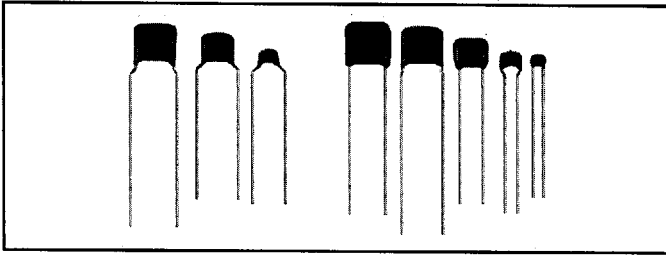


TYPES 1C - 9C Ceramic Capacitors

Monolythic[®], Conformal-Coated, Radial Lead



FEATURES

- EIA characteristics C0G, X7R, Z5U
- Capacitance range 10pF to 4.7μF
- Voltage ratings 50 WVDC to 100 WVDC
- Wide choice of lead spacing

DIMENSIONAL CONFIGURATIONS [Numbers in brackets indicate millimeters]



Drawing for dimensional purposes only. Exact outline and lead form may vary depending on size and lead spacing.

| TYPE | W (Max.) | H (Max.) | T (Max.) | LEAD SIZE | | LEAD SPACING (S) | | | | | |
|------|------------------|------------------|-----------------|-----------|----------------|------------------|------------|------------|------------|------------|-------------|
| | | | | AWG NO. | DIA. | .10 [2.54] | .20 [5.08] | .25 [6.35] | .30 [7.62] | .37 [9.40] | .40 [10.16] |
| 9C | .138 [3.505] | .120 [3.048] | .100 [2.540] | 26 | .016 [.406] | X | — | — | — | — | — |
| 1C | .200 [5.080] | .250 [6.350] | .125 [3.175] | 24 | .020 [.508] | X | X | X | X | — | — |
| 2C | .300 [7.620] | .300 [7.620] | .157 [3.988] | 24 | .020 [.508] | — | X | X | X | X | X |
| 3C | .400 [10.160] | .400 [10.160] | .157 [3.988] | 24 | .020 [.508] | — | X | X | X | X | X |
| 5C | .500 [12.700] | .500 [12.700] | .200 [5.080] | 24 | .020 [.508] | — | X | X | X | X | X |

HOW TO ORDER

| 1C TYPE | 10 LEAD SPACING CODE | Z5U EIA TEMPERATURE CHARACTERISTIC | 104 CAPACITANCE CODE | M CAPACITANCE TOLERANCE | 050 DC VOLTAGE RATING | B LEAD LENGTH* | | | | | | | | | | | | | |
|---------------------------------|---------------------------------|---|--|---|--|--|---------------------------------|--------------|------|-------------------|-------|-------|-------------------|--------------|-------|-----|--|--|--|
| See Dimensional Configurations. | See Dimensional Configurations. | | This is expressed in picofarads. The first two digits are the significant figures. The third is the number of zeros to follow. | | This is expressed in volts. To complete the three-digit block, zeros precede the voltage rating. | B = Bulk R = Tape and Reel * 1.0 [25.4] minimum lead length. | | | | | | | | | | | | | |
| | | <table border="1"> <thead> <tr> <th>CODE</th> <th>TEMPERATURE RANGE</th> <th>MAX. CAP. CHANGE OVER TEMP. RANGE</th> </tr> </thead> <tbody> <tr> <td>Z5U</td> <td>+ 10°C to + 85°C</td> <td>- 56%, + 22%</td> </tr> <tr> <td>X7R</td> <td>- 55°C to + 125°C</td> <td>± 15%</td> </tr> <tr> <td>C0G</td> <td>- 55°C to + 125°C</td> <td>0 ± 30PPM/°C</td> </tr> </tbody> </table> | CODE | TEMPERATURE RANGE | MAX. CAP. CHANGE OVER TEMP. RANGE | Z5U | + 10°C to + 85°C | - 56%, + 22% | X7R | - 55°C to + 125°C | ± 15% | C0G | - 55°C to + 125°C | 0 ± 30PPM/°C | | | | | |
| CODE | TEMPERATURE RANGE | MAX. CAP. CHANGE OVER TEMP. RANGE | | | | | | | | | | | | | | | | | |
| Z5U | + 10°C to + 85°C | - 56%, + 22% | | | | | | | | | | | | | | | | | |
| X7R | - 55°C to + 125°C | ± 15% | | | | | | | | | | | | | | | | | |
| C0G | - 55°C to + 125°C | 0 ± 30PPM/°C | | | | | | | | | | | | | | | | | |
| | | | | <table border="1"> <thead> <tr> <th>EIA CODE</th> <th>TOLERANCE</th> <th>AVAILABLE IN EIA CHARACTERISTIC</th> </tr> </thead> <tbody> <tr> <td>J</td> <td>± 5%</td> <td>C0G</td> </tr> <tr> <td>K</td> <td>± 10%</td> <td>X7R</td> </tr> <tr> <td>M</td> <td>± 20%</td> <td>Z5U</td> </tr> </tbody> </table> | EIA CODE | TOLERANCE | AVAILABLE IN EIA CHARACTERISTIC | J | ± 5% | C0G | K | ± 10% | X7R | M | ± 20% | Z5U | | | |
| EIA CODE | TOLERANCE | AVAILABLE IN EIA CHARACTERISTIC | | | | | | | | | | | | | | | | | |
| J | ± 5% | C0G | | | | | | | | | | | | | | | | | |
| K | ± 10% | X7R | | | | | | | | | | | | | | | | | |
| M | ± 20% | Z5U | | | | | | | | | | | | | | | | | |

