ISOA Thick Film Power Resistor

High Energy, Power Capabilities, and Thermal Monitoring for Applications Requiring Multi-Pulse Handling

AUTOMOTIVE GRADE

ADVANTAGE

Competitive high power and high energy handling AEC-Q200 qualified resistor in a small SOT-227 package.

KEY PRODUCT FEATURES

- ✓ AEC-Q200 qualification
- ✓ High energy capability up to 110 J / 0.1 s qualified pulse trains: 230 J / 670 ms for 3k cycles / 350 J / 1060 ms for 5k cycles
- ✓ Optional NTC thermistor integrated in the ISOA package available (two terminations for resistor / two terminations for NTC)

MARKETS AND APPLICATIONS

MOBILITY

- Active discharge, precharge, and passive discharge (DC-Link capacitor discharge during car switching OFF)

ENERGY SECTOR

- HVDC light

INDUSTRIAL

- Power conversion and snubber

DID YOU KNOW...

The ISOA thick film power resistor with an optional NTC thermistor and PC-TIM simplifies designs, saves board space, and lowers costs.

RESOURCES

Order Samples | Product Page | Contact Us | Application Notes | Application Notes | 3D Models

ADDITIONAL BENEFITS

- High power dissipation capability: ISOA can dissipate up to 120 W
- The ISOA can be delivered with pre-applied phase change thermal interface material in order to help streamline installation in production
- SOT-227 without metal tab is compact and low profile. The ISOA can include two resistors in one package

AEC-Q200 Testing for ISOA

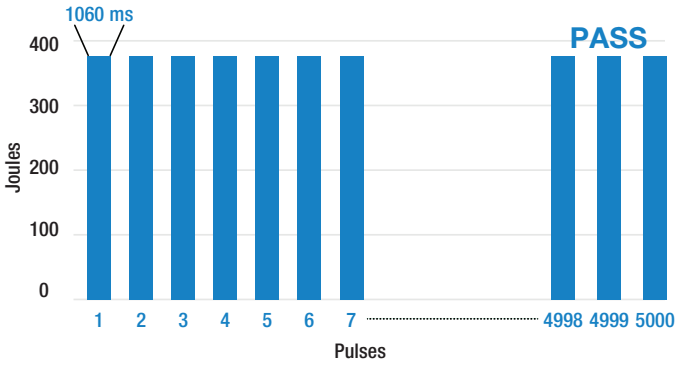
Tests	Conditions
High temperature exposure	MIL-STD-202 method 108 Condition: 1000 h at T = 155 °C. Unpowered
Temperature cycling	JESD22 method JA-104 1000 cycles (-55 °C to +125 °C)
Biased humidity	MIL-STD-202 method 103 Condition: 1000 h 85 °C / 85 % RH, 10 % of operating power 10 W
Operational life	MIL-STD-202 method 108 Condition: D steady state TA = 85 °C of bottom case at rated power 120 W 90' On / 30' off / 1000 h
ESD	AEC-Q200-002 Condition: 6 kV to 25 kV
Vibration	MIL-STD-202 method 204 Condition B: 10 g's for 20 min for 1 cycle, 12 cycles each of 3 orientations (total of 36). Test from 10 Hz to 2000 Hz
Mechanical shock	MIL-STD-202 method 213 Fig. 1 Condition C: 100 g's/6 ms 3.75 m/s 3 shock/direction, 2 directions along 3 axes (18 shocks)
Terminal strength (leaded)	MIL-STD-202 method 211 Test leaded device lead integrity only. Conditions: A (2.27 kg)

Pulse capabilities

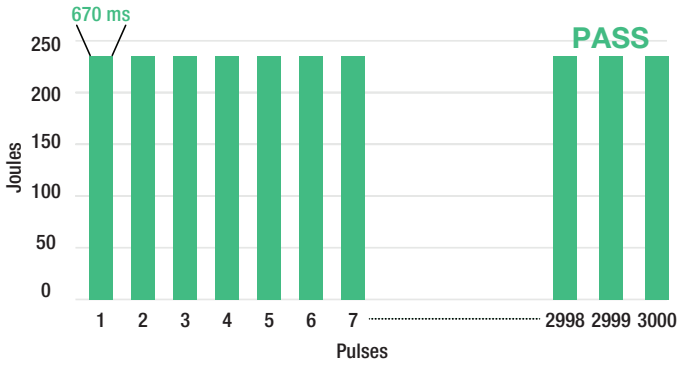
Multi-pulse testing and reliability is critical for long term safety.

Vishay can custom-build some tests if necessary. The ISOA has passed below pulse trains: 230 J / 670 ms for 3k cycles and 350 J / 1060 ms for 5k cycles.

Long Pulse Handling



Short Pulse Handling



Superior performance and options make the ISOA an ideal choice for critical automotive power applications that require long term stability and safety monitoring. Please **contact us** if you need R&D support on precharge / discharge applications.