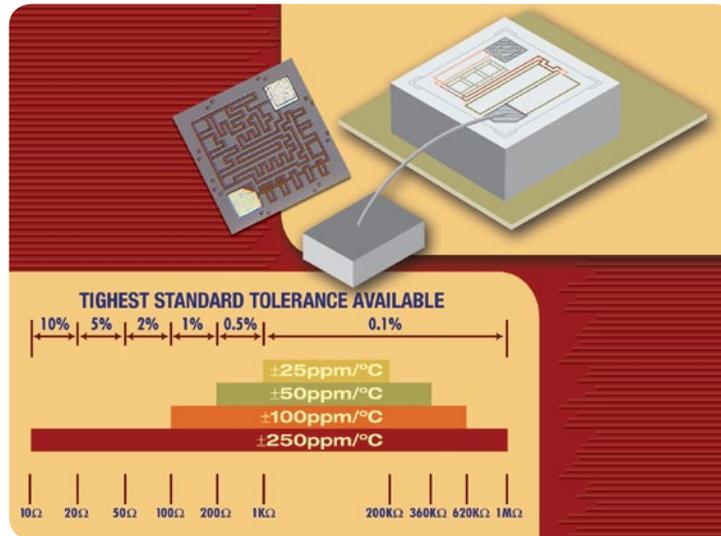


Thin Film, Back Contact Resistor



KEY BENEFITS

- Requires only one wire bond, thus saving space
- Second electrical connection is made through the back of the chip
- Chips can be attached either eutectically or with conductive epoxy
- Smaller footprints than alternative configurations
- Tighter tolerances available upon request

APPLICATIONS

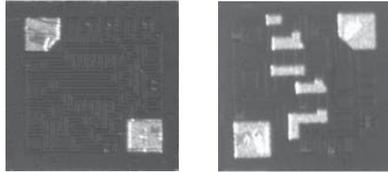
- Hybrid packages

RESOURCES

- Datasheet: BCR - <http://www.vishay.com/doc?61023>
- For technical questions contact efi@vishay.com



Thin Film, Back Contact Resistor



Product may not be to scale

The Back Contact Resistor (BCR) series single-value back-contact resistor chip is one of the smallest chips available.

The BCR requires only one wire bond thus saving hybrid space.

The BCRs are manufactured using Vishay Electro-Films (EFI) sophisticated thin film equipment and manufacturing technology. The BCRs are 100 % electrically tested and visually inspected to MIL-STD-883, method 2032 class H or K.

FEATURES

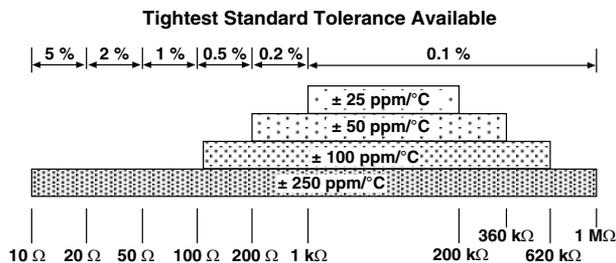
- Wire bondable
- Only one wire bond required
- Small size: 0.020 inches square
- Resistance range: 10 Ω to 1 M Ω
- Oxidized silicon substrate for good power dissipation
- Resistor material: Tantalum nitride, self-passivating
- Moisture resistant
- Case size: 0202

APPLICATIONS

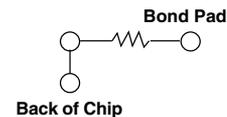
Vishay EFI BCR resistor chips are widely used in hybrid packages where space is limited. The bottom connection is made by attaching the back of the chip to the substrate either eutectically or with conductive epoxy. The single wire bond is made to the notched pad on the top of the chip. (The other rectangular pad on the top of the chip is a via hole, a low-ohmic contact connecting the resistor to the bottom of the chip.)

TEMPERATURE COEFFICIENT OF RESISTANCE, VALUES, AND TOLERANCES

PARAMETER	VALUE	UNIT
Total Resistance Range	10 to 1M	Ω
Standard Tolerances	$\pm 0.1, \pm 0.2, \pm 0.5, \pm 1, \pm 2, \pm 5$	%
TCR	$\pm 25, \pm 50, \pm 100, \pm 250$	ppm/ $^{\circ}$ C



SCHEMATIC



STANDARD ELECTRICAL SPECIFICATIONS

PARAMETER	VALUE	UNIT
Noise, MIL-STD-202, Method 308 100 Ω to 250 k Ω < 100 Ω or > 251 k Ω	- 35 typ. - 20 typ.	dB
Moisture resistance, MIL-STD-202, Method 106	± 0.5 max. $\Delta R/R$	%
Stability, 1000 h, + 125 $^{\circ}$ C, 125 mW	± 1.0 max. $\Delta R/R$	%
Operating Temperature Range	- 55 to + 125	$^{\circ}$ C
Thermal Shock, MIL-STD-202, Method 107, Test Condition F	± 0.25 max. $\Delta R/R$	%
High Temperature Exposure, + 150 $^{\circ}$ C, 100 h	± 0.5 max. $\Delta R/R$	%
Dielectric Voltage Breakdown	200	V
Insulation Resistance	10^{12} min.	Ω
Operating Voltage	75 max.	V
DC Power Rating at + 70 $^{\circ}$ C (Derated to zero at + 175 $^{\circ}$ C)	0.250	W
5 x Rated Power Short-Time Overload, + 25 $^{\circ}$ C, 5 s	± 0.25 max. $\Delta R/R$	%

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