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1C10 SERIES

| | | |
|-----------------|-----------------|-----------------|
| 1C10C0G100J050B | 1C10C0G220J050B | 1C10C0G330J050B |
| 1C10C0G100J050R | 1C10C0G220J050R | 1C10C0G330J050R |
| 1C10C0G100J100B | 1C10C0G220J100B | 1C10C0G330J100B |
| 1C10C0G100J100R | 1C10C0G220J100R | 1C10C0G330J100R |
| 1C10C0G101J050B | 1C10C0G221J050B | 1C10C0G331J050B |
| 1C10C0G101J050R | 1C10C0G221J050R | 1C10C0G331J050R |
| 1C10C0G101J100B | 1C10C0G221J100B | 1C10C0G331J100B |
| 1C10C0G101J100R | 1C10C0G221J100R | 1C10C0G331J100R |
| 1C10C0G102J050B | 1C10C0G222J050B | 1C10C0G332J050B |
| 1C10C0G102J050R | 1C10C0G222J050R | 1C10C0G332J050R |
| 1C10C0G102J100B | 1C10C0G222J100B | 1C10C0G332J100B |
| 1C10C0G102J100R | 1C10C0G222J100R | 1C10C0G332J100R |
| 1C10C0G470J050B | 1C10X7R222K100B | 1C10Z5U103M050R |
| 1C10C0G470J050R | 1C10X7R222K100R | 1C10Z5U103M100B |
| 1C10C0G470J100B | 1C10X7R223K050B | 1C10Z5U103M100R |
| 1C10C0G470J100R | 1C10X7R223K050R | 1C10Z5U104M050B |
| 1C10C0G471J050B | 1C10X7R223K100B | 1C10Z5U104M050R |
| 1C10C0G471J050R | 1C10X7R223K100R | 1C10Z5U104M100B |
| 1C10C0G471J100B | 1C10X7R223K100R | 1C10Z5U104M100R |
| 1C10C0G471J100R | 1C10X7R332K050B | 1C10Z5U104M100R |
| 1C10C0G472J050B | 1C10X7R332K050R | 1C10Z5U223M050B |
| 1C10C0G472J050R | 1C10X7R332K100B | 1C10Z5U223M050R |
| 1C10X7R102K050B | 1C10X7R332K100R | 1C10Z5U223M100B |
| 1C10X7R102K050R | 1C10X7R333K050B | 1C10Z5U223M100R |
| 1C10X7R102K100B | 1C10X7R333K050R | 1C10Z5U224M050B |
| 1C10X7R102K100R | 1C10X7R333K100B | 1C10Z5U224M050R |
| 1C10X7R103K050B | 1C10X7R333K100R | 1C10Z5U333M050B |
| 1C10X7R103K050R | 1C10X7R472K050B | 1C10Z5U333M050R |
| 1C10X7R103K100B | 1C10X7R472K050R | 1C10Z5U333M100B |
| 1C10X7R103K100R | 1C10X7R472K100B | 1C10Z5U333M100R |
| 1C10X7R104K050B | 1C10X7R472K100R | 1C10Z5U334M050B |
| 1C10X7R104K050R | 1C10X7R473K050B | 1C10Z5U334M050R |
| 1C10X7R104K100B | 1C10X7R473K050R | 1C10Z5U473M050B |
| 1C10X7R104K100R | 1C10X7R473K100B | 1C10Z5U473M050R |
| 1C10X7R222K050B | 1C10X7R473K100R | 1C10Z5U473M100B |
| 1C10X7R222K050R | 1C10Z5U103M050B | 1C10Z5U473M100R |

