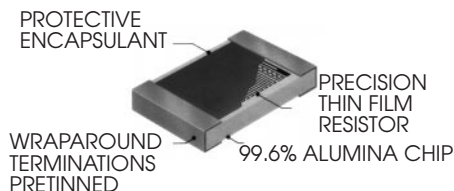


# **State of the Art, Inc.** **M55342/03 Thin Film Chip Resistor** 1005 Size, Surface Mount, Solderable



## FEATURES

- Tolerances to  $\pm 0.1\%$
- Operating temperature range :  $-55^{\circ}\text{C}$  to  $+150^{\circ}\text{C}$
- Pretinned (Sn60) nickel barrier terminations
- TCR's to  $\pm 25$  ppm
- Suitable for solder reflow, vapor phase, or wave solder attachment

## PERFORMANCE CHARACTERISTICS

Resistance Range 5.6 $\Omega$  - 1M $\Omega$   
 Tolerances 0.1%, 1%, 2%, 5%, 10%  
 Maximum Power 100 mW  
 Maximum Voltage 40 Volts

### ENVIRONMENTAL PERFORMANCE (3)

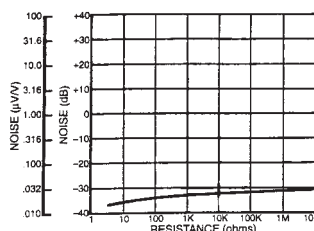
TCR ( $-55$  to  $+125^{\circ}\text{C}$  in ppm/ $^{\circ}\text{C}$ )  $< 25$  ppm  
 Thermal Shock  $\pm 0.02\%$   
 Low Temperature Operation  $\pm 0.02\%$   
 Short-time Overload  $\pm 0.02\%$   
 Resistance to Bonding Exposure  $\pm 0.02\%$   
 Moisture Resistance  $\pm 0.02\%$   
 High Temperature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

See Chart

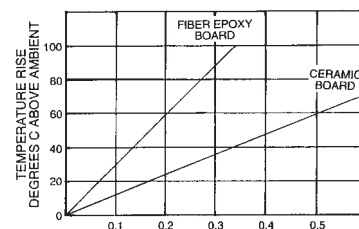
- (1) Resistance range for 0.1% tolerance is 100 ohms to 1M ohm.
- (2) Maximum Power for E and H TCR is 50mW.
- (3) Typical Resistance change, the maximum is the same as MIL-PRF-55342. Test methods are per MIL-PRF-55342.

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.

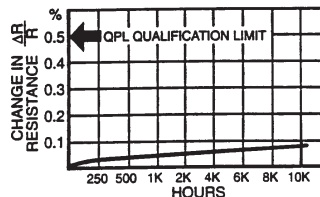
CURRENT NOISE



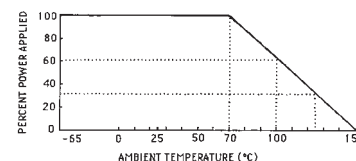
POWER DISSIPATION



TYPICAL LIFE TEST PERFORMANCE



POWER DERATING



## PART NUMBERING

### M55342 H 03B 100D R

TCR

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

#### PRODUCT LEVEL DESIGNATOR\*

M: 1% per 1000 hrs. R: 0.01% per 1000 hrs.  
 P: 0.1% per 1000 hrs T: Space Level  
 C: Non - ER

#### RESISTANCE AND TOLERANCE CODE

Three significant digits, with a letter indicating the decimal location, and the tolerance, and the value range ( $\Omega$ , K  $\Omega$ , M  $\Omega$ )

A: 0.1%  $\Omega$  D: 1%  $\Omega$  G: 2%  $\Omega$  J: 5%  $\Omega$  M: 10%  $\Omega$   
 B: 0.1% K  $\Omega$  E: 1% K  $\Omega$  H: 2% K  $\Omega$  K: 5% K  $\Omega$  N: 10% K  $\Omega$   
 C: 0.1% M  $\Omega$  F: 1% M  $\Omega$  T: 2% M  $\Omega$  L: 5% M  $\Omega$  P: 10% M  $\Omega$

## MECHANICAL

	INCHES	MM
Length	.105 (+.007/-0.007)	2.67 (+.18/-18)
Width	.050 ( $\pm 0.005$ )	1.27 ( $\pm 0.13$ )
Thickness	.015 - .033	.38 - .84
Top Term.	.010 - .020	.25 - .51
Bottom Term.	.010 - .020	.25 - .51

Approx. Weight .0054 grams

## PACKAGING

Two packaging options are available:

Waffle Pack - (170 per Tray Max.)  
 Tape & Reel - (5000 per 8" Inch Reel Max.)

## \* PRODUCT LEVELS

All product levels are based on the same design as our "R" level failure rate Established Reliability part. Level C is a Non-Established Reliability part requiring no group A, B or C testing. Established Reliability (failure rates based on life testing) product levels M, P, and R are subject to group A, B and C testing per MIL-PRF-55342. Space product level T requires group A and B tests including 100% power conditioning.

## OPTIONS

Termination type wraparound style (pretinned with a Ni barrier), and type W (wire bondable) are available. Also available in thick film MIL-PRF-55342 characteristic K & M. SOTA offers a full line of component parts in the 1005 size including Standard Grade, High-Reliability (customer specified testing), and zero-ohm jumpers. Custom part marking is also available.

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10/01/97

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