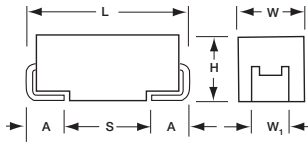


TBJ SERIES

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



MARKING

(Brown marking on gold body)



Polarity Stripe (+)
"J" for "JAN" Brand
Capacitance Code
Rated Voltage
Manufacturer's ID

GENERAL DESCRIPTION

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 convection reflow solder, conductive epoxy or compression bonding techniques. The part also carries full polarity, capacitance / voltage and JAN brand marking.

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, 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 ASTM E-595.

For moisture sensitivity levels please refer to the High Reliability Tantalum MSL section located in the back of the High Reliability Tantalum Catalog.

CASE DIMENSIONS: millimeters (inches)

Case Code	EIA Metric	Length (L)	Width (W)	Height (H)	Term. Width (W _t) ±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)	1.10 (0.043)
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) 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	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		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	D					
68	686	D	D						
100	107	D							

TBJ SERIES

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



HOW TO ORDER

COTS-PLUS & MIL QPL (CWR11):

TBJ	D	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	B = Bulk R = 7" T&R S = 13" T&R W = Waffle See page 8 for additional packaging options.	S = Std. Conformance L = Group A M = MIL (JAN) CWR11	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	0 = N/A T = T Level 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

LEAD-FREE
LEAD-FREE COMPATIBLE COMPONENT
 RoHS COMPLIANT
 For RoHS compliant products, please select correct termination style.

CWR11 P/N CROSS REFERENCE:

CWR11	D	^	686	*	C	+	□
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 C = Hot Solder Dipped B = Gold Plated LEAD-FREE LEAD-FREE COMPATIBLE COMPONENT RoHS COMPLIANT For RoHS compliant products, please select correct termination style.	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 TR13 = 13" T&R W = Waffle See page 8 for additional packaging options.

SPACE LEVEL OPTIONS TO SRC9000*:

TBJ	D	686	*	006	C	□	L	C	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	B = Bulk R = 7" T&R S = 13" T&R W = Waffle See page 8 for additional packaging options.	L = Group A	Weibull: C = 0.01%/1000 hrs. 90% conf.	9 = SRC9000	H = Solder Plated 0 = Fused Solder Plated 8 = Hot Solder Dipped 9 = Gold Plated	45 = 10 cycles, -55°C & +85°C before Weibull GC = Group C Testing and Data OR = TOR compliant testing and data

LEAD-FREE
LEAD-FREE COMPATIBLE COMPONENT
 RoHS COMPLIANT
 For RoHS compliant products, please select correct termination style.

