

Surface Mount Glass Passivated Junction Rectifier

SUPERECTIFIER®

DO-213AA (GL34)

| PRIMARY CHARACTERISTICS | |
|-------------------------|----------------------------------|
| $I_{F(AV)}$ | 0.5 A |
| V_{RRM} | 50 V, 100 V, 200 V, 400 V, 600 V |
| I_{FSM} | 10 A |
| V_F | 1.2 V, 1.3 V |
| I_R | 5.0 μ A |
| T_J max. | 175 °C |
| Package | DO-213AA (GL34) |
| Diode variations | Single die |

FEATURES

- Superectifier structure for high reliability condition
- Ideal for automated placement
- Low forward voltage drop
- Low leakage current
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260 °C
- AEC-Q101 qualified
- Material categorization: For definitions of compliance please see www.vishay.com/doc?99912


RoHS
COMPLIANT

TYPICAL APPLICATIONS

For use in general purpose rectification of power supplies, inverters, converters and freewheeling diodes for consumer, automotive and telecommunication.

MECHANICAL DATA

Case: DO-213AA, molded epoxy over glass body

Molding compound meets UL 94 V-0 flammability rating
 Base P/N-E3 - RoHS-compliant, commercial grade
 Base P/NHE3 - RoHS-compliant, AEC-Q101 qualified

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

E3 suffix meets JESD 201 class 1A whisker test, HE3 suffix meets JESD 201 class 2 whisker test

Polarity: Two bands indicate cathode end - 1st band denotes device type and 2nd band denotes repetitive peak reverse voltage rating

| MAXIMUM RATINGS ($T_A = 25$ °C unless otherwise noted) | | | | | | | | |
|--|----------------|---------------|-------|--------|--------|-------|------|---------|
| PARAMETER | SYMBOL | GL34A | GL34B | GL34D | GL34G | GL34J | UNIT | |
| STANDARD RECOVERY DEVICE: 1ST BAND IS WHITE | | | | | | | | |
| Polarity color bands (2 nd band) | | Gray | Red | Orange | Yellow | Green | | |
| Max. repetitive peak reverse voltage | V_{RRM} | 50 | 100 | 200 | 400 | 600 | V | |
| Max. RMS voltage | V_{RMS} | 35 | 70 | 140 | 280 | 420 | V | |
| Max. DC blocking voltage | V_{DC} | 50 | 100 | 200 | 400 | 600 | V | |
| Max. average forward rectified current at $T_L = 75$ °C | $I_{F(AV)}$ | 0.5 | | | | | | A |
| Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load | I_{FSM} | 10 | | | | | | A |
| Max. full load reverse current, full cycle average at $T_A = 55$ °C | $I_{R(AV)}$ | 30 | | | | | | μ A |
| Operating junction and storage temperature range | T_J, T_{STG} | - 65 to + 175 | | | | | | °C |



| ELECTRICAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted) | | | | | | | | | |
|--|--|-----------------|-------|-------|-------|-------|-------|------|----|
| PARAMETER | TEST CONDITIONS | SYMBOL | GL34A | GL34B | GL34D | GL34G | GL34J | UNIT | |
| Max. instantaneous forward voltage | 0.5 A | V _F | 1.2 | | | | 1.3 | | V |
| Max. DC reverse current at rated DC blocking voltage | T _A = 25 °C | I _R | 5.0 | | | | | | μA |
| | T _A = 125 °C | | 50 | | | | | | |
| Typical reverse recovery time | I _F = 0.5 A, I _R = 1.0 A, I _{rr} = 0.25 A | t _{rr} | 1.5 | | | | | | μs |
| Typical junction capacitance | 4.0 V, 1 MHz | C _J | 4.0 | | | | | | pF |

| THERMAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted) | | | | | | | | |
|---|---------------------------------|-------|-------|-------|-------|-------|------|------|
| PARAMETER | SYMBOL | GL34A | GL34B | GL34D | GL34G | GL34J | UNIT | |
| Maximum thermal resistance | R _{θJA} ⁽¹⁾ | 150 | | | | | | °C/W |
| | R _{θJT} ⁽²⁾ | 70 | | | | | | |

Notes

- (1) Thermal resistance from junction to ambient, 0.2" x 0.2" (5.0 mm x 5.0 mm) copper pads to each terminal
- (2) Thermal resistance from junction to terminal, 0.2" x 0.2" (5.0 mm x 5.0 mm) copper pads to each terminal

| ORDERING INFORMATION (Example) | | | | |
|--------------------------------|-----------------|------------------------|---------------|------------------------------------|
| PREFERRED P/N | UNIT WEIGHT (g) | PREFERRED PACKAGE CODE | BASE QUANTITY | DELIVERY MODE |
| GL34G-E3/98 | 0.036 | 98 | 2500 | 7" diameter plastic tape and reel |
| GL34G-E3/83 | 0.036 | 83 | 9000 | 13" diameter plastic tape and reel |
| GL34GHE3/98 ⁽¹⁾ | 0.036 | 98 | 2500 | 7" diameter plastic tape and reel |
| GL34GHE3/83 ⁽¹⁾ | 0.036 | 83 | 9000 | 13" diameter plastic tape and reel |

