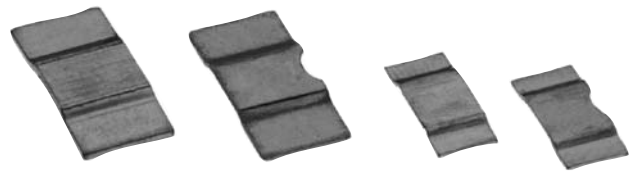


# EBW Series

## Manganin/NiCr Current Sense



The EBW Series are manufactured using electron beam welding technology. This allows the joining of different alloys with great accuracy and tolerance. The EBW Series have heavy copper connectors, excellent long term stability and low inductance. These components can tolerate soldering temperatures of 350C for 30 seconds or 250C for 10min. These can be mounted using re-flow soldering or welding on copper. The EBWA can handle a power of 5W up to 100A at 0.5mΩ. The EBWB can handle a constant power of 7W at 0.2mΩ and a continuous load of 180A at 0.2mΩ.

### CERTIFICATIONS

**BN ES ISO 9001: 2008**

**ISO/TS 16949: 2009**

### APPLICATIONS

- Current sensors for hybrid power sources
- Frequency converters
- High current automotive applications.

### SERIES SPECIFICATIONS

Model	Power (W)	Resistance (mΩ)	Material	TCR (20°C - 150°C)	Weight (g)
EBWA-M	5	0.5	Manganin	±75ppm/°C	0.4081
	4	1	Manganin	±60ppm/°C	0.1994
EBWA-N	4	2	NiCr Alloy	±100ppm/°C	0.2726
	3	3	NiCr Alloy	±100ppm/°C	0.1832
	2.5	4	NiCr Alloy	±100ppm/°C	0.1363
EBWB-M	7	0.2	Manganin	±100ppm/°C	1.5138
	6	0.5	Manganin	±100ppm/°C	0.5652
EBWB-N	6	1	NiCr Alloy	±120ppm/°C	0.8573
	4	2	NiCr Alloy	±120ppm/°C	0.4287
	3.5	3	NiCr Alloy	±120ppm/°C	0.2858

### CHARACTERISTICS

**Tolerance** ±1(F), ±2(G), ±5(J)

**TCR** 20°C-150°C  
Max. ±100ppm/°C (EBWA)  
Max. ±120ppm/°C (EBWB)

**Operating Temperature** -55°C to 170°C

### PERFORMANCE DATA

**Thermal Shock** -65°C, 25°C, 125°C, 25°C 25cycles **±0.1%**

**Short Time Overload** Rated Power X 5 for 5 secs. **±0.2%**

**Resistance to Soldering Heat** 350°C 30 sec. or 250°C 10 min. **±0.2%**

**Moisture Resistance** 90-98%RH, +25°C, +65°C, -10°C 10 cycles **±0.2%**

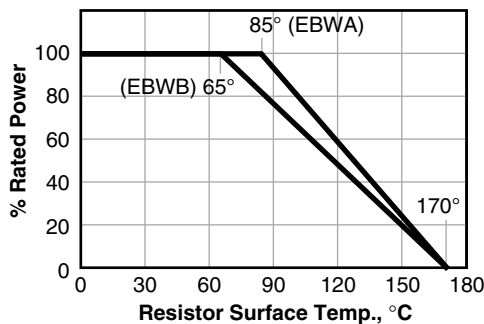
**High Temperature Exposure** 140°C for 250 hours **±0.2%**

