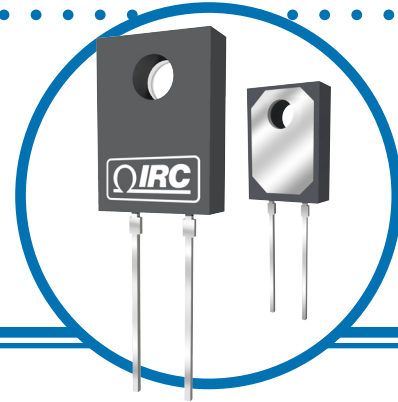


MHP20S TO-126 Series Power Resistor



MHP20S Series

- TO-126 housing
- Low inductance (<50nH)
- Power dissipation up to 20W
- High stability film resistance elements
- RoHS compliant



IRC's TO-126 power film resistors satisfy demanding applications for accurate and stable power resistors housed in the convenient TO-126 case.

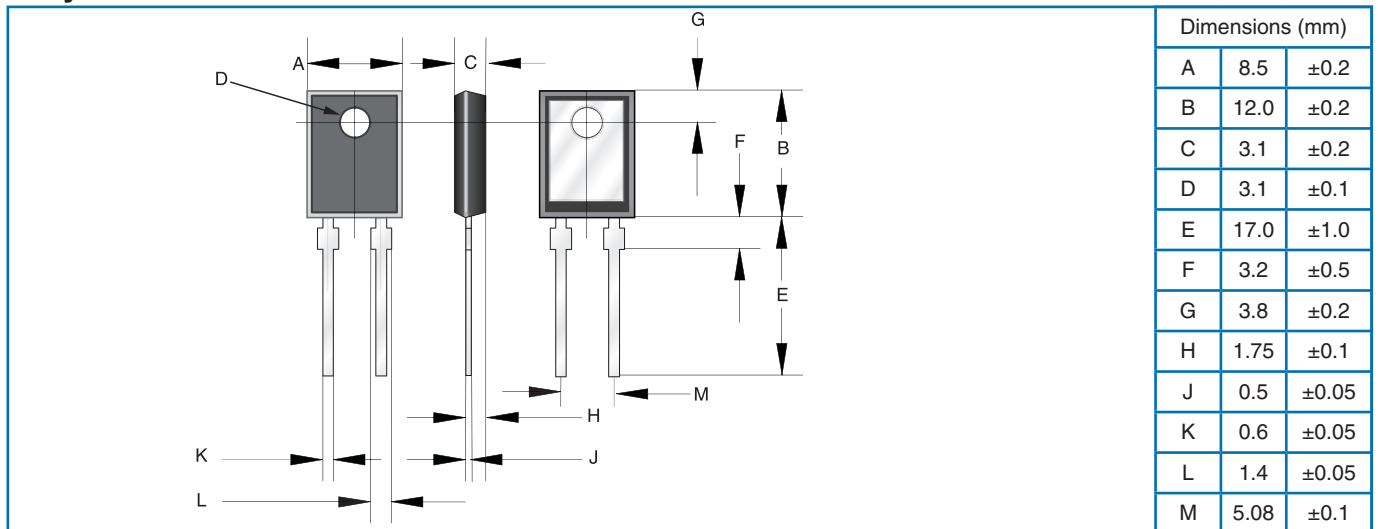
The resistance element is isolated from the mounting tab by an alumina ceramic layer, providing high thermal conductivity and excellent insulation resistance between terminals and tab. The low inductance design makes these products especially useful in high frequency and high speed pulse applications.

Specification Data

TypePower	Power Rating ¹		Voltage Rating ⁴	Thermal Resistance	Resistance Range (Ω)	Tolerances	Preferred Values	Temperature Coefficient
	Heatsink ²	Free Air ³						
MHP20SLF	20W	1W	500	5.9°C/W	0.01 - 0.09	±5%	E6	±250ppm/°C
MHP20SLF	20W	1W			0.1 - 51K	±1%, ±5%	E24	±100ppm/°C

¹Maximum current 25 amps
²Power rating based on 25°C case temperature
³Power rating based on 25°C ambient temperature
⁴Maximum voltage or $\sqrt{P \times R}$

Physical Data



General Note
 IRC reserves the right to make changes in product specification without notice or liability. All information is subject to IRC's own data and is considered accurate at time of going to print.

