

# Capacitor Assemblies - ST & SM

These ranges of both High Capacitance and High Voltage MLC assemblies are available in COG and X7R dielectrics.

Low ESR and Low ESL are inherent in the design giving the assemblies a high capability up to 1MHz and offer far superior performance than either Aluminum or Tantalum electrolytic capacitors.

They are designed for use in high power or high frequency applications such as switched mode power supplies, DC-DC converters, high capacitance discharge circuits, high temperature filtering/decoupling.

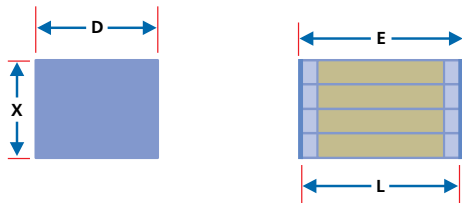
They can be made with up to five same size chips with various lead configurations to safeguard against thermal and mechanical stresses.

The commercial 'ST' series provide the highest capacitance available and are 100% tested for Dielectric Withstanding Voltage, Insulation Resistance, Capacitance, and Dissipation Factor.

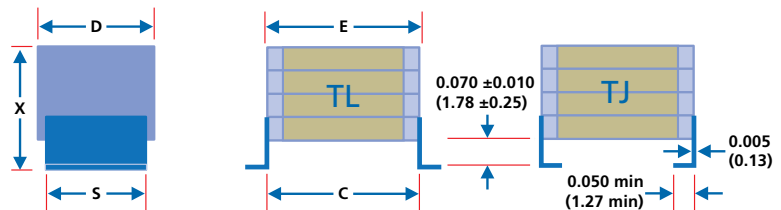
In contrast, the High Reliability 'SM' series is designed and tested for military and industrial applications and tested as per of MIL-PRF-49470 (DSCC 87106), Group A.

## Dimensions - inches/mm

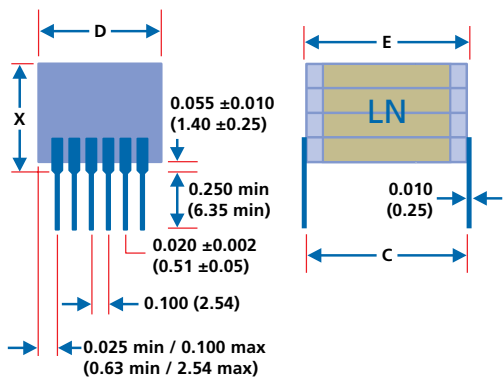
### NN or NP (no leads)



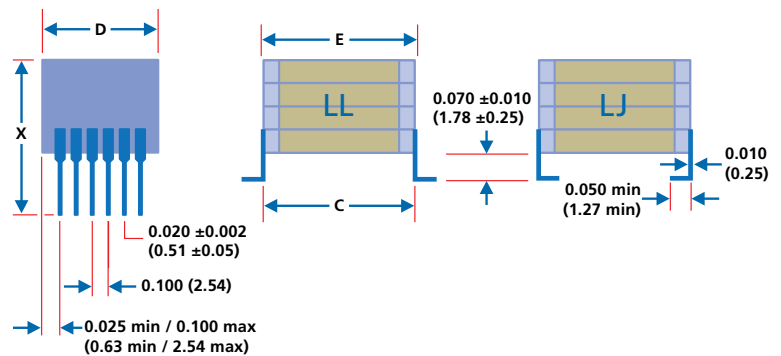
### TJ & TL (tab leads)



### LN (straight wire leads)



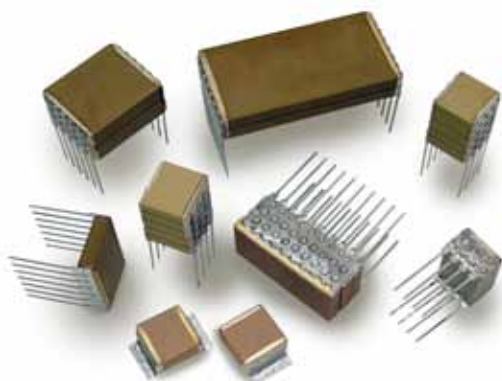
### LJ & LL (bent wire leads)



| Size                                         | 1812       | 1825       | 2225       | 3640        | 4540        | 5550        | 7565         |
|----------------------------------------------|------------|------------|------------|-------------|-------------|-------------|--------------|
| <b>C</b> inches $\pm 0.025$ /mm $\pm 0.64$ : | 0.210/5.33 | 0.210/5.33 | 0.250/6.35 | 0.400/10.20 | 0.480/12.20 | 0.580/14.70 | 0.780/19.80  |
| <b>D</b> inches $\pm 0.025$ /mm $\pm 0.64$ : | 0.125/3.18 | 0.250/6.35 | 0.250/6.35 | 0.400/10.20 | 0.400/10.20 | 0.500/12.70 | 0.650*/16.50 |
| <b>E max</b> inches/mm:                      | 0.260/6.60 | 0.260/6.60 | 0.300/7.62 | 0.430/10.90 | 0.530/13.50 | 0.630/16.00 | 0.830/21.10  |
| <b>L nom</b> inches/mm:                      | 0.180/4.57 | 0.180/4.57 | 0.220/5.59 | 0.360/9.14  | 0.450/11.40 | 0.550/14.00 | 0.750/19.10  |
| <b>Leads per side</b>                        | N/A        | 3          | 3          | 4           | 4           | 5           | 6            |

\* $\pm 0.035$ /1.89

# Capacitor Assemblies - ST & SM



Our complete testing facility is available for any additional military testing requirements.