*Contact factory for 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:		0.10 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	6.7	10	13.3	16.7	23.3	33.3		
Surge Voltage (V _S)	≤ 85°C:	5.3	8	13.3	20	26.7	33.3	46.7	66.7		
Surge Voltage (V _S)	≤125°C:	3.5	5.3	8.7	13.3	17.8	22.2	31.1	44.5		
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 RMS 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	COTS-Plus P/N	SRC9000 P/N	Case																
CWR11C*225*0+□	TBJA 225*004 C □ # @ 0+▲	TBJA 225*004 C □ LC9+▲	A	2.2	4	8	0.5	5	6	6	9	9	0.075	0.10	0.09	0.04	0.77	0.70	0.31
CWR11C*475*0+□	TBJA 475*004 C □ # @ 0+▲	TBJA 475*004 C □ LC9+▲	A	4.7	4	8	0.5	5	6	6	9	9	0.075	0.10	0.09	0.04	0.77	0.70	0.31
CWR11C*685*0+□	TBJB 685*004 C □ # @ 0+▲	TBJB 685*004 C □ LC9+▲	B	6.8	4	5.5	0.5	5	6	6	9	9	0.085	0.12	0.11	0.05	0.68	0.62	0.27
CWR11C*106*0+□	TBJB 106*004 C □ # @ 0+▲	TBJB 106*004 C □ LC9+▲	B	10	4	4	0.5	5	6	6	9	9	0.085	0.15	0.13	0.06	0.58	0.52	0.23
CWR11C*156*0+□	TBJB 156*004 C □ # @ 0+▲	TBJB 156*004 C □ LC9+▲	B	15	4	3.5	0.6	6	7.2	6	9	9	0.085	0.16	0.14	0.06	0.55	0.49	0.22
CWR11C*336*0+□	TBJC 336*004 C □ # @ 0+▲	TBJC 336*004 C □ LC9+▲	C	33	4	2.2	1.3	13	15.6	6	9	9	0.110	0.22	0.20	0.09	0.49	0.44	0.20
CWR11C*686*0+□	TBJD 686*004 C □ # @ 0+▲	TBJD 686*004 C □ LC9+▲	D	68	4	1.1	2.7	27	32.4	6	9	9	0.150	0.37	0.33	0.15	0.41	0.37	0.16
CWR11C*107*0+□	TBJD 107*004 C □ # @ 0+▲	TBJD 107*004 C □ LC9+▲	D	100	4	0.9	4	40	48	8	12	12	0.150	0.41	0.37	0.16	0.37	0.33	0.15
CWR11D*155*0+□	TBJA 155*006 C □ # @ 0+▲	TBJA 155*006 C □ LC9+▲	A	1.5	6	8	0.5	5	6	6	9	9	0.075	0.10	0.09	0.04	0.77	0.70	0.31
CWR11D*225*0+□	TBJA 225*006 C □ # @ 0+▲	TBJA 225*006 C □ LC9+▲	A	2.2	6	8	0.5	5	6	6	9	9	0.075	0.10	0.09	0.04	0.77	0.70	0.31
CWR11D*335*0+□	TBJA 335*006 C □ # @ 0+▲	TBJA 335*006 C □ LC9+▲	A	3.3	6	8	0.5	5	6	6	9	9	0.075	0.10	0.09	0.04	0.77	0.70	0.31
CWR11D*475*0+□	TBJB 475*006 C □ # @ 0+▲	TBJB 475*006 C □ LC9+▲	B	4.7	6	5.5	0.5	5	6	6	9	9	0.085	0.12	0.11	0.05	0.68	0.62	0.27
CWR11D*685*0+□	TBJB 685*006 C □ # @ 0+▲	TBJB 685*006 C □ LC9+▲	B	6.8	6	4.5	0.5	5	6	6	9	9	0.085	0.14	0.12	0.05	0.62	0.56	0.25
CWR11D*106*0+□	TBJB 106*006 C □ # @ 0+▲	TBJB 106*006 C □ LC9+▲	B	10	6	3.5	0.6	6	7.2	6	9	9	0.085	0.16	0.14	0.06	0.55	0.49	0.22
CWR11D*156*0+□	TBJC 156*006 C □ # @ 0+▲	TBJC 156*006 C □ LC9+▲	C	15	6	3	0.9	9	10.8	6	9	9	0.110	0.19	0.17	0.08	0.57	0.52	0.23
