Surface Mount Multilayer Ceramic Chip Capacitors MIL Qualified, Type CDR

FEATURES

- Military qualified products
- Federal stock control number, CAGE CODE 2770A
- High reliability tested per MIL-PRF-55681
- Tin / lead termination codes “Z” and “U”
- Lead (Pb)-free termination codes “W”, “Y”, “M”
- Wet build process
- Reliable Noble Metal Electrode (NME) system
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

Pb Available

RoHS* Available

HALOGEN FREE

Note

* This datasheet provides information about parts that are RoHS-compliant and / or parts that are non-RoHS-compliant. For example, parts with lead (Pb) terminations are not RoHS-compliant. Please see the information / tables in this datasheet for details.

APPLICATIONS

- Avionic systems
- Sonar systems
- Satellite systems
- Missiles applications
- Geographical information systems
- Global positioning systems

ELECTRICAL SPECIFICATIONS

Note

- Electrical characteristics at +25 °C unless otherwise specified

Operating Temperature: -55 °C to +125 °C

Capacitance Range: 1.0 pF to 470 nF

Voltage Range: 50 V_{DC} to 100 V_{DC}

Temperature Coefficient of Capacitance (TCC):

BP: 0 ppm/°C ± 30 ppm/°C from -55 °C to +125 °C, with 0 V_{DC} applied

BX: ± 15 % from -55 °C to +125 °C, with 0 V_{DC} applied

BX: +15 %, -25 % from -55 °C to +125 °C, with 100 % rated V_{DC} applied

Dissipation Factor (DF):

BP: 0.15 % maximum
BX: 2.50 % maximum
Test frequency:
1 MHz ± 50 kHz for BP capacitors ≤ 1000 pF
and for BX capacitors ≤ 100 pF
All other BP and BX at 1 kHz ± 50 Hz

Aging Rate:

BP: 0 % maximum per decade
BX: 1 % maximum per decade

Insulation Resistance (IR):

at +25 °C and rated voltage 100 000 MΩ minimum or 1000 ΩF, whichever is less

Dielectric Strength Test:

performed per method 103 of EIA-198-2-E.
Applied test voltages:
≤ 100 V_{DC}-rated: 250 % of rated voltage

QUICK REFERENCE DATA

DIELECTRIC	STYLE (CASE)	MAXIMUM VOLTAGE (V)	CAPACITANCE	
			MINIMUM	MAXIMUM
BP	CDR01 (0805)	100	10 pF	180 pF
BX	CDR01 (0805)	100	120 pF	4.7 nF
BP	CDR02 (1805)	100	220 pF	270 pF
BX	CDR02 (1805)	100	3.9 nF	22 nF
BP	CDR03 (1808)	100	330 pF	1.0 nF
BX	CDR03 (1808)	100	12 nF	68 nF
BP	CDR04 (1812)	100	1.2 nF	3.3 nF
BX	CDR04 (1812)	100	39 nF	180 nF
BX	CDR06 (2225)	50	390 nF	470 nF
BP	CDR31 (0805)	100	1.0 pF	680 pF
BX	CDR31 (0805)	100	470 pF	18 nF
BP	CDR32 (1206)	100	1.0 pF	2.2 nF
BX	CDR32 (1206)	100	4.7 nF	39 nF
BP	CDR33 (1210)	100	1.0 nF	3.3 nF
BX	CDR33 (1210)	100	15 nF	100 nF
BP	CDR34 (1812)	100	2.2 nF	10 nF
BX	CDR34 (1812)	100	27 nF	180 nF
BP	CDR35 (1825)	100	4.7 nF	22 nF
BX	CDR35 (1825)	100	56 nF	470 nF

Note

- Detail ratings see selection chart

ORDERING INFORMATION - MILITARY

CDR31	BX	102	A	K	Y	S	A	T
MILITARY STYLE	DIELECTRIC	CAPACITANCE NOMINAL CODE	DC VOLTAGE RATING (1)	CAPACITANCE TOLERANCE (2)	TERMINATION	FAILURE RATE	MARKING	PACKAGING
CDR01 CDR02 CDR03 CDR04 CDR06 CDR31 CDR32 CDR33 CDR34 CDR35	BP and BX	Expressed in picofarads (pF). The first two digits are significant, the third is a multiplier. Examples: 102 = 1000 pF 1R8 = 1.8 pF	A = 50 V B = 100 V	C = ± 0.25 pF D = ± 0.5 pF F = ± 1 % J = ± 5 % K = ± 10 % M = ± 20 %	M = silver palladium Y = Ni barrier with 100 % tin W = Ni barrier with 100 % tin Z = Ni barrier with tin / lead plate min. 4 % lead U = hot solder dipped (min. of 4 % lead) (3)	M = 1.0 % P = 0.1 % R = 0.01 % S = 0.001 % Consult factory for failure rate status	A = unmarked	T = 7" reel / plastic tape J = 7" reel (low quantity) C = 7" reel / paper tape R = 11 1/4" / 13" reel / plastic tape P = 11 1/4" / 13" reel / paper tape B = bulk