Options available include thru-hole and surface mount lead styles, to make them suitable for mounting on ceramic substrates or epoxy PCBs.

Consult the Sales Office if your specific requirements exceed our catalog maximums (size, cap. value, and voltage).

## Maximum stack height, X dimension - inches/mm

| No. of chips | Chip size | Style<br>NN, NP | Style<br>TJ & TL | Style<br>LN, LJ & LL |
|--------------|-----------|-----------------|------------------|----------------------|
| 1            | 1812      | 0.100/2.54      | 0.180/4.57       | N/A                  |
|              | 1825      | 0.100/2.54      | 0.180/4.57       | 0.180/4.57           |
|              | 2225      | 0.120/3.05      | 0.200/5.08       | 0.200/5.08           |
|              | >2225     | N/A             | 0.200/5.08       | 0.200/5.08           |
| 2            | 1812      | 0.200/5.08      | 0.280/7.11       | N/A                  |
|              | 1825      | 0.200/5.08      | 0.280/7.11       | 0.280/7.11           |
|              | 2225      | 0.240/6.10      | 0.320/8.13       | 0.320/8.13           |
|              | >2225     | N/A             | 0.320/8.13       | 0.320/8.13           |
| 3            | 812       | 0.300/7.62      | 0.380/9.65       | N/A                  |
|              | 1825      | 0.300/7.62      | 0.380/9.65       | 0.380/9.65           |
|              | 2225      | 0.360/9.14      | 0.440/11.2       | 0.440/11.20          |
|              | >2225     | N/A             | 0.440/11.2       | 0.440/11.20          |
| 4            | 1812      | 0.400/10.20     | 0.480/12.2       | N/A                  |
|              | 1825      | 0.400/10.20     | 0.480/12.2       | 0.480/12.20          |
|              | 2225      | 0.480/12.20     | 0.560/14.2       | 0.560/14.20          |
|              | >2225     | N/A             | 0.560/14.2       | 0.560/14.20          |
| 5            | 1812      | 0.520/13.20     | 0.600/15.2       | N/A                  |
|              | 1825      | 0.520/13.20     | 0.600/15.2       | 0.600/15.2           |
|              | 2225      | 0.635/16.10     | 0.715/18.2       | 0.715/18.2           |
|              | >2225     | N/A             | 0.715/18.2       | 0.715/18.2           |

## How to Order - ST & SM Capacitor Assemblies

| ST                                                       | 3640                     | B                                       | 474                                                                                                                              | M                                                                                                                                        | 101                                                                                        | LJ                                                                                                                                             | X                                                                       | W                                                                                 | 5                          |
|----------------------------------------------------------|--------------------------|-----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------|-----------------------------------------------------------------------------------|----------------------------|
| <b>STYLE</b><br>ST = Commercial<br>SM = High Reliability | <b>SIZE</b><br>See Chart | <b>DIELECTRIC</b><br>N = COG<br>B = X7R | <b>CAPACITANCE</b><br>Value in Picofarads.<br>Two significant figures, followed by number of zeros:<br>825 = 8,200,000pF (8.2μF) | <b>TOLERANCE</b><br>F = ±1%*<br>G = ±2%*<br>H = ±3%*<br>J = ±5%<br>K = ±10%<br>M = ±20%<br>Z = +80 -20%<br>P = +100 -0%<br><br>*COG only | <b>VOLTAGE-VDCW</b><br>Two significant figures, followed by number of zeros:<br>101 = 100V | <b>LEAD STYLE</b><br>LN = Straight*<br>LL = L Lead*<br>LJ = J Lead*<br>TL = L Tab<br>TJ = J tab<br>NN = Nickel*<br>NP = Pd/Ag<br><br>*Not 1812 | <b>THICKNESS OPTION</b><br>Specify standoff dimension if less than max. | <b>PACKING</b><br>W = Waffle<br>T = Tape & Reel*<br><br>*Consult the sales office | <b>No. Chips</b><br>1 to 5 |



