

# TBJ Series

## CWR11 - MIL-PRF-55365/8

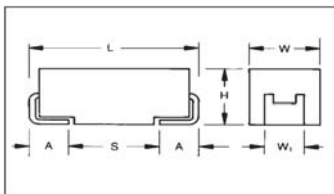


*New picture needed*

Fully qualified to MIL-PRF-55365/8, the CWR11 is the military version of EIA-35BAAC, the commercial industry standard. It comprises four case sizes (A through D). This series also offers molded body/compliant termination construction, polarity, capacitance and JAN brand 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. There are three termination finishes available: fused solder plated ("K" per MIL-PRF-55365), hot solder dipped ("C") and gold plated ("B").

### CASE DIMENSIONS: millimeters (inches)



Code	EIA Code	L±0.20 (0.008)	W +0.20 (0.008) -0.10 (0.004)	H +0.20 (0.008) -0.10 (0.004)	W <sub>1</sub> ±0.20 (0.008)	A +0.30 (0.012) -0.20 (0.008)	S Min.
A	3216-18	3.20 (0.126)	1.60 (0.063)	1.60 (0.063)	1.20 (0.047)	0.80 (0.031)	1.10 (0.043)
B	3528-21	3.50 (0.138)	2.80 (0.110)	1.90 (0.075)	2.20 (0.087)	0.80 (0.031)	1.40 (0.055)
C	6032-28	6.00 (0.236)	3.20 (0.126)	2.60 (0.102)	2.20 (0.087)	1.30 (0.051)	2.90 (0.114)
D	7343-31	7.30 (0.287)	4.30 (0.169)	2.90 (0.114)	2.40 (0.094)	1.30 (0.051)	4.40 (0.173)

### MARKING

(Brown marking on gold body)



Polarity stripe (+)

"J" for "JAN" Brand  
Capacitance Code  
Rated Voltage  
Manufacturer's ID

### HOW TO ORDER

CWR11 J B 225 \* @ +

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	K = Fused solder Plated C = Hot solder dip B = Gold Plated	pF code: 1 <sup>st</sup> two digits represent significant figures 3 <sup>rd</sup> digit represents multiplier (number of zeros to follow)	M = ±20% K = ±10% J = ±5%	Weibull: B = 0.1%/1000 Hrs. (90% C = 0.01%/1000 Hrs. conf.) Comm: Z = Non ER	A = 10 cycles, +25°C B = 10 cycles, -55°C & +85°C C = 10 cycles, -55°C & +85°C before Weibull Z = None (required for CWR19 & CWR29 only)	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:		0.1µF to 100µF									
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		
Surge Voltage (V <sub>S</sub> )	125°C:	3.4	5	8	13	16	20	28	40		
Temperature Range:		-55°C to +125°C									



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### RATINGS & PART NUMBER REFERENCE

