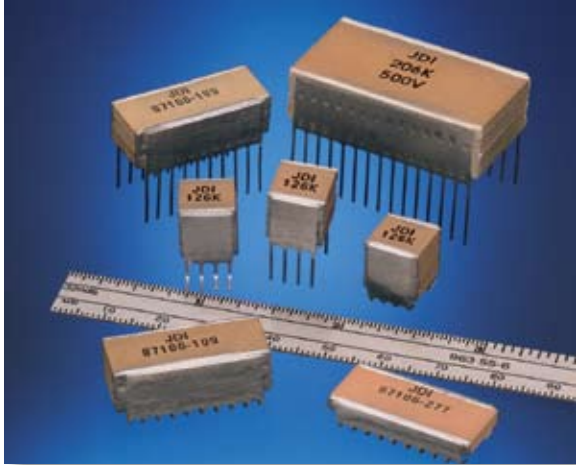


# HIGH TEMPERATURE STACKED CAPACITORS



## KEY FEATURES

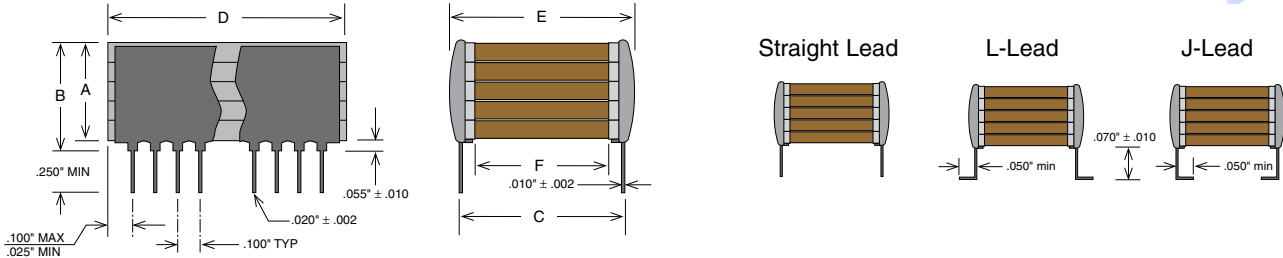
- For Use at Temperatures Up to 200°C
- Rated Working Voltages from 50V to 200V
- Rugged Stack with Hi-Temp Lead-Attachment
- MLC Designs Utilizing Military Grade Ceramics
- Custom Sizes, Voltages, and Values Available

## APPLICATIONS

- For High Temperature Applications Such As:
  - Oil Well Logging (Downhole)
  - Geophysical Probes
  - Jet Engine Controls

# Datasheet Directory

## MECHANICAL CHARACTERISTICS



## HOW TO ORDER

| 101  | T23              | W                  | 106   | K  | J  | 4  | S                   |
|--|------------------|--------------------|---|--|--|--|---------------------|
| <b>VOLTAGE</b>   | <b>CASE SIZE</b> | <b>DIELECTRIC</b>  | <b>CAPACITANCE</b>  | <b>TOLERANCE</b>   | <b>LEAD STYLE</b>  | <b>MARKING</b>   | <b>SPECIAL CODE</b> |
| Standard Voltages:<br>500 = 50 V<br>101 = 100 V<br>201 = 200 V | See Chart        | N = NPO<br>W = X7R | 1st two digits are significant; third digit denotes number of zeros.<br>103 = .01 $\mu\text{F}$<br>104 = 0.1 $\mu\text{F}$<br>105 = 1.0 $\mu\text{F}$<br>106 = 10 $\mu\text{F}$ | J = $\pm 5\% \text{ }^*$<br>K = $\pm 10\%$<br>M = $\pm 20\%$<br><br>* (NPO only) | J = "J" Leads (formed in)<br>L = "L" Leads (formed out)<br>N = Straight Lead | 3 = Special Mark<br>4 = Standard Mark<br>6 = EIA 2-digit | S = Other Special   |

Example Part number written: 101T23W106KJ4 = Rated 100 VDC@200°C, 10 $\mu\text{F}$   $\pm$  10% X7R in T23 size.



