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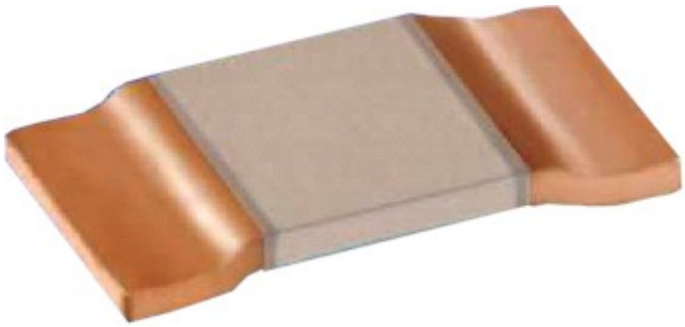
Resistors And
Resistive Applications

BWS03, BWS05
CHIP SHUNT RESISTORS



INTRODUCTION

These models are manufactured using electron beam welding technology. This allows the joining of different alloys with great accuracy and tolerance. These models have heavy copper connectors, excellent long term stability and low inductance. Maximum soldering temperatures of up to 350C for 30 seconds or 250C/10 min. Can be Mounted using re-flow soldering or welding on copper. Applications include: Current sensors for hybrid power sources, frequency converters and high current automotive applications.

GENERAL SPECIFICATIONS

Model	Power (W)	Resistance [mΩ]	Tolerance(%)	TCR [ppm]	Internal heat Resistance	Operating Temperature
BWS03	3	0.5,1,2,3,4	±1(F) ±2(G) ±5(J)	±50 (20-60C)	Rth< 10k/W	-55C to 170C
BWS05	5	0.5,1,2,3		Max. ±100		

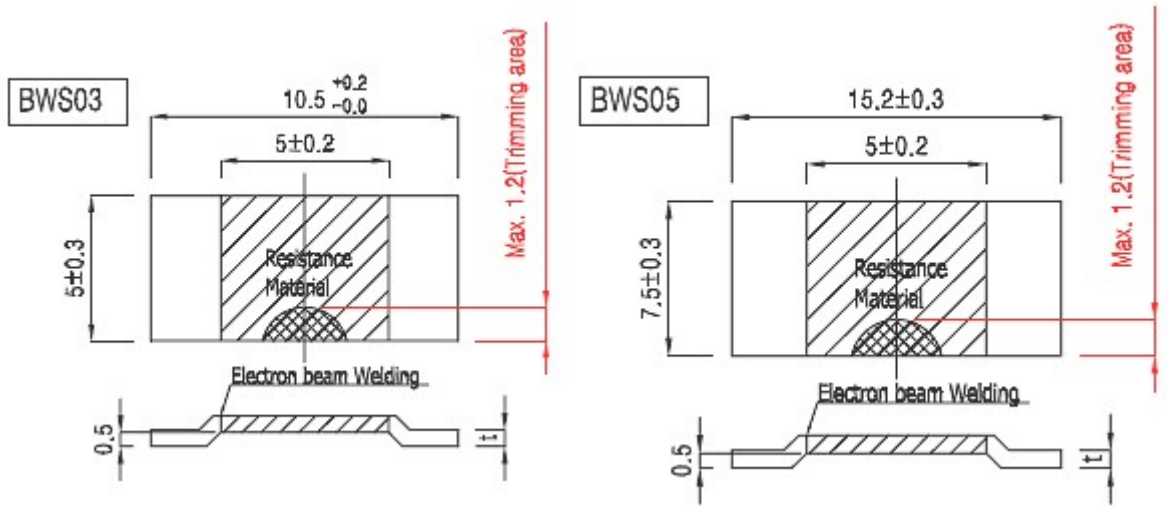
CHARACTERISTICS

Thermal Shock	[±0.1%] -65C, 25C, 125C, 25 C 25cycles
Short time overload	[±0.2%] Rated Power x 5 for 5 secs.
Resistance to Soldering Heat	[±0.2%] 350C 30 sec or 250C 10 min
Moisture Resistance	[±0.2%] 90 to 98% RH, +25C, +65C ,-10C 10 Cycle
High Temperature Exposure	[±0.2%] 140C for 250hours
Vibration High Frequency	[±0.2%] 15g 10 to 2000Hz 36Cycles
Inductance	[<3nH]
Load Life	[±1.0%] 90 min "ON" 30 min "OFF" for 2000hours

