

# *ATC RF/Microwave Capacitors for Military and Aerospace Applications*



**A M E R I C A N   T E C H N I C A L   C E R A M I C S**

ATC North America  
+1-631-622-4700  
sales@atceramics.com

ATC Europe  
+46 8 6800410  
sales@atceramics-europe.com

ATC Asia  
+86-755-2396-8759  
sales@atceramics-asia.com

 **THE  
ENGINEERS'  
CHOICE®**  
ISO 9001 REGISTERED

---

**www.atceramics.com**

# ATC RF/Microwave Capacitors QPL Approved to MIL-PRF-55681 / 4 and 5

## ATC PART NUMBER CODE:

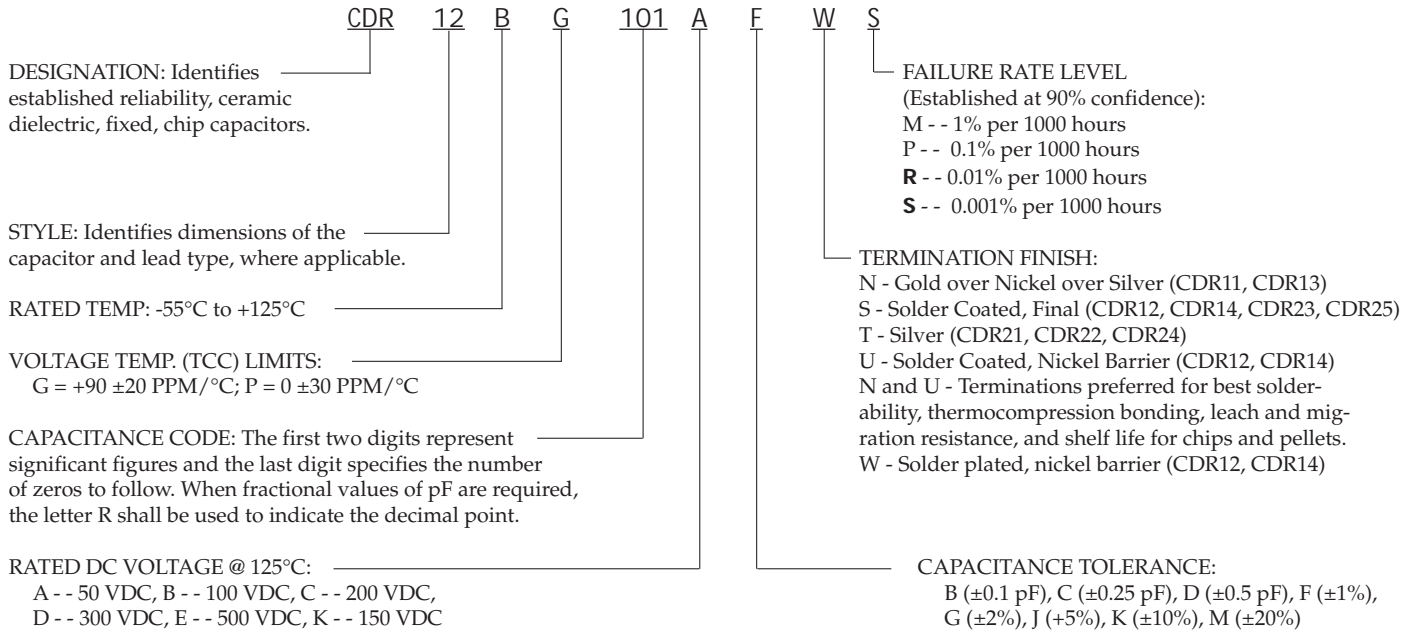


TABLE I - STYLES CDR11 AND CDR12 CAPACITOR CHARACTERISTICS

TYPE DESIGNATION*	CAPACITANCE RANGE (pF)	CAPACITANCE TOLERANCE AVAILABLE	RATED TEMP. AND VOLTAGE-TEMP. LIMITS	RATED DC VOLTAGE
CDR1-B-0R1KB-- to CDR1-B-0R2KB--	0.1 pF to 0.2 pF	B	Characteristic BG (+90 ±20 PPM/°C) and Characteristic BP (0 ±30 PPM/°C)	150 = K
CDR1-B-0R3K--- to CDR1-B-0R4K---	0.3 pF to 0.4 pF	B, C		
CDR1-B-0R5K--- to CDR1-B-2R2K---**	0.5 pF to 2.2 pF	B, C, D		
CDR1-B-2R4K--- to CDR1-B-6R2K---***	2.4 pF to 6.2 pF	B, C, D		
CDR1-B-6R8K--- to CDR1-B-9R1K---***	6.8 pF to 9.1 pF	B, C, J, K, M		
CDR1-B-100K--- to CDR1-B-101K---***	10 pF to 100 pF	F, G, J, K, M	BP	50 = A
CDR1-BP111K--- to CDR1-BP621K---***	110 pF to 620 pF	F, G, J, K, M		
CDR1-BP681A--- to CDR1-BP102A---***	680 pF to 1000 pF	F, G, J, K, M		

