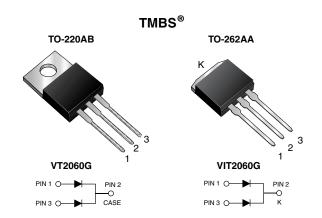
New Product



Vishay General Semiconductor

Dual High-Voltage Trench MOS Barrier Schottky Rectifier

Ultra Low $V_F = 0.50$ V at $I_F = 5$ A



| PRIMARY CHARACTERISTICS | | | | | |
|-----------------------------|--------|--|--|--|--|
| I _{F(AV)} 2 x 10 A | | | | | |
| V _{RRM} | 60 V | | | | |
| I _{FSM} | 100 A | | | | |
| V_F at $I_F = 10$ A | 0.63 V | | | | |
| T _J max. | 150 °C | | | | |

FEATURES

- Trench MOS Schottky technology
- Low forward voltage drop, low power losses
- High efficiency operation
- Solder bath temperature 275 °C max. 10 s, per JESD 22-B106
- AEC-Q101 qualified
- Compliant to RoHS Directive 2002/95/EC and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21 definition

TYPICAL APPLICATIONS

For use in high frequency DC/DC converters, switching power supplies, freewheeling diodes, OR-ing diode, and reverse battery protection.

MECHANICAL DATA

Case: TO-220AB and TO-262AA Molding compound meets UL 94 V-0 flammability rating Base P/N-M3 - halogen-free, RoHS compliant, and commercial grade

Base P/NHM3 - halogen-free, RoHS compliant, and AEC-Q101 qualified

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

M3 suffix meets JESD 201 class 1A whisker test, HM3 suffix meets JESD 201 class 2 whisker test

Polarity: As marked

Mounting Torque: 10 in-lbs maximum

| MAXIMUM RATINGS ($T_A = 25 \text{ °C}$ unless otherwise noted) | | | | | | |
|---|-------------------------------------|-----------------------------------|---------|----------|------|--|
| PARAMETER | | SYMBOL | VT2060G | VIT2060G | UNIT | |
| Maximum repetitive peak reverse voltage | ak reverse voltage V _{RRM} | | 6 | 60 | | |
| Maximum average forward rectified current (fig. 1) | per device | I _{F(AV)} | 20 | | A | |
| | per diode | | 10 | | | |
| Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load | | I _{FSM} | 100 | | А | |
| Voltage rate of change (rated V_R) | | dV/dt | 10 | 000 | V/µs | |
| Operating junction and storage temperature ra | nge | T _J , T _{STG} | - 55 to | + 150 | °C | |

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VT2060G, VIT2060G

Vishay General Semiconductor



| ELECTRICAL CHARACTERISTICS ($T_A = 25 \text{ °C}$ unless otherwise noted) | | | | | | | |
|---|-----------------------|--|--------------------|------|------|------|--|
| PARAMETER | TEST CONDITIONS | | SYMBOL | TYP. | MAX. | UNIT | |
| Instantaneous forward voltage per diode | I _F = 5 A | – T _A = 25 °C | V _F (1) | 0.58 | - | V | |
| | I _F = 10 A | | | 0.69 | 0.90 | | |
| | I _F = 5 A | T _A = 125 °C | | 0.50 | - | | |
| | I _F = 10 A | | | 0.63 | 0.84 | | |
| Reverse current per diode | V - 60 V | $V_{R} = 60 V \qquad \frac{T_{A} = 25 °C}{T_{A} = 125 °C}$ | I _R (2) | - | 700 | μA | |
| | v _R = 00 v | | | 8.0 | 25 | mA | |

