

TBJ Series



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



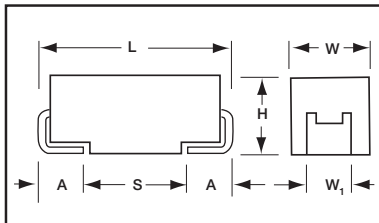
Fully qualified to MIL-PRF-55365/8, the CWR11 is the military version of EIA-535BAAC, with four case sizes designed for maximum packaging efficiency on 8mm & 12mm tape for high volume production (ensuring no TCE mismatch with any substrate). This construction is compatible with a wide range of SMT board 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 ₁) ±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_R (MIL VOLTAGE CODE) RANGE CASE SIZE

Capacitance		Rated voltage DC (V _R) 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	A	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	^	++
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) CWR11	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

CWR11 P/N CROSS REFERENCE:

CWR11	D	^	686	*	@	+	□
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 Dipped 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	Surge Test Option 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	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*:

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 100 μF									
Capacitance Tolerance:	±5%; ±10%; ±20%									
Rated Voltage: (V _R)	≤85°C:	4	6	10	16	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									

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							Typical Ripple Data by Rating								
				Cap @ 120Hz µF @ 25°C	DC Rated Voltage V @ +85°C	ESR @ 100kHz Ohms @ +25°C	DCL max			DF Max			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)
							+25°C (µA)	+85°C (µA)	+125°C (µA)	+25°C (%)	+85/125°C (%)	-55°C (%)							
CWR11 P/N	AVX COTS-Plus P/N	AVX SRC9000 P/N	Case																
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	0.32	0.14	0.42	0.38	0.17
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	0.35	0.15	0.39	0.35	0.15
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	0.05	0.02	1.34	1.21	0.54
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	0.05	0.02	1.25	1.13	0.50
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	0.06	0.03	1.16	1.05	0.46
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	0.06	0.03	1.06	0.95	0.42
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	0.08	0.04	0.92	0.83	0.37
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	0.09	0.04	0.82	0.74	0.33
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	0.10	0.05	0.74	0.67	0.30
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	0.14	0.06	0.70	0.63	0.28
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	0.16	0.07	0.62	0.56	0.25
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	0.19	0.08	0.52	0.47	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	0.28	0.13	0.47	0.43	0.19
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	0.31	0.14	0.44	0.40	0.18
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	0.05	0.02	1.28	1.16	0.51
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	0.06	0.03	1.20	1.08	0.48
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	0.07	0.03	1.09	0.98	0.44
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	0.08	0.03	1.01	0.91	0.40
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	0.11	0.05	0.94	0.84	0.38
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	0.11	0.05	0.88	0.79	0.35
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	0.12	0.05	0.81	0.73	0.32
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	0.17	0.08	0.77	0.70	0.31
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	0.22	0.10	0.61	0.55	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	0.25	0.11	0.55	0.49	0.22
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	0.28	0.13	0.47	0.43	0.19

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.

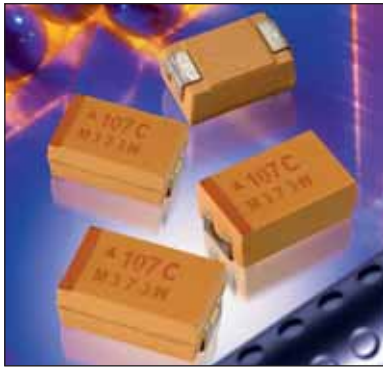
NOTE: AVX reserves the right to supply a higher voltage rating or tighter tolerance part in the same case size, to the same reliability standards.



TBJ Series



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



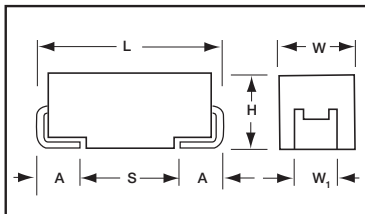
TBJ COTS-Plus series, based on the CWR11 form factor, is a high reliability series encompassing the current range of EIA Low ESR ratings. Qualifications include DSCC 95158 and DSCC 07016, the latter having the widest range of case sizes, capacitance / voltage ratings and also offering Weibull Grade “B” 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 ₁ ±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)

W₁ dimension applies to the termination width for A dimensional area only.