TABLE II - STYLES CDR13 AND CDR14 CAPACITOR CHARACTERISTICS

TYPE DESIGNATION*	CAPACITANCE RANGE (pF)	CAPACITANCE TOLERANCE AVAILABLE	RATED TEMP. AND VOLTAGE-TEMP. LIMITS	RATED DC VOLTAGE
CDR1-B-0R1EB-- to CDR1-B-0R2EB--	0.1 pF to 0.2 pF	B	Characteristic BG (+90 ±20 PPM/°C) and Characteristic BP (0 ±30 PPM/°C)	500 = E
CDR1-B-0R3E--- to CDR1-B-0R4E---	0.3 pF to 0.4 pF	B, C		
CDR1-B-0R5E--- to CDR1-B-2R2E---**	0.5 pF to 2.2 pF	B, C, D		
CDR1-B-2R4E--- to CDR1-B-6R2E---***	2.4 pF to 6.2 pF	B, C, D		
CDR1-B-6R8E--- to CDR1-B-9R1E---***	6.8 pF to 9.1 pF	B, C, J, K, M		300 = D
CDR1-B-100E--- to CDR1-B-101E---***	10 pF to 100 pF	F, G, J, K, M		
CDR1-B-111D--- to CDR1-B-201D---***	110 pF to 200 pF			
CDR1-B-221C--- to CDR1-B-471C---***	220 pF to 470 pF			
CDR1-B-511B--- to CDR1-B-621B---***	510 pF to 620 pF		100 = B	
CDR1-B-681A--- to CDR1-B-102A---***	680 pF to 1000 pF			
CDR1-BP112A--- to CDR1-BP512A---***	1100 pF to 5100 pF		BP	50 = A

\* Complete type designation will include additional symbols to indicate style, voltage-temperature limits, capacitance tolerance (where applicable), termination finish, and failure rate level.

\*\* Intermediate values in this category are in 0.1 pF steps.

\*\*\* Intermediate values in each category are given by the RETMA 5% Table.

## A M E R I C A N T E C H N I C A L C E R A M I C S

ATC North America

+1-631-622-470@ales@atceramics.com

ATC Europe

+46 8 6800410 sales@atceramics-europe.com

ATC Asia

+86-755-2396-8759 sales@atceramics-asia.com

# ATC RF/Microwave Capacitors QPL Approved to MIL-PRF-55681 / 4 and 5

TABLE III - STYLES CDR21 TO CDR25 CAPACITOR CHARACTERISTICS

TYPE DESIGNATION*	CAPACITANCE RANGE (pF)	CAPACITANCE TOLERANCE AVAILABLE	RATED TEMP. AND VOLTAGE-TEMP. LIMITS	RATED DC VOLTAGE
CDR2-B-0R1EB-- to CDR2-B-0R2EB--	0.1 pF to 0.2 pF	B	Characteristic BG (+90 ±20 PPM/°C) and Characteristic BP (0 ±30 PPM/°C)	500 = E
CDR2-B-0R3E--- to CDR2-B-0R4E---	0.3 pF to 0.4 pF	B, C		
CDR2-B-0R5E--- to CDR2-B-2R2E---**	0.5 pF to 2.2 pF	B, C, D		
CDR2-B-2R4E--- to CDR2-B-6R2E---**	2.4 pF to 6.2 pF	B, C, D		
CDR2-B-6R8E--- to CDR2-B-9R1E---**	6.8 pF to 9.1 pF	B, C, J, K, M		
CDR21-B-100E--- to CDR2-B-101E---**	10 pF to 100 pF	E, G, J, K, M		
CDR2-B-111D--- to CDR2-B-201D---**	110 pF to 200 pF			
CDR2-B-221C--- to CDR2-B-471C---**	220 pF to 470 pF			
CDR2-B-511B--- to CDR2-B-621B---**	510 pF to 620 pF			
CDR2-B-681A--- to CDR2-B-102A---**	680 pF to 1000 pF			
CDR2-BP112A--- to CDR2-BP512A---**	1100 pF to 5100 pF		BP	50 = A

\* Complete type designation will include additional symbols to indicate style, voltage-temperature limits, capacitance tolerance (where applicable), termination finish (T for styles CDR21, CDR22 and CDR24, and S for styles CDR23 and CDR25), and failure rate level.  
**Please note:** Leaded devices CDR 21 through CDR 25 are available to the R Failure Rate Level only.  
 \*\* Intermediate values in this category are in 0.1 pF steps.  
 \*\*\* Intermediate values in each category are given by the RETMA 5% Table as follows: 10, 11, 12, 13, 15, 16, 18, 20, 22, 24, 27, 30, 33, 36, 39, 43, 47, 51, 56, 62, 68, 75, 82, 91.

