

High Power Precision Shunt Resistor, Up to 500W



RoHS
COMPLIANT



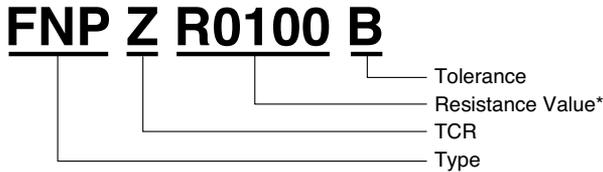
- CAUTION** — tighten screws at
- current terminals: <math>< 5.2\text{N} \cdot \text{m}</math>
 - voltage terminals: <math>< 0.0195\text{N} \cdot \text{m}</math>

CONSTRUCTION OF MATERIALS

- Base plate: Nickel-plated Copper
- Current terminal: Nickel-plated Copper (T = 1.0 mm)
- Voltage and Pt terminals: Nickel-plated Copper (T = 0.5 mm)
- Package: PPS Injection-molded case

COMPOSITION OF TYPE NUMBER

Example:



* R is a dual-purpose letter that designates both the value range (R for ohmic) and the location of decimal point.

TCR – RESISTANCE VS. TOLERANCE

Tolerance of Built-in Pt100 Sensor:
 $\pm[0.8 + 0.008(t)]^{\circ}\text{C}$

TCR (ppm/°C)	Resistance Range (Ω)	Tolerance (%)	Rated Power (W)
0 ±1 (Z) 0 ±2.5 (Y) (+25°C to +60°C)	0.001 to 10**	±0.05 (A) ±0.1 (B) ±0.5 (D) ±1.0 (F)	500 (on heat sink*)
0 ±5 (X) (-25°C to +125°C)			

* Keep temperature of element surface less than 125°C.
** Please contact us for higher resistance value

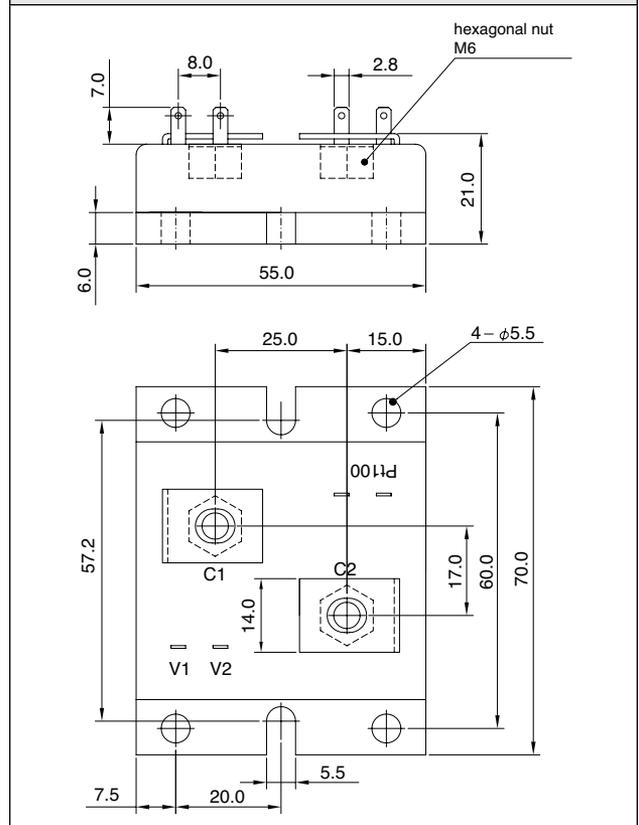
FEATURES

- Temperature coefficient of resistance (TCR)
 - +25°C to +60°C, +25°C ref.: 0 ±1 ppm/°C
 - 25°C to +125°C, +25°C ref.: 0 ±5 ppm/°C
- Utilizing Ni-Cr Bulk Metal® Foil Technology for realizing low TCR
- Low thermal resistance with Copper plate
 - Improved to 0.1°C/W from 0.3°C/W (conventional model)
 - Maximum rated power up to 500W on heat sink
- Extended max. ambient temperature to 125°C (85°C with conventional model)
- Built-in Pt100 sensor monitor temperature of resistive element
 - Easily define size of suitable heat sink
 - As safety function for continuous operation

APPLICATIONS

- Output reference of precision power supply
- Reference of charge-discharge test for high capacity batteries