CWR11D*226*0+□	TBJC 226*006 C □ # @ 0+▲	TBJC 226*006 C □ LC9+▲	C	22	6	2.2	1.4	14	16.8	6	9	9	0.110	0.22	0.20	0.09	0.49	0.44	0.20
CWR11D*476*0+□	TBJD 476*006 C □ # @ 0+▲	TBJD 476*006 C □ LC9+▲	D	47	6	1.1	2.8	28	33.6	6	9	9	0.150	0.37	0.33	0.15	0.41	0.37	0.16
CWR11D*686*0+□	TBJD 686*006 C □ # @ 0+▲	TBJD 686*006 C □ LC9+▲	D	68	6	0.9	4.3	43	51.6	6	9	9	0.150	0.41	0.37	0.16	0.37	0.33	0.15
CWR11F*105*0+□	TBJA 105*010 C □ # @ 0+▲	TBJA 105*010 C □ LC9+▲	A	1	10	10	0.5	5	6	4	6	6	0.075	0.09	0.08	0.03	0.87	0.78	0.35
CWR11F*155*0+□	TBJA 155*010 C □ # @ 0+▲	TBJA 155*010 C □ LC9+▲	A	1.5	10	8	0.5	5	6	4	6	6	0.075	0.10	0.09	0.04	0.77	0.70	0.31
CWR11F*225*0+□	TBJA 225*010 C □ # @ 0+▲	TBJA 225*010 C □ LC9+▲	A	2.2	10	8	0.5	5	6	4	6	6	0.075	0.10	0.09	0.04	0.77	0.70	0.31
CWR11F*335*0+□	TBJB 335*010 C □ # @ 0+▲	TBJB 335*010 C □ LC9+▲	B	3.3	10	5.5	0.5	5	6	4	6	6	0.085	0.12	0.11	0.05	0.68	0.62	0.27
CWR11F*475*0+□	TBJB 475*010 C □ # @ 0+▲	TBJB 475*010 C □ LC9+▲	B	4.7	10	4.5	0.5	5	6	4	6	6	0.085	0.14	0.12	0.05	0.62	0.56	0.25
CWR11F*685*0+□	TBJB 685*010 C □ # @ 0+▲	TBJB 685*010 C □ LC9+▲	B	6.8	10	3.5	0.7	7	8.4	6	9	9	0.085	0.16	0.14	0.06	0.55	0.49	0.22
CWR11F*156*0+□	TBJC 156*010 C □ # @ 0+▲	TBJC 156*010 C □ LC9+▲	C	15	10	2.5	1.5	15	18	6	9	9	0.110	0.21	0.19	0.08	0.52	0.47	0.21
CWR11F*336*0+□	TBJD 336*010 C □ # @ 0+▲	TBJD 336*010 C □ LC9+▲	D	33	10	1.1	3.3	33	39.6	6	9	9	0.150	0.37	0.33	0.15	0.41	0.37	0.16
CWR11F*476*0+□	TBJD 476*010 C □ # @ 0+▲	TBJD 476*010 C □ LC9+▲	D	47	10	0.9	4.7	47	56.4	6	9	9	0.150	0.41	0.37	0.16	0.37	0.33	0.15
CWR11H*684*0+□	TBJA 684*015 C □ # @ 0+▲	TBJA 684*015 C □ LC9+▲	A	0.68	15	12	0.5	5	6	4	6	6	0.075	0.08	0.07	0.03	0.95	0.85	0.38
CWR11H*105*0+□	TBJA 105*015 C □ # @ 0+▲	TBJA 105*015 C □ LC9+▲	A	1	15	10	0.5	5	6	4	6	6	0.075	0.09	0.08	0.03	0.87	0.78	0.35
CWR11H*155*0+□	TBJA 155*015 C □ # @ 0+▲	TBJA 155*015 C □ LC9+▲	A	1.5	15	8	0.5	5	6	4	6	6	0.075	0.10	0.09	0.04	0.77	0.70	0.31
CWR11H*225*0+□	TBJB 225*015 C □ # @ 0+▲	TBJB 225*015 C □ LC9+▲	B	2.2	15	5.5	0.5	5	6	4	6	6	0.085	0.12	0.11	0.05	0.68	0.62	0.27
CWR11H*335*0+□	TBJB 335*015 C □ # @ 0+▲	TBJB 335*015 C □ LC9+▲	B	3.3	15	5	0.5	5	6	4	6	6	0.085	0.13	0.12	0.05	0.65	0.59	0.26
CWR11H*475*0+□	TBJB 475*015 C □ # @ 0+▲	TBJB 475*015 C □ LC9+▲	B	4.7	15	4	0.7	7	8.4	6	9	9	0.085	0.15	0.13	0.06	0.58	0.52	0.23
CWR11H*106*0+□	TBJC 106*015 C □ # @ 0+▲	TBJC 106*015 C □ LC9+▲	C	10	15	2.5	1.6	16	19.2	6	8	8	0.110	0.21	0.19	0.08	0.52	0.47	0.21