## DIELECTRIC CHARACTERISTICS

|                                   | NPO DIELECTRIC   | X7R DIELECTRIC   |
|-----------------------------------|--|--|
| TEMPERATURE COEFFICIENT:          | 0 ± 30 ppm, -55 to 125°C   | 0 ± 15% , -55 to 125°C   |
| CAP DROP AT 200°C:                | minus 0.5% max   | minus 45% max  |
| DISSIPATION FACTOR:               | .001 (0.1%) max, 1Khz, 25°C                                      | .025 (2.5%) max, 1KHz, 25°C                                      |
| INSULATION RESISTANCE:<br>@25 °C  | 1000 Ohm-Farads or 100 Gigohms<br>whichever is less @ 25°C, WVDC | 1000 Ohm-Farads or 100 Gigohms<br>whichever is less @ 25°C, WVDC |
| INSULATION RESISTANCE:<br>@200 °C | 1 Ohm-Farads or 100 Megohms<br>whichever is less @ 200°C, WVDC   | 1 Ohm-Farads or 100 Megohms<br>whichever is less @ 200°C, WVDC   |
| DIELECTRIC STRENGTH:              | 2.5 X WVDC, 25°C, 50 mA max                                      | 2.5 X WVDC, 25°C, 50 mA max                                      |
| TEST PARAMETERS:                  | 1Khz ± 50Hz, 1.0±0.2 VRMS, 25°C                                  | 1Khz ± 50Hz, 1.0±0.2 VRMS, 25°C                                  |

## CAPACITANCE / VOLTAGE SELECTION

| Case Size | NPO Max Capacitance (µF) |       |       | X7R Max Capacitance (µF) |       |       |
|-----------|--------------------------|-------|-------|--------------------------|-------|-------|
|           | 50 V                     | 100 V | 200 V | 50 V                     | 100 V | 200 V |
| T05       | .056                     | .047  | .022  | 1.20                     | 0.68  | 0.33  |
| T25       | 0.10                     | .082  | .039  | 2.20                     | 1.20  | 0.68  |
| T35       | 0.15                     | 0.12  | .068  | 3.30                     | 1.80  | 1.00  |
| T45       | 0.22                     | 0.18  | .082  | 4.70                     | 2.70  | 1.20  |
| T55       | 0.27                     | 0.22  | 0.10  | 5.60                     | 3.30  | 1.50  |
| T04       | 0.12                     | 0.10  | .047  | 2.70                     | 1.50  | 0.82  |
| T24       | 0.22                     | 0.18  | .082  | 4.70                     | 2.70  | 1.50  |
| T34       | 0.33                     | 0.27  | 0.12  | 8.20                     | 3.90  | 2.20  |
| T44       | 0.47                     | 0.39  | 0.18  | 12.0                     | 5.60  | 3.30  |
| T54       | 0.56                     | 0.56  | 0.27  | 15.0                     | 8.20  | 3.90  |
| T03       | 0.47                     | 0.39  | 0.22  | 10.0                     | 5.60  | 2.70  |
| T23       | 0.82                     | 0.68  | 0.39  | 18.0                     | 10.0  | 4.70  |
| T33       | 1.20                     | 1.00  | 0.68  | 27.0                     | 15.0  | 8.20  |
| T43       | 1.80                     | 1.50  | 0.82  | 39.0                     | 22.0  | 10.0  |
| T53       | 2.20                     | 1.80  | 1.00  | 47.0                     | 27.0  | 12.0  |

## MECHANICAL CHARACTERISTICS

| Case Size | A        | B        | C     | D        | D        | E        | F        | Leads per side |
|-----------|----------|----------|-------|----------|----------|----------|----------|----------------|
|           | (max."") | (max."") | ±.025 | (min."") | (max."") | (max."") | (min."") |                |
| T05       | .120     | .185     |       |          |          |          |          |                |
| T25       | .240     | .305     |       |          |          |          |          |                |
| T35       | .360     | .425     | .250  | .224     | .275     | .300     | .080     | 3              |
| T45       | .480     | .545     |       |          |          |          |          |                |
| T55       | .650     | .715     |       |          |          |          |          |                |
| T04       | .120     | .185     |       |          |          |          |          |                |
| T24       | .240     | .305     |       |          |          |          |          |                |
| T34       | .360     | .425     | .400  | .350     | .425     | .440     | .180     | 4              |
| T44       | .480     | .545     |       |          |          |          |          |                |
| T54       | .650     | .715     |       |          |          |          |          |                |
| T03       | .120     | .185     |       |          |          |          |          |                |
| T23       | .240     | .305     |       |          |          |          |          |                |
| T33       | .360     | .425     | .450  | .950     | 1.075    | .500     | .180     | 10             |
| T43       | .480     | .545     |       |          |          |          |          |                |
| T53       | .650     | .715     |       |          |          |          |          |                |