1C20 SERIES

| | | |
|-----------------|-----------------|-----------------|
| 1C20C0G100J050B | 1C20C0G470J050B | 1C20X7R333K100B |
| 1C20C0G100J050R | 1C20C0G470J050R | 1C20X7R333K100R |
| 1C20C0G100J100B | 1C20C0G470J100B | 1C20X7R472K050B |
| 1C20C0G100J100R | 1C20C0G470J100R | 1C20X7R472K050R |
| 1C20C0G101J050B | 1C20C0G471J050B | 1C20X7R472K100B |
| 1C20C0G101J050R | 1C20C0G471J050R | 1C20X7R472K100R |
| 1C20C0G101J100B | 1C20C0G471J100B | 1C20X7R473K050B |
| 1C20C0G101J100R | 1C20C0G471J100R | 1C20X7R473K050R |
| 1C20C0G102J050B | 1C20C0G472J050B | 1C20X7R473K100B |
| 1C20C0G102J050R | 1C20C0G472J050R | 1C20X7R473K100R |
| 1C20C0G102J100B | 1C20X7R102K050B | 1C20Z5U103M050B |
| 1C20C0G102J100R | 1C20X7R102K050R | 1C20Z5U103M050R |
| 1C20C0G220J050B | 1C20X7R102K100B | 1C20Z5U103M100B |
| 1C20C0G220J050R | 1C20X7R102K100R | 1C20Z5U103M100R |
| 1C20C0G220J100B | 1C20X7R103K050B | 1C20Z5U104M050B |
| 1C20C0G220J100R | 1C20X7R103K050R | 1C20Z5U104M050R |
| 1C20C0G221J050B | 1C20X7R103K100B | 1C20Z5U104M100B |
| 1C20C0G221J050R | 1C20X7R103K100R | 1C20Z5U104M100R |
| 1C20C0G221J100B | 1C20X7R104K050B | 1C20Z5U104M100R |
| 1C20C0G221J100R | 1C20X7R104K050R | 1C20Z5U223M050B |
| 1C20C0G222J050B | 1C20X7R104K100B | 1C20Z5U223M050R |

STANDARD PART NUMBERS

1C20 SERIES (Continued)

| | | |
|-----------------|-----------------|-----------------|
| 1C20C0G222J050R | 1C20X7R104K100R | 1C20Z5U223M100B |
| 1C20C0G222J100B | 1C20X7R222K050B | 1C20Z5U223M100R |
| 1C20C0G222J100R | 1C20X7R222K050R | 1C20Z5U224M050B |
| 1C20C0G330J050B | 1C20X7R222K100B | 1C20Z5U224M050R |
| 1C20C0G330J050R | 1C20X7R222K100R | 1C20Z5U333M050B |
| 1C20C0G330J100B | 1C20X7R223K050B | 1C20Z5U333M050R |
| 1C20C0G330J100R | 1C20X7R223K050R | 1C20Z5U333M100B |
| 1C20C0G331J050B | 1C20X7R223K100B | 1C20Z5U333M100R |
| 1C20C0G331J050R | 1C20X7R223K100R | 1C20Z5U334M050B |
| 1C20C0G331J100B | 1C20X7R332K050B | 1C20Z5U334M050R |
| 1C20C0G331J100R | 1C20X7R332K050R | 1C20Z5U473M050B |
| 1C20C0G332J050B | 1C20X7R332K100B | 1C20Z5U473M050R |
| 1C20C0G332J050R | 1C20X7R332K100R | 1C20Z5U473M100B |
| 1C20C0G332J100B | 1C20X7R333K050B | 1C20Z5U473M100R |
| 1C20C0G332J100R | 1C20X7R333K050R | |

