

RGL34J-E3/83 Datasheet

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DiGi Electronics Part Number	RGL34J-E3/83-DG
Manufacturer	Vishay General Semiconductor - Diodes Division
Manufacturer Product Number	RGL34J-E3/83
Description	DIODE GP 600V 500MA DO213AA
Detailed Description	Diode 600 V 500mA Surface Mount DO-213AA (GL34)

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Manufacturer Product Number:

RGL34J-E3/83

Series:

SUPERECTIFIER®

Technology:

Standard

Current - Average Rectified (Io):

500mA

Speed:

Fast Recovery =< 500ns, > 200mA (Io)

Current - Reverse Leakage @ Vr:

5 µA @ 600 V

Mounting Type:

Surface Mount

Supplier Device Package:

DO-213AA (GL34)

Base Product Number:

RGL34

Manufacturer:

Vishay General Semiconductor - Diodes Division

Product Status:

Active

Voltage - DC Reverse (Vr) (Max):

600 V

Voltage - Forward (Vf) (Max) @ If:

1.3 V @ 500 mA

Reverse Recovery Time (trr):

250 ns

Capacitance @ Vr, F:

4pF @ 4V, 1MHz

Package / Case:

DO-213AA (Glass)

Operating Temperature - Junction:

-65°C ~ 175°C

Environmental & Export classification

RoHS Status:

ROHS3 Compliant

REACH Status:

REACH Unaffected

HTSUS:

8541.10.0070

Moisture Sensitivity Level (MSL):

1 (Unlimited)

ECCN:

EAR99



Surface-Mount Glass Passivated Junction Fast Switching Rectifier

Superectifier®



GL34 (DO-213AA)

FEATURES

- Superectifier structure for high reliability condition
- Ideal for automated placement
- Fast switching for high efficiency
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260 °C
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912



RoHS COMPLIANT

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

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

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								
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 °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
Maximum full load reverse current, full cycle average T _A = 55 °C	I _{R(AV)}	30						µA
Operating junction and storage temperature range	T _J , T _{STG}	-65 to +175						°C



ELECTRICAL CHARACTERISTICS ($T_A = 25\text{ }^\circ\text{C}$ 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 blocking voltage	$T_A = 25\text{ }^\circ\text{C}$	I_R	5.0						μA
	$T_A = 125\text{ }^\circ\text{C}$		50						
Maximum reverse recovery time	$I_F = 0.5\text{ A}$, $I_R = 1.0\text{ A}$, $I_{rr} = 0.25\text{ A}$	t_{rr}	150				250		ns
Typical junction capacitance	4.0 V, 1 MHz	C_J	4						pF

THERMAL CHARACTERISTICS ($T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)									
PARAMETER	SYMBOL	RGL34A	RGL34B	RGL34D	RGL34G	RGL34J	RGL34K	UNIT	
Maximum thermal resistance	$R_{\theta JA}^{(1)}$	150						$^\circ\text{C/W}$	
	$R_{\theta JT}^{(2)}$	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
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



