

Features

- Protects From Load Switching In AC Applications
- For 120Vac, 240Vac and 440Vac Circuits
- Fits Terminal Spacing on Most IGBTs
- Fast Clamping – Subnanosecond

These devices will protect your IGBT in applications where it is used in overload protection or switching ac loads. Transient voltages produced when switching occurs in the positive one-half of the cycle are clamped below the destruct level of the IGBT. Unique low inductance shunt path virtually eliminates L(di/dt) effects. Available as screened device for high reliability applications. Includes burn-in and environmental tests.

Maximum Ratings @ 25°C

- 60kw peak pulse power dissipation for 120V @ 1.2/50µs
- 120kw peak pulse power dissipation for 240V @ 1.2/50µs
- 240kw peak pulse power dissipation for 440V @ 1.2/50µs
- Operating and storage -55°C to +150°C
- Shunt path inductance < 20nH
- Duty cycle – .01% max.

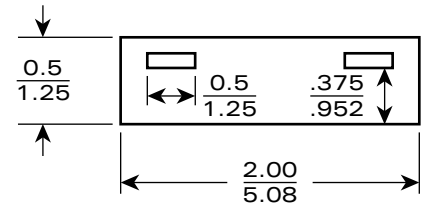
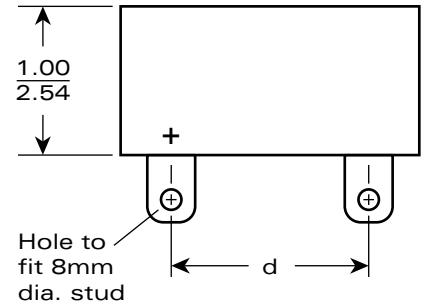
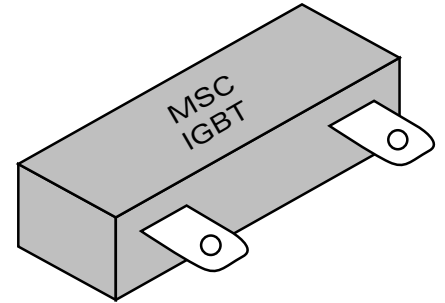
Electrical Characteristics @ 25°C

| MICROSEMI PART NO. | AC rms OPERATING VOLTAGE NOMINAL Vac | REVERSE STAND-OFF VOLTAGE NOTE 1 (V _{WM}) Vdc | BREAKDOWN VOLTAGE MIN / MAX (V _{BR}) NOTE 2 V | MAXIMUM REVERSE LEAKAGE (I _b) µA | MAXIMUM CLAMPING VOLTAGE (V _c) V | MAXIMUM PEAK PULSE CURRENT (I _{PP}) NOTE 3 A |
|--------------------|--------------------------------------|---|---|--|--|--|
| DMA12 | 120 | 175 | 200 / 225 | 5 | 280 | 200 |
| DMA24 | 240 | 350 | 400 / 450 | 5 | 560 | 200 |
| DMA44 | 440 | 640 | 735 / 900 | 5 | 1120 | 200 |

Notes:

1. Will withstand high-line conditions of 15% above nominal voltage.
2. Test current @ 10 mA.
3. Pulse waveform – 1.2 / 50 µs.

IGBTVS™ AC LINE TRANSIENT VOLTAGE SUPPRESSOR (FOR IGBT PROTECTION)



Dimensions: inches/centimeters

d – Terminals accommodate 23 -28 mm spacing

CASE: Molded plastic, meets UL 94V-0

POLARITY: Cathode marked with +

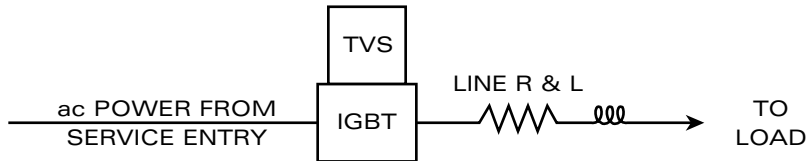
INDUCTANCE: Less than 20 nH

TERMINALS: Corrosion resistant with hole spacings to accommodate most high power IGBTs

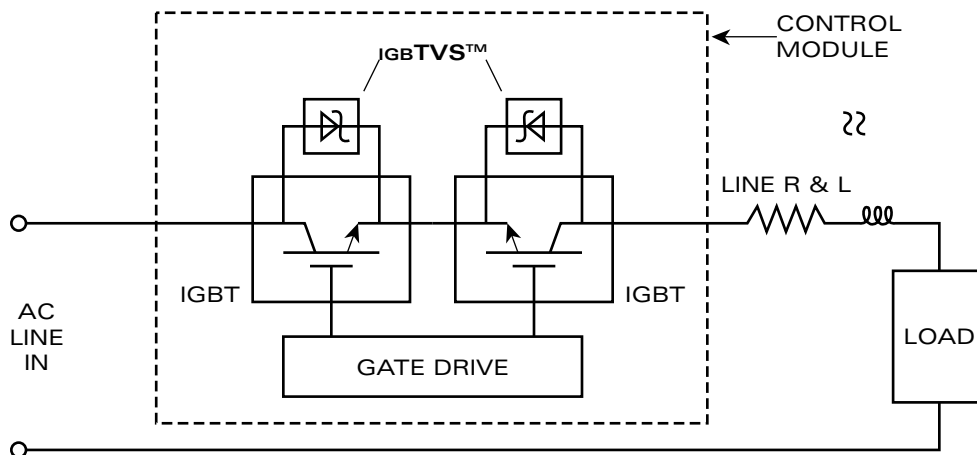
Application Notes for IGBTVS™

Microsemi's IGBTVS™ protector is intended for transients produced during load switching with a duty cycle not to exceed .01%. For protecting against transients produced when IGBTs are applied as ac power switches and over current protectors. Stored energy in the line and load produces damaging transient voltages during power down or fault interrupt. Microsemi's IGBTVS™ transient suppressor protects from nanosecond rise transients with surge currents to 200A, 1.5/50µs. Typical application on a 3 Ø power line is illustrated below.

1. CONCEPT



2. DETAILS OF SINGLE PHASE PROTECTION



3. COMPOSITE 3 PHASE PROTECTION

