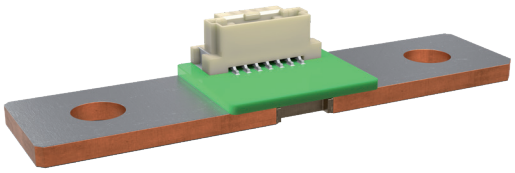
ISABELLENHÜTTE
Innovation by Tradition

ISA-WELD® // PRECISION RESISTORS

BSS // SIZE 8420 (METRIC)



Features

- Up to 30 W permanent power
- High pulse power rating
- High temperature measurement stability
- Shunt includes a Data Matrix Code (DMC) containing resistance value
- DMC-code with TCR information optional
- AEC-Q200 qualified

RoHS

Applications

- Current sensor for BMS (Battery Management Systems)
- Current sensor for ESS (Energy Storage Systems)

Technical data		**BSS-L100-001**	**BSS-L050-001**
Resistance values	**µOhm**	100	50
Resistance tolerance (manufactured)	**%**	5.0	
Resistance tolerance (measured)	**%**	DMC ± 0.1	DMC ± 0.2
Temperature coefficient (20-60 °C)	**ppm/K**	<50	<75
Applicable temperature range	**°C**	-40 to 125 (limited by connector)	
Power rating (nominal load, P_{nom})	**W**	20	30
Load for continuous / pulse operation*	**time**		
	continuous	±450 A	±600 A
	10 s	±600 A	±800 A
	1 s	±1,100 A	±1,500 A
	100 ms	±3,500 A	±3,600 A
Internal heat resistance (R_{thi})	**K/W**	2.0	1.5
Thermal EMF (30-60 °C)	**µV/K**	<0.6	
Inductance	**nH**	<3	
Maximum resistance drift at nominal load after 2,000h of continuous operation at maximum temperature T_{max} = 125 °C	**%**	<0.5	

Note: For calculation of the maximum derating terminal temperature (T_K) the following formula can be used: $T_K = T_{max} - (R_{thi} \times P_{nom})$.

*Sample loads. Please feel free to contact us in case of differing currents or pulse profiles.

Ordering code example

BSS - L100 - 001

- 001 — Version
- L100 — Resistance value [µOhm] / „L" represents decimal point in mOhm
- BSS — Type

Packaging information

Delivery in ESD plastic trays

15 pcs. per tray, 1,200 pcs. per batch

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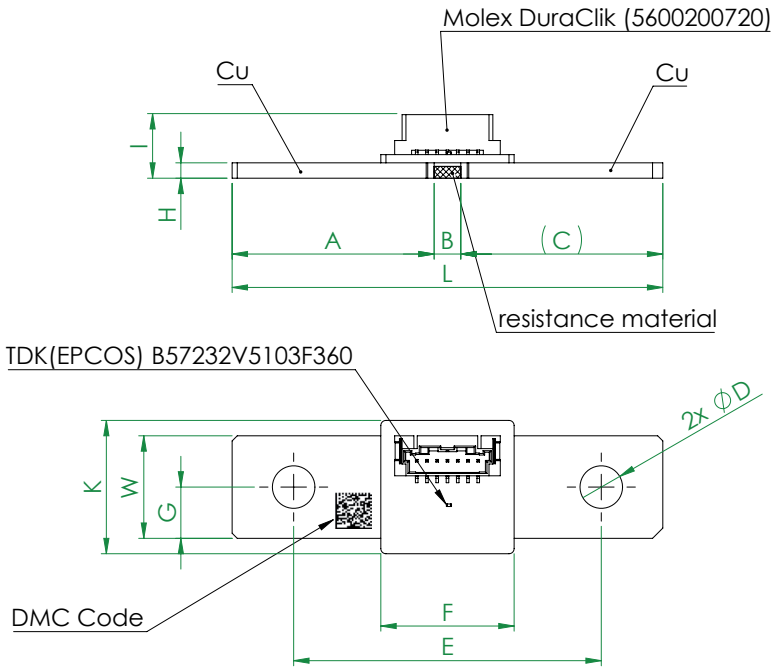
Mechanical specification [mm]