CWR11H*226*0+□	TBJD 226*015 C □ # @ 0+▲	TBJD 226*015 C □ LC9+▲	D	22	15	1.1	3.3	33	39.6	6	8	8	0.150	0.37	0.33	0.15	0.41	0.37	0.16
CWR11H*336*0+□	TBJD 336*015 C □ # @ 0+▲	TBJD 336*015 C □ LC9+▲	D	33	15	0.9	5.3	53	63.6	6	9	9	0.150	0.41	0.37	0.16	0.37	0.33	0.15
CWR11J*474*0+□	TBJA 474*020 C □ # @ 0+▲	TBJA 474*020 C □ LC9+▲	A	0.47	20	14	0.5	5	6	4	6	6	0.075	0.07	0.07	0.03	1.02	0.92	0.41
CWR11J*684*0+□	TBJA 684*020 C □ # @ 0+▲	TBJA 684*020 C □ LC9+▲	A	0.68	20	12	0.5	5	6	4	6	6	0.075	0.08	0.07	0.03	0.95	0.85	0.38
CWR11J*105*0+□	TBJA 105*020 C □ # @ 0+▲	TBJA 105*020 C □ LC9+▲	A	1	20	10	0.5	5	6	4	6	6	0.075	0.09	0.08	0.03	0.87	0.78	0.35
CWR11J*155*0+□	TBJB 155*020 C □ # @ 0+▲	TBJB 155*020 C □ LC9+▲	B	1.5	20	6	0.5	5	6	4	6	9	0.085	0.12	0.11	0.05	0.71	0.64	0.29
CWR11J*225*0+□	TBJB 225*020 C □ # @ 0+▲	TBJB 225*020 C □ LC9+▲	B	2.2	20	5	0.5	5	6	4	6	8	0.085	0.13	0.12	0.05	0.65	0.59	0.26
CWR11J*335*0+□	TBJB 335*020 C □ # @ 0+▲	TBJB 335*020 C □ LC9+▲	B	3.3	20	4	0.7	7	8.4	6	9	9	0.085	0.15	0.13	0.06	0.58	0.52	0.23
CWR11J*475*0+□	TBJC 475*020 C □ # @ 0+▲	TBJC 475*020 C □ LC9+▲	C	4.7	20	3	1	10	12	6	8	9	0.110	0.19	0.17	0.08	0.57	0.52	0.23
CWR11J*685*0+□	TBJC 685*020 C □ # @ 0+▲	TBJC 685*020 C □ LC9+▲	C	6.8	20	2.4	1.4	14	16.8	6	9	9	0.110	0.21	0.19	0.09	0.51	0.46	0.21
CWR11J*156*0+□	TBJD 156*020 C □ # @ 0+▲	TBJD 156*020 C □ LC9+▲	D	15	20	1.1	3	30	36	6	8	9	0.150	0.37	0.33	0.15	0.41	0.37	0.16
CWR11J*226*0+□	TBJD 226*020 C □ # @ 0+▲	TBJD 226*020 C □ LC9+▲	D	22	20	0.9	4.4	44	52.8	6	9	9	0.150	0.41	0.37	0.16	0.37	0.33	0.15
CWR11K*334*0+□	TBJA 334*025 C □ # @ 0+▲	TBJA 334*025 C □ LC9+▲	A	0.33	25	15	0.5	5	6	4	6	6	0.075	0.07	0.06	0.03	1.06	0.95	0.42
CWR11K*474*0+□	TBJA 474*025 C □ # @ 0+▲	TBJA 474*025 C □ LC9+▲	A	0.47	25	14	0.5	5	6	4	6	6	0.075	0.07	0.07	0.03	1.02	0.92	0.41
CWR11K*684*0+□	TBJB 684*025 C □ # @ 0+▲	TBJB 684*025 C □ LC9+▲	B	0.68	25	7.5	0.5	5	6	4	6	6	0.085	0.11	0.10	0.04	0.80	0.72	0.32
CWR11K*105*0+□	TBJB 105*025 C □ # @ 0+▲	TBJB 105*025 C □ LC9+▲	B	1	25	6.5	0.5	5	6	4	6	6	0.085	0.11	0.10	0.05	0.74	0.67	0.30
CWR11K*155*0+□	TBJB 155*025 C □ # @ 0+▲	TBJB 155*025 C □ LC9+▲	B	1.5	25	6.5	0.5	5	6	4	6	8	0.085	0.11	0.10	0.05	0.74	0.67	0.30
CWR11K*225*0+□	TBJC 225*025 C □ # @ 0+▲	TBJC 225*025 C □ LC9+▲	C	2.2	25	3.5	0.6	7.2	6	6	9	9	0.110	0.18	0.16	0.07	0.62	0.56	0.25
CWR11K*335*0+□	TBJC 335*025 C □ # @ 0+▲	TBJC 335*025 C □ LC9+▲	C	3.3	25	3.5	0.9	9	10.8	6	8	9	0.110	0.18	0.16	0.07</			

