THICK-FILM POWER RESISTORS

AXP-A-150

Electrical specifications and circuit configurations

150 W at 70 °C bottom case

Non-inductive planar power resistor in a molded SOT-227 package. Two terminal styles and six circuit configurations are available.



Technical ratings

PARAMETER	SPECIFICATION
Rated power	150 W at 70 °C bottom case
Resistance range	0.5 Ω to 1 MΩ
Resistance tolerance	±1% to ±10%
Temperature coefficient	±50 to ±250 ppm/°C
Operating temperature	−55 °C to +155 °C
Max. operating voltage	500 V DC
Dielectric strength	5 kV DC / 3 kV AC
Capacitance to case	36 pF
Parallel capacitance	12 pF
Inductance	≤50 nH
Package	SOT-227
Base plate mounting	M4 screw · max. 1.3 N·m
Terminal C lead length	100 mm standard
Weight	Approx. 18 g

TCR: +25 °C to +105 °C, referenced to +25 °C.

S and U versions and higher dielectric strength are available on request. The U version is untrimmed.

Other terminal C lead lengths are available on request.

Reliability tests

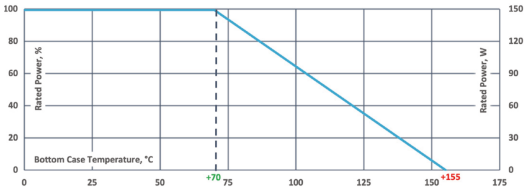
Load life · 1,000 h at rated power, bottom case 70 °C · $|\Delta R| \le 1.0\% R + 0.001\ \Omega$

Moisture resistance · 56 days at 40 °C, RH ≥95% · $|\Delta R| \le 0.25\% R + 0.001\ \Omega$

Thermal shock · −40 °C to +125 °C, 5 cycles · $|\Delta R| \le 0.25\% R + 0.001\ \Omega$

High-frequency vibration · MIL-STD-202, method 204, condition D · $|\Delta R| \le 0.2\% R + 0.001\ \Omega$

Power derating



1.76 W/K · 0.57 K/W. In open air at 25 °C without a heatsink: 3.5 W.

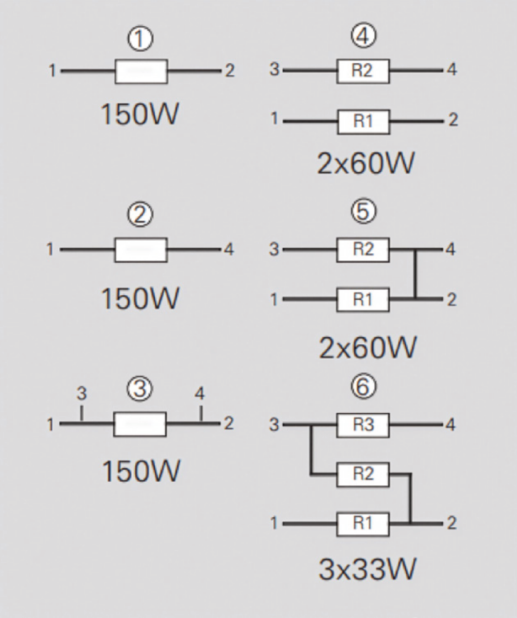
S and U versions are rated up to 1,500 V. S uses special trimming. U is untrimmed with higher pulse capability.