# Capacitor Assemblies - ST & SM - C0G

## C0G Capacitance & Voltage Selection

| Size          | 1812 |    |      |    |      |    |      |    | 1825 |    |      |    |      |    |      |    | 2225 |    |      |    |      |    |      |    | 3640 |    |      |    |      |    |      |                    | Size          |
|---------------|------|----|------|----|------|----|------|----|------|----|------|----|------|----|------|----|------|----|------|----|------|----|------|----|------|----|------|----|------|----|------|--------------------|---------------|
| Rated Voltage | 50V  |    | 100V |    | 200V |    | 500V |    | 50V  |    | 100V |    | 200V |    | 500V |    | 50V  |    | 100V |    | 200V |    | 500V |    | 50V  |    | 100V |    | 200V |    | 500V |                    | Rated Voltage |
| Type          | ST   | SM | ST   | SM | ST   | SM | ST   | SM | ST   | SM | ST   | SM | ST   | SM | ST   | SM | ST   | SM | ST   | SM | ST   | SM | ST   | SM | ST   | SM | ST   | SM | ST   | SM | Type |                    |               |
| 100           | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  |      |    |      |    |      |    |      |    |      |    |      |    |      |    |      |    |      |    |      |    |      |    |      | Capacitance Values |               |
| 120           | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  |      |    |      |    |      |    |      |    |      |    |      |    |      |    |      |    |      |    |      |    |      |    |      |                    |               |
| 150           | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  |      |    |      |    |      |    |      |    |      |    |      |    |      |    |      |                    |               |
| 180           | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  |      |    |      |    |      |    |      |    |      |    |      |    |      |    |      |                    |               |
| 220           | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  |      |    |      |    |      |    |      |    |      |    |      |    |      |    |      |                    |               |
| 270           | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    |    |      |    |      |    |      |    |      |                    |               |
| 330           | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    |    |      |    |      |    |      |    |      |                    |               |
| 390           | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    |                    |               |
| 470           | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    |                    |               |
| 560           | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    |                    |               |
| 680           | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    |                    |               |
| 820           | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    |                    |               |
| 101           | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    |                    |               |
| 121           | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    |                    |               |
| 151           | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    |                    |               |
| 181           | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    |                    |               |
| 221           | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    |                    |               |
| 271           | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    |                    |               |
| 331           | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    |                    |               |
| 391           | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    |                    |               |
| 471           | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    |                    |               |
| 561           | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    |                    |               |
| 681           | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    |                    |               |
| 821           | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    |                    |               |
| 102           | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    |                    |               |
| 122           | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    |                    |               |
| 152           | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    |                    |               |
| 182           | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    |                    |               |
| 222           | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    |                    |               |
| 272           | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    |                    |               |
| 332           | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    |                    |               |
| 392           | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    |                    |               |
| 472           | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    |                    |               |
| 562           | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 2  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    |                    |               |
| 682           | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 2  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    |                    |               |
| 822           | 1    | 1  | 1    | 1  | 1    | 1  | 2    | 2  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    |                    |               |
| 103           | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 2  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 2  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    |                    |               |
| 123           | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 3  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 2  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    |                    |               |
| 153           | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 3  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 2  | 1    | 1  | 1    | 1  | 1    | 1  | 2    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    |                    |               |
| 183           | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 4  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 2  | 1    | 1  | 1    | 1  | 1    | 1  | 2    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    |                    |               |
| 223           | 1    | 1  | 1    | 1  | 1    | 1  | 3    | 5  | 1    | 1  | 1    | 1  | 1    | 1  | 2    | 3  | 1    | 1  | 1    | 1  | 1    | 2  | 2    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    |                    |               |
| 273           | 1    | 1  | 1    | 1  | 2    | 2  | 4    |    | 1    | 1  | 1    | 1  | 1    | 1  | 2    | 3  | 1    | 1  | 1    | 1  | 1    | 2  | 3    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1    |                    |               |
| 333           | 1    | 1  | 2    | 1  | 2    | 2  | 4    |    | 1    | 1  | 1    | 1  | 1    | 1  | 2    | 4  | 1    | 1  | 1    | 1  | 1    | 2  | 3    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 2    |                    |               |
| 393           | 2    | 1  | 2    | 1  | 2    | 2  | 5    |    | 1    | 1  | 1    | 1  | 1    | 1  | 3    | 5  | 1    | 1  | 1    | 1  | 1    | 2  | 4    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 2    |                    |               |
| 473           | 2    | 2  | 2    | 2  | 2    | 3  |      |    | 1    | 1  | 1    | 1  | 1    | 1  | 3    |    | 1    | 1  | 1    | 1  | 1    | 3  | 4    | 1  | 1    | 1  | 1    | 1  | 1    | 2  | 2    |                    |               |
| 563           | 2    | 2  | 3    | 3  | 3    | 3  |      |    | 1    | 1  | 1    | 1  | 2    | 2  | 4    |    | 1    | 1  | 1    | 1  | 1    | 3  | 5    | 1  | 1    | 1  | 1    | 1  | 1    | 2  | 2    |                    |               |
| 683           | 3    | 3  | 3    | 3  | 3    | 3  |      |    | 1    | 1  | 2    | 2  | 2    | 2  | 4    |    | 1    | 1  | 1    | 1  | 2    | 2  | 4    | 1  | 1    | 1  | 1    | 1  | 1    | 2  | 3    |                    |               |
| 823           | 3    | 3  | 3    | 3  | 4    | 4  |      |    | 2    | 2  | 2    | 2  | 2    | 2  | 5    |    | 1    | 1  | 2    | 2  | 2    | 2  | 5    | 1  | 1    | 1  | 1    | 1  | 1    | 2  | 3    |                    |               |
| 104           | 3    | 3  | 4    | 4  | 5    | 5  |      |    | 2    | 2  | 2    | 2  | 2    | 3  |      |    | 2    | 2  | 2    | 2  | 2    | 2  |      | 1  | 1    | 1  | 1    | 1  | 1    | 3  | 4    |                    |               |
| 124           | 4    | 4  | 5    | 5  |      |    |      |    | 2    | 2  | 2    | 2  | 3    | 3  |      |    | 2    | 2  | 2    | 2  | 2    | 2  |      | 1  | 1    | 1  | 1    | 1  | 1    | 3  | 4    |                    |               |
| 154           | 5    | 5  |      |    |      |    |      |    | 3    | 3  | 3    | 3  | 3    | 4  |      |    | 2    | 2  | 3    | 3  | 3    | 3  |      | 1  | 1    | 1  | 1    | 2  | 2    | 4  | 5    |                    |               |
| 184           |      |    |      |    |      |    |      |    | 3    | 3  | 3    | 3  | 4    | 4  |      |    | 2    | 2  | 3    | 3  | 3    | 4  |      |    |      |    |      |    |      |    |      |                    |               |

**Note:** Capacitance values are shown as 3 digit code: 2 significant figures followed by the no. of zeros e.g. 183 = 18,000pF.