1C25 SERIES

| | | |
|-----------------|-----------------|-----------------|
| 1C25C0G100J050B | 1C25C0G470J050B | 1C25X7R333K100B |
| 1C25C0G100J100B | 1C25C0G470J100B | 1C25X7R472K050B |
| 1C25C0G101J050B | 1C25C0G471J050B | 1C25X7R472K100B |
| 1C25C0G101J100B | 1C25C0G471J100B | 1C25X7R473K050B |
| 1C25C0G102J050B | 1C25C0G472J050B | 1C25X7R473K100B |
| 1C25C0G102J100B | 1C25X7R102K050B | 1C25Z5U103M050B |
| 1C25C0G220J050B | 1C25X7R102K100B | 1C25Z5U103M100B |
| 1C25C0G220J100B | 1C25X7R103K050B | 1C25Z5U104M050B |
| 1C25C0G221J050B | 1C25X7R103K100B | 1C25Z5U104M100B |
| 1C25C0G221J100B | 1C25X7R104K050B | 1C25Z5U223M050B |
| 1C25C0G222J050B | 1C25X7R104K100B | 1C25Z5U223M100B |
| 1C25C0G222J100B | 1C25X7R222K050B | 1C25Z5U224M050B |
| 1C25C0G330J050B | 1C25X7R222K100B | 1C25Z5U333M050B |
| 1C25C0G330J100B | 1C25X7R223K050B | 1C25Z5U333M100B |
| 1C25C0G331J050B | 1C25X7R223K100B | 1C25Z5U334M050B |
| 1C25C0G331J100B | 1C25X7R332K050B | 1C25Z5U473M050B |
| 1C25C0G332J050B | 1C25X7R332K100B | 1C25Z5U473M100B |
| 1C25C0G332J100B | 1C25X7R333K050B | |

1C30 SERIES

| | | |
|-----------------|-----------------|-----------------|
| 1C30C0G100J050B | 1C30C0G470J050B | 1C30X7R333K100B |
| 1C30C0G100J100B | 1C30C0G470J100B | 1C30X7R472K050B |
| 1C30C0G101J050B | 1C30C0G471J050B | 1C30X7R472K100B |
| 1C30C0G101J100B | 1C30C0G471J100B | 1C30X7R473K050B |
| 1C30C0G102J050B | 1C30C0G472J050B | 1C30X7R473K100B |
| 1C30C0G102J100B | 1C30X7R102K050B | 1C30Z5U103M050B |
| 1C30C0G220J050B | 1C30X7R102K100B | 1C30Z5U103M100B |
| 1C30C0G220J100B | 1C30X7R103K050B | 1C30Z5U104M050B |
| 1C30C0G221J050B | 1C30X7R103K100B | 1C30Z5U104M100B |
| 1C30C0G221J100B | 1C30X7R104K050B | 1C30Z5U223M050B |
| 1C30C0G222J050B | 1C30X7R104K100B | 1C30Z5U223M100B |
| 1C30C0G222J100B | 1C30X7R222K050B | 1C30Z5U224M050B |
| 1C30C0G330J050B | 1C30X7R222K100B | 1C30Z5U333M050B |
| 1C30C0G330J100B | 1C30X7R223K050B | 1C30Z5U333M100B |
| 1C30C0G331J050B | 1C30X7R223K100B | 1C30Z5U334M050B |
| 1C30C0G331J100B | 1C30X7R332K050B | 1C30Z5U473M050B |
| 1C30C0G332J050B | 1C30X7R332K100B | 1C30Z5U473M100B |
| 1C30C0G332J100B | 1C30X7R333K050B | |

