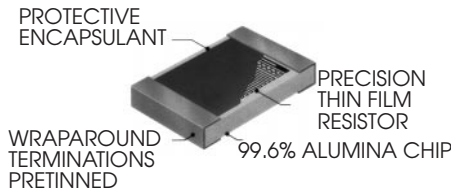




# State of the Art, Inc.

## M55342/06 Thin Film Chip Resistor

### 0705 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  | 50 Volts                   |

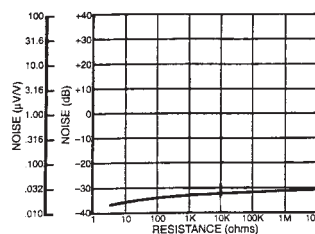
### ENVIRONMENTAL PERFORMANCE (3)

|  |              |
|--|--------------|
| 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  | $\pm 0.03\%$ |
| High Temperature Exposure  | $\pm 0.03\%$ |
| Life   | See Chart    |

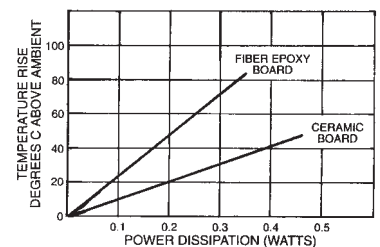
- (1) Resistance range for 0.1% tolerance is 100 ohms to 1 M ohm.
- (2) Maximum Power for E and H TCR is 50 mW.
- (3) Typical Resistance change, the maximum is the same as MIL-PRF-55342. Test methods are per MIL-PRF-55342.

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.

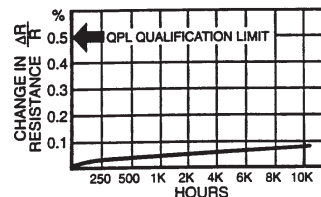
CURRENT NOISE



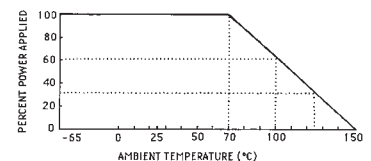
POWER DISSIPATION



TYPICAL LIFE TEST PERFORMANCE



POWER DERATING



## PART NUMBERING

### M55342 H 06B 100D R

#### 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 $\Omega$

TCR

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

## MECHANICAL

|              | INCHES              | MM                 |
|--------------|---------------------|--------------------|
| Length       | .080 (+.006/-.006)  | 2.03 (+.15/-.15)   |
| Width        | .050 ( $\pm .005$ ) | 1.27 ( $\pm .13$ ) |
| Thickness    | .015 - .033         | .38 - .84          |
| Top Term.    | .010 - .020         | .25 - .51          |
| Bottom Term. | .010 - .020         | .25 - .51          |

Approx. Weight .0045 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 0705 size including Standard Grade, High-Reliability (customer specified testing), and zero-ohm jumpers. Custom part marking is also available.

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

10/01/97