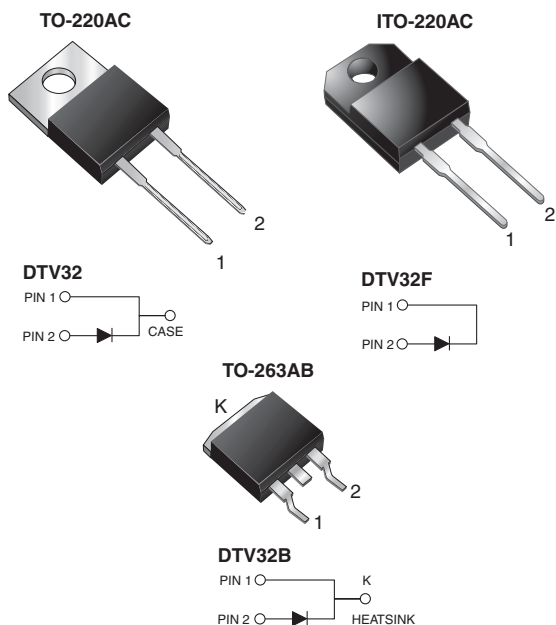




High Voltage Damper Diodes



FEATURES

- Glass passivated chip junction
- High breakdown voltage capability
- Very fast reverse recovery time
- Fast forward recovery time
- High efficiency, low switching losses
- Meets MSL level 1, per J-STD-020, LF maximum peak of 245 °C (for TO-263AB package)
- Solder dip 260 °C, 40 s (for TO-220AC and ITO-220AC package)
- Compliant to RoHS Directive 2002/95/EC and in accordance to WEEE 2002/96/EC



RoHS
COMPLIANT

TYPICAL APPLICATIONS

For use in high resolution display TV and monitor horizontal deflection application.

PRIMARY CHARACTERISTICS

| | |
|-------------|--------|
| $I_{F(AV)}$ | 10 A |
| V_{RRM} | 1500 V |
| t_{rr} | 175 ns |
| t_{fr} | 280 ns |
| V_F | 1.35 V |

MECHANICAL DATA

Case: TO-220AC, ITO-220AC, TO263AB
Epoxy meets UL 94 V-0 flammability rating

Terminals: Matte tin plated leads, solderable per J-STD-002 and JESD 22-B102

E3 suffix for consumer grade, meets JESD 201 class 1A whisker test

Polarity: As marked

Mounting Torque: 10 in-lbs maximum

MAXIMUM RATINGS ($T_C = 25\text{ }^\circ\text{C}$ unless otherwise noted)

| PARAMETER | SYMBOL | VALUE | UNIT |
|--|----------------|---------------|------------------|
| Maximum repetitive peak reverse voltage | V_{RRM} | 1500 | V |
| Maximum RMS voltage | V_{RMS} | 1050 | V |
| Maximum DC blocking voltage | V_{DC} | 1500 | V |
| Maximum average forward rectified current (fig. 1) | $I_{F(AV)}$ | 10 | A |
| Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load | I_{FSM} | 130 | A |
| Operating junction and storage temperature range | T_J, T_{STG} | - 55 to + 150 | $^\circ\text{C}$ |
| Isolation voltage (ITO-220AC only) from terminal to heatsink $t = 1$ min | V_{AC} | 1500 | V |

DTV32, DTV32F, DTV32B

Vishay General Semiconductor



| ELECTRICAL CHARACTERISTICS (T _C = 25 °C unless otherwise noted) | | | | | |
|--|--|---|-----------------|-------------|----------|
| PARAMETER | TEST CONDITIONS | | SYMBOL | VALUE | UNIT |
| Maximum instantaneous forward voltage ⁽¹⁾ | I _F = 6 A I _F = 6 A | T _J = 25 °C T _J = 125 °C | V _F | 1.5 1.35 | V |
| Maximum DC reverse current at V _{RRM} | | T _J = 25 °C T _J = 125 °C | I _R | 100 1.0 | μA mA |
| Maximum reverse recovery time | I _F = 1.0 A, di/dt = 50 A/μs, V _R = 30 V, I _{rr} = 0.1 I _{RM} | | t _{rr} | 175 | ns |
| Typical forward recovery time | I _F = 6 A, di/dt = 48 A/μs, V _{FR} = 3 V | | t _{fr} | 280 | ns |
| Peak forward recovery overshoot voltage | I _F = 6 A, di/dt = 48 A/μs, T _J = 100 °C | typical maximum | V _{FP} | 8 12 | V |

Note:

