



## HOW TO ORDER

### Military Type Designation:

Established Reliability = CCR05, CCR06, CCR07, CCR08, CCR09

Non-Established Reliability = CC05, CC06, CC07, CC08, CC09

### CCR06

#### Style

CC = Identifies temperature compensating, ceramic dielectric, fixed capacitors.  
R = Identifies Established Reliability parts  
06 = Numbers identify shape and dimension

### CG

#### Temperature Characteristic

| Permissible capacitance change from capacitance at +25°C in ppm/°C |                  |          |
|--|------------------|----------|
| Characteristic   |                  | Temp.    |
| CX   | 1/               | +125°C   |
|  | 1/               | -55°C 2/ |
| CK   | ±250 ppm/°C      | +125°C   |
|  | +246.25, -326.25 | -55°C 2/ |
| CJ   | ±120 ppm/°C      | +125°C   |
|  | +116.25, -166.25 | -55°C 2/ |
| CH   | ±60 ppm/°C       | +125°C   |
|  | +55.00, -91.25   | -55°C 2/ |
| CG   | ±30 ppm/°C       | +125°C   |
|  | +27.50, -53.75   | -55°C 2/ |

1/ Not practically measurable.  
2/ The ppm/°C values for -55°C were calculated by dividing ppm by negative 80°C.

### 183

#### Capacitance

First two digits are the significant figures of capacitance. Third digit indicates the additional number of zeros. For example, order 18,000 pF as 183. (For values below 10pF use "R" in place of decimal point, e.g., 1R4 = 1.4pF.)

### J

#### Capacitance Tolerance

C = ±0.25pF  
D = ±0.5pF  
F = ±1%  
G = ±2%  
J = ±5%  
K = ±10%

### R

#### Military Failure Rate

M = 1% per 1000 hours  
P = 0.1% per 1000 hours  
R = 0.01% per 1000 hours  
S = 0.001% per 1000 hours

### (V)

#### Standoff Option

To order standoff option, place "V" at the end of the part number.  
Example:  
CCR05CG332FSV

**Not RoHS Compliant**

## PACKAGING REQUIREMENTS

Packaging: CCR0X: 100 pcs/bag; CC0X: 1000 pcs/bag

## SIZE SPECIFICATIONS

Dimensions: Millimeters (Inches)

| Per MIL Spec               | Case Size                |                          |                         |                          |                        |
|----------------------------|--------------------------|--------------------------|-------------------------|--------------------------|------------------------|
|                            | Length (L)               | Width (W)                | Thickness (T)           | Lead Spacing (L.S.)      | Lead Diameter (L.D.)   |
| CCR05/CC05<br>Figures 1, 4 | 4.83±.25<br>(.190±.010)  | 4.83±.25<br>(.190±.010)  | 2.29±.25<br>(.090±.010) | 5.08±.38<br>(.200±.015)  | .64±.05<br>(.025±.002) |
| CCR06/CC06<br>Figures 2, 3 | 7.37±.25<br>(.290±.010)  | 7.37±.25<br>(.290±.010)  | 2.29±.25<br>(.090±.010) | 5.08±.38<br>(.200±.015)  | .64±.05<br>(.025±.002) |
| CCR07/CC07<br>Figure 2     | 12.19±.51<br>(.480±.020) | 12.19±.51<br>(.480±.020) | 3.56±.25<br>(.140±.010) | 10.16±.51<br>(.400±.020) | .64±.05<br>(.025±.002) |
| CCR08/CC08<br>Figure 2     | 12.19±.51<br>(.480±.020) | 12.19±.51<br>(.480±.020) | 6.1±.25<br>(.240±.010)  | 10.16±.51<br>(.400±.020) | .64±.05<br>(.025±.002) |
| CCR09/CC09<br>Figure 2     | 4.83±.25<br>(.190±.010)  | 4.83±.25<br>(.190±.010)  | 2.29±.25<br>(.090±.010) | 2.54±.38<br>(.100±.015)  | .64±.05<br>(.025±.002) |