## Capacitance Values



# Capacitor Assemblies - ST & SM - X7R



## X7R Capacitance & Voltage Selection

**Note:** Capacitance values are shown as 3 digit code:  
2 significant figures followed by the no. of zeros e.g. 183 = 18,000pF.

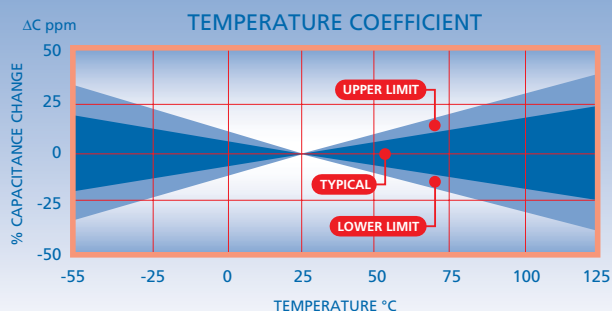
|  | Size | 4540 |    |      |    |      |    |      |    |     |    | 5550 |    |      |    |      |    |     |    |      |    | 6560 |    |      |    |     |    |      |    |      |    | 7565 |     |     |  |  |  |  |  |  |  | Size |
|--|------|------|----|------|----|------|----|------|----|-----|----|------|----|------|----|------|----|-----|----|------|----|------|----|------|----|-----|----|------|----|------|----|------|-----|-----|--|--|--|--|--|--|--|------|
|  | Vdc  | 50V  |    | 100V |    | 200V |    | 500V |    | 50V |    | 100V |    | 200V |    | 500V |    | 50V |    | 100V |    | 200V |    | 500V |    | 50V |    | 100V |    | 200V |    | 500V |     | Vdc |  |  |  |  |  |  |  |      |
|  | Type | ST   | SM | ST   | SM | ST   | SM | ST   | SM | ST  | SM | ST   | SM | ST   | SM | ST   | SM | ST  | SM | ST   | SM | ST   | SM | ST   | SM | ST  | SM | ST   | SM | ST   | SM | Type |     |     |  |  |  |  |  |  |  |      |
|  | 102  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1   | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1   | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1   | 1  | 1    | 1  | 1    | 1  | 102  |     |     |  |  |  |  |  |  |  |      |
|  | 122  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1   | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1   | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1   | 1  | 1    | 1  | 1    | 1  | 122  |     |     |  |  |  |  |  |  |  |      |
|  | 152  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1   | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1   | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1   | 1  | 1    | 1  | 1    | 1  | 152  |     |     |  |  |  |  |  |  |  |      |
|  | 182  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1   | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1   | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1   | 1  | 1    | 1  | 1    | 1  | 182  |     |     |  |  |  |  |  |  |  |      |
|  | 222  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1   | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1   | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1   | 1  | 1    | 1  | 1    | 1  | 222  |     |     |  |  |  |  |  |  |  |      |
|  | 272  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1   | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1   | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1   | 1  | 1    | 1  | 1    | 1  | 272  |     |     |  |  |  |  |  |  |  |      |
|  | 332  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1   | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1   | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1   | 1  | 1    | 1  | 1    | 1  | 332  |     |     |  |  |  |  |  |  |  |      |
|  | 392  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1   | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1   | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1   | 1  | 1    | 1  | 1    | 1  | 392  |     |     |  |  |  |  |  |  |  |      |
|  | 472  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1   | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1   | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1   | 1  | 1    | 1  | 1    | 1  | 472  |     |     |  |  |  |  |  |  |  |      |
|  | 562  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1   | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1   | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1   | 1  | 1    | 1  | 1    | 1  | 562  |     |     |  |  |  |  |  |  |  |      |
|  | 682  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1   | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1   | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1   | 1  | 1    | 1  | 1    | 1  | 682  |     |     |  |  |  |  |  |  |  |      |
|  | 822  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1   | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1   | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1   | 1  | 1    | 1  | 1    | 1  | 822  |     |     |  |  |  |  |  |  |  |      |
|  | 103  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1   | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1   | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1   | 1  | 1    | 1  | 1    | 1  | 103  |     |     |  |  |  |  |  |  |  |      |
|  | 123  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1   | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1   | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1   | 1  | 1    | 1  | 1    | 1  | 123  |     |     |  |  |  |  |  |  |  |      |
|  | 153  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1   | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1   | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1   | 1  | 1    | 1  | 1    | 1  | 153  |     |     |  |  |  |  |  |  |  |      |
|  | 183  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1   | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1   | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1   | 1  | 1    | 1  | 1    | 1  | 183  |     |     |  |  |  |  |  |  |  |      |
|  | 223  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1   | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1   | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1   | 1  | 1    | 1  | 1    | 1  | 223  |     |     |  |  |  |  |  |  |  |      |
|  | 273  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1   | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1   | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1   | 1  | 1    | 1  | 1    | 1  | 273  |     |     |  |  |  |  |  |  |  |      |
|  | 333  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1   | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1   | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1   | 1  | 1    | 1  | 1    | 1  | 333  |     |     |  |  |  |  |  |  |  |      |
|  | 393  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1   | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1   | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1   | 1  | 1    | 1  | 1    | 1  | 393  |     |     |  |  |  |  |  |  |  |      |
|  | 473  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1   | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1   | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1   | 1  | 1    | 1  | 1    | 1  | 473  |     |     |  |  |  |  |  |  |  |      |
