

# TBJ Series



## CWR11 - MIL-PRF-55365/8 Established Reliability, COTS-Plus & Space Level



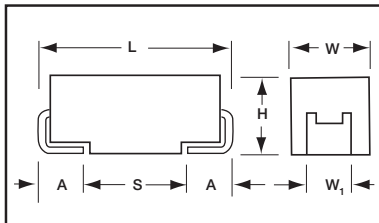
Fully qualified to MIL-PRF-55365/8, the CWR11 is the military version of EIA-535BAAC, with four case sizes designed for maximum packaging efficiency on 8mm & 12mm tape for high volume production (ensuring no TCE mismatch with any substrate). This construction is compatible with a wide range of SMT board assembly processes including wave or reflow solder, conductive epoxy or compression bonding techniques. The part also carries full polarity, capacitance / voltage and JAN brand marking.

For Space Level applications, AVX SRC9000 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).

The molding compound has been selected to meet the requirements of UL94V-0 (Flame Retardancy) and outgassing requirements of NASA SP-R-0022A.

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



### MARKING

(Brown marking on gold body)



Polarity Stripe (+)

"J" for "JAN" Brand  
Capacitance Code

Rated Voltage  
Manufacturer's ID

### CASE DIMENSIONS: millimeters (inches)

Case Code	EIA Metric	Length (L)	Width (W)	Height (H)	Term. Width (W <sub>1</sub> ) ±0.10 (±0.004)	Term. Length A ±0.30(±0.012)	S min
A	3216-18	3.20±0.20 (0.126±0.008)	1.60±0.20 (0.063±0.008)	1.60±0.20 (0.063±0.008)	1.20 (0.047)	0.80 (0.031)	1.80 (0.071)
B	3528-21	3.50±0.20 (0.138±0.008)	2.80±0.20 (0.110±0.008)	1.90±0.20 (0.075±0.008)	2.20 (0.087)	0.80 (0.031)	1.40 (0.055)
C	6032-28	6.00±0.30 (0.236±0.012)	3.20±0.30 (0.126±0.012)	2.50±0.30 (0.098±0.012)	2.20 (0.087)	1.30 (0.051)	2.90 (0.114)
D	7343-31	7.30±0.30 (0.287±0.012)	4.30±0.30 (0.169±0.012)	2.80±0.30 (0.110±0.012)	2.40 (0.094)	1.30 (0.051)	4.40 (0.173)

### CAPACITANCE AND RATED VOLTAGE, V<sub>R</sub> (MIL VOLTAGE CODE) RANGE CASE SIZE

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



### HOW TO ORDER

#### COTS-PLUS & MIL QPL (CWR11):

TBJ	D	686	*	006	C	□	#	@	0	^	++
<b>Type</b>	<b>Case Size</b>	<b>Capacitance Code</b> pF code: 1st two digits represent significant figures 3rd digit represents multiplier (number of zeros to follow)	<b>Capacitance Tolerance</b> M = ±20% K = ±10% J = ±5%	<b>Voltage Code</b> 004 = 4Vdc 006 = 6Vdc 010 = 10Vdc 015 = 15Vdc 020 = 20Vdc 025 = 25Vdc 035 = 35Vdc 050 = 50Vdc	<b>Standard or Low ESR Range</b> C = Std ESR L = Low ESR	<b>Packaging</b> B = Bulk R = 7" T&R S = 13" T&R W = Waffle  See page 5 for additional packaging options.	<b>Inspection Level</b> S = Std. Conformance L = Group A  M = MIL (JAN) CWR11	<b>Reliability Grade</b> 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	<b>Qualification Level</b> 0 = N/A 9 = SRC9000	<b>Termination Finish</b> H = Solder Plated 0 = Fused Solder Plated 8 = Hot Solder Dipped 9 = Gold Plated 7 = Matte Sn (COTS-Plus only)	<b>Surge Test Option</b> 00 = None 23 = 10 Cycles, +25°C 24 = 10 Cycles, -55°C & +85°C 45 = 10 cycles, -55°C & +85°C before Weibull

#### CWR11 P/N CROSS REFERENCE:

CWR11	D	^	686	*	@	+	□
<b>Type</b>	<b>Voltage Code</b> C = 4Vdc D = 6Vdc F = 10Vdc H = 15Vdc J = 20Vdc K = 25Vdc M = 35Vdc N = 50Vdc	<b>Termination Finish</b> H = Solder Plated K = Solder Fused Dipped C = Hot Solder Dipped B = Gold Plated	<b>Capacitance Code</b> pF code: 1st two digits represent significant figures 3rd digit represents multiplier (number of zeros to follow)	<b>Capacitance Tolerance</b> M = ±20% K = ±10% J = ±5%	<b>Reliability Grade</b> 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	<b>Surge Test Option</b> 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	<b>Packaging</b> Bulk = Standard TR = 7" T&R TR13 = 13" T&R W = Waffle  See page 5 for additional packaging options.

#### SPACE LEVEL OPTIONS TO SRC9000\*:

TBJ	D	686	*	006	C	□	L	@	9	^	++
<b>Type</b>	<b>Case Size</b>	<b>Capacitance Code</b> pF code: 1st two digits represent significant figures 3rd digit represents multiplier (number of zeros to follow)	<b>Capacitance Tolerance</b> M = ±20% K = ±10% J = ±5%	<b>Voltage Code</b> 004 = 4Vdc 006 = 6Vdc 010 = 10Vdc 015 = 15Vdc 020 = 20Vdc 025 = 25Vdc 035 = 35Vdc 050 = 50Vdc	<b>Standard or Low ESR Range</b> C = Std ESR L = Low ESR	<b>Packaging</b> B = Bulk R = 7" T&R S = 13" T&R W = Waffle  See page 5 for additional packaging options.	<b>Inspection Level</b> L = Group A	<b>Reliability Grade</b> Weibull: B = 0.1%/1000 hrs. 90% conf. C = 0.01%/1000 hrs. 90% conf. D = 0.001%/1000 hrs. 90% conf.	<b>Qualification Level</b> 9 = SRC9000	<b>Termination Finish</b> H = Solder Plated 0 = Fused Solder Plated 8 = Hot Solder Dipped 9 = Gold Plated	<b>Surge Test Option</b> 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 <sub>R</sub> )	≤85°C:	4	6	10	16	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									