## MILITARY PART NUMBER IDENTIFICATION

| Military Type Designation     | Capacitance (pF) | Capacitance Tolerance | WVDC |
|-------------------------------|------------------|-----------------------|------|
| <b>CC05-CCR05, CC09-CCR09</b> |                  |                       |      |
| CCR05CX1R0_                   | 1.0              | B, C                  | 200  |
| CCR05CX1R1_                   | 1.1              | B, C                  | 200  |
| CCR05CX1R2_                   | 1.2              | B, C                  | 200  |
| CCR05CX1R3_                   | 1.3              | B, C                  | 200  |
| CCR05CX1R5_                   | 1.5              | B, C                  | 200  |
| CCR05CX1R6_                   | 1.6              | B, C                  | 200  |
| CCR05CX1R8_                   | 1.8              | B, C                  | 200  |
| CCR05CX2R0_                   | 2.0              | B, C                  | 200  |
| CCR05CK2R2_                   | 2.2              | B, C                  | 200  |
| CCR05CK2R4_                   | 2.4              | B, C                  | 200  |
| CCR05CK2R7_                   | 2.7              | B, C, D               | 200  |
| CCR05CK3R0_                   | 3.0              | B, C, D               | 200  |
| CCR05CK3R3_                   | 3.3              | B, C, D               | 200  |
| CCR05CK3R6_                   | 3.6              | B, C, D               | 200  |
| CCR05CK3R9_                   | 3.9              | B, C, D               | 200  |
| CCR05CJ4R3_                   | 4.3              | B, C, D               | 200  |
| CCR05CJ4R7_                   | 4.7              | B, C, D               | 200  |
| CCR05CJ5R1_                   | 5.1              | B, C, D               | 200  |
| CCR05CJ5R6_                   | 5.6              | B, C, D               | 200  |
| CCR05CJ6R2_                   | 6.2              | B, C, D               | 200  |
| CCR05CJ6R8_                   | 6.8              | B, C, D               | 200  |
| CCR05CJ7R5_                   | 7.5              | B, C, D               | 200  |
| CCR05CH8R2_                   | 8.2              | B, C, D               | 200  |
| CCR05CH9R1_                   | 9.1              | B, C, D               | 200  |
| CCR05CH100_                   | 10               | F, G, J               | 200  |
| CCR05CH110_                   | 11               | F, G, J               | 200  |
| CCR05CH120_                   | 12               | F, G, J               | 200  |
| CCR05CH130_                   | 13               | F, G, J               | 200  |
| CCR05CH150_                   | 15               | F, G, J               | 200  |
| CCR05CH160_                   | 16               | F, G, J               | 200  |
| CCR05CH180_                   | 18               | F, G, J               | 200  |
| CCR05CG200_                   | 20               | F, G, J               | 200  |
| CCR05CG220_                   | 22               | F, G, J               | 200  |
| CCR05CG240_                   | 24               | F, G, J               | 200  |
| CCR05CG270_                   | 27               | F, G, J               | 200  |
| CCR05CG300_                   | 30               | F, G, J               | 200  |
| CCR05CG330_                   | 33               | F, G, J               | 200  |
| CCR05CG360_                   | 36               | F, G, J               | 200  |
