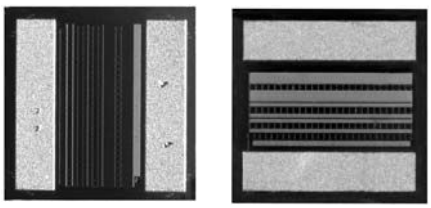
NiCr Thin Film, Top-Contact Resistor



Product may not be to scale

The SC3- series resistor chips on silicon offer a combination of nichrome stability, wide resistance range and higher power rating than is available on the same sized ceramic substrate.

The SC3- resistors are manufactured using Vishay Electro-Films (EFI) sophisticated thin film equipment and manufacturing technology. The SC3- resistors are 100 % electrically tested and visually inspected to MIL-STD-883.

FEATURES

- Wire bondable
- Small single chip size: 0.050 inches square
- Case: 0505
- Resistance range: 100 Ω to 50 kΩ
- Resistor material: Nichrome
- Oxidized silicon substrate for good power dissipation
- 400 mW capability
- User trimmable

APPLICATIONS

Vishay EFI SC3- chip resistors have excellent power dissipation capability and are ideally suited for prototyping.

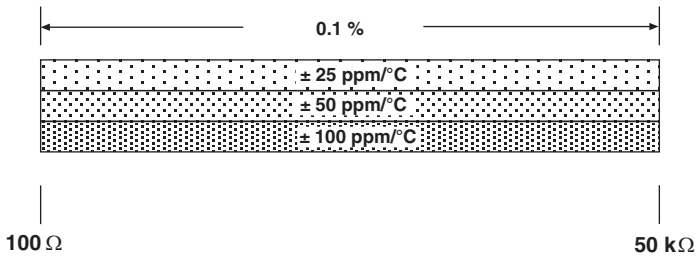
Typical application areas are:

- Amplifiers
- Oscillators
- Attenuators
- Couplers
- Filters

Recommended for hermetic environments where die is not exposed to moisture.

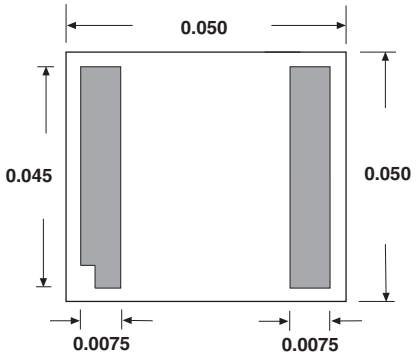
TEMPERATURE COEFFICIENT OF RESISTANCE, VALUES, AND TOLERANCES		
PARAMETER	**VALUE**	**UNIT**
Total Resistance Range	100 to 50K	Ω
Standard Tolerances	± 0.1	%
TCR	± 25, ± 50, ± 100	ppm/°C

Tightest Standard Tolerance Available



STANDARD ELECTRICAL SPECIFICATIONS		
PARAMETER	**VALUE**	**UNIT**
Noise, MIL-STD-202, Method 308	- 20 typ.	dB
Stability, 1000 h, + 125 °C	± 0.1 max. $\Delta R/R$	%
Operating Temperature Range	- 55 to + 125	°C
ThermalShock, MIL-STD-202, Method 107, Test Condition F	± 0.25 max. $\Delta R/R$	%
High Temperature Exposure, + 150 °C, 100 h	± 0.25 max. $\Delta R/R$	%
Dielectric Voltage Breakdown	200	V
Insulation Resistance	10^{12} min.	Ω
Operating Voltage	100 max.	V
DC Power Rating at + 70 °C (Derated to zero at + 150 °C)	0.400	W
5 x Rated Power Short-Time Overload, + 25 °C, 5 s	± 0.25 max. $\Delta R/R$	%

DIMENSIONS in inches



SCHEMATIC

MECHANICAL SPECIFICATIONS

PARAMETER	VALUE
Chip Size	0.050" x 0.050" ± 0.003" (1.27 mm x 1.27 mm ± 0.076 mm)
Chip Thickness	0.010" ± 0.002" (0.254 mm ± 0.05 mm)
Chip Substrate Material	Oxidized silicon, 10 kÅ minimum SiO_2
Resistor Material	Nichrome
Bonding Pad Size	0.0075" x 0.045" (0.190 mm x 1.143 mm) minimum
Number of Pads	2
Pad Material	15 kÅ minimum gold standard (Al optional)
Backing	None, lapped semiconductor silicon (Au optional)

GLOBAL PART NUMBER INFORMATION

Global Part Number: SC3-12500KKSGNHWS

Global Part Number Description: SC3- 1.25K 10 % 100 ppm/°C Std Au None H WS

S	C	3	-	1	2	5	0	0	K	K	S	G	N	H	W	S

MODEL	RESISTANCE	RESISTANCE MULTILPLIER CODE	TOL. CODE (%)	TCR (ppm/°C)	TRIM STYLE	TERMINATION	BACK METAL	VISUAL CLASS	PACKAGING CODE
SC3-	First 4 digits are significant figures of resistance	**B** = 0.01 **A** = 0.1 **0** = 1 **1** = 10	**B** = 0.1 **C** = 0.25 **D** = 0.5 **F** = 1.0 **G** = 2.0 **J** = 5.0 **K** = 10.0	**E** = ± 25 **C** = ± 50 **K** = ± 100	**E** = Edg **S** = Std **U** = Usr	**G** = Au **A** = Al	**G** = Au **N** = None	**H** = Class H **K** = Class K	**WS** = Waffle pack 100 min., 1 mult

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