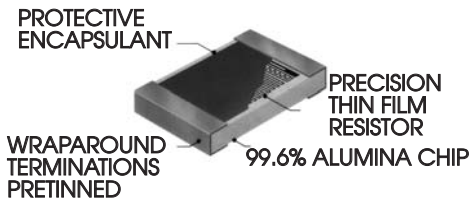




# State of the Art, Inc.

## M55342/12 Thin Film Chip Resistor

### 0603 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

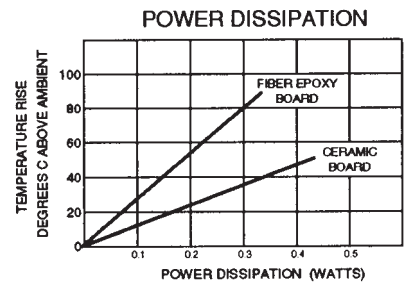
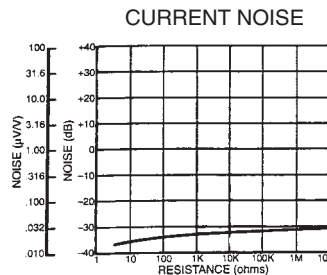
Resistance Range(1) 5.6 $\Omega$  - 270K $\Omega$   
 Tolerances 0.1%, 1%, 2%, 5%, 10%  
 Maximum Power 70 mW  
 Maximum Voltage 50 Volts

### ENVIRONMENTAL PERFORMANCE (2)

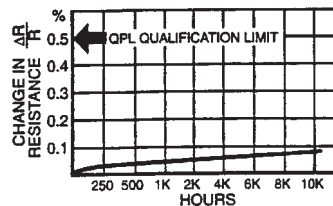
TCR ( $-55$  to  $+125^{\circ}\text{C}$  in ppm/ $^{\circ}\text{C}$ )  $< 25$  ppm  
 Thermal Shock  $\pm 0.02\%$   
 Low Temperature Operation  $\pm 0.02\%$   
 Short-time Overload  $\pm 0.02\%$   
 Resistance to Bonding Exposure  $\pm 0.02\%$   
 Moisture Resistance  $\pm 0.02\%$   
 High Temperature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

- (1) 0.1% tolerance is 100 ohms to 267K $\Omega$
- (2) Typical Resistance change, the maximum is the same as MIL-PRF-55342. Test methods are per MIL-PRF-55342.

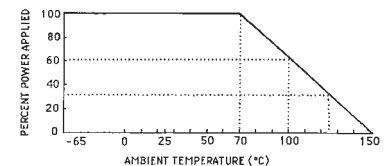
Solderability: Solder coating compatible with Sn60, 62 or 63 solders, provides good wetting with all types of solder attachment. All product is tested IAW Mil-Std-202, method 208, including 8 hour steam aging.



### TYPICAL LIFE TEST PERFORMANCE



### POWER DERATING



## PART NUMBERING

### M55342 H 12B 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	.064 ( $\pm .006$ )	1.626 ( $\pm .152$ )
Width	.032 ( $\pm .005$ )	.813 ( $\pm .127$ )
Thickness	.010 - .033	.254 - .838
Top Term.	.012 ( $\pm .005$ )	.305 ( $\pm .127$ )
Bottom Term.	.015 ( $\pm .005$ )	.381 ( $\pm .127$ )

Approx. Weight .0022 grams

## PACKAGING

Two packaging options are available:

Waffle Pack - (100 per Tray Max.)  
 Tape & Reel - (5000 per 7" 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 0603 size including Standard Grade, High-Reliability (customer specified testing), and zero-ohm jumpers.

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10/26/00

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