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

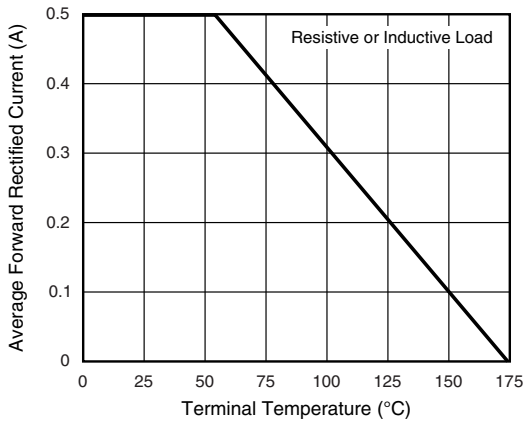


Fig. 1 - Forward Current Derating Curve

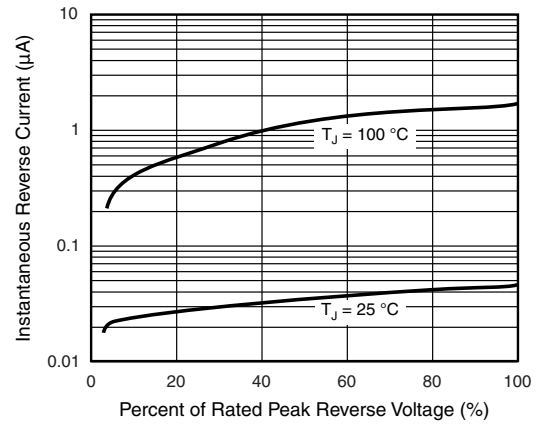


Fig. 4 - Typical Reverse Characteristics

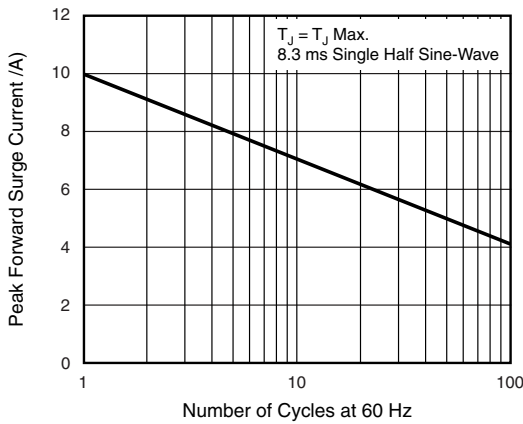


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

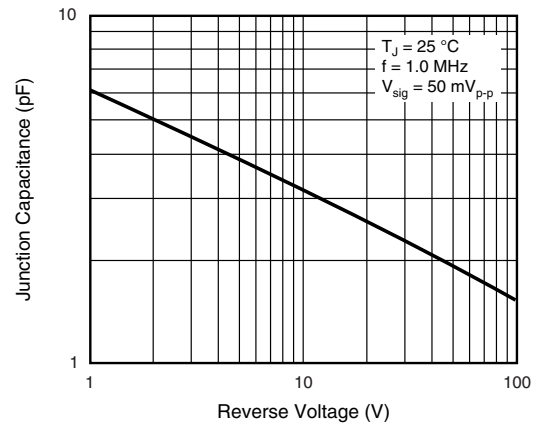


Fig. 5 - Typical Junction Capacitance

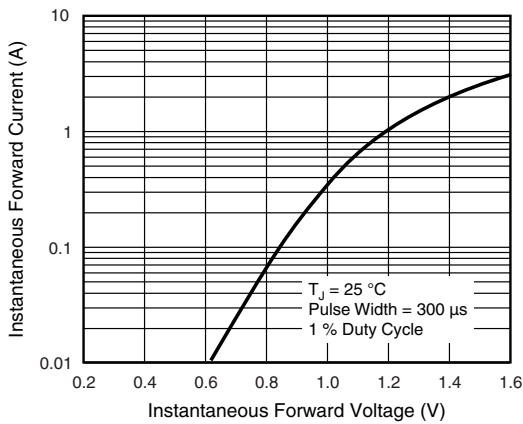
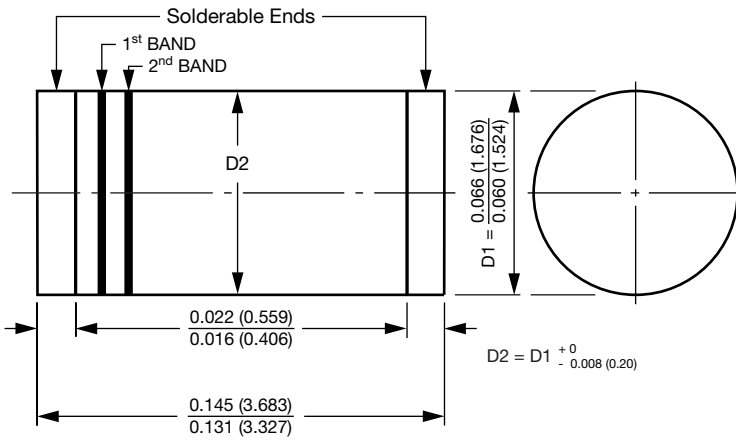


Fig. 3 - Typical Instantaneous Forward Characteristics

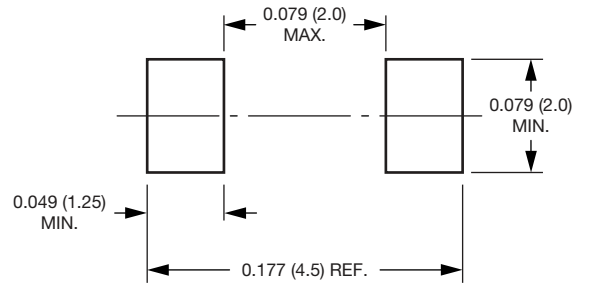


PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

GL34 (DO-213AA)



Mounting Pad Layout



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



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