# TBJ Series

## CWR11 - MIL-PRF-55365/8 Established Reliability, COTS-Plus & Space Level

RATING & PART NUMBER REFERENCE				Parametric Specifications by Rating per MIL-PRF-55365/8							Power Dissipation W	25°C Ripple A (100kHz)	T		
				Cap @ 120Hz µF @ 25°C	DC Rated Voltage V @ +85°C	ESR @ 100kHz Ohms @ +25°C	DCL max			DF Max					
CWR11 P/N	AVX COTS-Plus P/N	AVX SRC9000 P/N	Case				+25°C (µA)	+85°C (µA)	+125°C (µA)	+25°C (%)	+85/125°C (%)	-55°C (%)			
CWR11C^225^@+□	TBJA 225 * 004 C □ # @ 0 ^ ++	TBJ A 225 * 004 C □ L @ 0 ^ ++	A	2.2	4	8	0.5	5	6	6	9	9	0.075	0.10	
CWR11C^475^@+□	TBJ A 475 * 004 C □ # @ 0 ^ ++	TBJ A 475 * 004 C □ L @ 0 ^ ++	A	4.7	4	8	0.5	5	6	6	9	9	0.075	0.10	
CWR11C^685^@+□	TBJ B 685 * 004 C □ # @ 0 ^ ++	TBJ B 685 * 004 C □ L @ 9 ^ ++	B	6.8	4	5.5	0.5	5	6	6	9	9	0.085	0.12	
CWR11C^106^@+□	TBJ B 106 * 004 C □ # @ 0 ^ ++	TBJ B 106 * 004 C □ L @ 9 ^ ++	B	10	4	4	0.5	5	6	6	9	9	0.085	0.15	
CWR11C^156^@+□	TBJ B 156 * 004 C □ # @ 0 ^ ++	TBJ B 156 * 004 C □ L @ 9 ^ ++	B	15	4	3.5	0.6	6	7.2	6	9	9	0.085	0.16	
CWR11C^336^@+□	TBJ C 336 * 004 C □ # @ 0 ^ ++	TBJ C 336 * 004 C □ L @ 9 ^ ++	C	33	4	2.2	1.3	13	15.6	6	9	9	0.110	0.22	
CWR11C^686^@+□	TBJ D 686 * 004 C □ # @ 0 ^ ++	TBJ D 686 * 004 C □ L @ 9 ^ ++	D	68	4	1.1	2.7	27	32.4	6	9	9	0.150	0.37	
CWR11C^107^@+□	TBJ D 107 * 004 C □ # @ 0 ^ ++	TBJ D 107 * 004 C □ L @ 9 ^ ++	D	100	4	0.9	4	40	48	8	12	12	0.150	0.41	
CWR11D^155^@+□	TBJ A 155 * 006 C □ # @ 0 ^ ++	TBJ A 155 * 006 C □ L @ 9 ^ ++	A	1.5	6	8	0.5	5	6	6	9	9	0.075	0.10	
CWR11D^225^@+□	TBJ A 225 * 006 C □ # @ 0 ^ ++	TBJ A 225 * 006 C □ L @ 9 ^ ++	A	2.2	6	8	0.5	5	6	6	9	9	0.075	0.10	
CWR11D^335^@+□	TBJ A 335 * 006 C □ # @ 0 ^ ++	TBJ A 335 * 006 C □ L @ 9 ^ ++	A	3.3	6	8	0.5	5	6	6	9	9	0.075	0.10	
CWR11D^475^@+□	TBJ B 475 * 006 C □ # @ 0 ^ ++	TBJ B 475 * 006 C □ L @ 9 ^ ++	B	4.7	6	5.5	0.5	5	6	6	9	9	0.085	0.12	
CWR11D^685^@+□	TBJ B 685 * 006 C □ # @ 0 ^ ++	TBJ B 685 * 006 C □ L @ 9 ^ ++	B	6.8	6	4.5	0.5	5	6	6	9	9	0.085	0.14	
CWR11D^106^@+□	TBJ B 106 * 006 C □ # @ 0 ^ ++	TBJ B 106 * 006 C □ L @ 9 ^ ++	B	10	6	3.5	0.6	6	7.2	6	9	9	0.085	0.16	
CWR11D^156^@+□	TBJ C 156 * 006 C □ # @ 0 ^ ++	TBJ C 156 * 006 C □ L @ 9 ^ ++	C	15	6	3	0.9	9	10.8	6	9	9	0.110	0.19	
CWR11D^226^@+□	TBJ C 226 * 006 C □ # @ 0 ^ ++	TBJ C 226 * 006 C □ L @ 9 ^ ++	C	22	6	2.2	1.4	14	16.8	6	9	9	0.110	0.22	
CWR11D^476^@+□	TBJ D 476 * 006 C □ # @ 0 ^ ++	TBJ D 476 * 006 C □ L @ 9 ^ ++	D	47	6	1.1	2.8	28	33.6	6	9	9	0.150	0.37	
CWR11D^686^@+□	TBJ D 686 * 006 C □ # @ 0 ^ ++	TBJ D 686 * 006 C □ L @ 9 ^ ++	D	68	6	0.9	4.3	43	51.6	6	9	9	0.150	0.41	
CWR11F^105^@+□	TBJ A 105 * 010 C □ # @ 0 ^ ++	TBJ A 105 * 010 C □ L @ 9 ^ ++	A	1	10	10	0.5	5	6	4	6	6	0.075	0.09	
CWR11F^155^@+□	TBJ A 155 * 010 C □ # @ 0 ^ ++	TBJ A 155 * 010 C □ L @ 9 ^ ++	A	1.5	10	8	0.5	5	6	6	9	9	0.075	0.10	
CWR11F^225^@+□	TBJ A 225 * 010 C □ # @ 0 ^ ++	TBJ A 225 * 010 C □ L @ 9 ^ ++	A	2.2	10	8	0.5	5	6	6	9	9	0.075	0.10	
CWR11F^335^@+□	TBJ B 335 * 010 C □ # @ 0 ^ ++	TBJ B 335 * 010 C □ L @ 9 ^ ++	B	3.3	10	5.5	0.5	5	6	6	9	9	0.085	0.12	
CWR11F^475^@+□	TBJ B 475 * 010 C □ # @ 0 ^ ++	TBJ B 475 * 010 C □ L @ 9 ^ ++	B	4.7	10	4.5	0.5	5	6	6	9	9	0.085	0.14	
CWR11F^685^@+□	TBJ B 685 * 010 C □ # @ 0 ^ ++	TBJ B 685 * 010 C □ L @ 9 ^ ++	B	6.8	10	3.5	0.7	7	8.4	6	9	9	0.085	0.16	
CWR11F^156^@+□	TBJ C 156 * 010 C □ # @ 0 ^ ++	TBJ C 156 * 010 C □ L @ 9 ^ ++	C	15	10	2.5	1.5	15	18	6	9	9	0.110	0.21	
CWR11F^336^@+□	TBJ D 336 * 010 C □ # @ 0 ^ ++	TBJ D 336 * 010 C □ L @ 9 ^ ++	D	33	10	1.1	3.3	33	39.6	6	9	9	0.150	0.37	