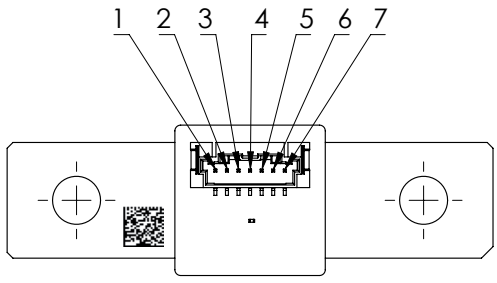
Type / Ordering code	A	B	C	D	E	F	G	H
BSS-L100-001	36.95 ± 0.3	10.1 ± 0.5	(36.95)	ø 8.3 ± 0.1	60 ± 0.2	26 ± 0.2	10 ± 0.2	3 ± 0.1
BSS-L050-001	36.95 ± 0.3	5.2 ± 0.3	(36.95)	ø 8.3 ± 0.1	60 ± 0.2	26 ± 0.2	10 ± 0.2	3 ± 0.1

Type / Ordering code	I	K	W	L	shunt plating	underlayer	alloy
BSS-L100-001	13 ± 0.5	22 ± 0.2	20 ± 0.2	84 ± 0.2	Sn	-	MANGANIN®
BSS-L050-001	13 ± 0.5	22 ± 0.2	20 ± 0.2	84 ± 0.2	Sn	-	MANGANIN®

PCB Specification

Type / Ordering code	Connector	Part no.	Orientation	Positions	NTC quantity	Receptacle
BSS-L100-001	Molex	5600200720	vertical	7	1	DuraClik / DuraClik TPA / DuraClik ISL
BSS-L050-001	Molex	5600200720	vertical	7	1	

PIN specification



Connector Pin	Signal
1	NTC+
2	R1+
3	R2+
4	R2-
5	R1-
6	NTC-
7	GND

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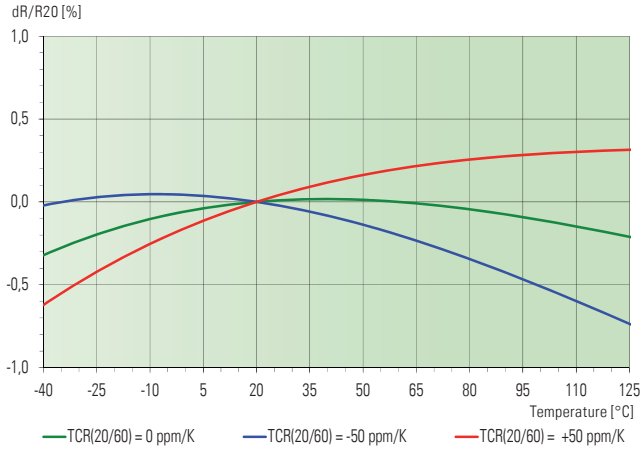
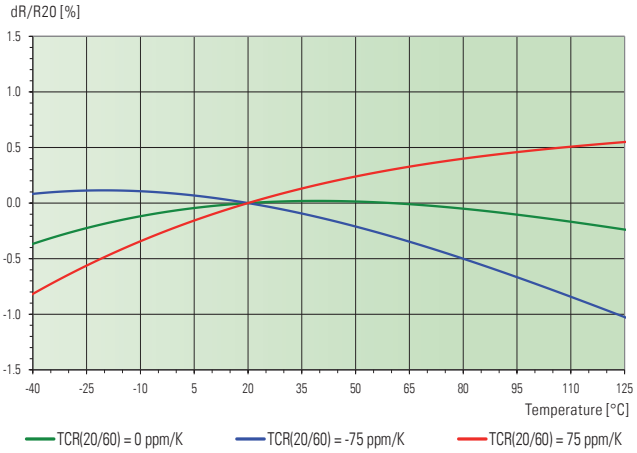
DMC specification (standard)

Name	Explanation	Start position	Number of Digits	Meaning	Code*
P	part number prefix	1	1	P	P
######	part number	2	21	161064	BSS-L100-001
:S	serial number Prefix	23	2	:S	:S
XXX	manufacturing plant code	25	3	Dillenburg	DIL
YY	manufacturing year (Gregorian calendar)	28	2	2022	22
JJJ	day of manufacturing (Gregorian calendar)	30	3	25.08.2022	237
######	starting consecutive number per month each	33	6	000013	000013
:R	resistance value prefix	39	2	:R	:R
######	resistance value in nano ohms	41	6	100005	100005

BSS-L100-001 Resistance Change with Temperature



BSS-L050-001 Resistance Change with Temperature



Power derating curve