWR09F^476*@+□	H	47	10	0.9	5	50	60	10	12	12
CWR09H^684*@+□	A	0.68	15	12	1	10	12	6	8	8
CWR09H^155*@+□	B	1.5	15	8	1	10	12	6	8	8
CWR09H^225*@+□	C	2.2	15	5.5	1	10	12	6	8	8
CWR09H^335*@+□	D	3.3	15	5	1	10	12	6	8	8
CWR09H^475*@+□	E	4.7	15	4	1	10	12	6	8	8
CWR09H^106*@+□	F	10	15	2.5	2	20	24	6	8	8
CWR09H^226*@+□	G	22	15	1.1	4	40	48	6	8	8
CWR09H^336*@+□	H	33	15	0.9	5	50	60	8	8	10
CWR09J^474*@+□	A	0.47	20	14	1	10	12	8	10	10
CWR09J^684*@+□	B	0.68	20	10	1	10	12	6	8	8
CWR09J^105*@+□	B	1	20	12	1	10	12	6	8	8
CWR09J^155*@+□	C	1.5	20	6	1	10	12	6	8	8
CWR09J^225*@+□	D	2.2	20	5	1	10	12	6	8	8
CWR09J^335*@+□	E	3.3	20	4	1	10	12	6	8	8
CWR09J^685*@+□	F	6.8	20	2.4	2	20	24	6	8	8
CWR09J^156*@+□	G	15	20	1.1	3	30	36	6	8	8
CWR09J^226*@+□	H	22	20	0.9	4	40	48	6	8	8
CWR09K^334*@+□	A	0.33	25	15	1	10	12	6	8	8
CWR09K^684*@+□	B	0.68	25	7.5	1	10	12	6	8	8
CWR09K^105*@+□	C	1	25	6.5	1	10	12	6	8	8

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					+25°C (μA)	+85°C (μA)	+125°C (μA)	+25°C (%)	+85/125°C (%)	-55°C (%)
CWR09K^155*@+□	D	1.5	25	6.5	1	10	12	6	8	8
CWR09K^225*@+□	E	2.2	25	3.5	1	10	12	6	8	8
CWR09K^475*@+□	F	4.7	25	2.5	2	20	24	6	8	8
CWR09K^685*@+□	G	6.8	25	1.2	2	20	24	6	8	8
CWR09K^106*@+□	G	10	25	1.4	3	30	36	6	8	8
CWR09K^156*@+□	H	15	25	1	4	40	48	6	8	8
CWR09M^224*@+□	A	0.22	35	18	1	10	12	6	8	8
CWR09M^474*@+□	B	0.47	35	10	1	10	12	6	8	8
CWR09M^684*@+□	C	0.68	35	8	1	10	12	6	8	8
CWR09M^105*@+□	D	1	35	6.5	1	10	12	6	8	8
CWR09M^155*@+□	E	1.5	35	4.5	1	10	12	6	8	8
CWR09M^335*@+□	F	3.3	35	2.5	1	10	12	6	8	8
CWR09M^475*@+□	G	4.7	35	1.5	2	20	24	6	8	8
CWR09M^685*@+□	H	6.8	35	1.3	3	30	36	6	8	8
CWR09N^104*@+□	A	0.1	50	22	1	10	12	6	8	8
CWR09N^154*@+□	A	0.15	50	17	1	10	12	6	8	8
CWR09N^224*@+□	B	0.22	50	14	1	10	12	6	8	8
CWR09N^334*@+□	B	0.33	50	12	1	10	12	6	8	8
CWR09N^474*@+□	C	0.47	50	8	1	10	12	6	8	8
CWR09N^684*@+□	D	0.68	50	7	1	10	12	6	8	8
CWR09N^105*@+□	E	1	50	6	1	10	12	6	8	8
CWR09N^155*@+□	F	1.5	50	4	1	10	12	6	8	8
CWR09N^225*@+□	F	2.2	50	2.5	2	20	24	6	8	8
CWR09N^335*@+□	G	3.3	50	2	2	20	24	6	8	8
CWR09N^475*@+□	H	4.7	50	1.5	3	30	36	6	8	8