



THE DATASHEET OF BAS-M-R0001-E-5.0

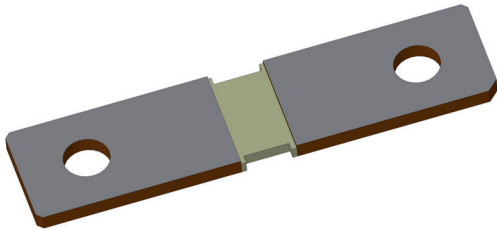




ISA-WELD® // PRECISION RESISTORS



BAS // SIZE 8420 (METRIC)



Features

- Up to 36 W permanent power
- Continuous current load up to 350 A (0.1 mOhm)
- High pulse power rating
- Max. fastening torque 10 Nm
- Shunt available with tinned or untinned terminals
- Further versions with various dimensions upon request
- AEC-Q200 qualified (automotive version "A")



Applications

- Current sensor for EBM (Electronic Battery Management) in motorcars, trucks, forklifts, hybrid and electric vehicles
- Current sensing in bus bars
- Current sensing in welding equipments

Technical data

Resistance values	mOhm	0.035 / 0.05 / 0.1 / 0.2 / 0.5
Tolerance	%	5
Temperature coefficient (20-60 °C)	ppm/K	50
Applicable temperature range	°C	-40 to +170
Power rating	W	up to 36*
Internal heat resistance (R_{thi})	K/W	see table on page 2
Thermal EMV (0-100 °C)	µV/K	0.6 (MANGANIN®) / 1 (ZERANIN®30)
Inductance	nH	<3
Stability (Nominal load) deviation after 2,000h		<0.5% ($T_K = 110\text{ °C}$)
T_K = Terminal temperature		<1.0% ($T_K = 140\text{ °C}$)

*see table on page 2

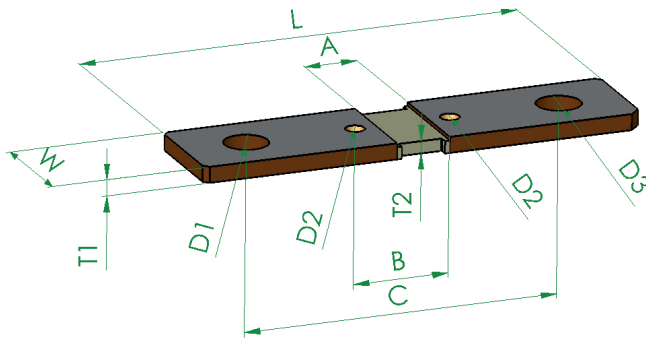
Packaging Information

140 pcs. per tube for automotive version „A“

100 pcs. sealed in plastic bags evacuated and refilled with dry nitrogen for non automotive version



Mechanical dimensions [mm] // Z-YJ-328a



type	A	B	C	D1	D2	D3	L	T1	T2	W
BAS-M-R0001-E-5.0	10.1±0.5	-	60±0.2	∅8.3±0.1	-	∅8.3±0.1	84±0.2	3±0.15	2.3±0.2	20±0.1
BAS-M-R0001-AE-5.0	10.1±0.5	-	60±0.2	∅8.3±0.1	-	∅8.3±0.1	84±0.2	3±0.15	2.3±0.2	20±0.15
BAS-M-R0001-L-5.0	10.1±0.5	-	51±0.2	∅8.3±0.1	-	∅8.3±0.1	68±0.2	3±0.15	2.3±0.2	20±0.1
BAS-M-R0001-R-5.0	10.1±0.5	18.2±0.1	60±0.2	∅8.3±0.1	3.62±0.08	∅8.3±0.1	84±0.2	3±0.15	2.3±0.2	20±0.1
BAS-M-R0005-AE-5.0	5.2±0.3	-	60±0.2	∅8.3±0.1	-	∅8.3±0.1	84±0.2	3±0.15	2.3±0.2	20±0.15

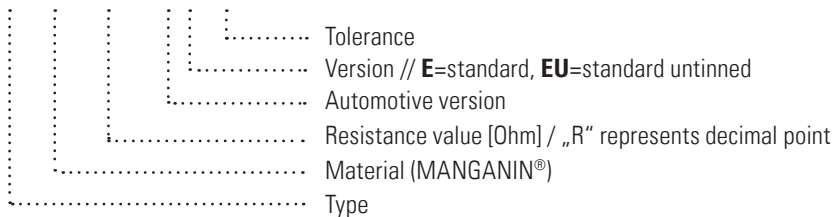
Further versions available

Type	Value [mΩ]	R _{thi} [K/W]	TCR [ppm/K]	P _{70 °C}	P _{140 °C}
BAS-Z-R000035	0.035	1.0	100	36 W	30 W
BAS-M-R00005	0.05	1.5	100	36 W	20 W
BAS-M-R0001	0.1	2.0	50	36 W	15 W
BAS-M-R0002	0.2	3.0	50	24 W	10 W
BAS-M-R0005	0.5	7.0	50	10 W	4 W

