



# State of the Art, Inc.

## 0404 Thin Film Chip Resistor

Standard Grade, Surface Mount, Solderable

PROTECTIVE  
ENCAPSULANT



99.6% ALUMINA CHIP

PRECISION  
THIN FILM  
RESISTOR

### FEATURES

- Tolerances to  $\pm 0.1\%$
- Operating temperature range :  
-55° C to +150° C
- For high-density hybrid circuits  
where space is at a premium
- TCR's to  $\pm 25$  ppm
- Made with the same materials and  
process as our MIL-PRF-55342 "S"  
level qualified chips
- Delivers greater power handling capability  
with lighter weight construction

### PERFORMANCE CHARACTERISTICS

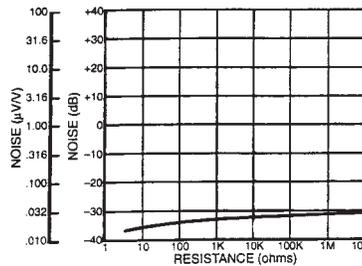
Resistance Range	5 $\Omega$ –200K $\Omega$
Tolerances	0.1%, 0.25%, 0.5%, 1%, 2%, 5%, 10%
Maximum Power	75 mW
Maximum Voltage	40 Volts

### ENVIRONMENTAL PERFORMANCE (1)

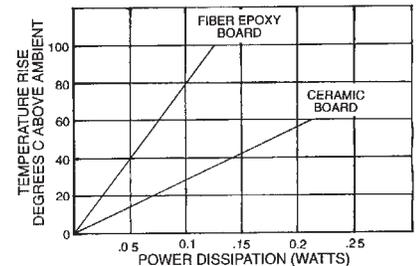
TCR (-55 to +125 °C in ppm/°C)	< 25 ppm
Thermal Shock	$\pm 0.02\%$
Low Temperature Operation	$\pm 0.02\%$
Short-time Overload	$\pm 0.02\%$
Resistance to Bonding Exposure	$\pm 0.02\%$
Moisture Resistance	$\pm 0.03\%$
High Temperature Exposure	$\pm 0.03\%$
Life	See Chart

(1) Typical resistance change, the maximum is the same as MIL-PRF-55342. Test methods are per MIL-PRF-55342.

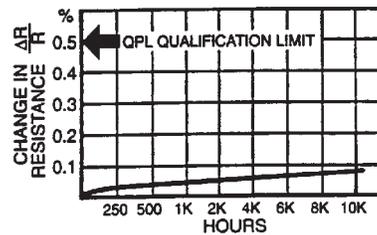
CURRENT NOISE



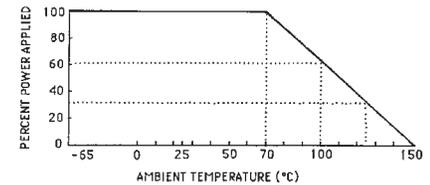
POWER DISSIPATION



TYPICAL LIFE TEST PERFORMANCE



POWER DERATING



### PART NUMBERING

**S0404AA 150 J H W**

Termination Material  
W: Gold B: Pretinned Solder over Nickel

TCR  
E:  $\pm 25$  ppm H:  $\pm 50$  ppm K:  $\pm 100$  ppm

TOLERANCES  
B: 0.1% C: 0.25% 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.

Substrate Material A: Alumina Ceramic

Termination Style A: Top sided with Bottom Isolated C: Wraparound

### PACKAGING

Two packaging options are available:

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

### MECHANICAL

	INCHES	MM
Length	.040 (+.002/- .002)	1.02 (+.05/- .05)
Width	.040 (+.002/- .002)	1.02 (+.05/- .05)
Thickness	.009 - .011	.23 - .27
Top Term.	.006 - .008	.15 - .20

Approx. Weight .00110 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.

### OPTIONS

SOTA offers a full line of component parts in the 0404 size including High-Reliability (customer specified testing). Available options are epoxy bondable and wire bondable terminations, and custom part marking.

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08/08/00

Where Quality Isn't a Goal...It's Our Tradition