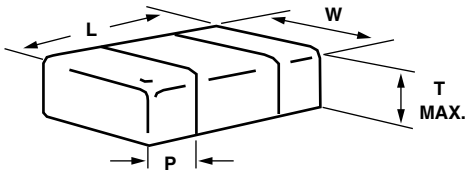
Notes

(1) DC voltage rating should not be exceeded in application. Other application factors may affect the MLCC performance. Consult for questions: mlcc@vishay.com

(2) Available tolerances please see rating chart

(3) MIL-PRF-55681 “U” termination part number have increased dimensions

DIMENSIONS in inches (millimeters)



MIL-PRF-55681	STYLE	LENGTH (L)	WIDTH (W)	MAXIMUM THICKNESS (T)	TERM. (P)	
					MINIMUM	MAXIMUM
/1	CDR01	0.080 ± 0.015 (2.03 ± 0.38)	0.050 ± 0.015 (1.27 ± 0.38)	0.055 (1.40)	0.010 (0.25)	0.030 (0.75)
	CDR02	0.180 ± 0.015 (4.57 ± 0.38)	0.050 ± 0.015 (1.27 ± 0.38)	0.055 (1.40)	0.010 (0.25)	0.030 (0.75)
	CDR03	0.180 ± 0.015 (4.57 ± 0.38)	0.080 ± 0.015 (2.03 ± 0.38)	0.080 (2.03)	0.010 (0.25)	0.030 (0.75)
	CDR04	0.180 ± 0.015 (4.57 ± 0.38)	0.125 ± 0.015 (3.20 ± 0.38)	0.080 (2.03)	0.010 (0.25)	0.030 (0.75)
/3	CDR06	0.225 ± 0.020 (5.72 ± 0.51)	0.250 ± 0.020 (6.35 ± 0.51)	0.080 (2.03)	0.010 (0.25)	0.030 (0.75)
/7	CDR31	0.078 ± 0.008 (2.00 ± 0.20)	0.049 ± 0.008 (1.25 ± 0.20)	0.051 (1.30)	0.012 (0.30)	0.028 (0.70)
/8	CDR32	0.125 ± 0.008 (3.20 ± 0.20)	0.062 ± 0.008 (1.60 ± 0.20)	0.051 (1.30)	0.012 (0.30)	0.028 (0.70)
/9	CDR33	0.125 ± 0.010 (3.20 ± 0.25)	0.098 ± 0.010 (2.50 ± 0.25)	0.059 (1.50)	0.010 (0.25)	0.030 (0.75)
/10	CDR34	0.176 ± 0.010 (4.50 ± 0.25)	0.125 ± 0.010 (3.20 ± 0.25)	0.059 (1.50)	0.010 (0.25)	0.030 (0.75)
/11	CDR35	0.176 ± 0.012 (4.50 ± 0.30)	0.250 ± 0.012 (6.40 ± 0.30)	0.059 (1.50)	0.008 (0.20)	0.032 (0.80)

"U" TERMINATION in inches (millimeters)

STYLE	LENGTH	WIDTH / THICKNESS	PACKAGING CODES
CDR01	0.020 (0.51)	0.015 (0.38)	"C", "J", "P", "B"
CDR02 to CDR06	0.025 (0.64)	0.015 (0.38)	"T", "J", "R", "B"
CDR31	0.023 (0.60)	0.012 (0.30)	"C", "J", "P", "B"
CDR32 to CDR35	0.023 (0.60)	0.012 (0.30)	"T", "J", "R", "B"

MIL-C-55681 QUALIFIED, TYPE CDR

MILITARY TYPE DESIGNATION	CAPACITANCE CODE	CAPACITANCE (pF)	CAPACITANCE TOLERANCE	RATED TEMP. AND VOLTAGE TEMP. LIMITS	VOLTAGE (DC)	RoHS STATUS
CDR01BP						
CDR01BP100B_ _ _	100	10	J, K	BP	100	
CDR01BP120BJ_ _	120	12	J	BP	100	
CDR01BP150B_ _ _	150	15	J, K	BP	100	
CDR01BP180BJ_ _	180	18	J	BP	100	
CDR01BP220B_ _ _	220	22	J, K	BP	100	
CDR01BP270BJ_ _	270	27	J	BP	100	
CDR01BP330B_ _ _	330	33	J, K	BP	100	
CDR01BP390BJ_ _	390	39	J	BP	100	
CDR01BP470B_ _ _	470	47	J, K	BP	100	
CDR01BP560BJ_ _	560	56	J	BP	100	
CDR01BP680B_ _ _	680	68	J, K	BP	100	
CDR01BP820BJ_ _	820	82	J	BP	100	
CDR01BP101B_ _ _	101	100	J, K	BP	100	
CDR01BP121B_ _ _	121	120	J, K	BP	100	
CDR01BP151B_ _ _	151	150	J, K	BP	100	
CDR01BP181B_ _ _	181	180	J, K	BP	100	

Notes

RoHS-compliant except when supplied with lead (Pb)-containing terminations, codes "Z" and "U"