Advanced Film Division • 4222 South Staples Street • Corpus Christi Texas 78411 USA
 Telephone: 361 992 7900 • Facsimile: 361 992 3377 • Website: www.ircct.com



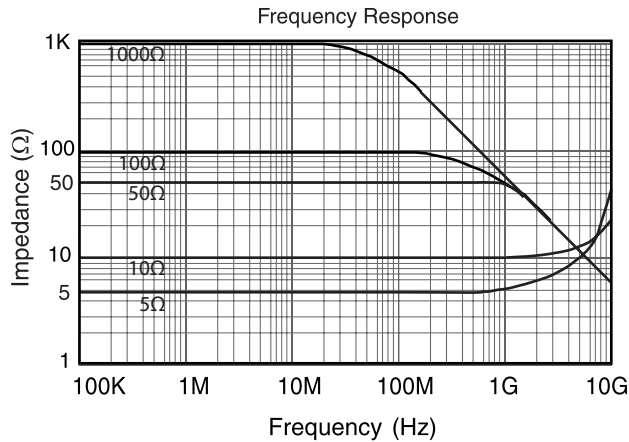
A subsidiary of
 TT electronics plc

MHP20S Series Issue July 2008

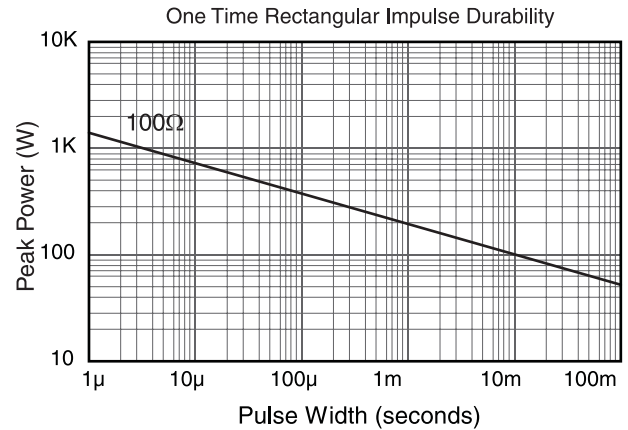
MHP20S Series TO-126 Power Resistor



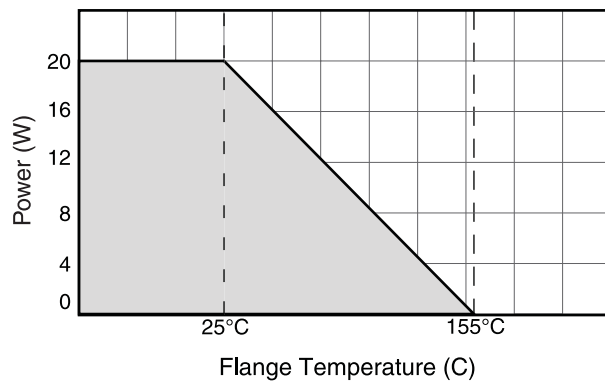
Frequency Response Data



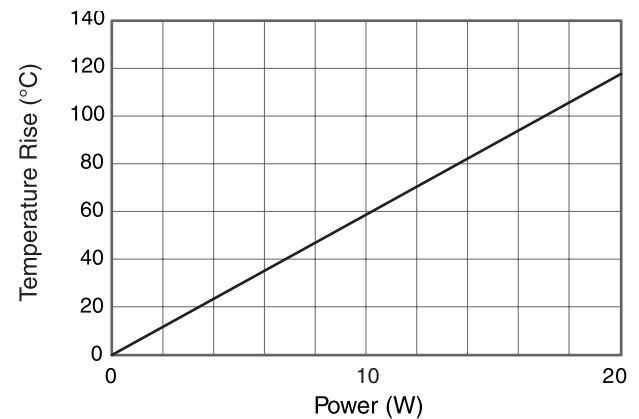
Pulse Power Data



Power Derating Data



Temperature Rise Data



Environmental Data

Item	Test Conditions	Specification - Performance
Operating Temperature Range		-55°C to 155°C
Dielectric Withstanding Voltage	60 seconds, between leads connected together and metal back plate	2000VDC
Load Life	25°C, 90 min. ON, 30 min. OFF, 1000 hours	$\Delta R \pm 1.0\% + 0.05\Omega$
Moisture Resistance	40°C, 90-95% RH, DC 0.1W, 1000 hours	$\Delta R \pm 1.0\% + 0.05\Omega$
Solderability*	230 ± 5°C, 3 sec.	>75% coverage
Insulation Resistance	Between leads and metal back plate	> 1000MΩ
Vibration	IEC60068-2-6	$\Delta R \pm 0.25\%$

* During soldering, the soldering temperature profile must not cause the metal back plate of this device to exceed 220°C

MHP20S Series TO-126 Power Resistor



Ordering Data

Prefix **TFP** - **MHP20SLF** - **1R50** - **J**

Style

Resistance Code

4-digit resistance code.
Ex: 10R0 = 10Ω, 1K00 = 1KΩ

Tolerance Code

J = ±5%; F = ±1%

Packaging

Standard packaging is RoHS PS/PE tube packaging (60 pieces per tube).

Application Notes:

1. Insulating material is unnecessary between the heat sink and the tab as the resistor film is insulated by the internal alumina substrate.
2. When mounting with a fastener, thermal grease is recommended.
3. Thermal design should satisfy the following equation: Case Temperature (T_c) + [Thermal Resistance (R_{θJC}) x Power applied (Watts)] ≤ 155°C over the full operating temperature range of the application.
4. Leads are lead free. Internal connections contain Pb that are exempted under RoHS directive 2002/95/EC, exemption 7.