CWR11F^476^@+□	TBJ D 476 * 010 C □ # @ 0 ^ ++	TBJ D 476 * 010 C □ L @ 9 ^ ++	D	47	10	0.9	4.7	47	56.4	6	9	9	0.150	0.41	
CWR11H^684^@+□	TBJ A 684 * 015 C □ # @ 0 ^ ++	TBJ A 684 * 015 C □ L @ 9 ^ ++	A	0.68	15	12	0.5	5	6	4	6	6	0.075	0.08	
CWR11H^105^@+□	TBJ A 105 * 015 C □ # @ 0 ^ ++	TBJ A 105 * 015 C □ L @ 9 ^ ++	A	1	15	10	0.5	5	6	4	6	6	0.075	0.09	
CWR11H^155^@+□	TBJ A 155 * 015 C □ # @ 0 ^ ++	TBJ A 155 * 015 C □ L @ 9 ^ ++	A	1.5	15	8	0.5	5	6	6	9	9	0.075	0.10	
CWR11H^225^@+□	TBJ B 225 * 015 C □ # @ 0 ^ ++	TBJ B 225 * 015 C □ L @ 9 ^ ++	B	2.2	15	5.5	0.5	5	6	6	9	9	0.085	0.12	
CWR11H^335^@+□	TBJ B 335 * 015 C □ # @ 0 ^ ++	TBJ B 335 * 015 C □ L @ 9 ^ ++	B	3.3	15	5	0.5	5	6	6	8	9	0.085	0.13	
CWR11H^475^@+□	TBJ B 475 * 015 C □ # @ 0 ^ ++	TBJ B 475 * 015 C □ L @ 9 ^ ++	B	4.7	15	4	0.7	7	8.4	6	9	9	0.085	0.15	
CWR11H^106^@+□	TBJ C 106 * 015 C □ # @ 0 ^ ++	TBJ C 106 * 015 C □ L @ 9 ^ ++	C	10	15	2.5	1.6	16	19.2	6	8	9	0.110	0.21	
CWR11H^226^@+□	TBJ D 226 * 015 C □ # @ 0 ^ ++	TBJ D 226 * 015 C □ L @ 9 ^ ++	D	22	15	1.1	3.3	33	39.6	6	8	9	0.150	0.37	
CWR11J^336^@+□	TBJ D 336 * 015 C □ # @ 0 ^ ++	TBJ D 336 * 015 C □ L @ 9 ^ ++	D	33	15	0.9	5.3	53	63.6	6	9	9	0.150	0.41	
CWR11J^474^@+□	TBJ A 474 * 020 C □ # @ 0 ^ ++	TBJ A 474 * 020 C □ L @ 9 ^ ++	A	0.47	20	14	0.5	5	6	4	6	6	0.075	0.07	
CWR11J^684^@+□	TBJ A 684 * 020 C □ # @ 0 ^ ++	TBJ A 684 * 020 C □ L @ 9 ^ ++	A	0.68	20	12	0.5	5	6	4	6	6	0.075	0.08	
CWR11J^105^@+□	TBJ A 105 * 020 C □ # @ 0 ^ ++	TBJ A 105 * 020 C □ L @ 9 ^ ++	A	1	20	10	0.5	5	6	4	6	6	0.075	0.09	
CWR11J^155^@+□	TBJ B 155 * 020 C □ # @ 0 ^ ++	TBJ B 155 * 020 C □ L @ 9 ^ ++	B	1.5	20	6	0.5	5	6	6	9	9	0.085	0.12	
CWR11J^225^@+□	TBJ B 225 * 020 C □ # @ 0 ^ ++	TBJ B 225 * 020 C □ L @ 9 ^ ++	B	2.2	20	5	0.5	5	6	6	8	9	0.085	0.13	
CWR11J^335^@+□	TBJ B 335 * 020 C □ # @ 0 ^ ++	TBJ B 335 * 020 C □ L @ 9 ^ ++	B	3.3	20	4	0.7	7	8.4	6	9	9	0.085	0.15	
CWR11J^475^@+□	TBJ C 475 * 020 C □ # @ 0 ^ ++	TBJ C 475 * 020 C □ L @ 9 ^ ++	C	4.7	20	3	1	10	12	6	8	9	0.110	0.19	
CWR11J^685^@+□	TBJ C 685 * 020 C □ # @ 0 ^ ++	TBJ C 685 * 020 C □ L @ 9 ^ ++	C	6.8	20	2.4	1.4	14	16.8	6	9	9	0.110	0.21	
CWR11J^156^@+□	TBJ D 156 * 020 C □ # @ 0 ^ ++	TBJ D 156 * 020 C □ L @ 9 ^ ++	D	15	20	1.1	3	30	36	6	8	9	0.150	0.37	
CWR11J^226^@+□	TBJ D 226 * 020 C □ # @ 0 ^ ++	TBJ D 226 * 020 C □ L @ 9 ^ ++	D	22	20	0.9	4.4	44	52.8	6	9	9	0.150	0.41	
CWR11K^334^@+□	TBJ A 334 * 025 C □ # @ 0 ^ ++	TBJ A 334 * 025 C □ L @ 9 ^ ++	A	0.33	25	15	0.5	5	6	4	6	6	0.075	0.07	
CWR11K^474^@+□	TBJ A 474 * 025 C □ # @ 0 ^ ++	TBJ A 474 * 025 C □ L @ 9 ^ ++	A	0.47	25	14	0.5	5	6	4	6	6	0.075	0.07	
CWR11K^684^@+□	TBJ B 684 * 025 C □ # @ 0 ^ ++	TBJ B 684 * 025 C □ L @ 9 ^ ++	B	0.68	25	7.5	0.5	5	6	4	6	6	0.085	0.11	
CWR11K^105^@+□	TBJ B 105 * 025 C □ # @ 0 ^ ++	TBJ B 105 * 025 C □ L @ 9 ^ ++	B	1	25	6.5	0.5	5	6	4	6	6	0.085	0.11	
CWR11K^155^@+□	TBJ B 155 * 025 C □ # @ 0 ^ ++	TBJ B 155 * 025 C □ L @ 9 ^ ++	B	1.5	25	6.5	0.5	5	6	6	8	9	0.085	0.11	
CWR11K^225^@+□	TBJ C 225 * 025 C □ # @ 0 ^ ++	TBJ C 225 * 025 C □ L @ 9 ^ ++	C	2.2	25	3.5	0.6	6	7.2	6	9	9	0.110	0.18	
CWR11K^335^@+□	TBJ C 335 * 025 C □ # @ 0 ^ ++	TBJ C 335 * 025 C □ L @ 9 ^ ++	C	3.3	25	3.5	0.9	9	10.8	6	8	9	0.110	0.18	
CWR11K^475^@+□	TBJ C 475 * 025 C □ # @ 0 ^ ++	TBJ C 475 * 025 C □ L @ 9 ^ ++	C	4.7	25	2.5	1.2	12	14.4	6	9	9	0.110	0.21	
CWR11K^685^@+□	TBJ D 685 * 025 C □ # @ 0 ^ ++	TBJ D 685 * 025 C □ L @ 9 ^ ++	D	6.8	25	1.4	1.7	17	20.4	6	9	9	0.150	0.33	