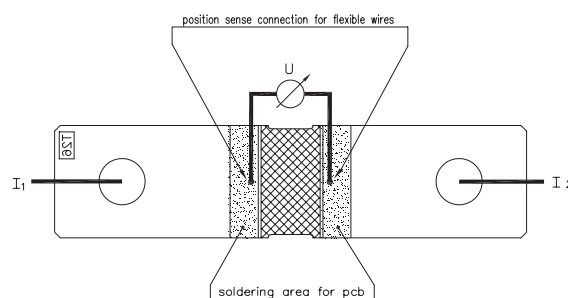
Abbreviation type: M=MANGANIN®, Z=ZERANIN®30

Ordering code example

BAS - M - R0001 - A E - 5.0



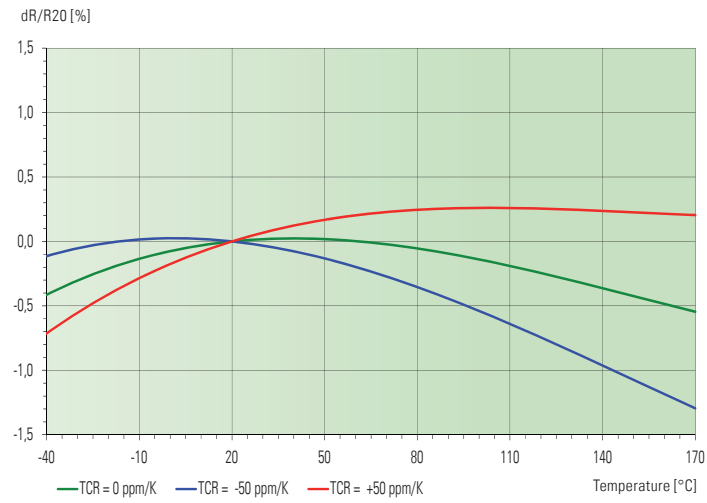
Connection diagram



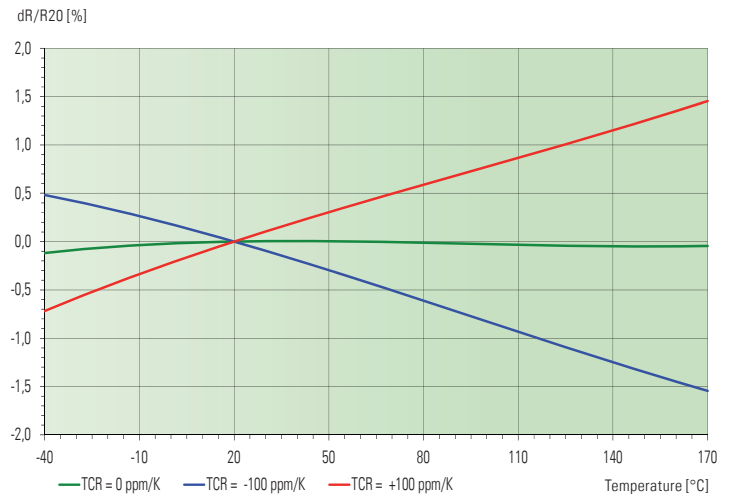
Z-DR-159a



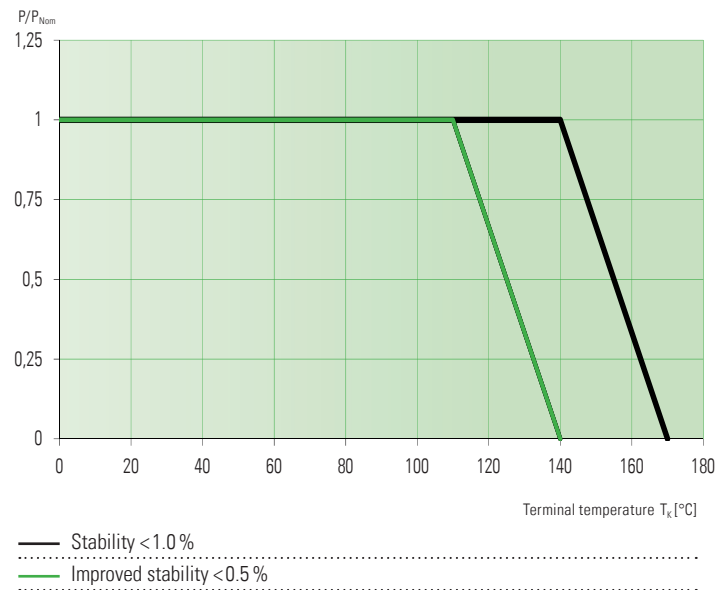
Temperature dependence of the electrical resistance of MANGANIN® resistors