| CCR05CG390_                   | 39               | F, G, J               | 200  |
| CCR05CG430_                   | 43               | F, G, J               | 200  |
| CCR05CG470_                   | 47               | F, G, J               | 200  |
| CCR05CG510_                   | 51               | F, G, J               | 200  |
| CCR05CG560_                   | 56               | F, G, J               | 200  |
| CCR05CG620_                   | 62               | F, G, J               | 200  |
| CCR05CG680_                   | 68               | F, G, J               | 200  |
| CCR05CG750_                   | 75               | F, G, J               | 200  |
| CCR05CG820_                   | 82               | F, G, J               | 200  |
| CCR05CG910_                   | 91               | F, G, J               | 200  |
| CCR05CG101_                   | 100              | F, G, J               | 200  |
| CCR05CG111_                   | 110              | F, G, J               | 200  |
| CCR05CG121_                   | 120              | F, G, J               | 200  |
| CCR05CG131_                   | 130              | F, G, J               | 200  |
| CCR05CG151_                   | 150              | F, G, J               | 200  |
| CCR05CG161_                   | 160              | F, G, J               | 200  |
| CCR05CG181_                   | 180              | F, G, J               | 200  |
| CCR05CG201_                   | 200              | F, G, J               | 200  |
| CCR05CG221_                   | 220              | F, G, J               | 200  |
| CCR05CG241_                   | 240              | F, G, J               | 200  |
| CCR05CG271_                   | 270              | F, G, J               | 200  |
| CCR05CG301_                   | 300              | F, G, J               | 200  |
| CCR05CG331_                   | 330              | F, G, J               | 200  |
| CCR05CG361_                   | 360              | F, G, J               | 100  |
| CCR05CG391_                   | 390              | F, G, J               | 100  |
| CCR05CG431_                   | 430              | F, G, J               | 100  |
| CCR05CG471_                   | 470              | F, G, J               | 100  |
| CCR05CG511_                   | 510              | F, G, J               | 100  |
| CCR05CG561_                   | 560              | F, G, J               | 100  |
| CCR05CG621_                   | 620              | F, G, J               | 100  |
| CCR05CG681_                   | 680              | F, G, J               | 100  |
| CCR05CG751_                   | 750              | F, G, J               | 100  |
| CCR05CG821_                   | 820              | F, G, J               | 100  |
| CCR05CG911_                   | 910              | F, G, J               | 100  |
| CCR05CG102_                   | 1,000            | F, G, J               | 100  |
| CCR05CG112_                   | 1,100            | F, G, J               | 100  |
| CCR05CG122_                   | 1,200            | F, G, J               | 100  |
| CCR05CG132_                   | 1,300            | F, G, J               | 100  |
| CCR05CG152_                   | 1,500            | F, G, J               | 100  |
| CCR05CG162_                   | 1,600            | F, G, J               | 100  |
| CCR05CG182_                   | 1,800            | F, G, J               | 100  |
| CCR05CG202_                   | 2,000            | F, G, J               | 50   |