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 100kHz.

**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.**



# TBJ Series

## CWR11 - MIL-PRF-55365/8 Established Reliability, COTS-Plus & Space Level

RATING & PART NUMBER REFERENCE				Parametric Specifications by Rating per MIL-PRF-55365/8									Power Dissipation W	25°C Ripple A (100kHz)	T & R
				Cap @ 120Hz µF @ 25°C	DC Rated Voltage V @ +85°C	ESR @ 100kHz Ohms @ +25°C	DCL max			DF Max					
CWR11 P/N	AVX COTS-Plus P/N	AVX SRC9000 P/N	Case				+25°C (µA)	+85°C (µA)	+125°C (µA)	+25°C (%)	+(85/125)°C (%)	-55°C (%)			
CWR11K^106^@+□	TBJ D 106 * 025 C □ # @ 0 ^ ++	TBJ D 106 * 025 C □ L @ 9 ^ ++	D	10	25	1.2	2.5	25	30	6	8	9	0.150	0.35	
CWR11K^156^@+□	TBJ D 156 * 025 C □ # @ 0 ^ ++	TBJ D 156 * 025 C □ L @ 9 ^ ++	D	15	25	1	3.8	38	45.6	6	9	9	0.150	0.39	
CWR11M^104^@+□	TBJ A 104 * 035 C □ # @ 0 ^ ++	TBJ A 104 * 035 C □ L @ 9 ^ ++	A	0.1	35	24	0.5	5	6	4	6	6	0.075	0.06	
CWR11M^154^@+□	TBJ A 154 * 035 C □ # @ 0 ^ ++	TBJ A 154 * 035 C □ L @ 9 ^ ++	A	0.15	35	21	0.5	5	6	4	6	6	0.075	0.06	
CWR11M^224^@+□	TBJ A 224 * 035 C □ # @ 0 ^ ++	TBJ A 224 * 035 C □ L @ 9 ^ ++	A	0.22	35	18	0.5	5	6	4	6	6	0.075	0.06	
CWR11M^334^@+□	TBJ A 334 * 035 C □ # @ 0 ^ ++	TBJ A 334 * 035 C □ L @ 9 ^ ++	A	0.33	35	15	0.5	5	6	4	6	6	0.075	0.07	
CWR11M^474^@+□	TBJ B 474 * 035 C □ # @ 0 ^ ++	TBJ B 474 * 035 C □ L @ 9 ^ ++	B	0.47	35	10	0.5	5	6	4	6	6	0.085	0.09	
CWR11M^684^@+□	TBJ B 684 * 035 C □ # @ 0 ^ ++	TBJ B 684 * 035 C □ L @ 9 ^ ++	B	0.68	35	8	0.5	5	6	4	6	6	0.085	0.10	
CWR11M^105^@+□	TBJ B 105 * 035 C □ # @ 0 ^ ++	TBJ B 105 * 035 C □ L @ 9 ^ ++	B	1	35	6.5	0.5	5	6	4	6	6	0.085	0.11	
CWR11M^155^@+□	TBJ C 155 * 035 C □ # @ 0 ^ ++	TBJ C 155 * 035 C □ L @ 9 ^ ++	C	1.5	35	4.5	0.5	5	6	6	8	9	0.110	0.16	
CWR11M^225^@+□	TBJ C 225 * 035 C □ # @ 0 ^ ++	TBJ C 225 * 035 C □ L @ 9 ^ ++	C	2.2	35	3.5	0.8	8	9.6	6	8	9	0.110	0.18	
CWR11M^335^@+□	TBJ C 335 * 035 C □ # @ 0 ^ ++	TBJ C 335 * 035 C □ L @ 9 ^ ++	C	3.3	35	2.5	1.2	12	14.4	6	8	9	0.110	0.21	
CWR11M^475^@+□	TBJ D 475 * 035 C □ # @ 0 ^ ++	TBJ D 475 * 035 C □ L @ 9 ^ ++	D	4.7	35	1.5	1.7	17	20.4	6	8	9	0.150	0.32	
CWR11M^685^@+□	TBJ D 685 * 035 C □ # @ 0 ^ ++	TBJ D 685 * 035 C □ L @ 9 ^ ++	D	6.8	35	1.3	2.4	24	28.8	6	9	9	0.150	0.34	
CWR11N^104^@+□	TBJ A 104 * 050 C □ # @ 0 ^ ++	TBJ A 104 * 050 C □ L @ 9 ^ ++	A	0.1	50	22	0.5	5	12	6	8	8	0.075	0.06	
CWR11N^154^@+□	TBJ B 154 * 050 C □ # @ 0 ^ ++	TBJ B 154 * 050 C □ L @ 9 ^ ++	B	0.15	50	17	0.5	5	6	4	6	6	0.085	0.07	
CWR11N^224^@+□	TBJ B 224 * 050 C □ # @ 0 ^ ++	TBJ B 224 * 050 C □ L @ 9 ^ ++	B	0.22	50	14	0.5	5	6	4	6	6	0.085	0.08	
CWR11N^334^@+□	TBJ B 334 * 050 C □ # @ 0 ^ ++	TBJ B 334 * 050 C □ L @ 9 ^ ++	B	0.33	50	12	0.5	5	6	4	6	6	0.085	0.08	
CWR11N^474^@+□	TBJ C 474 * 050 C □ # @ 0 ^ ++	TBJ C 474 * 050 C □ L @ 9 ^ ++	C	0.47	50	8	0.5	5	6	4	6	6	0.110	0.12	
CWR11N^684^@+□	TBJ C 684 * 050 C □ # @ 0 ^ ++	TBJ C 684 * 050 C □ L @ 9 ^ ++	C	0.68	50	7	0.5	5	6	4	6	6	0.110	0.13	
CWR11N^105^@+□	TBJ C 105 * 050 C □ # @ 0 ^ ++	TBJ C 105 * 050 C □ L @ 9 ^ ++	C	1	50	6	0.5	5	6	4	6	6	0.110	0.14	
CWR11N^155^@+□	TBJ D 155 * 050 C □ # @ 0 ^ ++	TBJ D 155 * 050 C □ L @ 9 ^ ++	D	1.5	50	4	0.8	8	9.6	6	8	9	0.150	0.19	
CWR11N^225^@+□	TBJ D 225 * 050 C □ # @ 0 ^ ++	TBJ D 225 * 050 C □ L @ 9 ^ ++	D	2.2	50	2.5	1.1	11	13.2	6	8	9	0.150	0.24	
CWR11N^335^@+□	TBJ D 335 * 050 C □ # @ 0 ^ ++	TBJ D 335 * 050 C □ L @ 9 ^ ++	D	3.3	50	2	1.7	17	20.4	6	9	9	0.150	0.27	
CWR11N^475^@+□	TBJ D 475 * 050 C □ # @ 0 ^ ++	TBJ D 475 * 050 C □ L @ 9 ^ ++	D	4.7	50	1.5	2.4	24	28.8	6	9	9	0.150	0.32	

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 100kHz.