|  | 563  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1   | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1   | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1   | 1  | 1    | 1  | 1    | 1  | 563  |     |     |  |  |  |  |  |  |  |      |
|  | 683  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1   | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1   | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1   | 1  | 1    | 1  | 1    | 1  | 683  |     |     |  |  |  |  |  |  |  |      |
|  | 823  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1   | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1   | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1   | 1  | 1    | 1  | 1    | 1  | 823  |     |     |  |  |  |  |  |  |  |      |
|  | 104  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1   | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1   | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1   | 1  | 1    | 1  | 1    | 1  | 104  |     |     |  |  |  |  |  |  |  |      |
|  | 124  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1   | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1   | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1   | 1  | 1    | 1  | 1    | 1  | 124  |     |     |  |  |  |  |  |  |  |      |
|  | 154  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1   | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1   | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1   | 1  | 1    | 1  | 1    | 1  | 154  |     |     |  |  |  |  |  |  |  |      |
|  | 184  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1   | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1   | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1   | 1  | 1    | 1  | 1    | 1  | 184  |     |     |  |  |  |  |  |  |  |      |
|  | 224  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1   | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1   | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1   | 1  | 1    | 1  | 1    | 1  | 224  |     |     |  |  |  |  |  |  |  |      |
|  | 274  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1   | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1   | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1   | 1  | 1    | 1  | 1    | 1  | 274  |     |     |  |  |  |  |  |  |  |      |
|  | 334  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1   | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1   | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1   | 1  | 1    | 1  | 1    | 1  | 334  |     |     |  |  |  |  |  |  |  |      |
|  | 394  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1   | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1   | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1   | 1  | 1    | 1  | 1    | 1  | 394  |     |     |  |  |  |  |  |  |  |      |
|  | 474  | 1    | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1   | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1   | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1   | 1  | 1    | 1  | 1    | 1  | 474  |     |     |  |  |  |  |  |  |  |      |
|  | 564  | 1    | 1  | 1    | 1  | 1    | 1  | 2    |    | 1   | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1   | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1   | 1  | 1    | 1  | 1    | 1  | 564  |     |     |  |  |  |  |  |  |  |      |
|  | 684  | 1    | 1  | 1    | 1  | 1    | 1  | 2    | 2  | 1   | 1  | 1    | 1  | 1    | 1  | 2    | 1  | 1   | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1   | 1  | 1    | 1  | 1    | 1  | 684  |     |     |  |  |  |  |  |  |  |      |
|  | 824  | 1    | 1  | 1    | 1  | 1    | 1  | 2    | 2  | 1   | 1  | 1    | 1  | 1    | 2  | 2    | 1  | 1   | 1  | 1    | 1  | 1    | 1  | 1    | 1  | 1   | 1  | 1    | 1  | 1    | 1  | 824  |     |     |  |  |  |  |  |  |  |      |
|  | 105  | 1    | 1  | 1    | 1  | 1    | 1  | 2    | 3  | 1   | 1  | 1    | 1  | 1    | 2  | 2    | 1  | 1   | 1  | 1    | 1  | 1    | 1  | 2    | 1  | 1   | 1  | 1    | 1  | 1    | 1  | 105  |     |     |  |  |  |  |  |  |  |      |
|  | 125  | 1    | 1  | 1    | 1  | 1    | 1  | 2    | 3  | 1   | 1  | 1    | 1  | 1    | 2  | 2    | 1  | 1   | 1  | 1    | 1  | 1    | 2  | 2    | 1  | 1   | 1  | 1    | 1  | 1    | 1  | 125  |     |     |  |  |  |  |  |  |  |      |
|  | 155  | 1    | 1  | 1    | 1  | 1    | 1  | 3    | 4  | 1   | 1  | 1    | 1  | 1    | 2  | 3    | 1  | 1   | 1  | 1    | 1  | 1    | 2  | 2    | 1  | 1   | 1  | 1    | 1  | 1    | 2  | 155  |     |     |  |  |  |  |  |  |  |      |
|  | 185  | 1    | 1  | 1    | 1  | 1    | 1  | 3    | 4  | 1   | 1  | 1    | 1  | 1    | 3  | 3    | 1  | 1   | 1  | 1    | 1  | 1    | 2  | 3    | 1  | 1   | 1  | 1    | 1  | 1    | 2  | 185  |     |     |  |  |  |  |  |  |  |      |
|  | 225  | 1    | 1  | 1    | 1  | 1    | 2  | 4    | 5  | 1   | 1  | 1    | 1  | 1    | 3  | 4    | 1  | 1   | 1  | 1    | 1  | 1    | 2  | 3    | 1  | 1   | 1  | 1    | 1  | 1    | 2  | 225  |     |     |  |  |  |  |  |  |  |      |
|  | 275  | 1    | 1  | 1    | 1  | 2    | 2  | 5    |    | 1   | 1  | 1    | 1  | 1    | 2  | 4    | 5  | 1   | 1  | 1    | 1  | 1    | 3  | 4    | 1  | 1   | 1  | 1    | 1  | 1    | 3  | 275  |     |     |  |  |  |  |  |  |  |      |
|  | 335  | 1    | 1  | 1    | 2  | 2    | 2  |      |    | 1   | 1  | 1    | 1  | 2    | 2  | 5    |    | 1   | 1  | 1    | 1  | 1    | 3  | 4    | 1  | 1   | 1  | 1    | 1  | 1    | 3  | 335  |     |     |  |  |  |  |  |  |  |      |
|  | 395  | 1    | 1  | 2    | 2  | 2    | 3  |      |    | 1   | 1  | 1    | 2  | 2    | 2  |      |    | 1   | 1  | 1    | 1  | 1    | 4  | 5    | 1  | 1   | 1  | 1    | 1  | 1    | 3  | 395  |     |     |  |  |  |  |  |  |  |      |
|  | 475  | 1    | 1  | 2    | 2  | 3    | 3  |      |    | 1   | 1  | 2    | 2  | 2    | 2  |      |    | 1   | 1  | 1    | 1  | 2    | 2  | 5    |    | 1   | 1  | 1    | 1  | 1    | 2  | 475  |     |     |  |  |  |  |  |  |  |      |
|  | 565  | 2    | 2  | 2    | 2  | 3    | 3  |      |    | 1   | 1  | 2    | 2  | 2    | 3  |      |    | 1   | 1  | 1    | 1  | 2    | 2  |      |    | 1   | 1  | 1    | 1  | 2    | 2  | 5    | 565 |     |  |  |  |  |  |  |  |      |
|  | 685  | 2    | 2  | 2    | 3  | 4    | 4  |      |    | 1   | 1  | 2    | 2  | 3    | 3  |      |    | 1   | 1  | 2    | 2  | 2    | 2  |      |    | 1   | 1  | 1    | 2  | 2    | 2  |      | 685 |     |  |  |  |  |  |  |  |      |
|  | 825  | 2    | 2  | 3    | 3  | 4    | 5  |      |    | 2   | 2  | 2    | 3  | 3    | 4  |      |    | 1   | 1  | 2    | 2  | 2    | 3  |      |    | 1   | 1  | 2    | 2  | 2    | 2  |      | 825 |     |  |  |  |  |  |  |  |      |
|  | 106  | 2    | 3  | 3    | 4  | 5    |    |      |    | 2   | 2  | 3    | 3  | 4    |    |      |    |     |    |      |    |      |    |      |    |     |    |      |    |      |    |      |     |     |  |  |  |  |  |  |  |      |