Not RoHS-compliant

MIL-C-55681 QUALIFIED, TYPE CDR						
MILITARY TYPE DESIGNATION	CAPACITANCE CODE	CAPACITANCE (pF)	CAPACITANCE TOLERANCE	RATED TEMP. AND VOLTAGE TEMP. LIMITS	VOLTAGE (DC)	RoHS STATUS
CDR01BX						
CDR01BX121B_ _ _	121	120	J, K	BX	100	
CDR01BX151B_ _ _	151	150	J, K	BX	100	
CDR01BX181B_ _ _	181	180	J, K	BX	100	
CDR01BX221B_ _ _	221	220	K, M	BX	100	
CDR01BX271BK_ _	271	270	K	BX	100	
CDR01BX331B_ _ _	331	330	K, M	BX	100	
CDR01BX391BK_ _	391	390	K	BX	100	
CDR01BX471B_ _ _	471	470	K, M	BX	100	
CDR01BX561BK_ _	561	560	K	BX	100	
CDR01BX681B_ _ _	681	680	K, M	BX	100	
CDR01BX821BK_ _	821	820	K	BX	100	
CDR01BX102B_ _ _	102	1000	K, M	BX	100	
CDR01BX122BK_ _	122	1200	K	BX	100	
CDR01BX152B_ _ _	152	1500	K, M	BX	100	
CDR01BX182BK_ _	182	1800	K	BX	100	
CDR01BX222B_ _ _	222	2200	K, M	BX	100	
CDR01BX272BK_ _	272	2700	K	BX	100	
CDR01BX332B_ _ _	332	3300	K, M	BX	100	
CDR01BX392AK_ _	392	3900	K	BX	50	
CDR01BX472A_ _ _	472	4700	K, M	BX	50	
CDR02BP						
CDR02BP221B_ _ _	221	220	J, K	BP	100	
CDR02BP271BJ_ _	271	270	J	BP	100	
CDR02BX						
CDR02BX392BK_ _	392	3900	K	BX	100	
CDR02BX472B_ _ _	472	4700	K, M	BX	100	
CDR02BX562BK_ _	562	5600	K	BX	100	
CDR02BX682B_ _ _	682	6800	K, M	BX	100	
CDR02BX822BK_ _	822	8200	K	BX	100	
CDR02BX103B_ _ _	103	10 000	K, M	BX	100	
CDR02BX123AK_ _	123	12 000	K	BX	50	
CDR02BX153A_ _ _	153	15 000	K, M	BX	50	
CDR02BX183AK_ _	183	18 000	K	BX	50	
CDR02BX223A_ _ _	223	22 000	K, M	BX	50	
CDR03BP						
CDR03BP331B_ _ _	331	330	J, K	BP	100	
CDR03BP391BJ_ _	391	390	J	BP	100	
CDR03BP471B_ _ _	471	470	J, K	BP	100	
CDR03BP561BJ_ _	561	560	J	BP	100	
CDR03BP681B_ _ _	681	680	J, K	BP	100	
CDR03BP821BJ_ _	821	820	J	BP	100	
CDR03BP102B_ _ _	102	1000	J, K	BP	100	
CDR03BX						
CDR03BX123BK_ _	123	12 000	K	BX	100	
CDR03BX153B_ _ _	153	15 000	K, M	BX	100	
CDR03BX183BK_ _	183	18 000	K	BX	100	
CDR03BX223B_ _ _	223	22 000	K, M	BX	100	
CDR03BX273BK_ _	273	27 000	K	BX	100	
CDR03BX333B_ _ _	333	33 000	K, M	BX	100	
CDR03BX393AK_ _	393	39 000	K	BX	50	
CDR03BX473A_ _ _	473	47 000	K, M	BX	50	
CDR03BX563AK_ _	563	56 000	K	BX	50	
CDR03BX683A_ _ _	683	68 000	K, M	BX	50	