Ordering example

Model / configuration / terminal type / resistance / tolerance

AXP-A-150-2-C 50R 5%

Circuit configurations

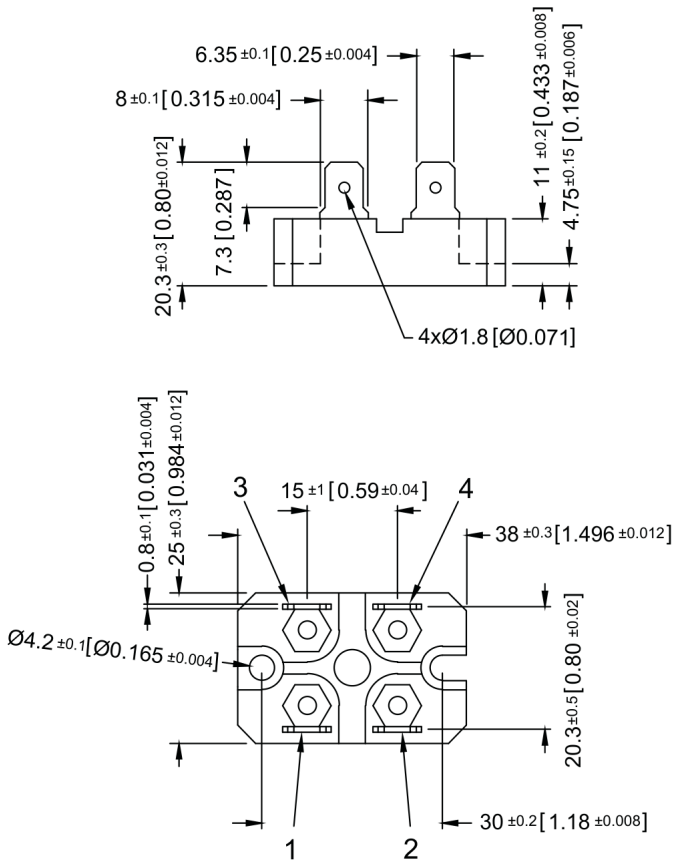


Configuration 5: resistance between contacts 2 and 4 is approximately 3 mΩ.

AXP-A-150

Terminal drawings and mounting dimensions

Terminal B · mm [inches]

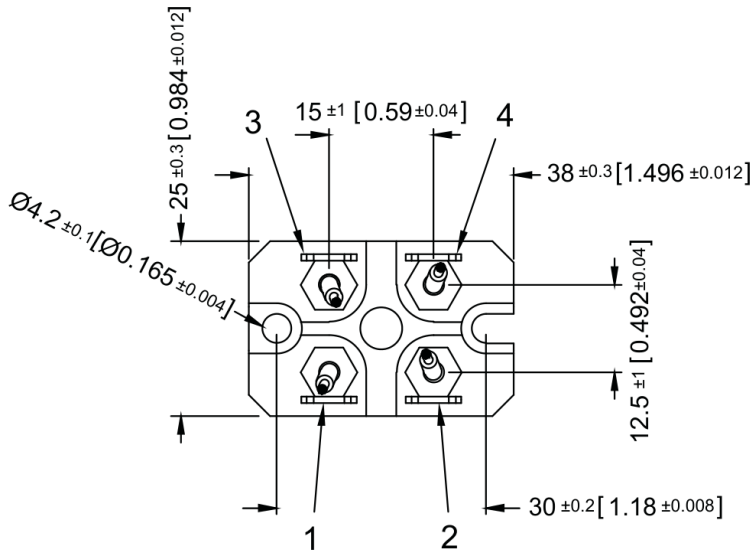


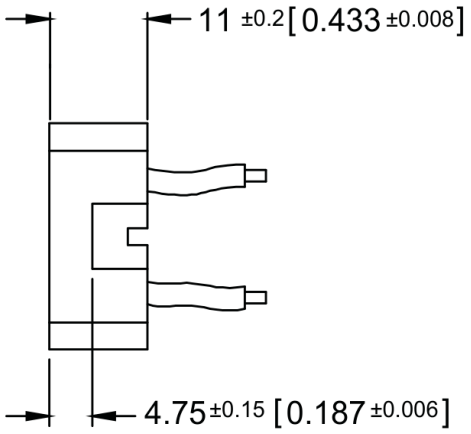
Insulation distances

TERMINALS	CLEARANCE	CREEPAGE
#1–#2 / #3–#4	≥7 mm	≥10 mm
#1–#3 / #2–#4	≥19 mm	≥23 mm
#1–#4 / #2–#3	≥20 mm	≥26 mm
Terminal to board	≥11 mm	≥13 mm

Insertion-type terminals reduce the listed distances by 1 mm.

Terminal C · mm [inches]





Other terminal C lead lengths are available on request.