| Military Type Designation            | Capacitance (pF) | Capacitance Tolerance | WVDC |
|--------------------------------------|------------------|-----------------------|------|
| <b>CC05-CCR05, CC09-CCR09 (cont)</b> |                  |                       |      |
| CCR05CG222_                          | 2,200            | F, G, J               | 50   |
| CCR05CG242_                          | 2,400            | F, G, J               | 50   |
| CCR05CG272_                          | 2,700            | F, G, J               | 50   |
| CCR05CG302_                          | 3,000            | F, G, J               | 50   |
| CCR05CG332_                          | 3,300            | F, G, J               | 50   |
| <b>CC06, CCR06</b>                   |                  |                       |      |
| CCR06CG361_                          | 360              | F, G, J               | 200  |
| CCR06CG391_                          | 390              | F, G, J               | 200  |
| CCR06CG431_                          | 430              | F, G, J               | 200  |
| CCR06CG471_                          | 470              | F, G, J               | 200  |
| CCR06CG511_                          | 510              | F, G, J               | 200  |
| CCR06CG561_                          | 560              | F, G, J               | 200  |
| CCR06CG621_                          | 620              | F, G, J               | 200  |
| CCR06CG681_                          | 680              | F, G, J               | 200  |
| CCR06CG751_                          | 750              | F, G, J               | 200  |
| CCR06CG821_                          | 820              | F, G, J               | 200  |
| CCR06CG911_                          | 910              | F, G, J               | 200  |
| CCR06CG102_                          | 1,000            | F, G, J               | 200  |
| CCR06CG112_                          | 1,100            | F, G, J               | 200  |
| CCR06CG122_                          | 1,200            | F, G, J               | 200  |
| CCR06CG132_                          | 1,300            | F, G, J               | 200  |
| CCR06CG152_                          | 1,500            | F, G, J               | 200  |
| CCR06CG162_                          | 1,600            | F, G, J               | 200  |
| CCR06CG182_                          | 1,800            | F, G, J               | 200  |
| CCR06CG202_                          | 2,000            | F, G, J               | 100  |
| CCR06CG222_                          | 2,200            | F, G, J               | 100  |
| CCR06CG242_                          | 2,400            | F, G, J               | 100  |
| CCR06CG272_                          | 2,700            | F, G, J               | 100  |
| CCR06CG302_                          | 3,000            | F, G, J               | 100  |
| CCR06CG332_                          | 3,300            | F, G, J               | 100  |
| CCR06CG362_                          | 3,600            | F, G, J               | 100  |
| CCR06CG392_                          | 3,900            | F, G, J               | 100  |
| CCR06CG432_                          | 4,300            | F, G, J               | 100  |
| CCR06CG472_                          | 4,700            | F, G, J               | 100  |
| CCR06CG512_                          | 5,100            | F, G, J, K            | 50   |
| CCR06CG562_                          | 5,600            | F, G, J, K            | 50   |
| CCR06CG622_                          | 6,200            | F, G, J, K            | 50   |
| CCR06CG682_                          | 6,800            | F, G, J, K            | 50   |
| CCR06CG752_                          | 7,500            | F, G, J, K            | 50   |
| CCR06CG822_                          | 8,200            | F, G, J, K            | 50   |
| CCR06CG912_                          | 9,100            | F, G, J, K            | 50   |
| CCR06CG103_                          | 10,000           | F, G, J, K            | 50   |
| CCR06CG123_                          | 12,000           | F, G, J, K            | 50   |
| CCR06CG153_                          | 15,000           | F, G, J, K            | 50   |
| CCR06CG183_                          | 18,000           | F, G, J, K            | 50   |
| <b>CC07, CCR07</b>                   |                  |                       |      |
| CCR07CG222_                          | 2,200            | F, G, J, K            | 200  |
| CCR07CG272_                          | 2,700            | F, G, J, K            | 200  |
| CCR07CG332_                          | 3,300            | F, G, J, K            | 200  |
| CCR07CG392_                          | 3,900            | F, G, J, K            | 200  |
| CCR07CG472_                          | 4,700            | F, G, J, K            | 200  |
| CCR07CG562_                          | 5,600            | F, G, J, K            | 100  |
| CCR07CG682_                          | 6,800            | F, G, J, K            | 100  |
| CCR07CG822_                          | 8,200            | F, G, J, K            | 100  |
| CCR07CG103_                          | 10,000           | F, G, J, K            | 100  |
| CCR07CG123_                          | 12,000           | F, G, J, K            | 100  |
| CCR07CG153_                          | 15,000           | F, G, J, K            | 50   |
| CCR07CG183_                          | 18,000           | F, G, J, K            | 50   |
| CCR07CG223_                          | 22,000           | F, G, J, K            | 50   |
| CCR07CG273_                          | 27,000           | F, G, J, K            | 50   |
| CCR07CG333_                          | 33,000           | F, G, J, K            | 50   |
| CCR07CG393_                          | 39,000           | F, G, J, K            | 50   |
| CCR07CG473_                          | 47,000           | F, G, J, K            | 50   |
| CCR07CG563_                          | 56,000           | F, G, J, K            | 50   |
| CCR07CG683_                          | 68,000           | F, G, J, K            | 50   |
| CCR07CG823_                          | 82,000           | F, G, J, K            | 50   |
| CCR07CG104_                          | 100,000          | F, G, J, K            | 50   |
| <b>CC08, CCR08</b>                   |                  |                       |      |
| CCR08CG392_                          | 3,900            | G, J, K               | 200  |
| CCR08CG472_                          | 4,700            | G, J, K               | 200  |
| CCR08CG153_                          | 15,000           | G, J, K               | 100  |
| CCR08CG183_                          | 18,000           | G, J, K               | 100  |
| CCR08CG563_                          | 56,000           | G, J, K               | 50   |
| CCR08CG683_                          | 68,000           | G, J, K               | 50   |

— Add appropriate failure rate level (M, P, R or S)  
— Add appropriate cap. tolerance letter

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— Add appropriate cap. tolerance letter

Note: For marking information, see page 73.