

Vishay General Semiconductor

Surface-Mount Glass Passivated Junction Fast Switching Rectifier

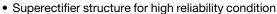
Superectifier®



GL34 (DO-213AA)

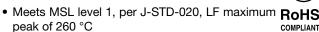
| PRIMARY CHARACTERISTICS | | | | | | |
|-------------------------|---|--|--|--|--|--|
| I _{F(AV)} | 0.5 A | | | | | |
| V_{RRM} | 50 V, 100 V, 200 V, 400 V, 600 V, 800 V | | | | | |
| I _{FSM} | 10 A | | | | | |
| t _{rr} | 150 ns, 250 ns | | | | | |
| V_{F} | 1.3 V | | | | | |
| T_J max. | 175 °C | | | | | |
| Package | GL34 (DO-213AA) | | | | | |
| Circuit configurations | Single | | | | | |

FEATURES





· Fast switching for high efficiency



 Material categorization: for definitions of compliance please see <u>www.vishay.com/doc?99912</u>

TYPICAL APPLICATIONS

For use in fast switching rectification of power supply, inverters, converters, and freewheeling diodes for consumer, automotive, and telecommunication.

MECHANICAL DATA

Case: GL34 (DO-213AA), 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: 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 | RGL34A | RGL34B | RGL34D | RGL34G | RGL34J | RGL34K | UNIT |
| FAST SWITCHING DEVICE: 1st BAND IS RED | STWIDOL | | | | | | | |
| Polarity color bands (2 nd band) | | Gray | Red | Orange | Yellow | Green | Blue | |
| Maximum repetitive peak reverse voltage | V_{RRM} | 50 | 100 | 200 | 400 | 600 | 800 | V |
| Maximum RMS voltage | V _{RMS} | 35 | 70 | 140 | 280 | 420 | 560 | V |
| Maximum DC blocking voltage | V_{DC} | 50 | 100 | 200 | 400 | 600 | 800 | V |
| Maximum average forward rectified current at $T_T = 55^{\circ}\text{C}$ | I _{F(AV)} | 0.5 | | | | | | Α |
| Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load | I _{FSM} | 10 | | | | | | Α |
| Maximum full load reverse current, full cycle average $T_A = 55$ °C | I _{R(AV)} | 30 | | | | | μА | |
| Operating junction and storage temperature range | T _J , T _{STG} | -65 to +175 | | | | | °C | |



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| ELECTRICAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted) | | | | | | | | | | |
|---|----------------------------|-----------------------------------|------------------|---------|--------|--------|--------|--------|--------|------|
| PARAMETER | TEST CONDITIONS | | SYMBOL | RGL34A | RGL34B | RGL34D | RGL34G | RGL34J | RGL34K | UNIT |
| Maximum instantaneous forward voltage | 0.5 A V _F | | | 1.3 | | | | | V | |
| Maximum DC reverse current at rated DC | .A 20 0 | | | 5.0 | | | | | - μA | |
| blocking voltage | | T _A = 125 °C | - I _R | 50 | | | | | μΛ | |
| Maximum reverse recovery time | $I_F = 0.5$ $I_{rr} = 0.2$ | A, I _R = 1.0 A, 5 A | t _{rr} | 150 250 | | | | 50 | ns | |
| Typical junction capacitance | 4.0 V, 1 | .0 V, 1 MHz C _J | | | 4 | | | | pF | |

| THERMAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted) | | | | | | | | |
|---|----------------------|---|--|--|--|--|--------|------|
| PARAMETER | SYMBOL | RGL34A RGL34B RGL34D RGL34G RGL34J RGL34K | | | | | RGL34K | UNIT |
| Maximum thermal resistance | R _{0JA} (1) | 150 | | | | | | °C/W |
| Waxiinum memaresistance | R _{0JT} (2) | 70 | | | | | | C/VV |

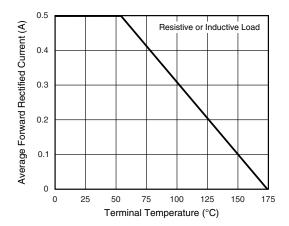
Notes

- $^{(1)}$ 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 | | | | |
| RGL34J-E3/98 | 0.036 | 98 | 2500 | 7" diameter plastic tape and reel | | | | |
| RGL34J-E3/83 | 0.036 | 83 | 9000 | 13" diameter plastic tape and reel | | | | |

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



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Fig. 1 - Forward Current Derating Curve

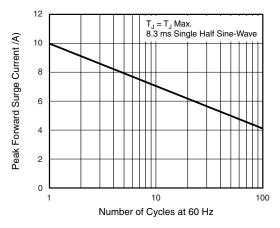


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

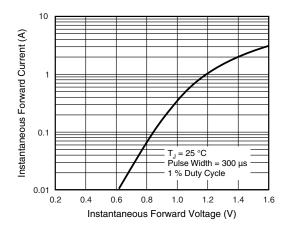


Fig. 3 - Typical Instantaneous Forward Characteristics

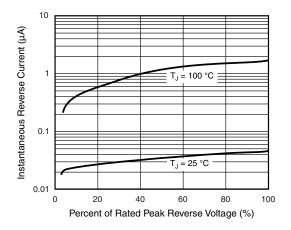


Fig. 4 - Typical Reverse Characteristics

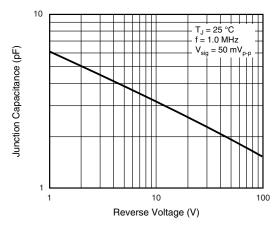


Fig. 5 - Typical Junction Capacitance

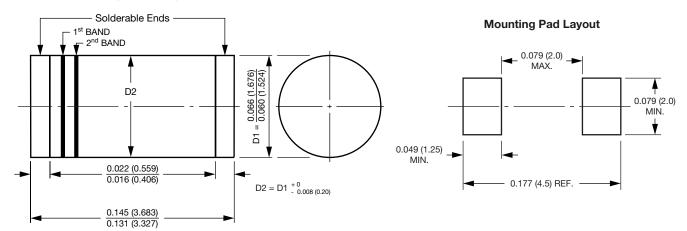


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PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

GL34 (DO-213AA)



1st band denotes type and polarity

2nd band denotes voltage type



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