

MNRS Series

Power Shunt Resistor



- Resistances from 0.2 mOhm to 4 mOhm
- Power Rating up to 7 Watts
- Resistance Tolerances to $\pm 1\%$
- TCR's to ± 50 ppm/ $^{\circ}\text{C}$
- Excellent long-term stability
- Non-Inductive Metal Element
- Flame Resistant all metal construction
- Suitable for Pulse Applications

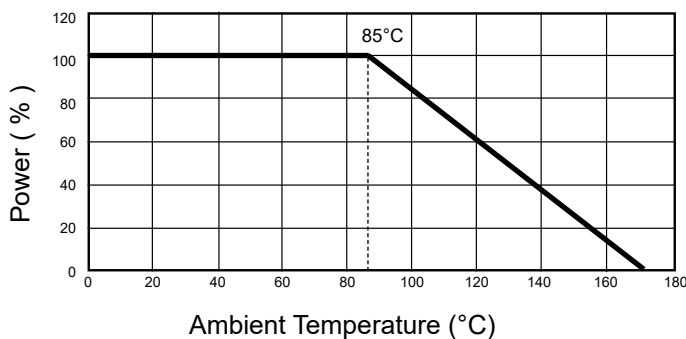


Power Modules
Frequency Converters
Engine Controls

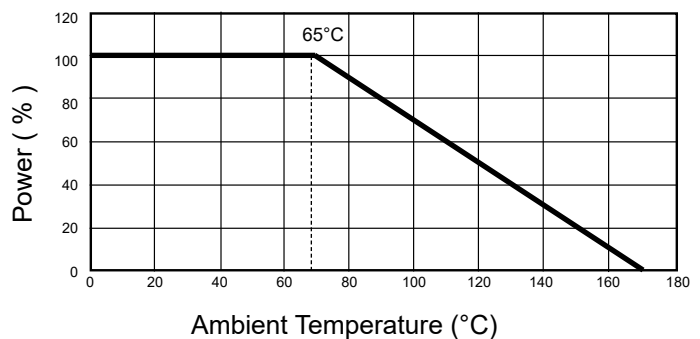
SPECIFICATIONS

Type	MNRS1050	MNRS1575
Power Rating (W)	up to 5W (see table below)	up to 7W (see table below)
Resistance Range (m Ω)	0.5,1,2, 3, 4	0.2,0.5,1, 2, 3
Temperature Coefficient (depending on ohmic value)	$\pm 50 / 60 / 75 / 100 / 120$ ppm	
Max Current (A)	Must not exceed max power rating using Ohm's Law	
Operating Temperature Range	$-55^{\circ}\text{C} - +170^{\circ}\text{C}$	
MAX Operating Voltage	$\sqrt{P \cdot R}$	
Tolerances (depending on ohmic value)	1% / 2% / 5%	
Moisture Sensitivity	MSL-2a	

Power Derating 1050



Power Derating 1575



Ordering Information

Part Description: Part Type - Resistance - Tolerance - TCR - Packaging

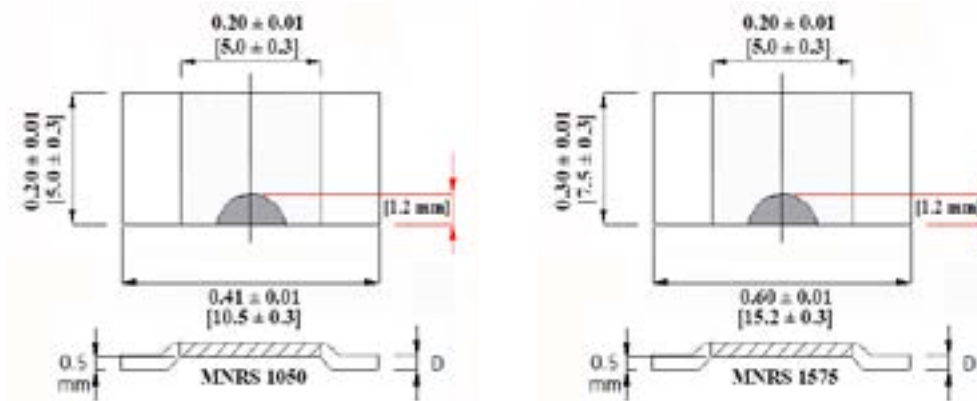
Example: MNRS1575 3mOhm 1% 100ppm

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Power Shunt Resistor



Specifications



Type	Value	Power Rating	Material	D (in) [mm]	TCR	Mass
MNRS1050	0.5mΩ	5W	Manganin	0.034± 0.002 [0.88 ± 0.05]	75PPM	360mg
MNRS1050	1mΩ	4W	Manganin	0.017± 0.002 [0.43 ± 0.05]	60 PPM	200mg
MNRS1050	2mΩ	4W	NiCr Alloy	0.025± 0.002 [0.64 ± 0.05]	100 PPM	190mg
MNRS1050	3mΩ	3W	NiCr Alloy	0.017 ± 0.002 [0.43 ± 0.05]	100 PPM	180mg
MNRS1050	4mΩ	2.5W	NiCr Alloy	0.013 ± 0.002 [0.32 ± 0.05]	100 PPM	160mg
MNRS1575	0.2mΩ	7W	Manganin	0.059 ± 0.002 [1.50 ± 0.05]	50 PPM	1430mg
MNRS1575	0.5mΩ	6W	Manganin	0.022 ± 0.002 [0.56 ± 0.05]	100 PPM	610mg
MNRS1575	1mΩ	6W	NiCr Alloy	0.035 ± 0.002 [0.90 ± 0.05]	120 PPM	330mg
MNRS1575	2mΩ	4W	NiCr Alloy	0.018 ± 0.002 [0.45 ± 0.05]	120 PPM	410mg
MNRS1575	3mΩ	3.5W	NiCr Alloy	0.012 ± 0.002 [0.30 ± 0.05]	120 PPM	320mg

Test	Specification	Test Method
Short Time Overload	±0.2%	5x rated power for 5 seconds
Endurance	±1.0%	Power rating 90 min. "ON", 30 min. "OFF" for 2000 hours
Moisture Resistance	±0.2%	90 ~ 98%RH, +25°C, +65°C, -10°C, 10 cycles
High Temperature Exposure	±0.2%	140°C for 250 hours
Resistance to Soldering Heat	±0.2%	350°C for 30 seconds or 250°C for 10 min.
Vibration, High Frequency	±0.2%	15g 10~2000Hz, 36 cycles
Inductance	<3nH	-
Thermal Shock	±0.1%	-65°C, 25°C, 125°C, 25°C, 25 cycles