Notes

 $^{(1)}\,$ Pulse test: 300 μs pulse width, 1 $\,\%$ duty cycle

⁽²⁾ Pulse test: Pulse width \leq 40 ms

| THERMAL CHARACTERISTICS ($T_A = 25 \text{ °C}$ unless otherwise noted) | | | | | |
|--|------------|--------------------|------------------|--|------|
| PARAMETER | | SYMBOL | VT2060G VIT2060G | | UNIT |
| Typical thermal resistance | per diode | - R _{θJC} | 3.6 | | °C/W |
| | per device | | 2.6 | | |

| ORDERING INFORMATION (Example) | | | | | | |
|--------------------------------|-------------------------------|-----------------|--------------|---------------|---------------|--|
| PACKAGE | PREFERRED P/N | UNIT WEIGHT (g) | PACKAGE CODE | BASE QUANTITY | DELIVERY MODE | |
| TO-220AB | VT2060G-M3/4W | 1.87 | 4W | 50/tube | Tube | |
| TO-262AA | VIT2060G-M3/4W | 1.45 | 4W | 50/tube | Tube | |
| TO-220AB | VT2060GHM3/4W ⁽¹⁾ | 1.87 | 4W | 50/tube | Tube | |
| TO-262AA | VIT2060GHM3/4W ⁽¹⁾ | 1.45 | 4W | 50/tube | Tube | |

Note

⁽¹⁾ AEC-Q101 qualified

RATINGS AND CHARACTERISTICS CURVES

(T_A = 25 °C unless otherwise noted)

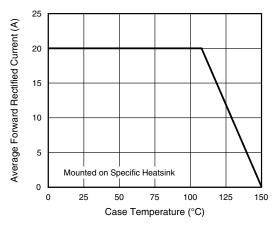


Fig. 1 - Maximum Forward Current Derating Curve

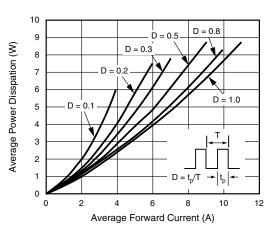


Fig. 2 - Forward Power Dissipation Characteristics

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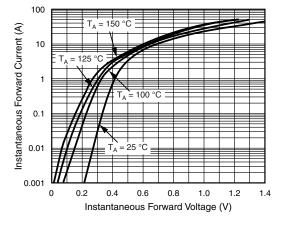


Fig. 3 - Typical Instantaneous Forward Characteristics

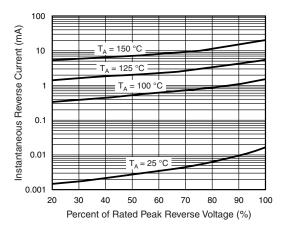


Fig. 4 - Typical Reverse Characteristics

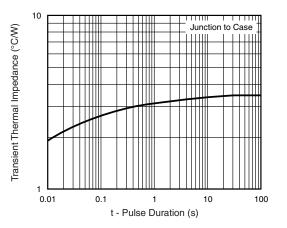


Fig. 5 - Typical Transient Thermal Impedance

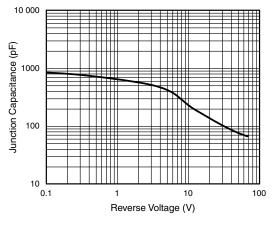


Fig. 6 - Typical Junction Capacitance

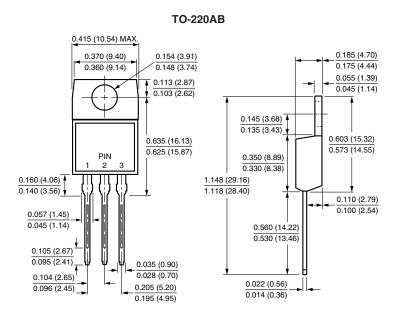
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VT2060G, VIT2060G

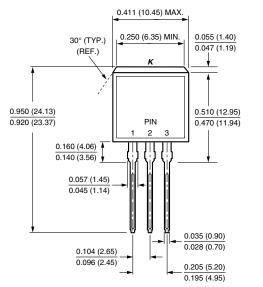
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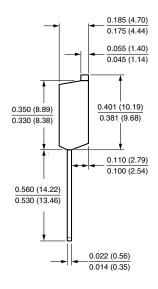


PACKAGE OUTLINE DIMENSIONS in inches (millimeters)



TO-262AA





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