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MIL-C-55681 QUALIFIED, TYPE CDR						
MILITARY TYPE DESIGNATION	CAPACITANCE CODE	CAPACITANCE (pF)	CAPACITANCE TOLERANCE	RATED TEMP. AND VOLTAGE TEMP. LIMITS	VOLTAGE (DC)	RoHS STATUS
CDR04BP						
CDR04BP122BJ_ _	122	1200	J	BP	100	
CDR04BP152B_ _ _	152	1500	J, K	BP	100	
CDR04BP182BJ_ _	182	1800	J	BP	100	
CDR04BP222B_ _ _	222	2200	J, K	BP	100	
CDR04BP272BJ_ _	272	2700	J	BP	100	
CDR04BP332B_ _ _	332	3300	J, K	BP	100	
CDR04BX						
CDR04BX393BK_ _	393	39 000	K	BX	100	
CDR04BX473B_ _ _	473	47 000	K, M	BX	100	
CDR04BX563BK_ _	563	56 000	K	BX	100	
CDR04BX823AK_ _	823	82 000	K	BX	50	
CDR04BX104A_ _ _	104	100 000	K, M	BX	50	
CDR04BX124AK_ _	124	120 000	K	BX	50	
CDR04BX154A_ _ _	154	150 000	K, M	BX	50	
CDR04BX184AK_ _	184	180 000	K	BX	50	
CDR06BX						
CDR06BX394AK_ _	394	390 000	K	BX	50	
CDR06BX474A_ _ _	474	470 000	K, M	BX	50	
CDR31BP						
CDR31BP1R0B_ _ _	1R0	1	C	BP	100	
CDR31BP1R1B_ _ _	1R1	1.1	C	BP	100	
CDR31BP1R2B_ _ _	1R2	1.2	C	BP	100	
CDR31BP1R3B_ _ _	1R3	1.3	C	BP	100	
CDR31BP1R5B_ _ _	1R5	1.5	C	BP	100	
CDR31BP1R6B_ _ _	1R6	1.6	C	BP	100	
CDR31BP1R8B_ _ _	1R8	1.8	C	BP	100	
CDR31BP2R0B_ _ _	2R0	2	C	BP	100	
CDR31BP2R2B_ _ _	2R2	2.2	C	BP	100	
CDR31BP2R4B_ _ _	2R4	2.4	C	BP	100	
CDR31BP2R7B_ _ _	2R7	2.7	C, D	BP	100	
CDR31BP3R0B_ _ _	3R0	3	C, D	BP	100	
CDR31BP3R3B_ _ _	3R3	3.3	C, D	BP	100	
CDR31BP3R6B_ _ _	3R6	3.6	C, D	BP	100	
CDR31BP3R9B_ _ _	3R9	3.9	C, D	BP	100	
CDR31BP4R3B_ _ _	4R3	4.3	C, D	BP	100	
CDR31BP4R7B_ _ _	4R7	4.7	C, D	BP	100	
CDR31BP5R1B_ _ _	5R1	5.1	C, D	BP	100	
CDR31BP5R6B_ _ _	5R6	5.6	C, D	BP	100	
CDR31BP6R2B_ _ _	6R2	6.2	C, D	BP	100	
CDR31BP6R8B_ _ _	6R8	6.8	C, D	BP	100	
CDR31BP7R5B_ _ _	7R5	7.5	C, D	BP	100	
CDR31BP8R2B_ _ _	8R2	8.2	C, D	BP	100	
CDR31BP9R1B_ _ _	9R1	9.1	C, D	BP	100	
CDR31BP100B_ _ _	100	10	F, J, K	BP	100	
CDR31BP110B_ _ _	110	11	F, J, K	BP	100	

Notes

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Not RoHS-compliant

MIL-C-55681 QUALIFIED, TYPE CDR						
MILITARY TYPE DESIGNATION	CAPACITANCE CODE	CAPACITANCE (pF)	CAPACITANCE TOLERANCE	RATED TEMP. AND VOLTAGE TEMP. LIMITS	VOLTAGE (DC)	RoHS STATUS
CDR31BP						
CDR31BP120B_ _ _	120	12	F, J, K	BP	100	
CDR31BP130B_ _ _	130	13	F, J, K	BP	100	
CDR31BP150B_ _ _	150	15	F, J, K	BP	100	
CDR31BP160B_ _ _	160	16	F, J, K	BP	100	
CDR31BP180B_ _ _	180	18	F, J, K	BP	100	
CDR31BP200B_ _ _	200	20	F, J, K	BP	100	
CDR31BP220B_ _ _	220	22	F, J, K	BP	100	
CDR31BP240B_ _ _	240	24	F, J, K	BP	100	
CDR31BP270B_ _ _	270	27	F, J, K	BP	100	
CDR31BP300B_ _ _	300	30	F, J, K	BP	100	
CDR31BP330B_ _ _	330	33	F, J, K	BP	100	
CDR31BP360B_ _ _	360	36	F, J, K	BP	100	
CDR31BP390B_ _ _	390	39	F, J, K	BP	100	
CDR31BP430B_ _ _	430	43	F, J, K	BP	100	
CDR31BP470B_ _ _	470	47	F, J, K	BP	100	
CDR31BP510B_ _ _	510	51	F, J, K	BP	100	
CDR31BP560B_ _ _	560	56	F, J, K	BP	100	
CDR31BP620B_ _ _	620	62	F, J, K	BP	100	
CDR31BP680B_ _ _	680	68	F, J, K	BP	100	
CDR31BP750B_ _ _	750	75	F, J, K	BP	100	
CDR31BP820B_ _ _	820	82	F, J, K	BP	100	
CDR31BP910B_ _ _	910	91	F, J, K	BP	100	
CDR31BP101B_ _ _	101	100	F, J, K	BP	100	
CDR31BP111B_ _ _	111	110	F, J, K	BP	100	
CDR31BP121B_ _ _	121	120	F, J, K	BP	100	
CDR31BP131B_ _ _	131	130	F, J, K	BP	100	
CDR31BP151B_ _ _	151	150	F, J, K	BP	100	
CDR31BP161B_ _ _	161	160	F, J, K	BP	100	
CDR31BP181B_ _ _	181	180	F, J, K	BP	100	
CDR31BP201B_ _ _	201	200	F, J, K	BP	100	
CDR31BP221B_ _ _	221	220	F, J, K	BP	100	
CDR31BP241B_ _ _	241	240	F, J, K	BP	100	
CDR31BP271B_ _ _	271	270	F, J, K	BP	100	
CDR31BP301B_ _ _	301	300	F, J, K	BP	100	
CDR31BP331B_ _ _	331	330	F, J, K	BP	100	
CDR31BP361B_ _ _	361	360	F, J, K	BP	100	
CDR31BP391B_ _ _	391	390	F, J, K	BP	100	
CDR31BP431B_ _ _	431	430	F, J, K	BP	100	
CDR31BP471B_ _ _	471	470	F, J, K	BP	100	
CDR31BP511A_ _ _	511	510	F, J, K	BP	50	
CDR31BP561A_ _ _	561	560	F, J, K	BP	50	
CDR31BP621A_ _ _	621	620	F, J, K	BP	50	
CDR31BP681A_ _ _	681	680	F, J, K	BP	50	