# Dielectric Characteristics

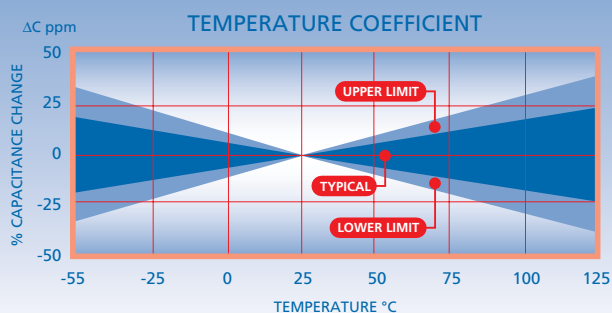
## C0G/NP0 (N) Ultra Stable and RoHS 2013 (RN) type

|                                 |                                                                                                        |
|---------------------------------|--------------------------------------------------------------------------------------------------------|
| Operating temperature range:    | -55°C to 125°C                                                                                         |
| Temperature coefficient:        | 0 ±30 ppm/°C                                                                                           |
| Dissipation factor:             | 0.1% max @ 25°C                                                                                        |
| Insulation resistance           | @25°C: >100GΩ or >1000ΩF whichever is less<br>@125°C: >10GΩ or >100ΩF whichever is less                |
| Dielectric withstanding voltage | ≤200V: 250%<br>201-500V: 150% or 500V whichever is greater<br>>500V: 120% or 750V whichever is greater |
| Ageing rate:                    | 0% per decade                                                                                          |
| Test parameters:                | 1KHz, 1.0 ±0.2 VRMS, 25°C<br>1MHz for Capacitance ≤100pF                                               |



