BVE

ISOTEK CORPORATION

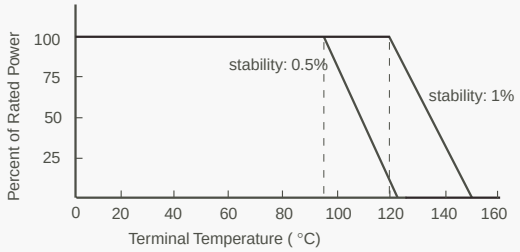
Precision Current Sensing Resistors

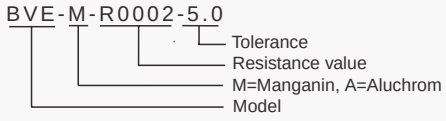
The BVE is ideal for sensing current in power supplies, motor drives, power modules and for use in automotive power electronic applications. It can be soldered to a PCB or welded to a bus bar.

Measuring 8 x 15 x 1.6 mm thick, the BVE is available in resistance values of 0.2, 0.5 and 1 milliohm with tolerances of 1, 2 and 5%. The BVE is rated for 5 watts continuous power at up to 120°C. Resistance change after 2000 hours at 95°C and full rated load is less than 0.5%.

Heat is dissipated through the large copper terminals. The unique integration of copper/resistance/copper alloys results in a thermal resistance of less than 10°C/W and inductance of less than 3 nH.

Mounting can be reflow soldering (350°C for 30 sec. or 250°C for 10 min.), or welded to copper bus bar. The BVE is supplied in 24 mm tape, 2000 pieces per reel.





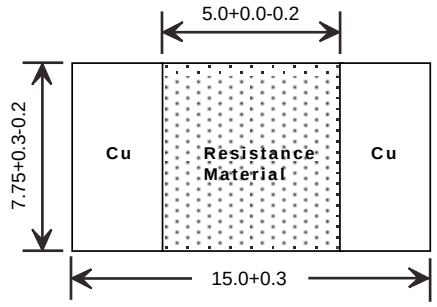
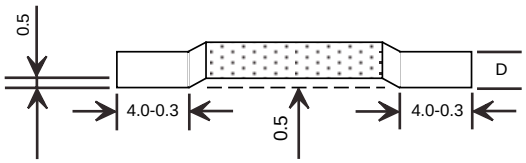
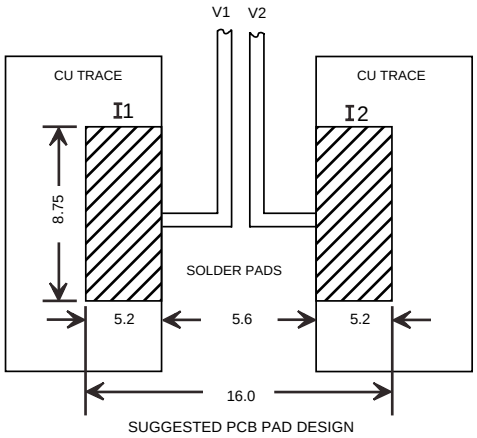


Table: typical material thickness vs. resistance value.
Dimensions without tolerances acc. to DIN ISO 2768-1 "medium"



Type	Value	Material	Thickness (D)
BVE-M-R0002	0.2 mOhm	Manganin	1.42 mm
BVE-A-R0005	0.5 mOhm	Alu-Chrom	1.60 mm
BVE-A-R001	1.0 mOhm	Alu-Chrom	0.90 mm



SUGGESTED PCB PAD DESIGN

Dimensions in millimeters

Technical Data

Parameters	MANGANIN	ALUCHROM
Resistance Values	0.2 mΩ	0.5, 1 mΩ
Tolerance	1.0%, 5.0%	1.0%, 5.0%
Temperature Coefficient of Resistance (20°C to 60°C)	< 50 ppm/°C	< 50 ppm/°C
Power Rating (Watts)	5	5
Maximum Current	160 A	160 A
Inductance	< 3 nH	< 3 nH
Thermal Resistance to Ambient	Rth < 10°C/W	Rth < 10°C/W
Operating Temperature Range	-55°C to +150°C	-55°C to +150°C
Stability (Nominal Load at 95°C)	< 0.5% after 2000 hours	< 0.5% after 2000 hours

tekinfo@isotekcorp.com phone 508-673-2900 fax 508-676-0885