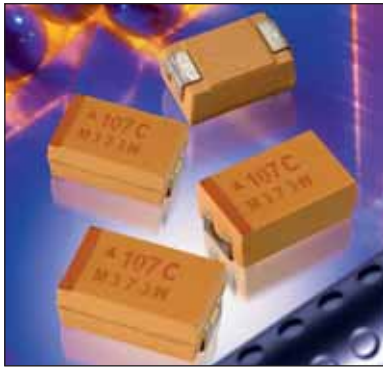
**NOTE: AVX reserves the right to supply a higher voltage rating or tighter tolerance part in the same case size, to the same reliability standards.**



# TBJ Series



## COTS-Plus – DSCC Dwgs 07016 & 95158 Weibull Grade & Space Level



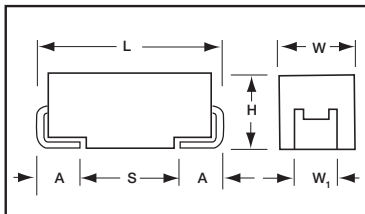
TBJ COTS-Plus series, based on the CWR11 form factor, is a high reliability series encompassing the current range of EIA Low ESR ratings. Qualifications include DSCC 95158 and DSCC 07016, the latter having the widest range of case sizes, capacitance / voltage ratings and also offering Weibull Grade “B” and “C” reliability and all MIL-PRF-55365 surge test options (“A”, “B” & “C”).

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 correspond to “H”, “K”, “C” and “B” termination, respectively, per MIL-PRF-55365).

The molding compound has been selected to meet the requirements of UL94V-0 (Flame Retardancy) and outgassing requirements of NASA SP-R-0022A.



### MARKING

(Brown marking on gold body)



**Polarity Stripe (+)**  
**Capacitance Code**  
**Rated Voltage**  
**Manufacturer's ID**  
**Lot Number**

### CASE DIMENSIONS: millimeters (inches)

Code	EIA Code	EIA Metric	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	1206	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	1210	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	2312	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	2917	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)
E	2917	7343-43	7.30 (0.287)	4.30 (0.169)	4.10 (0.162)	2.40 (0.094)	1.30 (0.051)	4.40 (0.173)
V	2924	7361-38	7.30 (0.287)	6.10 (0.240)	3.55 (0.140)	3.10 (0.120)	1.30 (0.051)	4.40 (0.173)

W<sub>1</sub> dimension applies to the termination width for A dimensional area only.

### CAPACITANCE AND RATED VOLTAGE, V<sub>R</sub> (EIA VOLTAGE CODE) RANGE LETTER DENOTES CASE SIZE (ESR LIMITS IN PARENTHESES)

Capacitance		Rated Voltage DC (V <sub>R</sub> ) to 85°C							
µF	Code	4V (G)	6V (J)	10V (A)	16V (C)	20V (D)	25V (E)	35V (V)	50V (T)
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) B(1000)	A(3100) B(700,1500)	B(1500) C(600)/D(450)	D(300) E(300)
6.8	685		A(5000)	A(4000)	A(1500)/B(1200)	B(1000)	B(700,2800) C(200)	C(350)/D(400) E(300)	D(300,600) E(400)
10	106		A(4000)	A(1800,3000)	A(3000)/B(900)	B(500,1000) C(700)	C(300,500)	C(1600)/D(125,300) E(250)	E(400)
15	156		A(3500)	A(1000,3200) B(600)	B(500,800)	B(500)/C(450) D(275)	D(275)/E(200)	C(450)/D(100,300) E(250)	E(250)
22	226		A(3000)/B(600)	B(500,700) C(300)	B(600)/C(175,375) B(500)	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(90,300) E(90,175)	D(200,300) E(300)	
47	476		C(300)	C(200,350) D(200)	C(110,350) D(80,150)	D(100,200) 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) E(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(60,150)	D(50,150) E(50,100)/V(40)					
470	477		E(50,200)/V(40)	E(50,200)/V(40)					
1000	108	E(200)							

NOTE: EIA standards for Low ESR solid tantalum capacitors allow an ESR movement of 1.25 times initial limit post mounting.



### HOW TO ORDER

#### COTS-PLUS & DSCC DWG (95158 & 07016):

TBJ	D	686	*	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  D = DSCC DWG	Reliability Grade Weibull: B = 0.1%/1000 hrs. 90% conf. C = 0.01%/1000 hrs. 90% conf. D = 0.001%/1000 hrs. 90% conf. 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

#### DSCC DWG P/N CROSS REFERENCE:

<b>07016</b> DSCC DWG 07016	<b>-001</b> Dash Number See Rating Tables	<b>K</b> Capacitance Tolerance K = ±10% M = ±20%	<b>B</b> Reliability Grade B = B Weibull C = C Weibull D = D Weibull	<b>C</b> Termination Finish B = Gold Plated (10 microinch minimum) H = Solder Plated (50 microinch minimum) C = Hot Solder Dip (60 microinch minimum)	<b>A</b> 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 Per MIL-PRF-55365
<b>95158</b> DSCC DWG 95158	<b>-01</b> Dash Number See Rating Tables	<b>K</b> Capacitance Tolerance K = ±10% M = ±20%	<b>H</b> Termination Finish B = Gold Plated (10 microinch minimum) H = Solder Plated (100 microinch minimum)		

#### SPACE LEVEL OPTIONS TO SRC9000\*:

TBJ	D	686	*	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 1000 μF									
Capacitance Tolerance:	±5%; ±10%; ±20%									
Rated Voltage: (V <sub>R</sub> )	≤85°C:	4	6	10	16	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	12	16	20	28	40	
Temperature Range:	-55°C to +125°C									