Note

- (1) AEC-Q101 qualified

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

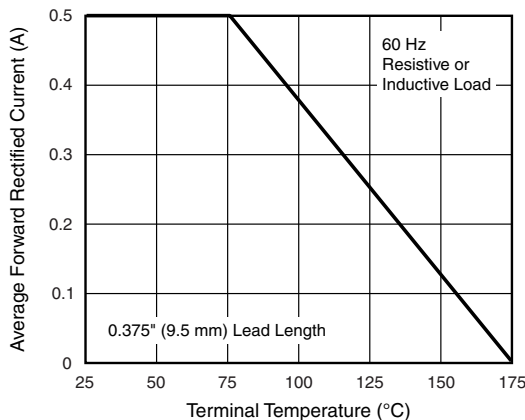


Fig. 1 - Forward Current Derating Curve

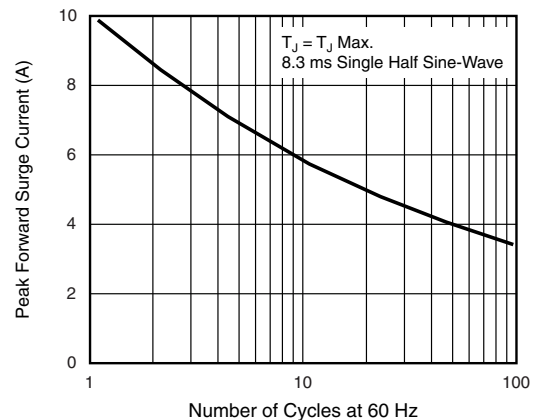


Fig. 2 - Max. Non-Repetitive Peak Forward Surge Current

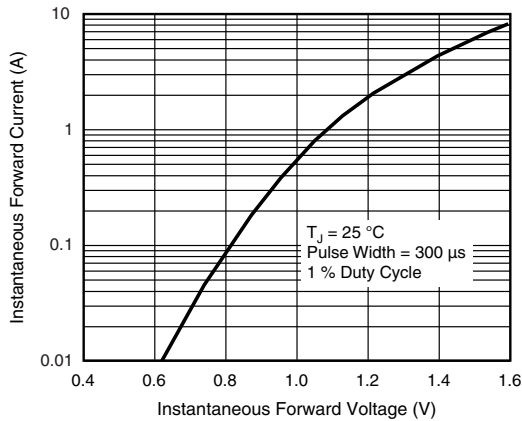


Fig. 3 - Typical Instantaneous Forward Characteristics

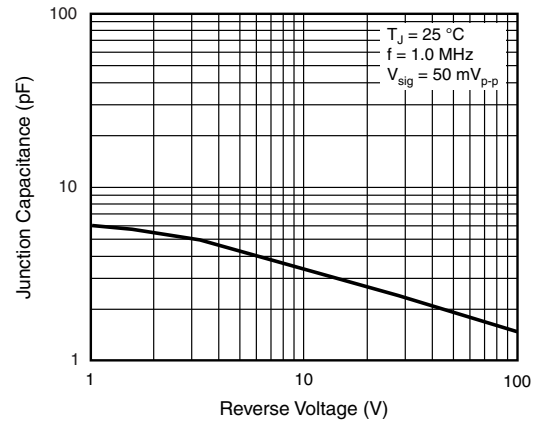


Fig. 5 - Typical Junction Capacitance

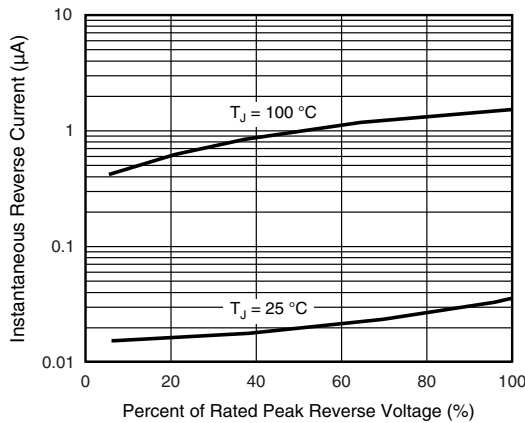
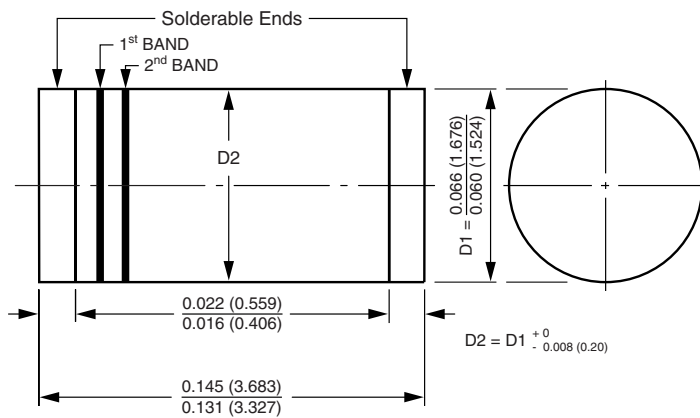


Fig. 4 - Typical Reverse Characteristics

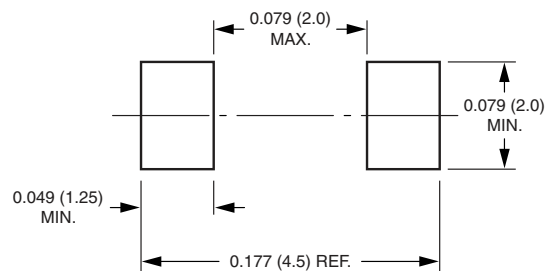
PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

DO-213AA (GL34)



1st band denotes type and polarity
2nd band denotes voltage type

Mounting Pad Layout





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