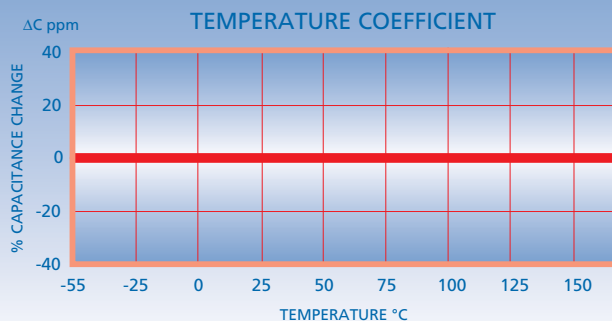
## C0G/NP0 (M) Ultra Stable Non Magnetic

|                                 |                                                                                                        |
|---------------------------------|--------------------------------------------------------------------------------------------------------|
| Operating temperature range:    | -55°C to 125°C                                                                                         |
| Temperature coefficient:        | 0 ±30 ppm/°C                                                                                           |
| Dissipation factor:             | 0.1% max @ 25°C                                                                                        |
| Insulation resistance           | @25°C: >1000ΩF or >10000ΩF whichever is less<br>@125°C: >100ΩF or >1000ΩF whichever is less            |
| Dielectric withstanding voltage | ≤200V: 250%<br>201-500V: 150% or 500V whichever is greater<br>>500V: 120% or 750V whichever is greater |
| Ageing rate:                    | 0% per decade                                                                                          |
| Test parameters:                | 1KHz, 1.0 ±0.2 VRMS, 25°C<br>1MHz for Capacitance ≤100pF                                               |



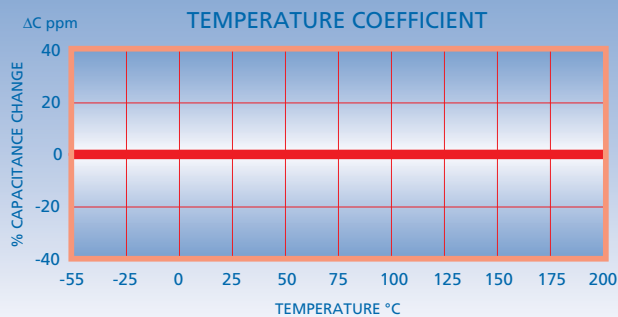
## C0G/NP0 (F) Ultra Stable High Temperature (up to 160°C)

|                                 |                                                                                                        |
|---------------------------------|--------------------------------------------------------------------------------------------------------|
| Operating temperature range:    | -55°C to 160°C                                                                                         |
| Temperature coefficient:        | 0 ±30 ppm/°C                                                                                           |
| Dissipation factor:             | 0.1% max @ 25°C                                                                                        |
| Insulation resistance           | @25°C: >100GΩ or >1000ΩF whichever is less<br>@160°C: >1GΩ or >10ΩF whichever is less                  |
| Dielectric withstanding voltage | ≤200V: 250%<br>201-500V: 150% or 500V whichever is greater<br>>500V: 120% or 750V whichever is greater |
| Ageing rate:                    | 0% per decade                                                                                          |
| Test parameters:                | 1KHz, 1.0 ±0.2 VRMS, 25°C<br>1MHz for Capacitance ≤100pF                                               |



## C0G/NP0 (D) Ultra Stable High Temperature (up to 200°C)

|                                 |                                                                                                        |
|---------------------------------|--------------------------------------------------------------------------------------------------------|
| Operating temperature range:    | -55°C to 200°C                                                                                         |
| Temp. coefficient ≤200°C:       | 0 ±30 ppm/°C                                                                                           |
| Dissipation factor @ 25°C:      | 0.1% Max.                                                                                              |
| Insulation resistance           | @25°C: >100GΩ or >1000ΩF whichever is less<br>@200°C: >1GΩ or >10ΩF whichever is less                  |
| Dielectric withstanding voltage | ≤200V: 250%<br>201-500V: 150% or 500V whichever is greater<br>>500V: 120% or 750V whichever is greater |
| Ageing rate:                    | 0% per decade                                                                                          |
| Test parameters:                | 1KHz, 1.0 ±0.2 VRMS, 25°C<br>1MHz for capacitance ≤100pF                                               |



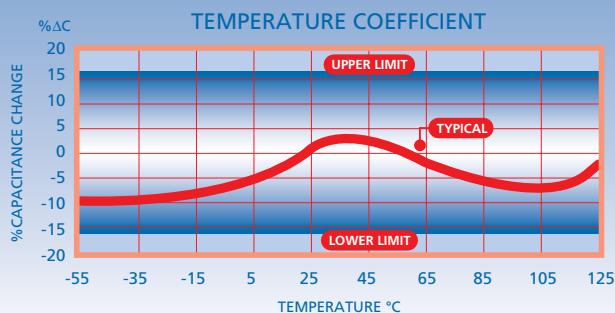




# Dielectric Characteristics

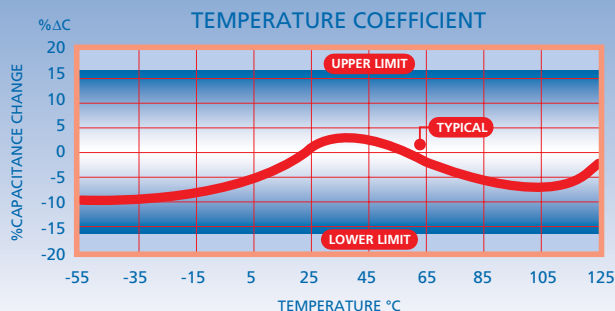
## X7R (B) Stable and RoHS 2013 (RB) type

|                                 |                                                                                                        |
|---------------------------------|--------------------------------------------------------------------------------------------------------|
| Operating temperature range:    | -55°C to 125°C                                                                                         |
| Temperature coefficient :       | ±15% ΔC Max.                                                                                           |
| Dissipation factor              | >25V rating: 2.5% max<br>≤25V rating: 3.5% max                                                         |
| Insulation resistance:          | @25°C: >100GΩ or >1000ΩF whichever is less<br>@125°C: >10GΩ or >100ΩF whichever is less                |
| Dielectric withstanding voltage | ≤200V: 250%<br>201-500V: 150% or 500V whichever is greater<br>>500V: 120% or 750V whichever is greater |
| Ageing rate:                    | <2.0% per decade                                                                                       |
| Test parameters:                | 1KHz, 1.0 ±0.2 VRMS, 25°C                                                                              |