# TBJ Series

## COTS-Plus – DSCC Dwgs 07016 & 95158 Weibull Grade & Space Level

RATING & PART NUMBER REFERENCE				Parametric Specifications by Rating per DSCC 95158 or 07016 where applicable								Power Dissipation W	25°C Ripple A (100kHz)	25°C R	
				Cap @ 120Hz µF @ 25°C	DC Rated Voltage V @ +85°C	ESR @ 100kHz mOhms @ +25°C	DCL max			DF Max					
DSCC P/N	AVX DSCC & COTS-Plus P/N	AVX SRC9000 P/N	Case		+25°C (µA)	+85°C (µA)	+125°C (µA)	+25°C (%)	+(85/125)°C (%)	-55°C (%)					
07016 001 * @ ^ +	TBJ A 336 * 004 C □ # @ 0 ^ + +		A	33	4	3000	1.4	14	18	6	9	9	0.075	0.16	
07016 002 * @ ^ +	TBJ A 686 * 004 C □ # @ 0 ^ + +		A	68	4	1500	2.7	27	34	10	12	14	0.075	0.22	
07016 003 * @ ^ +	TBJ A 107 * 004 C □ # @ 0 ^ + +		A	100	4	1400	4	40	50	30	36	42	0.075	0.23	
07016 004 * @ ^ +	TBJ B 107 * 004 C □ # @ 0 ^ + +		B	100	4	900	4	40	50	8	10	12	0.085	0.31	
07016 005 * @ ^ +	TBJ E 108 * 004 C □ # @ 0 ^ + +		E	1,000	4	200	40	400	500	60	90	90	0.165	0.91	
07016 006 * @ ^ +	TBJ A 335 * 006 C □ # @ 0 ^ + +		A	3.3	6	8000	0.5	5	6	6	9	9	0.075	0.10	
07016 007 * @ ^ +	TBJ A 475 * 006 C □ # @ 0 ^ + +		A	4.7	6	6000	0.5	5	6	6	9	10	0.075	0.11	
07016 008 * @ ^ +	TBJ A 685 * 006 C □ # @ 0 ^ + +		A	6.8	6	5000	0.5	5	6	6	9	10	0.075	0.12	
07016 009 * @ ^ +	TBJ A 106 * 006 C □ # @ 0 ^ + +	TBJ A 106 * 006 C □ L @ 9 ^ + +	A	10	6	4000	1	10	13	6	9	10	0.075	0.14	
07016 010 * @ ^ +	TBJ A 156 * 006 C □ # @ 0 ^ + +	TBJ A 156 * 006 C □ L @ 9 ^ + +	A	15	6	3500	1	10	13	6	9	10	0.075	0.15	
07016 011 * @ ^ +	TBJ A 226 * 006 C □ # @ 0 ^ + +	TBJ A 226 * 006 C □ L @ 9 ^ + +	A	22	6	3000	1.4	14	18	6	9	10	0.075	0.16	
07016 012 * @ ^ +	TBJ B 226 * 006 C □ # @ 0 ^ + +	TBJ B 226 * 006 C □ L @ 9 ^ + +	B	22	6	600	1.4	14	18	6	9	10	0.085	0.38	
07016 013 * @ ^ +	TBJ B 336 * 006 C □ # @ 0 ^ + +	TBJ B 336 * 006 C □ L @ 9 ^ + +	B	33	6	600	2.1	21	26	6	9	10	0.085	0.38	
07016 014 * @ ^ +	TBJ C 476 * 006 C □ # @ 0 ^ + +	TBJ C 476 * 006 C □ L @ 9 ^ + +	C	47	6	300	3	30	38	6	9	10	0.110	0.61	
07016 015 * @ ^ +	TBJ B 686 * 006 C □ # @ 0 ^ + +		B	68	6	500	4.3	43	54	8	10	12	0.085	0.41	
07016 016 * @ ^ +	TBJ C 686 * 006 C □ # @ 0 ^ + +	TBJ C 686 * 006 C □ L @ 9 ^ + +	C	68	6	200	4.3	43	54	6	9	10	0.110	0.74	
95158 01 * ^ A	TBJ D 686 * 006 C □ # @ 0 ^ + +		D	68	6	175	3.3	19.8	33	4	6	6	0.150	0.93	
07016 017 * @ ^ +	TBJ C 107 * 006 C □ # @ 0 ^ + +		C	100	6	150	6.3	63	79	6	9	10	0.110	0.86	
07016 018 * @ ^ +	TBJ C 107 * 006 L □ # @ 0 ^ + +		C	100	6	75	6.3	63	79	6	9	10	0.110	1.21	
07016 019 * @ ^ +	TBJ D 157 * 006 C □ # @ 0 ^ + +	TBJ D 157 * 006 C □ L @ 9 ^ + +	D	150	6	125	9.5	95	119	6	9	10	0.150	1.10	
95158 02 * ^ A	TBJ E 157 * 006 C □ # @ 0 ^ + +		E	150	6	125	7.2	43.2	72	6	8	8	0.165	1.15	
07016 020 * @ ^ +	TBJ D 227 * 006 C □ # @ 0 ^ + +	TBJ D 227 * 006 C □ L @ 9 ^ + +	D	220	6	125	13.2	132	165	8	10	12	0.150	1.10	
95158 25 * ^ A	TBJ D 227 * 006 L □ # @ 0 ^ + +		D	220	6	50	13.2	132	165	8	10	12	0.150	1.73	
95158 03 * ^ A	TBJ E 227 * 006 L □ # @ 0 ^ + +		E	220	6	100	13.2	132	165	8	12	12	0.165	1.28	
07016 021 * @ ^ +	TBJ E 337 * 006 C □ # @ 0 ^ + +	TBJ E 337 * 006 C □ L @ 9 ^ + +	E	330	6	150	19.8	198	248	8	10	12	0.165	1.05	
07016 022 * @ ^ +	TBJ E 337 * 006 L □ # @ 0 ^ + +		E	330	6	50	19.8	198	248	8	10	12	0.165	1.82	