CAPACITANCE AND RATED VOLTAGE, V_R (EIA VOLTAGE CODE) RANGE LETTER DENOTES CASE SIZE (ESR LIMITS IN PARENTHESES)

Capacitance		Rated Voltage DC (V _R) 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:

07016 DSCC DWG 07016	-001 Dash Number See Rating Tables	K Capacitance Tolerance K = ±10% M = ±20%	B Reliability Grade B = B Weibull C = C Weibull D = D Weibull	C Termination Finish B = Gold Plated (10 microinch minimum) H = Solder Plated (50 microinch minimum) C = Hot Solder Dip (60 microinch minimum)	A 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
95158 DSCC DWG 95158	-01 Dash Number See Rating Tables	K Capacitance Tolerance K = ±10% M = ±20%	H 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 _R)	≤85°C:	4	6	10	16	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	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									Typical Ripple Data by Rating						
				Cap @ 120Hz μF @ 25°C	DC Rated Voltage V @ +85°C	ESR @ 100kHz mOhms @ +25°C	DCL max			DF Max			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)
DSCC P/N	AVX DSCC & COTS-Plus P/N	AVX SRC9000 P/N	Case	+25°C	+85°C	+125°C	+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	0.67	0.30	0.22	0.20	0.09
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	0.24	0.10	0.42	0.38	0.17
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	0.64	0.28	0.21	0.19	0.08
07016 145 * @ ^ +	TBJ D 106 * 035 L □ # @ 0 ^ ++		D	10	35	125	3.5	35	42	6	9	9	0.150	1.10	0.99	0.44	0.14	0.12	0.05
95158 21 * ^	TBJ E 106 * 035 C □ # @ 0 ^ ++		E	10	35	250	2.8	16.8	28	4	6	6	0.165	0.81	0.73	0.32	0.20	0.18	0.08
07016 146 * @ ^ +	TBJ C 156 * 035 C □ # @ 0 ^ ++		C	15	35	450	5.3	53	66	6	9	9	0.110	0.49	0.44	0.20	0.22	0.20	0.09
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	0.64	0.28	0.21	0.19	0.08
07016 148 * @ ^ +	TBJ D 156 * 035 L □ # @ 0 ^ ++		D	15	35	100	5.3	53	66	6	9	9	0.150	1.22	1.10	0.49	0.12	0.11	0.05
95158 22 * ^	TBJ E 156 * 035 C □ # @ 0 ^ ++		E	15	35	250	5.3	53	65.6	6	9	9	0.165	0.81	0.73	0.32	0.20	0.18	0.08
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	0.55	0.24	0.24	0.22	0.10
07016 150 * @ ^ +	TBJ D 226 * 035 L □ # @ 0 ^ ++		D	22	35	125	7.7	77	96	6	9	9	0.150	1.10	0.99	0.44	0.14	0.12	0.05
95158 23 * ^	TBJ E 226 * 035 C □ # @ 0 ^ ++		E	22	35	300	7.7	77	96	6	9	9	0.165	0.74	0.67	0.30	0.22	0.20	0.09
07016 151 * @ ^ +	TBJ E 226 * 035 L □ # @ 0 ^ ++		E	22	35	125	7.7	77	96	6	9	9	0.165	1.15	1.03	0.46	0.14	0.13	0.06
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	0.64	0.28	0.21	0.19	0.08
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	0.78	0.35	0.17	0.16	0.07
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	0.67	0.30	0.22	0.20	0.09
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	0.73	0.32	0.20	0.18	0.08
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	1.01	0.45	0.22	0.20	0.09
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	0.06	0.03	1.06	0.95	0.42
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	0.06	0.03	1.16	1.05	0.46
07016 159 * @ ^ +	TBJ A 474 * 050 C □ # @ 0 ^ ++		A	0.47	50	9500	0.5	5	6	4	6	6	0.075	0.09	0.08	0.04	0.84	0.76	0.34
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	0.09	0.04	0.90	0.81	0.36
07016 161 * @ ^ +	TBJ A 684 * 050 C □ # @ 0 ^ ++		A	0.68	50	7900	0.5	5	6	4	6	6	0.075	0.10	0.09	0.04	0.77	0.69	0.31
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	0.10	0.04	0.70	0.63	0.28
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	0.10	0.04	0.77	0.69	0.31
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	0.21	0.09	0.47	0.42	0.19
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	0.28	0.13	0.47	0.43	0.19
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	0.32	0.14	0.42	0.38	0.17
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	9	9	0.150	0.43	0.39	0.17	0.35	0.31	0.14
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	0.64	0.28	0.21	0.19	0.08
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	0.67	0.30	0.22	0.20	0.09
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	0.45	0.20	0.30	0.27	0.12
07016 170 * @ ^ +	TBJ D 685 * 050 L □ # @ 0 ^ ++		D	6.8	50	300	3.4	34	43	6	6	6	0.150	0.71	0.64	0.28	0.21	0.19	0.08
07016 171 * @ ^ +	TBJ E 685 * 050 C □ # @ 0 ^ ++		E	6.8	50	400	3.4	34	43	6	6	6	0.165	0.64	0.58	0.26	0.26	0.23	0.10

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.

