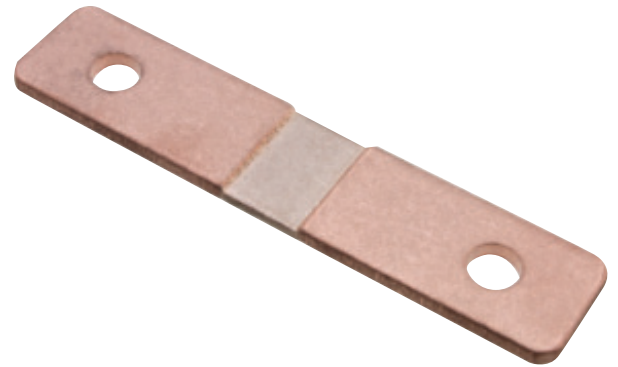


E-Beam Welded Shunt 8518

EBW8518

- 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

		EBW8518		
Power rating at 70°C	W	36		
Resistance range	$\mu\Omega$	50 to 250		
Resistance tolerance	%	50 $\mu\Omega$: $\pm 3, \pm 5$	100 $\mu\Omega$: $\pm 2, \pm 5$	>100 $\mu\Omega$: $\pm 1, \pm 5$
TCR (resistive alloy)	ppm/°C	± 10		
TCR (measurement)	ppm/°C	50 $\mu\Omega$: ± 150	>50 $\mu\Omega$: ± 100	
Standard values	$\mu\Omega$	50, 100, 125, 200, 250		
Thermal EMF	$\mu V/^\circ C$	<1		
Inductance (measurement)	nH	<5		
Ambient temperature range	°C	-65 to +170		

Physical Data Dimensions in mm and weight in g

Resistance Value ($\mu\Omega$)	A nom.	B ± 0.2	C ± 0.2	Wt nom.
50	4.6	7.7	2.2	40.2
100	9.1	12.2	2.2	39.5
125	10.5	13.5	2.0	39.0
200	16.5	19.7	2.0	38.0
250	21.0	24.2	2.0	37.2

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 or without Sn plating.

General Note

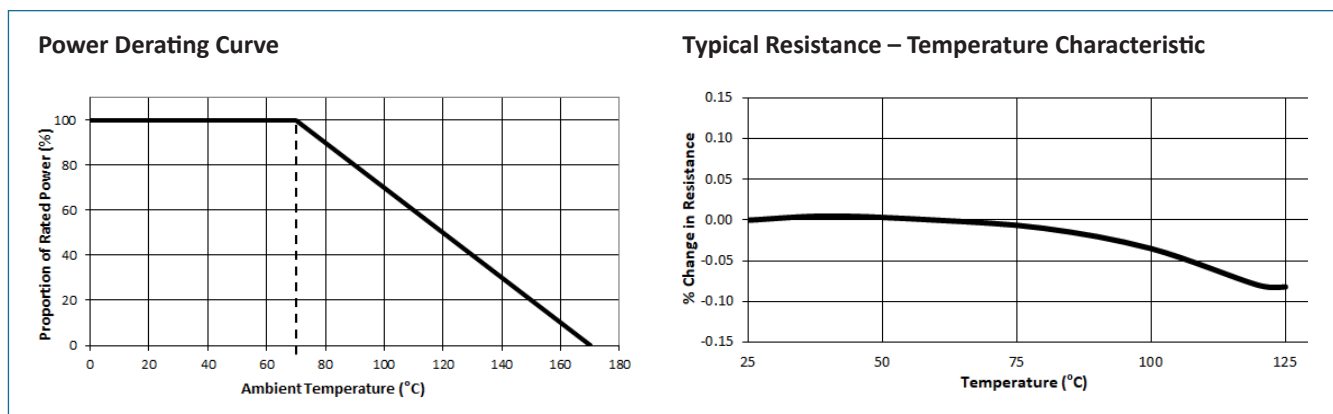
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EBW8518

Performance Data

Test	Method	±ΔR% max.
Load Life	1000 hours, cyclic load at Pr	1.0
Short Term Overload	5 seconds, 5 x Pr	1.0
High Temperature Exposure	1000 hours, +170°C	1.0
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



Voltage Sense Terminal Style

The following voltage sense terminal styles are examples of custom options which can be made available on request.