07016 023 M @ ^ +	TBJ E 477 ^ 006 C □ # @ 0 ^ + +	TBJ E 477 ^ 006 C □ L @ 9 ^ + +	E	470	6	200	29.6	296	370	10	12	14	0.165	0.91	
07016 024 M @ ^ +	TBJ E 477 M 006 L □ # @ 0 ^ + +		E	470	6	50	29.6	296	370	10	12	14	0.165	1.82	
07016 025 * @ ^ +	TBJ V 477 * 006 L □ # @ 0 ^ + +		V	470	6	40	29.6	296	370	10	12	12	0.250	2.50	
07016 026 * @ ^ +	TBJ A 475 * 010 C □ # @ 0 ^ + +	TBJ A 475 * 010 C □ L @ 9 ^ + +	A	4.7	10	5000	0.5	5	6	6	9	10	0.075	0.12	
07016 027 * @ ^ +	TBJ A 685 * 010 C □ # @ 0 ^ + +	TBJ A 685 * 010 C □ L @ 9 ^ + +	A	6.8	10	4000	0.7	7	9	6	9	10	0.075	0.14	
07016 028 * @ ^ +	TBJ A 106 * 010 C □ # @ 0 ^ + +	TBJ A 106 * 010 C □ L @ 9 ^ + +	A	10	10	3000	1	10	13	6	9	10	0.075	0.16	
07016 029 * @ ^ +	TBJ A 106 * 010 L □ # @ 0 ^ + +	TBJ A 106 * 010 L □ L @ 9 ^ + +	A	10	10	1800	1	10	13	6	9	10	0.075	0.20	
07016 030 * @ ^ +	TBJ A 156 * 010 C □ # @ 0 ^ + +	TBJ A 156 * 010 C □ L @ 9 ^ + +	A	15	10	3200	1.6	16	20	6	9	10	0.075	0.15	
07016 031 * @ ^ +	TBJ A 156 * 010 L □ # @ 0 ^ + +	TBJ A 156 * 010 L □ L @ 9 ^ + +	A	15	10	1000	1.6	16	20	6	9	10	0.075	0.27	
07016 032 * @ ^ +	TBJ B 156 * 010 C □ # @ 0 ^ + +	TBJ B 156 * 010 C □ L @ 9 ^ + +	B	15	10	600	1.6	16	20	6	9	10	0.085	0.38	
07016 033 * @ ^ +	TBJ B 226 * 010 C □ # @ 0 ^ + +	TBJ B 226 * 010 C □ L @ 9 ^ + +	B	22	10	700	2.2	22	28	6	9	10	0.085	0.35	
07016 034 * @ ^ +	TBJ B 226 * 010 L □ # @ 0 ^ + +		B	22	10	500	2.2	22	28	6	9	10	0.085	0.41	
07016 035 * @ ^ +	TBJ C 226 * 010 C □ # @ 0 ^ + +		C	22	10	300	2.2	22	28	6	9	10	0.110	0.61	
07016 036 * @ ^ +	TBJ A 336 * 010 C □ # @ 0 ^ + +		A	33	10	700	3.3	33	41	8	10	12	0.075	0.33	
07016 037 * @ ^ +	TBJ B 336 * 010 C □ # @ 0 ^ + +	TBJ B 336 * 010 C □ L @ 9 ^ + +	B	33	10	650	3.3	33	41	6	9	10	0.085	0.36	
07016 038 * @ ^ +	TBJ B 336 * 010 L □ # @ 0 ^ + +		B	33	10	425	3.3	33	41	6	9	10	0.085	0.45	
07016 039 * @ ^ +	TBJ C 336 * 010 C □ # @ 0 ^ + +	TBJ C 336 * 010 C □ L @ 9 ^ + +	C	33	10	500	3.3	33	41	6	9	10	0.110	0.47	
07016 040 * @ ^ +	TBJ C 476 * 010 C □ # @ 0 ^ + +	TBJ C 476 * 010 C □ L @ 9 ^ + +	C	47	10	350	4.7	47	59	6	9	10	0.110	0.56	
07016 041 * @ ^ +	TBJ C 476 * 010 L □ # @ 0 ^ + +		C	47	10	200	4.7	47	59	6	9	10	0.110	0.74	
95158 -04 * ^ A	TBJ D 476 * 010 C □ # @ 0 ^ + +		D	47	10	200	3.8	22.8	38	4	6	6	0.150	0.87	
07016 042 * @ ^ +	TBJ C 686 * 010 C □ # @ 0 ^ + +	TBJ C 686 * 010 C □ L @ 9 ^ + +	C	68	10	300	6.8	68	85	8	10	12	0.110	0.61	
07016 043 * @ ^ +	TBJ C 686 * 010 L □ # @ 0 ^ + +		C	68	10	80	6.8	68	85	8	10	12	0.110	1.17	
07016 044 * @ ^ +	TBJ D 686 * 010 C □ # @ 0 ^ + +		D	68	10	150	6.8	68	85	6	9	10	0.150	1.00	
95158 05 * ^ A	TBJ E 686 * 010 C □ # @ 0 ^ + +		E	68	10	150	5.4	32.4	54	4	6	6	0.165	1.05	
07016 045 * @ ^ +	TBJ C 107 * 010 C □ # @ 0 ^ + +	TBJ C 107 * 010 C □ L @ 9 ^ + +	C	100	10	200	10	100	125	8	10	12	0.110	0.74	
07016 046 * @ ^ +	TBJ C 107 * 010 L □ # @ 0 ^ + +		C	100	10	75	10	100	125	8	10	12	0.110	1.21	
95158 06 * ^ A	TBJ D 107 * 010 C □ # @ 0 ^ + +	TBJ D 107 * 010 C □ L @ 9 ^ + +	D	100	10	100	10	100	125	6	9	10	0.150	1.22	
07016 047 * @ ^ +	TBJ D 107 * 010 L □ # @ 0 ^ + +		D	100	10	50	10	100	125	6	9	10	0.150	1.73	
95158 07 * ^ A	TBJ E 107 * 010 C □ # @ 0 ^ + +		E	100	10	100	8	48	80	6	8	8	0.165	1.28	