## MECHANICAL CONFIGURATIONS

MIL-PRF-55681 STYLES	CASE SIZE	TYPE	OUTLINES	BODY DIMENSIONS			LEAD AND TERMINATION DIMENSIONS AND MATERIALS					
				LENGTH	WIDTH	THICKNESS	LENGTH	WIDTH	THICKNESS			
CDR 11	A	Chip		.055 ±.015 (1.4 ±0.38)		.020/.057 (0.51/1.45)	N - Gold Over Nickel Over Silver					
CDR 13	B	Chip		.110 ±.020 (2.79 ±0.51)		.030/.102 (0.76/2.59)	N is ATC's UNI-TERM®					
CDR 12	A	Pellet		.055 ±.025 (1.4 ±0.63)	.055 ±.015 (1.4 ±0.38)	.020/.057 (0.51/1.45)	S - Solder Coated, Final U - Solder Coated, Nickel Barrier					
CDR 14	B	Pellet		.110 ±.035 - .020 (2.79 ±0.89 - 0.51)	.110 ±.020 (2.79 ±0.51)	.030/.102 (0.76/2.59)	U is ATC's BARRIER/CAP®					
CDR 12	A	Solder Plate		.055 ±.015 (1.4 ±0.38)		.020/.057 (0.51/1.45)	W - Nickel Barrier, Solder Plate.					
CDR 14	B	Solder Plate		.110 ±.020 (2.79 ±0.51)		.030/.102 (0.76/2.59)						
CDR 21	B	Microstrip		.135 ±.015 (3.43 ±0.38)	.110 ±.015 (2.79 ±0.38)	.060/.100 (1.52/2.54)	LENGTH	WIDTH	THICKNESS			
CDR 22	B	Axial Ribbon					.250 (6.35) min.	.093 ±.005 (2.36 ±0.13)	.004 ±.001 (0.10 ±0.03)	(Termination T - Silver)		
CDR 24	B	Radial Ribbon										
CDR 23	B	Radial Wire										
CDR 25	B	Axial Wire										

All dimensions are in inches, except those in parentheses which are in millimeters. All leads and ribbon are silver and are attached with high temperature solder.

STYLE	EQUIV. ATC PART NO. CHARACTERISTICS		STYLE	EQUIV. ATC PART NO. CHARACTERISTICS	
	BG	BP		BG	BP
CDR11	100A	700A	CDR21	100B ----- MS	700B ----- MS
CDR12	100A	700A	CDR22	100B ----- AR	700B ----- AR
CDR13	100B	700B	CDR23	100B ----- RW	700B ----- RW
CDR14	100B	700B	CDR24	100B ----- RR	700B ----- RR
			CDR25	100B ----- AW	700B ----- AW

## AMERICAN TECHNICAL CERAMICS

ATC North America      ATC Europe      ATC Asia  
 +1-631-622-4700 sales@atceramics.com      +46 8 6800410 sales@atceramics-europe.com      +86-755-2396-8759 sales@atceramics-asia.com

*Sales of ATC products are subject to the terms and conditions contained in American Technical Ceramics Corp. Terms and Conditions of Sale(ATC document #001-992 Rev. B 12/05). Copies of these terms and conditions will be provided upon request. They may also be viewed on ATC's website at [www.atceramics.com/productfinder/default.asp](http://www.atceramics.com/productfinder/default.asp). Click on the link for Terms and Conditions of Sale.*

*ATC has made every effort to have this information as accurate as possible. However, no responsibility is assumed by ATC for its use, nor for any infringements of rights of third parties which may result from its use. ATC reserves the right to revise the content or modify its product without prior notice.*

© 1996, American Technical Ceramics Corp. All Rights Reserved.

ATC 001-818 Rev. I; 2/12



**A M E R I C A N   T E C H N I C A L   C E R A M I C S**

**ATC North America**  
+1-631-622-4700  
[sales@atceramics.com](mailto:sales@atceramics.com)

**ATC Europe**  
+46 8 6800410  
[sales@atceramics-europe.com](mailto:sales@atceramics-europe.com)

**ATC Asia**  
+86-755-2396-8759  
[sales@atceramics-asia.com](mailto:sales@atceramics-asia.com)

 **THE  
ENGINEERS'  
CHOICE®**  
ISO 9001 REGISTERED

---

**[www.atceramics.com](http://www.atceramics.com)**