

GI250-1, GI250-2, GI250-3, GI250-4

Vishay General Semiconductor

High Voltage Glass Passivated Plastic Rectifier



www.vishay.com

DO-41 (DO-204AL)

| PRIMARY CHARACTERISTICS | | | | | | |
|-------------------------|--------------------------------|--|--|--|--|--|
| I _{F(AV)} | 0.25 A | | | | | |
| V_{RRM} | 1000 V, 2000 V, 3000 V, 4000 V | | | | | |
| I _{FSM} | 15 A | | | | | |
| I _R | 5.0 μA | | | | | |
| V _F | 3.5 V | | | | | |
| T _J max. | 175 °C | | | | | |
| Package | DO-41 (DO-204AL) | | | | | |
| Circuit configuration | Single | | | | | |

FEATURES

Superectifier structure for high reliability application

RoHS

· Cavity-free glass-passivated junction

- Low leakage current
- · High forward surge capability
- Solder dip 275 °C max. 10 s, per JESD 22-B106
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

TYPICAL APPLICATIONS

For use in rectification of high voltage power supplies, inverters, converters, and freewheeling diodes application.

MECHANICAL DATA

Case: DO-41 (DO-204AL), molded epoxy over glass body Molding compound meets UL 94 V-0 flammability rating Base P/N-E3 - RoHS-compliant, commercial grade

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

E3 suffix meets JESD 201 class 1A whisker test

Polarity: color band denotes cathode end

| MAXIMUM RATINGS (T _A = 25 °C unless otherwise noted) | | | | | | | |
|---|-----------------------------------|--------------------|---------|---------|---------|------|--|
| PARAMETER | SYMBOL | GI250-1 | GI250-2 | GI250-3 | GI250-4 | UNIT | |
| Maximum repetitive peak reverse voltage | V_{RRM} | 1000 | 2000 | 3000 | 4000 | V | |
| Maximum RMS voltage | V_{RMS} | 700 1400 2100 2800 | | | 2800 | V | |
| Maximum DC blocking voltage | V _{DC} | 1000 2000 3000 400 | | | 4000 | V | |
| Maximum average forward rectified current 0.375" (9.5 mm) lead length at $T_A = 75 ^{\circ}\text{C}$ | I _{F(AV)} | 0.25 | | | | А | |
| Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load | I _{FSM} | 15 | | | | А | |
| Operating junction and storage temperature range | T _J , T _{STG} | -65 to +175 ° | | | | | |



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| ELECTRICAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted) | | | | | | | | |
|---|-----------------|----------------|---------|---------|---------|---------|------|--|
| PARAMETER | TEST CONDITIONS | SYMBOL | GI250-1 | GI250-2 | GI250-3 | GI250-4 | UNIT | |
| Maximum instantaneous forward voltage | 0.25 A | V _F | 3.5 | | | | V | |

| ELECTRICAL CHARACTERISTICS (TA = 25 °C unless otherwise floted) | | | | | | | | |
|---|---|-------------------------|-----------------|--------------------|---------|---------|---------|------|
| PARAMETER | TEST CONDITIONS | | SYMBOL | GI250-1 | GI250-2 | GI250-3 | GI250-4 | UNIT |
| Maximum instantaneous forward voltage | 0.25 A | | V_{F} | 3.5 | | | | V |
| Maximum DC reverse current | | T _A = 25 °C | 10 | 5.0 | | | | μА |
| at rated DC blocking voltage | | T _A = 100 °C | IR | 50 | | | | |
| Typical reverse recovery time | $I_F = 0.5 A$, $I_R = 1.0 A$, $I_{rr} = 0.25 A$ | | t _{rr} | 2.0 | | | | μs |
| Typical junction capacitance | 4.0 V, 1 | MHz | CJ | C _J 3.0 | | | pF | |

| THERMAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted) | | | | | | |
|---|----------------------|--------|--|--|------|--|
| PARAMETER SYMBOL Gi250-1 Gi250-2 Gi250-3 Gi250-4 UNIT | | | | | | |
| Typical thermal resistance | R _{0JA} (1) | 130 °C | | | °C/W | |

Note

⁽¹⁾ Thermal resistance from junction to ambient at 0.375" (9.5 mm) lead length, PCB mounted

| ORDERING INFORMATION (Example) | | | | | | | |
|--------------------------------|-----------------|------------------------|---------------|----------------------------------|--|--|--|
| PREFERRED P/N | UNIT WEIGHT (g) | PREFERRED PACKAGE CODE | BASE QUANTITY | DELIVERY MODE | | | |
| GI250-4-E3/54 | 0.339 | 54 | 5500 | 13" diameter paper tape and reel | | | |
| GI250-4-E3/73 | 0.339 | 73 | 3000 | Ammo pack packaging | | | |

RATINGS AND CHARACTERISTICS CURVES ($T_A = 25$ °C unless otherwise noted)

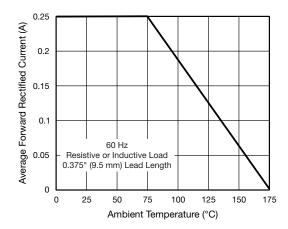


Fig. 1 - Forward Current Derating Curve

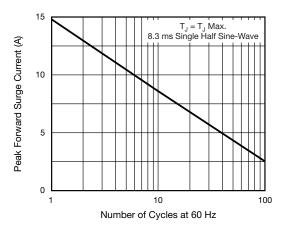


Fig. 2 - Maximum Non-repetitive Peak Forward Surge Current



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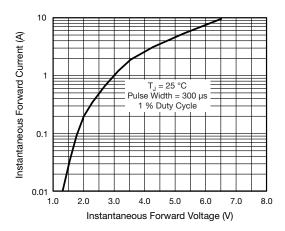


Fig. 3 - Typical Instantaneous Forward Characteristics

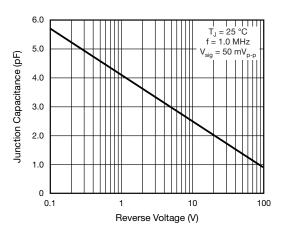


Fig. 5 - Typical Junction Capacitance

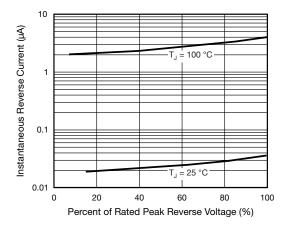
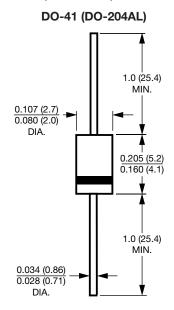


Fig. 4 - Typical Reverse Characteristics

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)





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