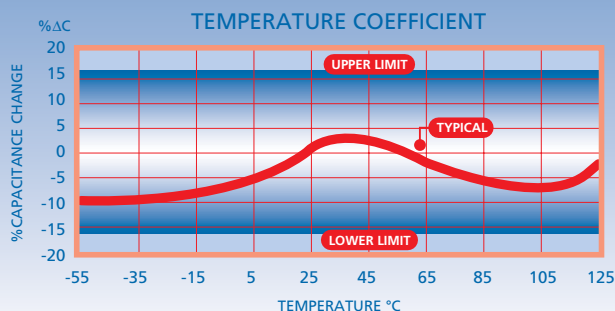
## X7R (C) Stable Non Magnetic

|                                 |                                                                                                        |
|---------------------------------|--------------------------------------------------------------------------------------------------------|
| Operating temperature range:    | -55°C to 125°C                                                                                         |
| Temperature coefficient:        | ±15% ΔC Max.                                                                                           |
| Dissipation factor              | >25V rating: 2.5% max<br>≤25V rating: 3.5% max                                                         |
| Insulation resistance:          | @25°C: >100GΩ or >1000ΩF whichever is less<br>@125°C: >10GΩ or >100ΩF whichever is less                |
| Dielectric withstanding voltage | ≤200V: 250%<br>201-500V: 150% or 500V whichever is greater<br>>500V: 120% or 750V whichever is greater |
| Ageing rate:                    | <2.0% per decade                                                                                       |
| Test parameters:                | 1KHz, 1.0 ±0.2 VRMS, 25°C                                                                              |



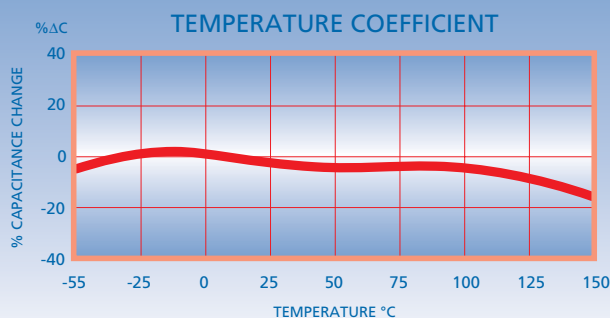
## BX (X) Stable

|                                 |                                                                                                        |
|---------------------------------|--------------------------------------------------------------------------------------------------------|
| Operating temperature range:    | -55°C to 125°C                                                                                         |
| Temperature coefficient:        | ±15% ΔC Max.                                                                                           |
| Temp-voltage coefficient:       | +15% -25% ΔC Max.                                                                                      |
| Dissipation factor              | >25V rating: 2.5% max<br>≤25V rating: 3.5% max                                                         |
| Insulation resistance:          | @25°C: >100GΩ or >1000ΩF whichever is less<br>@125°C: >10GΩ or >100ΩF whichever is less                |
| Dielectric withstanding voltage | ≤200V: 250%<br>201-500V: 150% or 500V whichever is greater<br>>500V: 120% or 750V whichever is greater |
| Ageing rate:                    | <2.0% per decade                                                                                       |
| Test parameters:                | 1KHz, 1.0 ±0.2 VRMS, 25°C                                                                              |



## X8R (S) Stable

|                                 |                                                                                                        |
|---------------------------------|--------------------------------------------------------------------------------------------------------|
| Operating temperature range:    | -55°C to 150°C                                                                                         |
| Temp. coefficient ≤150°C:       | ±15% ΔC Max.                                                                                           |
| Dissipation factor              | >25V rating: 2.5% max<br>≤25V rating: 3.5% max                                                         |
| Insulation resistance           | @25°C: >100GΩ or >1000ΩF whichever is less<br>@150°C: >10GΩ or >100ΩF whichever is less                |
| Dielectric withstanding voltage | ≤200V: 250%<br>201-500V: 150% or 500V whichever is greater<br>>500V: 120% or 750V whichever is greater |
| Ageing rate:                    | <2.0% per decade                                                                                       |
| Test parameters:                | 1KHz, 1.0 ±0.2 VRMS, 25°C                                                                              |







**Стандарт  
Электрон  
Связь**

Мы молодая и активно развивающаяся компания в области поставок электронных компонентов. Мы поставляем электронные компоненты отечественного и импортного производства напрямую от производителей и с крупнейших складов мира.

Благодаря сотрудничеству с мировыми поставщиками мы осуществляем комплексные и плановые поставки широчайшего спектра электронных компонентов.

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Осуществляем поставки продукции под контролем ВП МО РФ на предприятия военно-промышленного комплекса России , а также работаем в рамках 275 ФЗ с открытием отдельных счетов в уполномоченном банке. Система менеджмента качества компании соответствует требованиям ГОСТ ISO 9001.

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С нами вы становитесь еще успешнее!

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