Part Number	Case Size	Cap (nom) (µF)	DC rated voltage (85°C) (volts)	ESR (max) 100 kHz +25°C (Ohms)	DC Leakage (max)			Discipation Factor (max)		
					+25°C (µA)	+85°C (µA)	+125°C (µA)	+25°C (%)	+85/125°C (%)	-55°C (%)
CWR11CK225*@+	A	2.2	4	8	0.5	5	6	6	9	9
CWR11CK475*@+	A	4.7	4	8	0.5	5	6	6	9	9
CWR11CK685*@+	B	6.8	4	5.5	0.5	5	6	6	9	9
CWR11CK106*@+	B	10	4	4	0.5	5	6	6	9	9
CWR11CK156*@+	B	15	4	3.5	0.6	6	7.2	6	9	9
CWR11CK336*@+	C	33	4	2.2	1.3	13	15.6	6	9	9
CWR11CK686*@+	D	68	4	1.1	2.7	27	32.4	6	9	9
CWR11CK107*@+	D	100	4	0.9	4	40	48	8	12	12
CWR11DK155*@+	A	1.5	6	8	0.5	5	6	6	9	9
CWR11DK225*@+	A	2.2	6	8	0.5	5	6	6	9	9
CWR11DK335*@+	A	3.3	6	8	0.5	5	6	6	9	9
CWR11DK475*@+	B	4.7	6	5.5	0.5	5	6	6	9	9
CWR11DK685*@+	B	6.8	6	4.5	0.5	5	6	6	9	9
CWR11DK106*@+	B	10	6	3.5	0.6	6	7.2	6	9	9
CWR11DK156*@+	C	15	6	3	0.9	9	10.8	6	9	9
CWR11DK226*@+	C	22	6	2.2	1.4	14	16.8	6	9	9
CWR11DK476*@+	D	47	6	1.1	2.8	28	33.6	6	9	9
CWR11DK686*@+	D	68	6	0.9	4.3	43	86	6	9	9
CWR11FK105*@+	A	1	10	10	0.5	5	6	4	6	6
CWR11FK155*@+	A	1.5	10	8	0.5	5	6	6	9	9
CWR11FK225*@+	A	2.2	10	8	0.5	5	6	6	9	9
CWR11FK335*@+	B	3.3	10	5.5	0.5	5	6	6	9	9
CWR11FK475*@+	B	4.7	10	4.5	0.5	5	6	6	9	9
CWR11FK685*@+	B	6.8	10	3.5	0.7	7	8.4	6	9	9
CWR11FK156*@+	C	15	10	2.5	1.5	15	18	6	9	9
CWR11FK336*@+	D	33	10	1.1	3.3	33	39.6	6	9	9
CWR11FK476*@+	D	47	10	0.9	4.7	47	56.4	6	9	9
CWR11HK684*@+	A	0.68	15	12	0.5	5	6	4	6	6
CWR11HK105*@+	A	1	15	10	0.5	5	6	4	6	6
CWR11HK155*@+	A	1.5	15	8	0.5	5	6	6	9	9
CWR11HK225*@+	B	2.2	15	5	0.5	5	6	6	9	9
CWR11HK335*@+	B	3.3	15	5	0.5	5	6	6	8	9
CWR11HK475*@+	B	4.7	15	4	0.7	7	8.4	6	9	9
CWR11HK106*@+	C	10	15	2.5	1.6	16	19.2	6	8	9
CWR11HK226*@+	D	22	15	1.1	3.3	33	39.6	6	8	9
CWR11HK336*@+	D	33	15	0.9	5.3	53	106	6	9	9
CWR11JK474*@+	A	0.47	20	14	0.5	5	6	4	6	6
CWR11JK684*@+	A	0.68	20	12	0.5	5	6	4	6	6
CWR11JK105*@+	A	1	20	10	0.5	5	6	4	6	6
CWR11JK155*@+	B	1.5	20	6	0.5	5	6	6	9	9
CWR11JK225*@+	B	2.2	20	5	0.5	5	6	6	8	9
CWR11JK335*@+	B	3.3	20	4	0.7	7	8.4	6	9	9
CWR11JK475*@+	C	4.7	20	3	1	10	12	6	8	9
CWR11JK685*@+	C	6.8	20	2.4	1.4	14	16.8	6	9	9
CWR11JK156*@+	D	15	20	1.1	3	30	36	6	8	9
CWR11JK226*@+	D	22	20	0.9	4.4	44	52.8	6	9	9
CWR11KK334*@+	A	0.33	25	15	0.5	5	6	4	6	6
CWR11KK474*@+	A	0.47	25	14	0.5	5	6	4	6	6
CWR11KK684*@+	B	0.68	25	7.5	0.5	5	6	4	6	6
CWR11KK105*@+	B	1	25	6.5	0.5	5	6	4	6	6
CWR11KK155*@+	B	1.5	25	6.5	0.5	5	6	6	8	9
CWR11KK225*@+	C	2.2	25	3.5	0.6	6	7.2	6	9	9
CWR11KK335*@+	C	3.3	25	3.5	0.9	9	10.8	6	8	9
CWR11KK475*@+	C	4.7	25	2.5	1.2	12	14.4	6	9	9
CWR11KK685*@+	D	6.8	25	1.4	1.7	17	20.4	6	9	9
CWR11KK106*@+	D	10	25	1.2	2.5	25	30	6	8	9
CWR11KK156*@+	D	15	25	1	3.8	38	45.6	6	9	9
CWR11MK104*@+	A	0.1	35	24	0.5	5	6	4	6	6
CWR11MK154*@+	A	0.15	35	21	0.5	5	6	4	6	6
CWR11MK224*@+	A	0.22	35	18	0.5	5	6	4	6	6
CWR11MK334*@+	A	0.33	35	15	0.5	5	6	4	6	6
CWR11MK474*@+	B	0.47	35	10	0.5	5	6	4	6	6
CWR11MK684*@+	B	0.68	35	8	0.5	5	6	4	6	6
CWR11MK105*@+	B	1	35	6.5	0.5	5	6	4	6	6
CWR11MK155*@+	C	1.5	35	4.5	0.5	5	6	6	8	9
CWR11MK225*@+	C	2.2	35	3.5	0.8	8	9.6	6	8	9
CWR11MK335*@+	C	3.3	35	2.5	1.2	12	14.4	6	8	9
CWR11MK475*@+	D	4.7	35	1.5	1.7	17	20.4	6	8	9
CWR11MK685*@+	D	6.8	35	1.3	2.4	24	28.8	6	9	9

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Part Number	Case Size	Cap (nom) (μF)	DC rated voltage (85°C) (volts)	ESR (max) 100 kHz +25°C (Ohms)	DC Leakage (max)			Discipation Factor (max)		
					+25°C (μA)	+85°C (μA)	+125°C (μA)	+25°C (%)	+85/125°C (%)	-55°C (%)
CWR11NK104*@+	A	0.1	50	22	0.5	5	12	6	8	8
CWR11NK154*@+	B	0.15	50	17	0.5	5	6	4	6	6
CWR11NK224*@+	B	0.22	50	14	0.5	5	6	4	6	6
CWR11NK334*@+	B	0.33	50	12	0.5	5	6	4	6	6
CWR11NK474*@+	C	0.47	50	8	0.5	5	6	4	6	6
CWR11NK684*@+	C	0.68	50	7	0.5	5	6	4	6	6
CWR11NK105*@+	C	1	50	6	0.5	5	6	4	6	6
CWR11NK155*@+	D	1.5	50	4	0.8	8	9.6	6	8	9
CWR11NK225*@+	D	2.2	50	2.5	1.1	11	13.2	6	8	9
CWR11NK335*@+	D	3.3	50	2	1.7	17	20.4	6	9	9
CWR11NK475*@+	D	4.7	50	1.5	2.4	24	28.8	6	9	9