

E-Beam Welded Shunt 5216

EBW5216

Features:

- Electron-beam welded technology
- Low thermal EMF
- Low measurement inductance
- Robust copper terminals for busbar mounting
- AEC-Q200 qualified

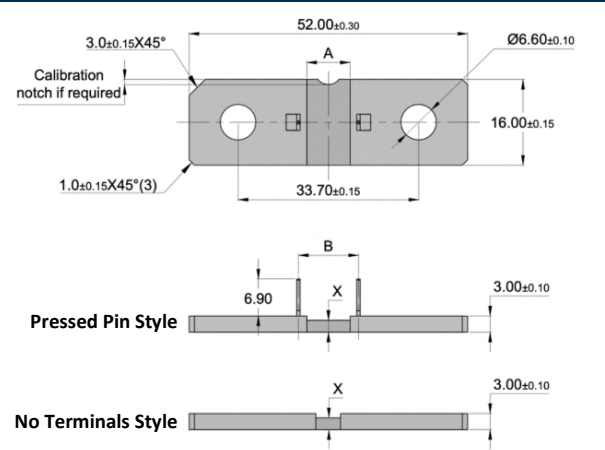


All parts are Pb-free and comply with EU Directive 2011/65/EU amended by (EU) 2015/863 (RoHS3)

Electrical Data

| | | EBW5216 |
|---------------------------|------------------|---------------------|
| Power rating at 70°C | W | 15 |
| Resistance range | $\mu\Omega$ | 50 to 100 |
| Resistance tolerance | % | 1, 3, 5 |
| TCR (resistive alloy) | ppm/°C | ± 20 |
| TCR (measurement) | ppm/°C | ± 150 |
| Standard values | $\mu\Omega$ | 50, 100 |
| Thermal EMF | $\mu V/^\circ C$ | <1 |
| Inductance (measurement) | nH | <5 |
| Surge energy capacity | J | L050: 60, L100: 120 |
| Ambient temperature range | °C | -65 to +170 |

Physical Data

| Dimensions in mm and weight in g | | | | |  |
|----------------------------------|-------------|-------------|-------------|--|--|
| Resistance Value ($\mu\Omega$) | A ± 0.5 | B ± 0.2 | X ± 0.2 | Wt. nom. | |
| 50 | 4.5 | 7.6 | 2.2 | UNT: 19.72 PNT: 19.74 UPP: 19.83 PPP: 19.85 | |
| 100 | 8.1 | 11.2 | 2.2 | UNT: 19.24 PNT: 19.26 UPP: 19.36 PPP: 19.37 | |

Construction

A manganese alloy resistance element is e-beam welded between two copper terminations.

Marking

The components are unmarked.

Plating

The component can be supplied with bare copper current terminals or with tin over nickel plating.

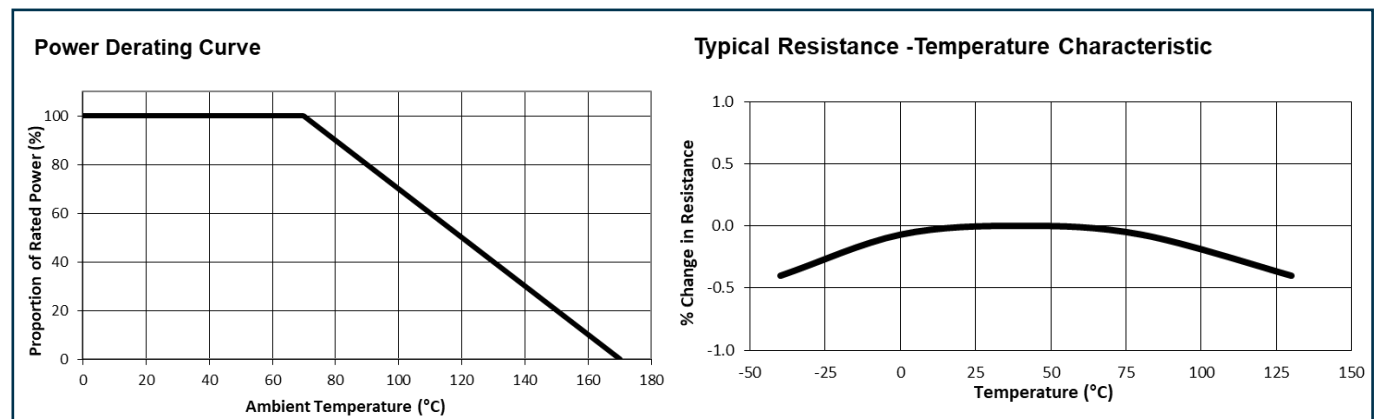
General Note

TT Electronics reserves the right to make changes in product specification without notice or liability. All information is subject to TT Electronics' own data and is considered accurate at time of going to print.

Performance Data

| Test | Methods | ±ΔR% max. |
|---------------------------|--|---------------|
| Load Life | 1000 hours, cyclic load at Pr | 1 |
| Short Term Overload | 5 seconds, 5 × Pr | 1 |
| High Temperature Exposure | 1000 hours, +170°C | 1 |
| Temperature Cycle | 1000 cycles, -55 to +150°C, 30 minute dwell | 0.5 |
| Low Temperature Storage | 24 hours, -65°C | 0.5 |
| Biased Humidity | 1000 hours, 85°C/85%RH, 10% of Pr | 0.5 |
| Moisture Resistance | MIL-STD-202 Method 106, no load | 0.5 |
| Vibration | MIL-STD-202 Method 204, 5g for 20 mins, 12 cycles, 10 - 2000Hz | 0.2 |
| Mechanical Shock | MIL-STD-202 Method 213, 100g for 6ms, half-sine | 0.2 |
| Resistance to Solder Heat | MIL-STD-202 Method 210, solder dip 260°C for 10s | 0.5 |
| Solderability | J-STD-002 | >95% coverage |

Thermal Performance



Packaging

EBW5216 shunts in No Terminals style are supplied bulk packed in vacuum sealed plastic bags of 100 pieces. Pressed Pin terminal style parts are tray packed. Recommended storage conditions for packed parts are: temperature 25 to 35°C, humidity 30 to 80% RH.

Ordering Procedure

Example: EBW5216PNT-L050JB (50 micro-ohms ±5%, plated, no terminals, bulk packed, Pb-free)

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| E | B | W | 5 | 2 | 1 | 6 | P | N | T | - | L | 0 | 5 | 0 | J | B |
| 1 | | 2 | | | 3 | 4 | 5 | | | 6 | 7 | | | | | |

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|------|------|-------------------------------|--|-----------------------------|-------------------------------|----------------------------|
| Type | Size | Finish | Sense Style | Value | Tolerance | Packaging |
| EBW | 5216 | P = Sn Plated U = Unplated | NT = No Terminals PP = Pressed Pins | L050 = 50μΩ L100 = 100μΩ | F = ±1% H = ±3% J = ±5% | B = Bulk T = Tray PP |