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Not RoHS-compliant

MIL-C-55681 QUALIFIED, TYPE CDR						
MILITARY TYPE DESIGNATION	CAPACITANCE CODE	CAPACITANCE (pF)	CAPACITANCE TOLERANCE	RATED TEMP. AND VOLTAGE TEMP. LIMITS	VOLTAGE (DC)	RoHS STATUS
CDR31BX						
CDR31BX471B_ _ _	471	470	K, M	BX	100	
CDR31BX561B_ _ _	561	560	K, M	BX	100	
CDR31BX681B_ _ _	681	680	K, M	BX	100	
CDR31BX821B_ _ _	821	820	K, M	BX	100	
CDR31BX102B_ _ _	102	1000	K, M	BX	100	
CDR31BX122B_ _ _	122	1200	K, M	BX	100	
CDR31BX152B_ _ _	152	1500	K, M	BX	100	
CDR31BX182B_ _ _	182	1800	K, M	BX	100	
CDR31BX222B_ _ _	222	2200	K, M	BX	100	
CDR31BX272B_ _ _	272	2700	K, M	BX	100	
CDR31BX332B_ _ _	332	3300	K, M	BX	100	
CDR31BX392B_ _ _	392	3900	K, M	BX	100	
CDR31BX472B_ _ _	472	4700	K, M	BX	100	
CDR31BX562A_ _ _	562	5600	K, M	BX	50	
CDR31BX682A_ _ _	682	6800	K, M	BX	50	
CDR31BX822A_ _ _	822	8200	K, M	BX	50	
CDR31BX103A_ _ _	103	10 000	K, M	BX	50	
CDR31BX123A_ _ _	123	12 000	K, M	BX	50	
CDR31BX153A_ _ _	153	15 000	K, M	BX	50	
CDR31BX183A_ _ _	183	18 000	K, M	BX	50	
CDR32BP						
CDR32BP1R0B_ _ _	1R0	1	C	BP	100	
CDR32BP1R1B_ _ _	1R1	1.1	C	BP	100	
CDR32BP1R2B_ _ _	1R2	1.2	C	BP	100	
CDR32BP1R3B_ _ _	1R3	1.3	C	BP	100	
CDR32BP1R5B_ _ _	1R5	1.5	C	BP	100	
CDR32BP1R6B_ _ _	1R6	1.6	C	BP	100	
CDR32BP1R8B_ _ _	1R8	1.8	C	BP	100	
CDR32BP2R0B_ _ _	2R0	2	C	BP	100	
CDR32BP2R2B_ _ _	2R2	2.2	C	BP	100	
CDR32BP2R4B_ _ _	2R4	2.4	C	BP	100	
CDR32BP2R7B_ _ _	2R7	2.7	C, D	BP	100	
CDR32BP3R0B_ _ _	3R0	3	C, D	BP	100	
CDR32BP3R3B_ _ _	3R3	3.3	C, D	BP	100	
CDR32BP3R6B_ _ _	3R6	3.6	C, D	BP	100	
CDR32BP3R9B_ _ _	3R9	3.9	C, D	BP	100	
CDR32BP4R3B_ _ _	4R3	4.3	C, D	BP	100	
CDR32BP4R7B_ _ _	4R7	4.7	C, D	BP	100	
CDR32BP5R1B_ _ _	5R1	5.1	C, D	BP	100	
CDR32BP5R6B_ _ _	5R6	5.6	C, D	BP	100	
CDR32BP6R2B_ _ _	6R2	6.2	C, D	BP	100	
CDR32BP6R8B_ _ _	6R8	6.8	C, D	BP	100	
CDR32BP7R5B_ _ _	7R5	7.5	C, D	BP	100	
CDR32BP8R2B_ _ _	8R2	8.2	C, D	BP	100	
CDR32BP9R1B_ _ _	9R1	9.1	C, D	BP	100	
CDR32BP100B_ _ _	100	10	F, J, K	BP	100	

Notes

RoHS-compliant except when supplied with lead (Pb)-containing terminations, codes “Z” and “U”