Voltage Sense Terminal Option	Style	Figure	Availability
No sense terminals	NT		Standard
Through hole Ø3.2mm	T2	1	Custom
Tapped hole M3 x 0.6	M3	2	
Tapped hole M4 x 0.7	M4	3	
“With dimple” location points	WD	4	
Dowel fit pins	DF	5	
Pressed pins	PP	6	
Stress-relief pins	SP		

General Note

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Voltage Sense Terminal Style

Figure 1 – Through Hole (T2 Style)

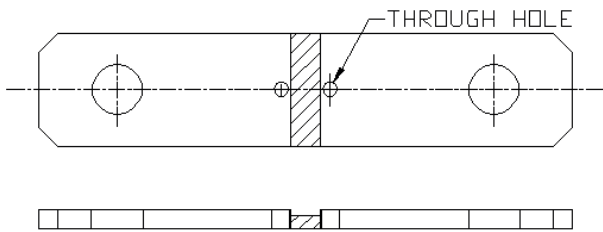


Figure 2 – Tapped Hole (M3 & M4 Style)

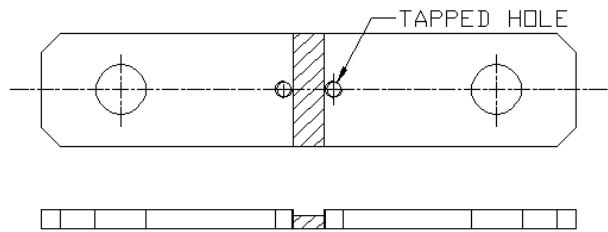


Figure 3 – With Dimple (WD Style)

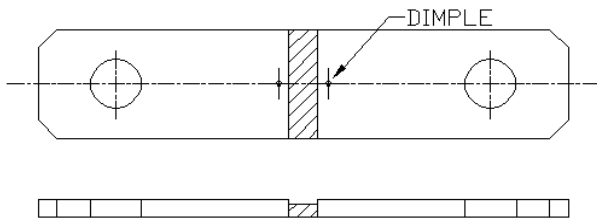


Figure 4 – Dowel Fit Pin (DF Style)

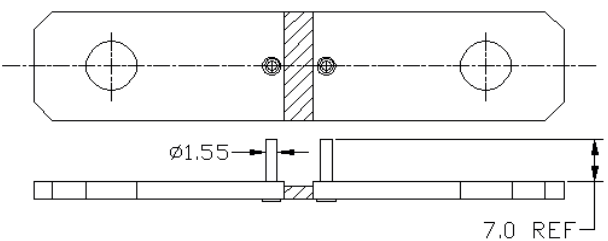
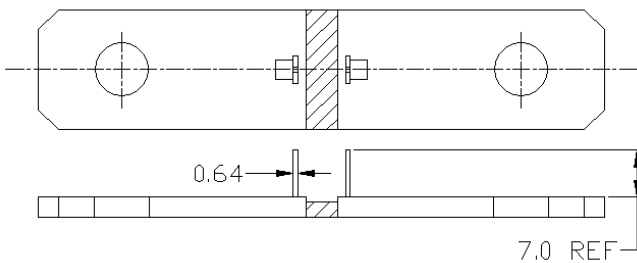


Figure 5 – Pressed Pin (PP Style)



PP Style Pin Detail

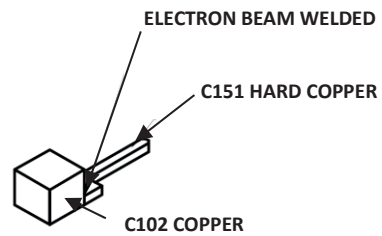
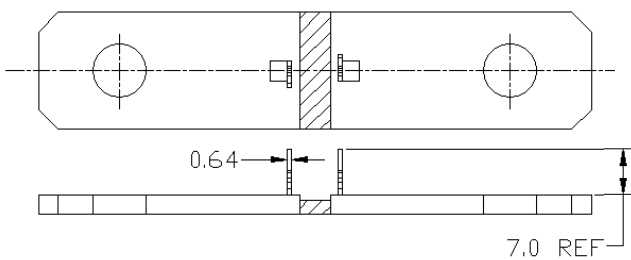
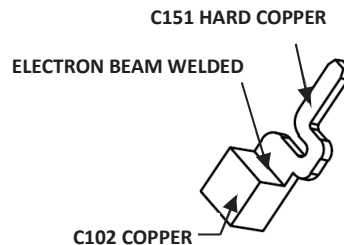


Figure 6 – Stress-relief Pin (SP Style)



SP Style Pin Detail



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EBW8518

Packaging

Standard EBW8518 shunts are supplied bulk packed in vacuum sealed plastic bags of 100 pieces. Custom voltage sense terminal styles may be tray packed.

Recommended Storage Conditions (packed):

Temperature 25°C to 35°C, humidity 30 to 80% RH.

Ordering Procedure

Example: EBW8518PNT-L050JB (50 micro-ohms $\pm 5\%$, plated, no sense terminals, bulk packed, Pb-free)

E	B	W	8	5	1	8	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	8518	P = Sn Plated	NT = No terminals	L050 = 50 $\mu\Omega$	F = $\pm 1\%$	(>100 $\mu\Omega$ only)	B = Bulk
		U = Un-plated	Request availability of custom styles	L100 = 100 $\mu\Omega$	G = $\pm 2\%$	(100 $\mu\Omega$ only)	
				L125 = 125 $\mu\Omega$	H = $\pm 3\%$	(50 $\mu\Omega$ only)	
				L200 = 200 $\mu\Omega$	J = $\pm 5\%$	All values	
				L250 = 250 $\mu\Omega$			

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