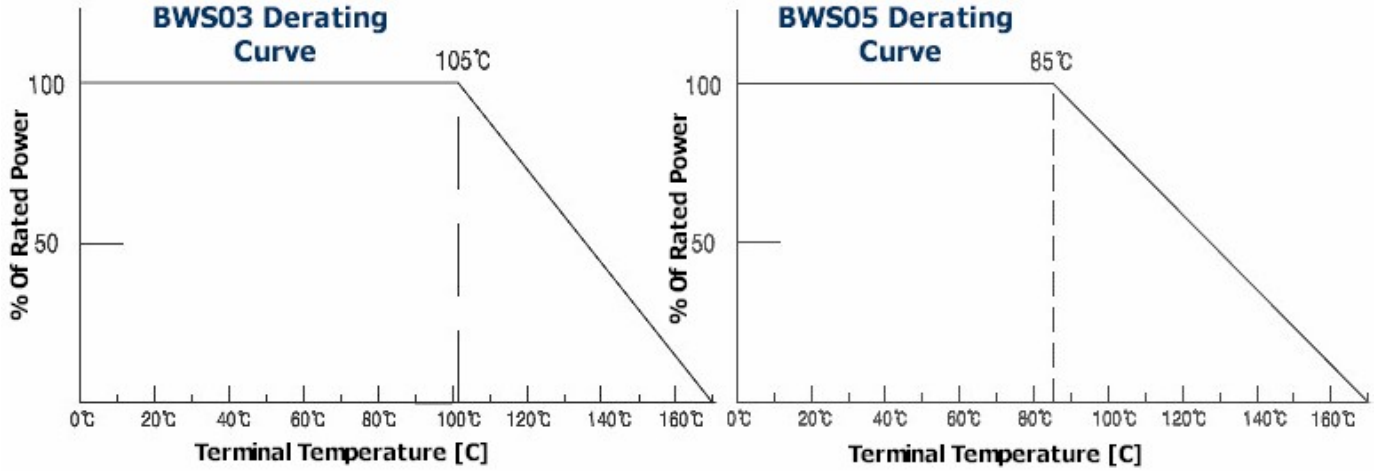
DIMENSIONS AND MATERIALS

Model	Value	Material	Thickness(t)
BWS03-M	0.5mΩ	Manganin	0.88mm+/-0.05
BWS03-M	1mΩ	Manganin	0.43mm+/-0.05
BWS03-N	2mΩ	NiCr Alloy	0.64mm+/-0.05
BWS03-N	3mΩ	NiCr Alloy	0.43mm+/-0.05
BWS03-N	4mΩ	NiCr Alloy	0.32mm+/-0.05
BWS05-M	0.5mΩ	Manganin	0/56mm+/-0.05
BWS05-N	1mΩ	NiCr Alloy	0.90mm+/-0.05
BWS05-N	2mΩ	NiCr Alloy	0.45mm+/-0.05
BWS05-N	3mΩ	NiCr Alloy	0.30mm+/-0.05

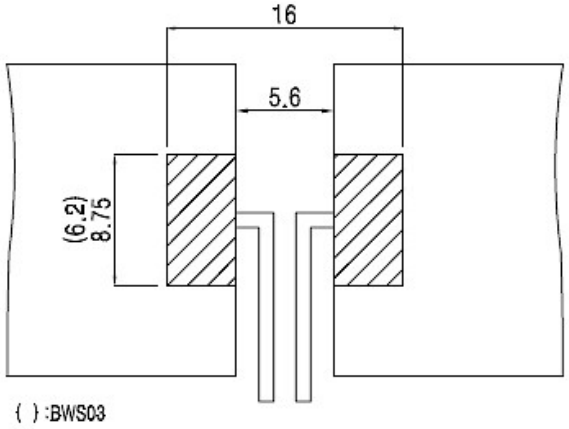
DIMENSIONS



DERATING CURVES



THEORETICAL PCB LAYOUT



ORDERING PROCEDURE EXAMPLE