Not RoHS-compliant

MIL-C-55681 QUALIFIED, TYPE CDR						
MILITARY TYPE DESIGNATION	CAPACITANCE CODE	CAPACITANCE (pF)	CAPACITANCE TOLERANCE	RATED TEMP. AND VOLTAGE TEMP. LIMITS	VOLTAGE (DC)	RoHS STATUS
CDR32BP						
CDR32BP110B_ _ _	110	11	F, J, K	BP	100	
CDR32BP120B_ _ _	120	12	F, J, K	BP	100	
CDR32BP130B_ _ _	130	13	F, J, K	BP	100	
CDR32BP150B_ _ _	150	15	F, J, K	BP	100	
CDR32BP160B_ _ _	160	16	F, J, K	BP	100	
CDR32BP180B_ _ _	180	18	F, J, K	BP	100	
CDR32BP200B_ _ _	200	20	F, J, K	BP	100	
CDR32BP220B_ _ _	220	22	F, J, K	BP	100	
CDR32BP240B_ _ _	240	24	F, J, K	BP	100	
CDR32BP270B_ _ _	270	27	F, J, K	BP	100	
CDR32BP300B_ _ _	300	30	F, J, K	BP	100	
CDR32BP330B_ _ _	330	33	F, J, K	BP	100	
CDR32BP360B_ _ _	360	36	F, J, K	BP	100	
CDR32BP390B_ _ _	390	39	F, J, K	BP	100	
CDR32BP430B_ _ _	430	43	F, J, K	BP	100	
CDR32BP470B_ _ _	470	47	F, J, K	BP	100	
CDR32BP510B_ _ _	510	51	F, J, K	BP	100	
CDR32BP560B_ _ _	560	56	F, J, K	BP	100	
CDR32BP620B_ _ _	620	62	F, J, K	BP	100	
CDR32BP680B_ _ _	680	68	F, J, K	BP	100	
CDR32BP750B_ _ _	750	75	F, J, K	BP	100	
CDR32BP820B_ _ _	820	82	F, J, K	BP	100	
CDR32BP910B_ _ _	910	91	F, J, K	BP	100	
CDR32BP101B_ _ _	101	100	F, J, K	BP	100	
CDR32BP111B_ _ _	111	110	F, J, K	BP	100	
CDR32BP121B_ _ _	121	120	F, J, K	BP	100	
CDR32BP131B_ _ _	131	130	F, J, K	BP	100	
CDR32BP151B_ _ _	151	150	F, J, K	BP	100	
CDR32BP161B_ _ _	161	160	F, J, K	BP	100	
CDR32BP181B_ _ _	181	180	F, J, K	BP	100	
CDR32BP201B_ _ _	201	200	F, J, K	BP	100	
CDR32BP221B_ _ _	221	220	F, J, K	BP	100	
CDR32BP241B_ _ _	241	240	F, J, K	BP	100	
CDR32BP271B_ _ _	271	270	F, J, K	BP	100	
CDR32BP301B_ _ _	301	300	F, J, K	BP	100	
CDR32BP331B_ _ _	331	330	F, J, K	BP	100	
CDR32BP361B_ _ _	361	360	F, J, K	BP	100	
CDR32BP391B_ _ _	391	390	F, J, K	BP	100	
CDR32BP431B_ _ _	431	430	F, J, K	BP	100	
CDR32BP471B_ _ _	471	470	F, J, K	BP	100	
CDR32BP511B_ _ _	511	510	F, J, K	BP	100	
CDR32BP561B_ _ _	561	560	F, J, K	BP	100	
CDR32BP621B_ _ _	621	620	F, J, K	BP	100	
CDR32BP681B_ _ _	681	680	F, J, K	BP	100	
CDR32BP751B_ _ _	751	750	F, J, K	BP	100	
CDR32BP821B_ _ _	821	820	F, J, K	BP	100	