(1) Pulse test: 300 μs pulse width, 2 % duty cycle

| THERMAL CHARACTERISTICS (T _C = 25 °C unless otherwise noted) | | | | | |
|---|------------------|-------|--------|--------|------|
| PARAMETER | SYMBOL | DTV32 | DTV32B | DTV32F | UNIT |
| Typical thermal resistance from junction to case | R _{θJC} | 2.0 | | 4.0 | °C/W |

| ORDERING INFORMATION (Example) | | | | | |
|--------------------------------|---------------|-----------------|--------------|---------------|---------------|
| PACKAGE | PREFERRED P/N | UNIT WEIGHT (g) | PACKAGE CODE | BASE QUANTITY | DELIVERY MODE |
| TO-220AC | DTV32-E3/45 | 1.80 | 45 | 50/tube | Tube |
| ITO-220AC | DTV32F-E3/45 | 1.95 | 45 | 50/tube | Tube |
| TO-263AB | DTV32B-E3/45 | 1.77 | 45 | 50/tube | Tube |
| TO-263AB | DTV32B-E3/81 | 1.77 | 81 | 800/reel | Tape and reel |

RATINGS AND CHARACTERISTICS CURVES

(T_A = 25 °C unless otherwise noted)

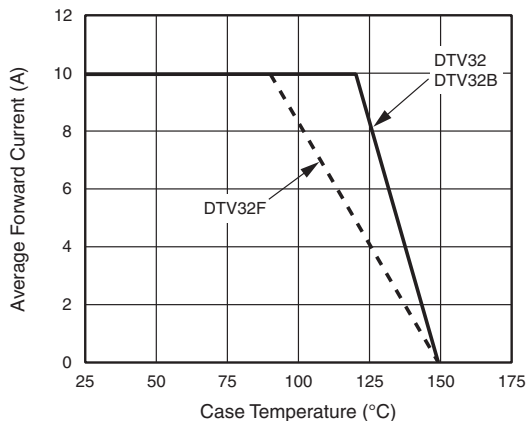


Figure 1. Forward Current Derating Curve

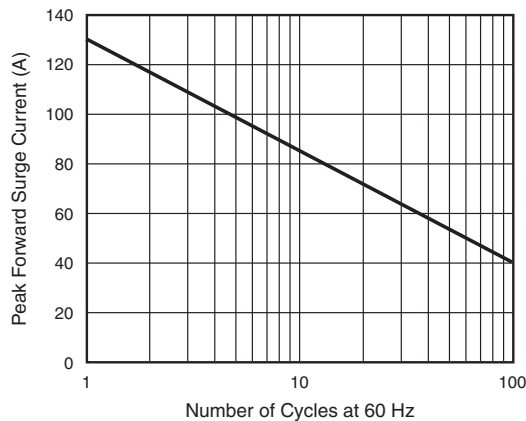


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

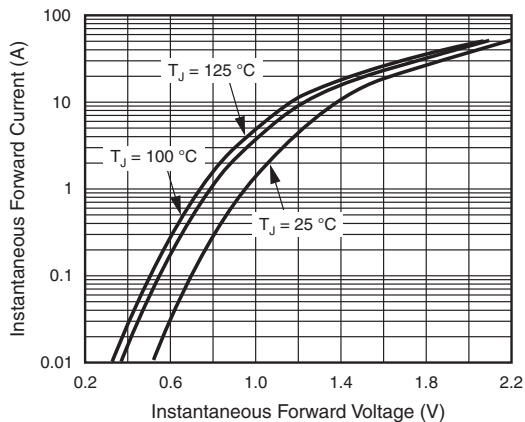


Figure 3. Typical Forward Voltage

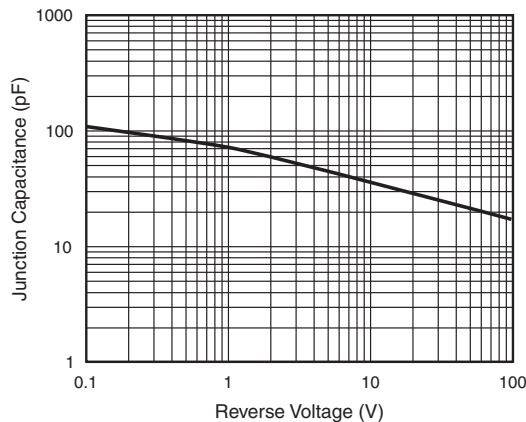


Figure 5. Typical Capacitance

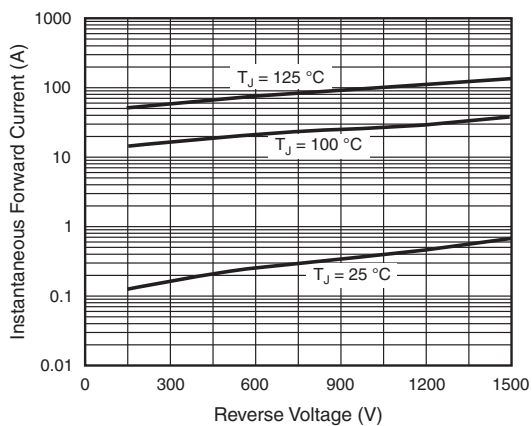


Figure 4. Typical Reverse Current

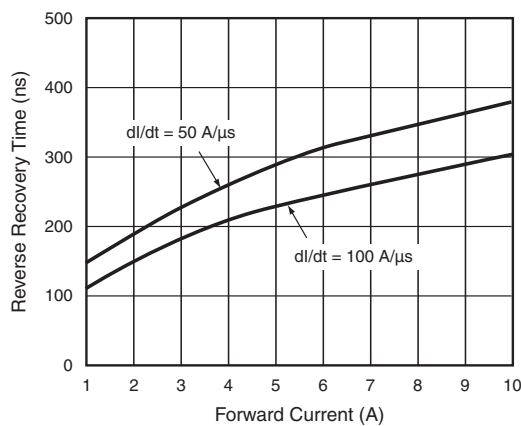


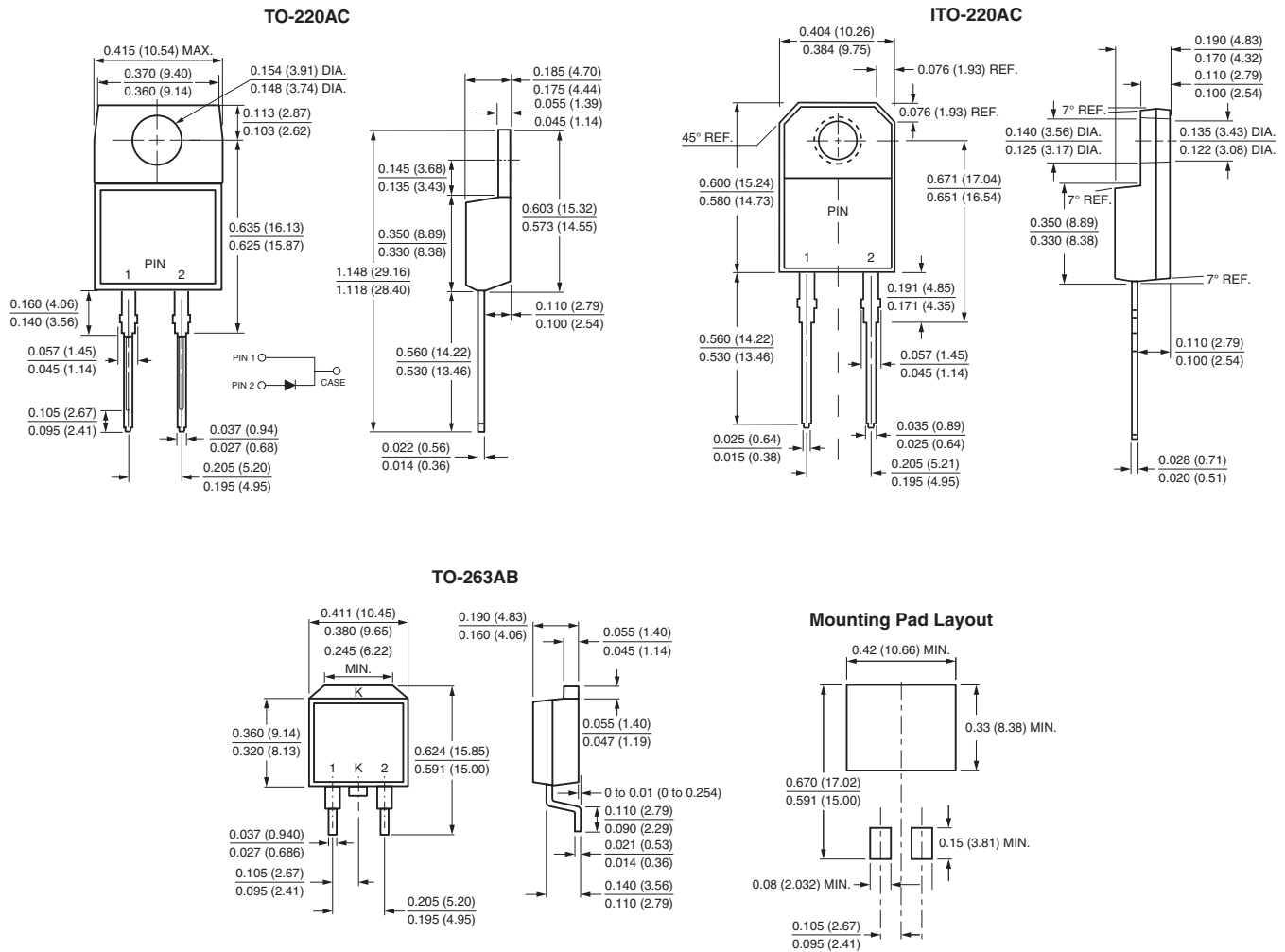
Figure 6. Typical Reverse Recovery Time

DTV32, DTV32F, DTV32B

Vishay General Semiconductor



PACKAGE OUTLINE DIMENSIONS in inches (millimeters)





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