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 100kHz.

**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.**









# TBJ Series

## COTS-Plus – DSCC Dwgs 07016 & 95158 Weibull Grade & Space Level

RATING & PART NUMBER REFERENCE				Parametric Specifications by Rating per DSCC 95158 or 07016 where applicable									Power Dissipation W	25°C Ripple A (100kHz)	T & R
				Cap @ 120Hz µF @ 25°C	DC Rated Voltage V @ +85°C	ESR @ 100kHz mOhms @ +25°C	DCL max			DF Max					
DSCC P/N	AVX DSCC & COTS-Plus P/N	AVX SRC9000 P/N	Case				+25°C (µA)	+85°C (µA)	+125°C (µA)	+25°C (%)	+85/125°C (%)	-55°C (%)			
95158 20 * ^	TBJ E 685 * 035 C □ # @ 0 ^ ++		E	6.8	35	300	1.9	11.4	19	4	6	6	0.165	0.74	
07016 144 * @ ^ +	TBJ C 106 * 035 C □ # @ 0 ^ ++	TBJ C 106 * 035 C □ L @ 9 ^ ++	C	10	35	1600	3.5	35	44	6	9	9	0.110	0.26	
95158 27 * ^	TBJ D 106 * 035 C □ # @ 0 ^ ++	TBJ D 106 * 035 C □ L @ 9 ^ ++	D	10	35	300	3.5	35	44	4	6	6	0.150	0.71	
07016 145 * @ ^ +	TBJ D 106 * 035 L □ # @ 0 ^ ++		D	10	35	125	3.5	35	42	6	9	9	0.150	1.10	
95158 21 * ^	TBJ E 106 * 035 C □ # @ 0 ^ ++		E	10	35	250	2.8	16.8	28	4	6	6	0.165	0.81	
07016 146 * @ ^ +	TBJ C 156 * 035 C □ # @ 0 ^ ++		C	15	35	450	5.3	53	66	6	9	9	0.110	0.49	
07016 147 * @ ^ +	TBJ D 156 * 035 C □ # @ 0 ^ ++	TBJ D 156 * 035 C □ L @ 9 ^ ++	D	15	35	300	5.3	53	66	6	9	9	0.150	0.71	
07016 148 * @ ^ +	TBJ D 156 * 035 L □ # @ 0 ^ ++		D	15	35	100	5.3	53	66	6	9	9	0.150	1.22	
95158 22 * ^	TBJ E 156 * 035 C □ # @ 0 ^ ++		E	15	35	250	5.3	53	65.6	6	9	9	0.165	0.81	
07016 149 * @ ^ +	TBJ D 226 * 035 C □ # @ 0 ^ ++	TBJ D 226 * 035 C □ L @ 9 ^ ++	D	22	35	400	7.7	77	96	6	9	9	0.150	0.61	
07016 150 * @ ^ +	TBJ D 226 * 035 L □ # @ 0 ^ ++		D	22	35	125	7.7	77	96	6	9	9	0.150	1.10	
95158 23 * ^	TBJ E 226 * 035 C □ # @ 0 ^ ++		E	22	35	300	7.7	77	96	6	9	9	0.165	0.74	
07016 151 * @ ^ +	TBJ E 226 * 035 L □ # @ 0 ^ ++		E	22	35	125	7.7	77	96	6	9	9	0.165	1.15	
07016 152 M @ ^ +	TBJ D 336 M 035 C □ # @ 0 ^ ++		D	33	35	300	11.6	116	145	6	9	9	0.150	0.71	
07016 153 M @ ^ +	TBJ D 336 M 035 L □ # @ 0 ^ ++		D	33	35	200	11.6	116	145	6	9	9	0.150	0.87	
07016 154 M @ ^ +	TBJ E 336 M 035 L □ # @ 0 ^ ++	TBJ E 336 M 035 L □ L @ 9 ^ ++	E	33	35	300	11.6	116	145	6	9	9	0.165	0.74	
07016 155 M @ ^ +	TBJ E 476 M 035 L □ # @ 0 ^ ++		E	47	35	250	16.5	165	206	6	9	9	0.165	0.81	
07016 156 M @ ^ +	TBJ V 476 M 035 L □ # @ 0 ^ ++		V	47	35	200	16.5	165	206	6	9	9	0.250	1.12	
07016 157 M @ ^ +	TBJ A 154 M 050 C □ # @ 0 ^ ++		A	0.15	50	15000	0.5	5	6	4	6	6	0.075	0.07	
07016 158 M @ ^ +	TBJ A 224 M 050 C □ # @ 0 ^ ++	TBJ A 224 M 050 C □ L @ 9 ^ ++	A	0.22	50	18000	0.5	5	6	4	6	6	0.075	0.06	
07016 159 * @ ^ +	TBJ A 474 * 050 C □ # @ 0 ^ ++		A	0.47	50	9500	0.5	5	6	4	6	6	0.075	0.09	
07016 160 * @ ^ +	TBJ B 474 * 050 C □ # @ 0 ^ ++	TBJ B 474 * 050 C □ L @ 9 ^ ++	B	0.47	50	9500	0.5	5	6	4	6	6	0.085	0.09	
07016 161 * @ ^ +	TBJ A 684 * 050 C □ # @ 0 ^ ++		A	0.68	50	7900	0.5	5	6	4	6	6	0.075	0.10	
07016 162 M @ ^ +	TBJ A 105 M 050 C □ # @ 0 ^ ++		A	1.0	50	6600	0.5	5	6	4	6	6	0.075	0.11	
07016 163 * @ ^ +	TBJ B 105 * 050 C □ # @ 0 ^ ++	TBJ B 105 * 050 C □ L @ 9 ^ ++	B	1.0	50	7000	0.5	5	6	4	6	6	0.085	0.11	
07016 164 * @ ^ +	TBJ C 155 * 050 L □ # @ 0 ^ ++	TBJ C 155 * 050 L □ L @ 9 ^ ++	C	1.5	50	2000	0.8	8	10	6	8	9	0.110	0.23	
07016 165 * @ ^ +	TBJ D 155 * 050 L □ # @ 0 ^ ++	TBJ D 155 * 050 L □ L @ 9 ^ ++	D	1.5	50	1500	0.8	8	10	6	8	9	0.150	0.32	
07016 166 * @ ^ +	TBJ D 225 * 050 L □ # @ 0 ^ ++	TBJ D 225 * 050 L □ L @ 9 ^ ++	D	2.2	50	1200	1.1	11	14	6	8	9	0.150	0.35	
07016 167 * @ ^ +	TBJ D 335 * 050 L □ # @ 0 ^ ++	TBJ D 335 * 050 L □ L @ 9 ^ ++	D	3.3	50	800	1.7	17	21	6	8	9	0.150	0.43	
07016 168 * @ ^ +	TBJ D 475 * 050 L □ # @ 0 ^ ++	TBJ D 475 * 050 L □ L @ 9 ^ ++	D	4.7	50	300	2.4	24	30	6	9	9	0.150	0.71	
95158 24 * ^	TBJ E 475 * 050 C □ # @ 0 ^ ++		E	4.7	50	300	1.9	11.4	19	4	6	6	0.165	0.74	
07016 169 * @ ^ +	TBJ D 685 * 050 C □ # @ 0 ^ ++	TBJ D 685 * 050 C □ L @ 9 ^ ++	D	6.8	50	600	3.4	34	43	6	6	6	0.150	0.50	
07016 170 * @ ^ +	TBJ D 685 * 050 L □ # @ 0 ^ ++		D	6.8	50	300	3.4	34	43	6	6	6	0.150	0.71	
07016 171 * @ ^ +	TBJ E 685 * 050 C □ # @ 0 ^ ++		E	6.8	50	400	3.4	34	43	6	6	6	0.165	0.64	

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 100kHz.

**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.**



## X-ON Electronics

Largest Supplier of Electrical and Electronic Components

*Click to view similar products for [Tantalum Capacitors - Solid SMD category:](#)*

*Click to view products by [AVX manufacturer:](#)*

Other Similar products are found below :

[B45197-A2157-M509](#) [B45197A5226M409](#) [293D686X0020E8T](#) [CWR09JC105KCB\M100](#) [CWR11CH107KBA](#) [TCSCS1A336KBAR](#) [419-2060-501](#) [B45196-H5106-K309](#) [B45196-H6226-K509](#) [CWR29JC106KBEZ](#) [T83D475K050RCCL](#) [591D158X06R3R2T20H](#) [M39006/22-0640H](#) [M39003/01-2596](#) [TCSCS1A476KBAR](#) [T83E107K016RCCL](#) [T83D685K035RCCL](#) [293D475X0035B2DE3](#) [TMCMB1C475KTRF](#) [293D155X9020A2DE3](#) [298W476X06R3M2T](#) [298W107X0004M2T](#) [CWR29NC225KDFC](#) [CWR29HH155KCBB](#) [CWR29HC106KCDC](#) [293D476X9035E2TE3](#) [CWR29KC226JCGC](#) [T495D156K025ATE2757005](#) [T513X227K016BH4585](#) [CWR29DC337KCHC](#) [T97H107M040HSA](#) [595D686X9010B2T](#) [T25D337M016CSZ](#) [591D156X9025R8T15H](#) [594D686X9016C2T](#) [595D106X0025C8T](#) [CWR29DC226KBDA\TR](#) [CWR29FC106KBBA\TR](#) [CWR29FC686KBGA\TR](#) [CWR29FC157KBXA\TR](#) [CWR29HC105KBAA\TR](#) [CA55-B6R3M107T](#) [CA55-E025M107T](#) [TC212B475K035Y](#) [TAZH685K035LBSB0824](#) [TAZG107K010LBSB0800](#) [TAZH475K050LBSB0H23](#) [TAZH156K025CBSZ0824](#) [TBJD156K025CBSZ0824](#) [TMCSA1V154MTRF](#)