Notes

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Not RoHS-compliant

MIL-C-55681 QUALIFIED, TYPE CDR						
MILITARY TYPE DESIGNATION	CAPACITANCE CODE	CAPACITANCE (pF)	CAPACITANCE TOLERANCE	RATED TEMP. AND VOLTAGE TEMP. LIMITS	VOLTAGE (DC)	RoHS STATUS
CDR32BP						
CDR32BP911B_ _ _	911	910	F, J, K	BP	100	
CDR32BP102B_ _ _	102	1000	F, J, K	BP	100	
CDR32BP112A_ _ _	112	1100	F, J, K	BP	50	
CDR32BP122A_ _ _	122	1200	F, J, K	BP	50	
CDR32BP132A_ _ _	132	1300	F, J, K	BP	50	
CDR32BP152A_ _ _	152	1500	F, J, K	BP	50	
CDR32BP162A_ _ _	162	1600	F, J, K	BP	50	
CDR32BP182A_ _ _	182	1800	F, J, K	BP	50	
CDR32BP202A_ _ _	202	2000	F, J, K	BP	50	
CDR32BP222A_ _ _	222	2200	F, J, K	BP	50	
CDR32BX						
CDR32BX472B_ _ _	472	4700	K, M	BX	100	
CDR32BX562B_ _ _	562	5600	K, M	BX	100	
CDR32BX682B_ _ _	682	6800	K, M	BX	100	
CDR32BX822B_ _ _	822	8200	K, M	BX	100	
CDR32BX103B_ _ _	103	10 000	K, M	BX	100	
CDR32BX123B_ _ _	123	12 000	K, M	BX	100	
CDR32BX153B_ _ _	153	15 000	K, M	BX	100	
CDR32BX183A_ _ _	183	18 000	K, M	BX	50	
CDR32BX223A_ _ _	223	22 000	K, M	BX	50	
CDR32BX273A_ _ _	273	27 000	K, M	BX	50	
CDR32BX333A_ _ _	333	33 000	K, M	BX	50	
CDR32BX393A_ _ _	393	39 000	K, M	BX	50	
CDR33BP						
CDR33BP102B_ _ _	102	1000	F, J, K	BP	100	
CDR33BP112B_ _ _	112	1100	F, J, K	BP	100	
CDR33BP122B_ _ _	122	1200	F, J, K	BP	100	
CDR33BP132B_ _ _	132	1300	F, J, K	BP	100	
CDR33BP152B_ _ _	152	1500	F, J, K	BP	100	
CDR33BP162B_ _ _	162	1600	F, J, K	BP	100	
CDR33BP182B_ _ _	182	1800	F, J, K	BP	100	
CDR33BP202B_ _ _	202	2000	F, J, K	BP	100	
CDR33BP222B_ _ _	222	2200	F, J, K	BP	100	
CDR33BP242A_ _ _	242	2400	F, J, K	BP	50	
CDR33BP272A_ _ _	272	2700	F, J, K	BP	50	
CDR33BP302A_ _ _	302	3000	F, J, K	BP	50	
CDR33BP332A_ _ _	332	3300	F, J, K	BP	50	
CDR33BX						
CDR33BX153B_ _ _	153	15 000	K, M	BX	100	
CDR33BX183B_ _ _	183	18 000	K, M	BX	100	
CDR33BX223B_ _ _	223	22 000	K, M	BX	100	
CDR33BX273B_ _ _	273	27 000	K, M	BX	100	
CDR33BX393A_ _ _	393	39 000	K, M	BX	50	
CDR33BX473A_ _ _	473	47 000	K, M	BX	50	
CDR33BX563A_ _ _	563	56 000	K, M	BX	50	
CDR33BX683A_ _ _	683	68 000	K, M	BX	50	
CDR33BX823A_ _ _	823	82 000	K, M	BX	50	
CDR33BX104A_ _ _	104	100 000	K, M	BX	50	

Notes

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Not RoHS-compliant

MIL-C-55681 QUALIFIED, TYPE CDR						
MILITARY TYPE DESIGNATION	CAPACITANCE CODE	CAPACITANCE (pF)	CAPACITANCE TOLERANCE	RATED TEMP. AND VOLTAGE TEMP. LIMITS	VOLTAGE (DC)	RoHS STATUS
CDR34BP						
CDR34BP222B_ _ _	222	2200	F, J, K	BP	100	
CDR34BP242B_ _ _	242	2400	F, J, K	BP	100	
CDR34BP272B_ _ _	272	2700	F, J, K	BP	100	
CDR34BP302B_ _ _	302	3000	F, J, K	BP	100	
CDR34BP332B_ _ _	332	3300	F, J, K	BP	100	
CDR34BP362B_ _ _	362	3600	F, J, K	BP	100	
CDR34BP392B_ _ _	392	3900	F, J, K	BP	100	
CDR34BP432B_ _ _	432	4300	F, J, K	BP	100	
CDR34BP472B_ _ _	472	4700	F, J, K	BP	100	
CDR34BP512A_ _ _	512	5100	F, J, K	BP	50	
CDR34BP562A_ _ _	562	5600	F, J, K	BP	50	
CDR34BP622A_ _ _	622	6200	F, J, K	BP	50	
CDR34BP682A_ _ _	682	6800	F, J, K	BP	50	
CDR34BP752A_ _ _	752	7500	F, J, K	BP	50	
CDR34BP822A_ _ _	822	8200	F, J, K	BP	50	
CDR34BP912A_ _ _	912	9100	F, J, K	BP	50	
CDR34BP103A_ _ _	103	10 000	F, J, K	BP	50	
CDR34BX						
CDR34BX273B_ _ _	273	27 000	K, M	BX	100	
CDR34BX333B_ _ _	333	33 000	K, M	BX	100	
CDR34BX393B_ _ _	393	39 000	K, M	BX	100	
CDR34BX473B_ _ _	473	47 000	K, M	BX	100	
CDR34BX563B_ _ _	563	56 000	K, M	BX	100	
CDR34BX104A_ _ _	104	100 000	K, M	BX	50	
CDR34BX124A_ _ _	124	120 000	K, M	BX	50	
CDR34BX154A_ _ _	154	150 000	K, M	BX	50	
CDR34BX184A_ _ _	184	180 000	K, M	BX	50	
CDR35BP						
CDR35BP472B_ _ _	472	4700	F, J, K	BP	100	
CDR35BP512B_ _ _	512	5100	F, J, K	BP	100	
CDR35BP562B_ _ _	562	5600	F, J, K	BP	100	
CDR35BP622B_ _ _	622	6200	F, J, K	BP	100	
CDR35BP682B_ _ _	682	6800	F, J, K	BP	100	
CDR35BP752B_ _ _	752	7500	F, J, K	BP	100	
CDR35BP822B_ _ _	822	8200	F, J, K	BP	100	
CDR35BP912B_ _ _	912	9100	F, J, K	BP	100	
CDR35BP103B_ _ _	103	10 000	F, J, K	BP	100	
CDR35BP113A_ _ _	113	11 000	F, J, K	BP	50	
CDR35BP123A_ _ _	123	12 000	F, J, K	BP	50	
CDR35BP133A_ _ _	133	13 000	F, J, K	BP	50	
CDR35BP153A_ _ _	153	15 000	F, J, K	BP	50	
CDR35BP163A_ _ _	163	16 000	F, J, K	BP	50	
CDR35BP183A_ _ _	183	18 000	F, J, K	BP	50	
CDR35BP203A_ _ _	203	20 000	F, J, K	BP	50	
CDR35BP223A_ _ _	223	22 000	F, J, K	BP	50	