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



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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 RMS 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	+85°C	+125°C	+25°C	+(85/125) °C	-55°C							
CWR11 P/N	COTS-Plus P/N	SRC9000 P/N	Case				(µA)	(µA)	(µA)	(%)	(%)	(%)							
CWR11K*156*+□	TBJD156*025C□#@0^++	TBJD156*025C□LC9^++	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*+□	TBJA104*035C□#@0^++	TBJA104*035C□LC9^++	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*+□	TBJA154*035C□#@0^++	TBJA154*035C□LC9^++	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*+□	TBJA224*035C□#@0^++	TBJA224*035C□LC9^++	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*+□	TBJA334*035C□#@0^++	TBJA334*035C□LC9^++	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*+□	TBJB474*035C□#@0^++	TBJB474*035C□LC9^++	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*+□	TBJB684*035C□#@0^++	TBJB684*035C□LC9^++	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*+□	TBJB105*035C□#@0^++	TBJB105*035C□LC9^++	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*+□	TBJC155*035C□#@0^++	TBJC155*035C□LC9^++	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*+□	TBJC225*035C□#@0^++	TBJC225*035C□LC9^++	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*+□	TBJC335*035C□#@0^++	TBJC335*035C□LC9^++	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*+□	TBJD475*035C□#@0^++	TBJD475*035C□LC9^++	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*+□	TBJD685*035C□#@0^++	TBJD685*035C□LC9^++	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*+□	TBJA104*050C□#@0^++	TBJA104*050C□LC9^++	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*+□	TBJB154*050C□#@0^++	TBJB154*050C□LC9^++	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*+□	TBJB224*050C□#@0^++	TBJB224*050C□LC9^++	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*+□	TBJB334*050C□#@0^++	TBJB334*050C□LC9^++	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*+□	TBJC474*050C□#@0^++	TBJC474*050C□LC9^++	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*+□	TBJC684*050C□#@0^++	TBJC684*050C□LC9^++	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*+□	TBJC105*050C□#@0^++	TBJC105*050C□LC9^++	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*+□	TBJD155*050C□#@0^++	TBJD155*050C□LC9^++	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*+□	TBJD225*050C□#@0^++	TBJD225*050C□LC9^++	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*+□	TBJD335*050C□#@0^++	TBJD335*050C□LC9^++	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*+□	TBJD475*050C□#@0^++	TBJD475*050C□LC9^++	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

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