CONFIGURATION – Dimensions in mm



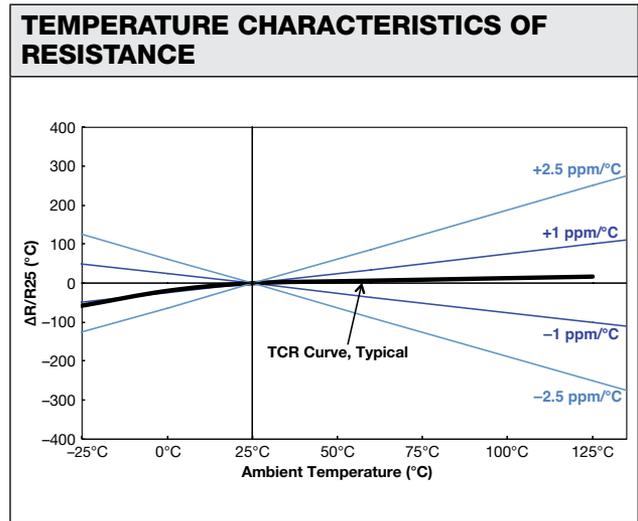
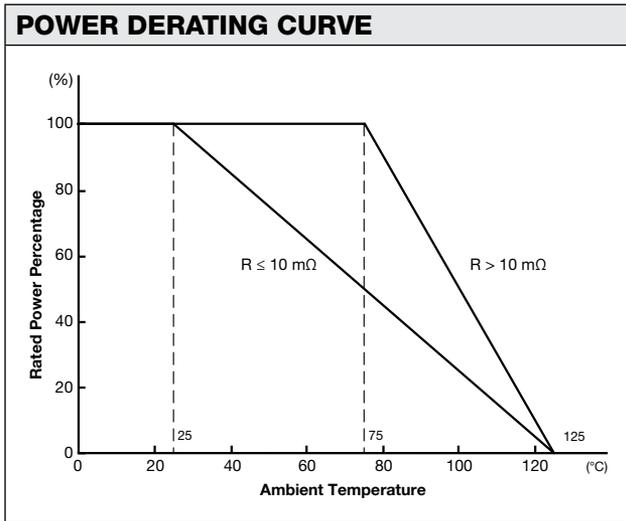
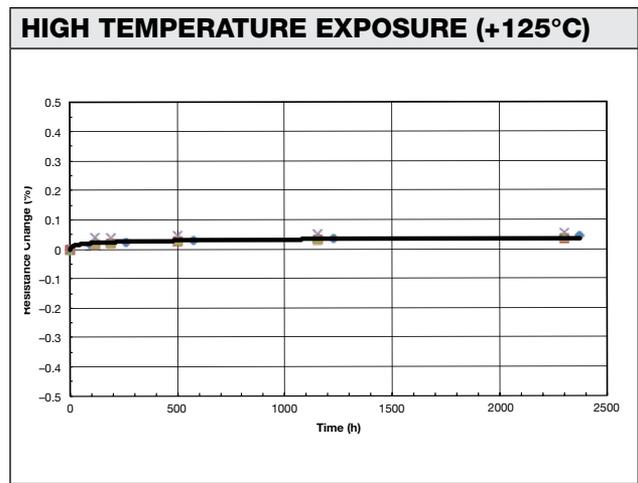
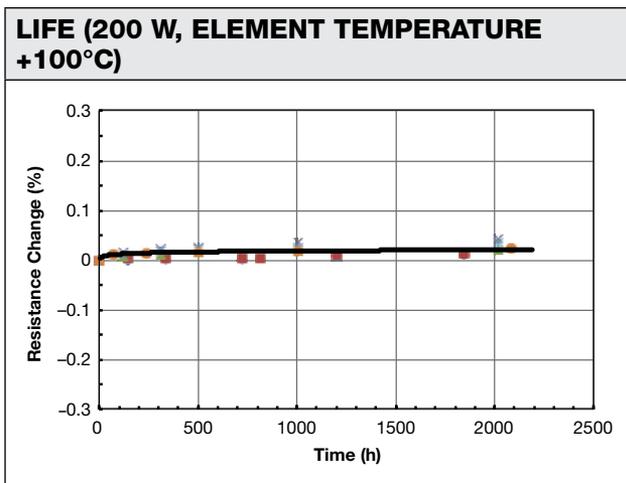


TABLE 2 – PERFORMANCE	
PARAMETERS	SPECIFICATION
Maximum Rated Operating Temperature	25°C ($R \leq 10 \text{ m}\Omega$) 75°C ($R > 10 \text{ m}\Omega$)
Working Temperature Range	-55°C to +125°C
Maximum Working Current	320 A
Single Pulse Power Load	50 J ($t_p < 10 \text{ msec}$)
Dielectric Withstanding Voltage	AC 500 V
Inductance	<10 nH
Internal Thermal Resistance (element/base plate)	$R_{\theta} < 0.1^\circ\text{C/W}$ ($R > 10 \text{ m}\Omega$) $R_{\theta} < 0.2^\circ\text{C/W}$ ($R \leq 10 \text{ m}\Omega$)
Life (200 W, Element Temperature 100°C)	$\pm 0.2\%$ (2000 h)
High Temperature Exposure (125°C)	$\pm 0.2\%$ (2000 h)



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