Notes

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Not RoHS-compliant

MIL-C-55681 QUALIFIED, TYPE CDR

MILITARY TYPE DESIGNATION	CAPACITANCE CODE	CAPACITANCE (pF)	CAPACITANCE TOLERANCE	RATED TEMP. AND VOLTAGE TEMP. LIMITS	VOLTAGE (DC)	RoHS STATUS
CDR35BX						
CDR35BX563B_ _ _	563	56 000	K, M	BX	100	
CDR35BX683B_ _ _	683	68 000	K, M	BX	100	
CDR35BX823B_ _ _	823	82 000	K, M	BX	100	
CDR35BX104B_ _ _	104	100 000	K, M	BX	100	
CDR35BX124B_ _ _	124	120 000	K, M	BX	100	
CDR35BX154B_ _ _	154	150 000	K, M	BX	100	
CDR35BX184A_ _ _	184	180 000	K, M	BX	50	
CDR35BX224A_ _ _	224	220 000	K, M	BX	50	
CDR35BX274A_ _ _	274	270 000	K, M	BX	50	
CDR35BX334A_ _ _	334	330 000	K, M	BX	50	
CDR35BX394A_ _ _	394	390 000	K, M	BX	50	
CDR35BX474A_ _ _	474	470 000	K, M	BX	50	

Notes

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Not RoHS-compliant

TAPE AND REEL QUANTITIES [1][2][3]

STYLES	BODY SIZE	TAPE SIZE	7" REEL QUANTITIES			11 1/4" AND 13" REEL QUANTITIES		BULK
			PACKAGING CODE			PACKAGING CODE		
			“C”	“T”	“J”	“P”	“R”	“B”
CDR01, CDR31	0805	8 mm	3000	3000	1000	10 000	10 000	100
CDR32	1206	8 mm	n/a	3000	1000	n/a	10 000	100
CDR33	1210	8 mm	n/a	3000	1000	n/a	10 000	100
CDR02	1805	12 mm	n/a	2000	500	n/a	10 000	100
CDR03	1808	12 mm	n/a	2000	500	n/a	10 000	100
CDR04, CDR34	1812	12 mm	n/a	1000	500	n/a	4000	100
CDR35	1825	12 mm	n/a	1000	500	n/a	4000	100
CDR06	2225	12 mm	n/a	1000	500	n/a	4000	100

Notes

[1] Vishay Vitramon uses embossed plastic carrier tape and punched paper carrier tape

[2] Paper tape is not available for case sizes > 1206 or for component thickness > 0.035" (0.89 mm)

[3] DC voltage rating should not be exceeded in application

STORAGE AND HANDLING CONDITIONS

(1) Store the components at 5 °C to +40 °C ambient temperature and ≤ 70 % related humidity conditions.
(2) The product is recommended to be used within a time-frame of 2 years after shipment.
Check solderability in case extended shelf life beyond the expiry date is needed.

Precautions:

a. Do not store products in an environment containing corrosive elements, especially where chloride gas, sulfide gas, acid, alkali, salt or the like are present. This may cause corrosion or oxidization of the terminations, which can easily lead to poor soldering.
b. Store products on the shelf and avoid exposure to moisture or dust.
c. Do not expose products to excessive shock, vibration, direct sunlight and so on.

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Please note that some Vishay documentation may still make reference to RoHS Directive 2002/95/EC. We confirm that all the products identified as being compliant to Directive 2002/95/EC conform to Directive 2011/65/EU.

Vishay Intertechnology, Inc. hereby certifies that all its products that are identified as Halogen-Free follow Halogen-Free requirements as per JEDEC JS709A standards. Please note that some Vishay documentation may still make reference to the IEC 61249-2-21 definition. We confirm that all the products identified as being compliant to IEC 61249-2-21 conform to JEDEC JS709A standards.