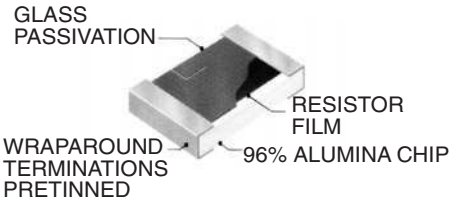
# State of the Art, Inc.

# 0404 Thick Film Chip Resistor

## Standard Grade, Surface Mount, Solderable




## FEATURES

- Tolerances to ± 0.5%
- Operating temperature range : -55° C to +150° C
- Pretinned (Sn60) nickel barrier terminations
- TCR's to ± 100 ppm
- Made with the same materials and process as our MIL-PRF-55342 "S" level qualified chips
- Suitable for solder reflow, vapor phase, or wave solder attachment

## PERFORMANCE CHARACTERISTICS

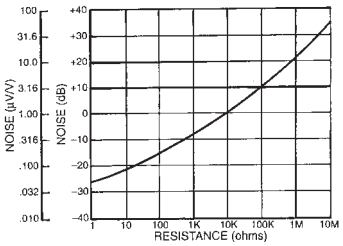
| | |
|---|---|
| Resistance Range (1) | 1Ω –40MΩ |
| Tolerances (2) | 1%, 2%, 5%, 10% |
| Maximum Power | 50 mW |
| Maximum Voltage | 25 Volts |

### ENVIRONMENTAL PERFORMANCE (3)

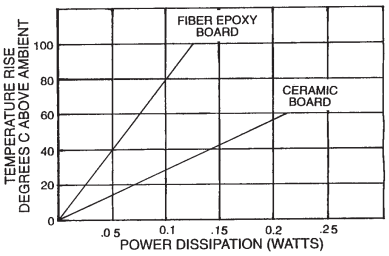
| | |
|---|---|
| TCR (-55 to +125 °C in ppm/°C) | < 100 ppm |
| Thermal Shock | ±0.03% |
| Low Temperature Operation | ±0.03% |
| Short-time Overload | ±0.03% |
| Resistance to Bonding Exposure | ±0.03% |
| Moisture Resistance | ±0.05% |
| High Temperature Exposure | ±0.05% |
| Life | See Chart |

(1) SOTA offers milliohm and high megohm resistors with excellent performance.
(2) ±0.5% in limited availability
(3) Typical resistance change, the maximum is the same as MIL-PRF-55342. Test methods are per MIL-PRF-55342.

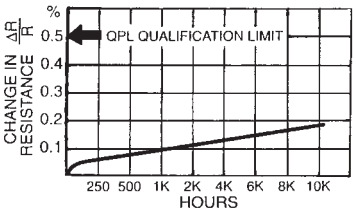
CURRENT NOISE



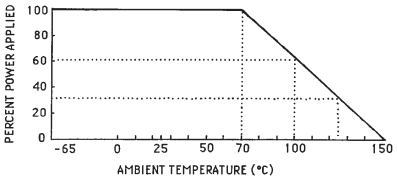

POWER DISSIPATION




TYPICAL LIFE TEST PERFORMANCE




POWER DERATING




## PART NUMBERING

**S0404CPX 150 J 20**

TCR
10: ±100 ppm 20: ±200 ppm 30: ±300 ppm

TOLERANCES
D: 0.5% F: 1% G: 2% J: 5% K: 10% M: 20%

RESISTANCE VALUE
Three or four digits are used with all leading digits significant. Four digits are used for 1% tolerance or lower, otherwise three digits are used. The last digit specifies the number of zeros to add. The letter "R" is used to represent the decimal for fractional ohmic values. Example: 5R6 is 5.6 ohms.

## MECHANICAL

| | INCHES | MM |
|---|---|---|
| Length | .035 (+.005/-.002) | .89 (+.13/-.05) |
| Width | .035 (±.003) | .89 (±.08) |
| Thickness | .008 - .020 | .20 - .51 |
| Top Term. | .004 - .015 | .10 - .38 |
| Bottom Term. | .008 - .015 | .20 - .38 |

Approx. Weight .00118 grams

Solderability: Solder coating compatible with Sn60, 62 or 63 solders, provides good wetting with all types of solder attachment. All product is tested IAW Mil-Std-202, method 208, including 8 hour steam aging.

## PACKAGING

Three packaging options are available:

- Bulk Packaging - (5000 per Bag Max.)
- Waffle Pack - (400 per Tray Max.)

## OPTIONS

SOTA offers a full line of component parts in the 0402 size including High-Reliability (customer specified testing). Available options are epoxy bondable and wire bondable terminations, custom part marking, and untrimmed resistors.

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10/01/97

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