2C20 SERIES

| | | |
|-----------------|-----------------|-----------------|
| 2C20C0G103J050B | 2C20X7R224K050R | 2C20Z5U105M050B |
| 2C20C0G103J050R | 2C20X7R334K050B | 2C20Z5U105M050R |
| 2C20X7R105K050B | 2C20X7R334K050R | 2C20Z5U474M050B |
| 2C20X7R105K050R | 2C20X7R474K050B | 2C20Z5U474M050R |
| 2C20X7R224K050B | 2C20X7R474K050R | |

| STANDARD PART NUMBERS | | |
|---|---|---|
| 2C25 SERIES | | |
| 2C25C0G103J050B 2C25X7R105K050B 2C25X7R224K050B | 2C25X7R334K050B 2C25X7R474K050B | 2C25Z5U105M050B 2C25Z5U474M050B |
| 2C30 SERIES | | |
| 2C30C0G103J050B 2C30X7R105K050B 2C30X7R224K050B | 2C30X7R334K050B 2C30X7R474K050B | 2C30Z5U105M050B 2C30Z5U474M050B |
| 2C37 SERIES | | |
| 2C37C0G103J050B 2C37X7R104K050B 2C37X7R105K050B 2C37X7R224K050B | 2C37X7R334K050B 2C37X7R474K050B 2C37Z5U104M050B 2C37Z5U105M050B | 2C37Z5U224M050B 2C37Z5U334M050B 2C37Z5U474M050B |
| 2C40 SERIES | | |
| 2C40C0G103J050B 2C40X7R104K050B 2C40X7R105K050B 2C40X7R224K050B | 2C40X7R334K050B 2C40X7R474K050B 2C40Z5U104M050B 2C40Z5U105M050B | 2C40Z5U224M050B 2C40Z5U334M050B 2C40Z5U474M050B |
| 3C20 SERIES | | |
| 3C20C0G223J050B 3C20C0G223J050R | 3C20Z5U225M050B 3C20Z5U225M050R | 3C20Z5U335M050B 3C20Z5U335M050R |
| 3C25 SERIES | | |
| 3C25C0G223J050B | 3C25Z5U225M050B | 3C25Z5U333M050B |
| 3C30 SERIES | | |
| 3C30C0G223J050B | 3C30Z5U225M050B | 3C30Z5U335M050B |
| 3C37 SERIES | | |
| 3C37C0G223J050B 3C37XR5105K050B | 3C37Z5U225M050B | 3C37Z5U335M050B |
| 3C40 SERIES | | |
| 3C40C0G223J050B 3C40X7R105K050B | 3C40Z5U225M050B | 3C40Z5U335M050B |
| 5C SERIES | | |
| 5C20C0G473J050B 5C25C0G473J050B 5C30C0G473J050B | 5C37C0G473J050B 5C37Z5U475M050B | 5C40C0G473J050B 5C40Z5U475M050B |
| 9C SERIES | | |
| 9C10C0G100J050B 9C10C0G100J100B 9C10C0G101J050B 9C10C0G101J100B 9C10C0G102J050B 9C10C0G220J050B 9C10C0G220J100B 9C10C0G221J050B 9C10C0G330J050B 9C10C0G330J100B 9C10C0G331J050B | 9C10C0G331J100B 9C10C0G470J050B 9C10C0G470J100B 9C10C0G471J050B 9C10C0G471J100B 9C10X7R102K050B 9C10X7R102K100B 9C10X7R103K050B 9C10X7R103K100B 9C10X7R222K050B 9C10X7R222K100B | 9C10X7R223K050B 9C10X7R332K050B 9C10X7R332K100B 9C10X7R333K050B 9C10X7R472K050B 9C10X7R472K100B 9C10Z5U103M050B 9C10Z5U103M100B 9C10Z5U223M050B 9C10Z5U333M050B 9C10Z5U473M050B |

| STANDARD PACKAGE INCREMENTS | | | | | |
|-----------------------------|---------|-------------|-----------|---------------|----------|
| B = BULK | MINIMUM | PER PACKAGE | R = T & R | MINIMUM | PER REEL |
| 1C | 2000 | 500 | 1C | 2500 | 2500 |
| 2C | 500 | 500 | 2C | 2000 | 2000 |
| 3C | 500 | 500 | 3C | 1500 | 1500 |
| 5C | 250 | 250 | 5C | Not Available | — |
| 9C | 1500 | 1500 | 9C | Not Available | — |