**Vibration High Frequency** 15g 10 to 2000Hz 36 cycles **±0.2%**

**Inductance** <3nH

**Load Life** 90 min "ON" 30 min "OFF" for 2000 hours **±1.0%**

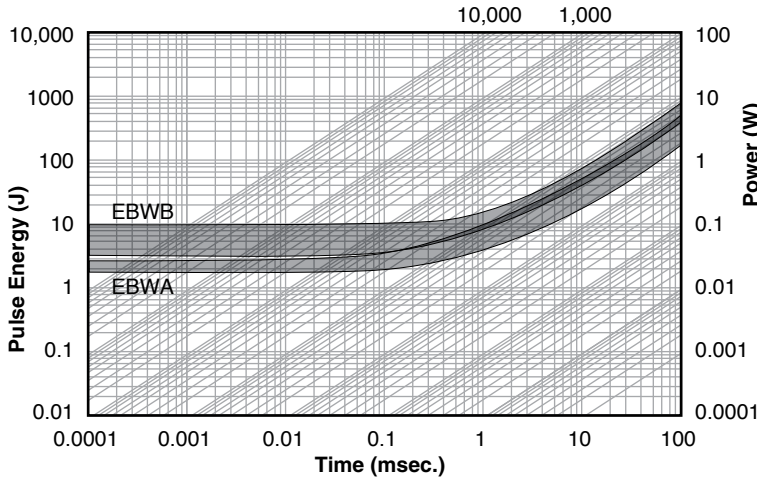
### Derating



# EBW Series

## Manganin/NiCr Current Sense

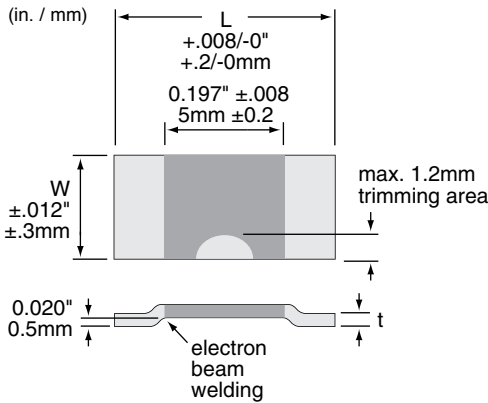
### PULSE ENERGY/POWER FOR CONTINUOUS OPERATION



**EBWA:** Max. curve is only valid for the resistance value 0.5m. The min. curve is only valid for the resistance value 4m. For other resistance values the area in between the max. and the min. curve is valid

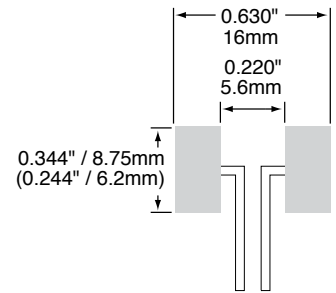
**EBWB:** Max. curve is only valid for the resistance value 0.2m. The min. curve is only valid for the resistance value 2m. For other resistance values the area in between the max. and the min. curve is valid

### DIMENSIONS

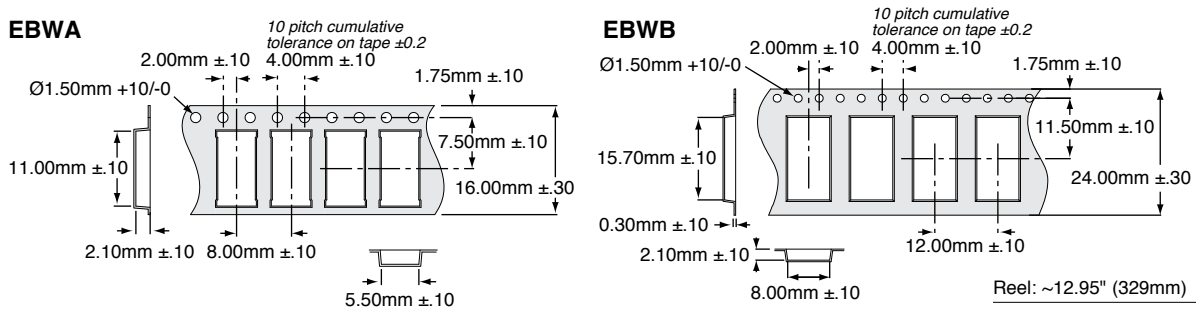


	Ohm Value	L	W	Thickness "t"
EBWA-M	0.5mΩ	0.413 / 10.5	0.197 / 5	0.035 / 0.88
	1mΩ			0.017 / 0.43
EBWA-N	2mΩ	0.413 / 10.5	0.197 / 5	0.025 / 0.64
	3mΩ			0.017 / 0.43
	4mΩ			0.013 / 0.32
EBWB-M	0.2mΩ	0.598 / 15.2	0.295 / 7.5	0.059 / 1.5
	0.5mΩ			0.022 / 0.56
EBWB-N	1mΩ	0.598 / 15.2	0.295 / 7.5	0.035 / 0.9
	2mΩ			0.018 / 0.45
	3mΩ			0.012 / 0.3

### Land Pattern



### Tape and Reel



Reel: ~12.95" (329mm)  
Qty. per reel: EBWA: 3000pcs  
EBWB: 2000pcs

### ORDERING INFORMATION

#### Standard Part Numbers

EBWA-MR0005FE  
EBWA-MR0010FE  
EBWA-NR0020FE  
EBWA-NR0030FE  
EBWA-NR0040FE  
EBWB-MR0002FE  
EBWB-MR0005FE  
EBWB-NR0010FE  
EBWB-NR0020FE  
EBWB-NR0030FE

RoHS Compliant

**EBWA - MR0020FE T**

Series	Size	Alloy	Resistance	Tolerance	Tape and reel
Electron Beam Weld		M = Manganin N = NiCr		F = 1% G = 2% J = 5%	EBWA: 3000 pc/reel EBWB: 2000 pc/reel