Temperature dependence of the electrical resistance of ZERANIN® resistors



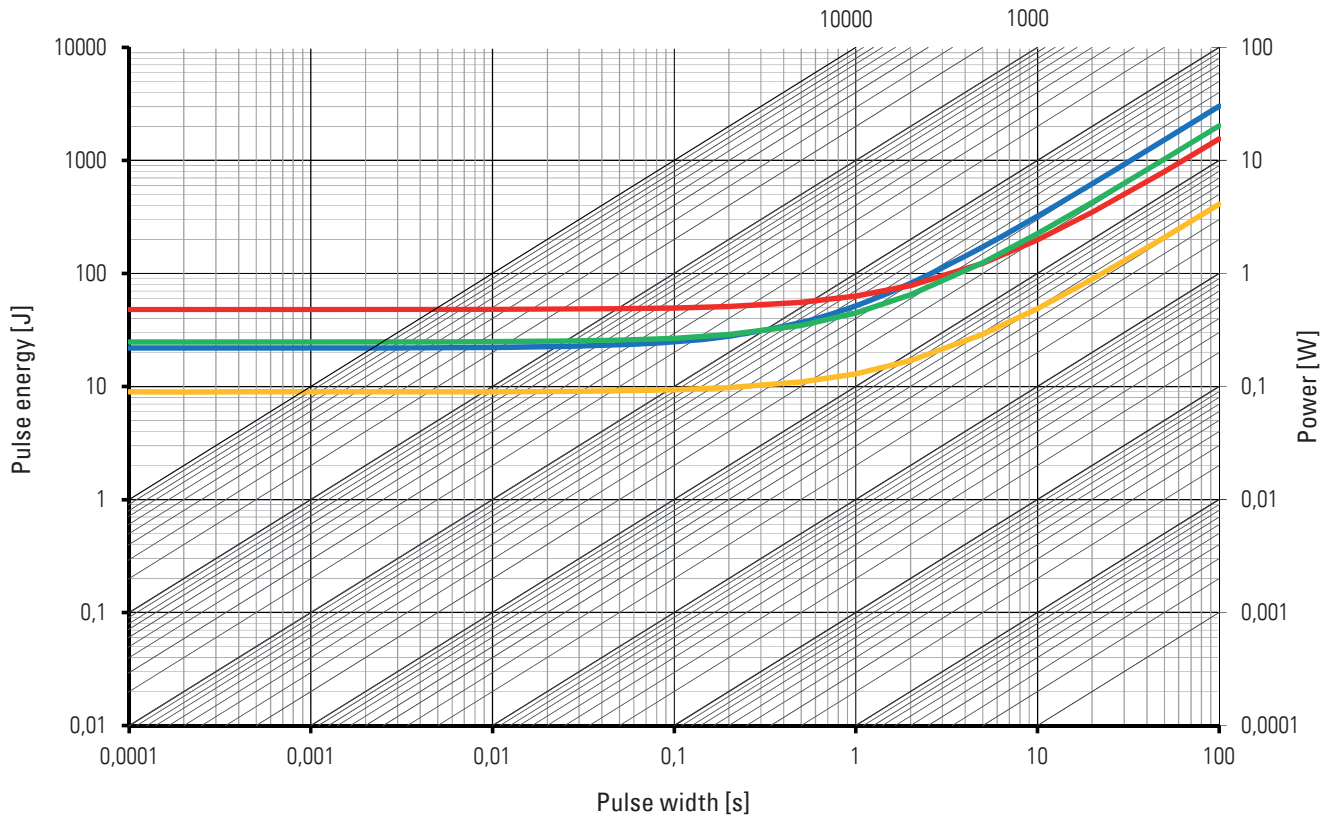
Power derating curve





Maximum pulse energy respectively pulse power for permanent operation (TK=140°C)

BAS-Z-R00035, **BAS-M-R00005**, **BAS-M-R0001**, **BAS-M-R0005**



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