

## RGP25A, RGP25B, RGP25D, RGP25G, RGP25J, RGP25K,

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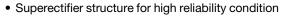
Vishay General Semiconductor

# **Glass Passivated Junction Fast Switching Plastic Rectifier**



PRIMARY CHARACTERISTICS							
I <sub>F(AV)</sub>	2.5 A						
V <sub>RRM</sub>	50 V, 100 V, 200 V, 400 V, 600 V, 800 V, 1000 V						
I <sub>FSM</sub>	100 A						
t <sub>rr</sub>	150 ns, 250 ns, 500 ns						
I <sub>R</sub>	5.0 μΑ						
$V_{F}$	1.3 V						
T <sub>J</sub> max.	175 °C						
Package	DO-201AD						
Diode variation	Single die						

#### **FEATURES**





- Cavity-free glass-passivated junction
- Fast switching for high efficiency
- Low leakage current, typical I<sub>R</sub> less than 0.2 μA

RoHS

- High forward surge capability
- Solder dip 275 °C max. 10 s, per JESD 22-B106
- Material categorization: for definitions of compliance please see <a href="https://www.vishay.com/doc?99912"><u>www.vishay.com/doc?99912</u></a>

#### **TYPICAL APPLICATIONS**

For general purpose of medium frequency rectification.

#### **MECHANICAL DATA**

**Case:** DO-201AD, 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 <sub>A</sub> = 25 °C unless otherwise noted)										
PARAMETER	SYMBOL	RGP25A	RGP25B	RGP25D	RGP25G	RGP25J	RGP25K	RGP25M	UNIT	
Maximum repetitive peak reverse voltage	$V_{RRM}$	50	100	200	400	600	800	1000	V	
Maximum RMS voltage	V <sub>RMS</sub>	35	70	140	280	420	560	700	V	
Maximum DC blocking voltage	$V_{DC}$	50	50 100 200 400 600 800 1000							
Maximum average forward rectified current 0.375" (9.5 mm) lead length at T <sub>A</sub> = 55 °C	I <sub>F(AV)</sub>		2.5							
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I <sub>FSM</sub>		100							
Maximum full load reverse current, full cycle average 0.375" (9.5 mm) lead length at T <sub>A</sub> = 55 °C	I <sub>R(AV)</sub>	100							μА	
Operating junction and storage temperature range	T <sub>J</sub> , T <sub>STG</sub>	-65 to +175							°C	



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<b>ELECTRICAL CHARACTERISTICS</b> (T <sub>A</sub> = 25 °C unless otherwise noted)											
PARAMETER	TEST CONDITIONS		SYMBOL	RGP25A	RGP25B	RGP25D	RGP25G	RGP25J	RGP25K	RGP25M	UNIT
Maximum instantaneous forward voltage	2.5 A		V <sub>F</sub>	1.3				V			
Maximum DC reverse current at		T <sub>A</sub> = 25 °C	1_	5.0						μΑ	
rated DC blocking voltage		T <sub>A</sub> = 125 °C	I <sub>R</sub> 200								
Maximum reverse recovery time	$I_F = 0.5$ $I_{rr} = 0.2$	A, I <sub>R</sub> = 1.0 A, 5 A	t <sub>rr</sub>	150 250 500				00	ns		
Typical junction capacitance	4.0 V, 1	MHz	CJ	60					pF		

THERMAL CHARACTERISTICS (T <sub>A</sub> = 25 °C unless otherwise noted)								
PARAMETER SYMBOL RGP25A RGP25B RGP25D RGP25G RGP25J RGP25K RGP25M UNIT							UNIT	
Typical thermal resistance	R <sub>0JA</sub> (1)	20					°C/W	

#### Note

<sup>(1)</sup> 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					
RGP25J-E3/54	1.28	54	1400	13" diameter paper tape and reel					
RGP25J-E3/73	1.28	73	1000	Ammo pack packaging					

### RATINGS AND CHARACTERISTICS CURVES (T<sub>A</sub> = 25 °C unless otherwise noted)

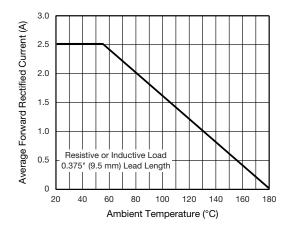


Fig. 1 - Forward Current Derating Curve

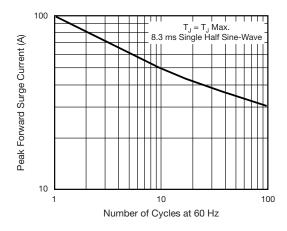


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

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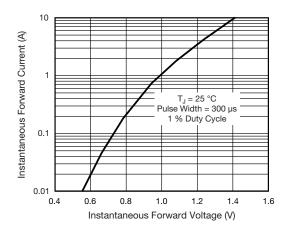


Fig. 3 - Typical Instantaneous Forward Characteristics

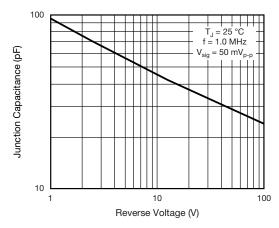


Fig. 5 - Typical Junction Capacitance

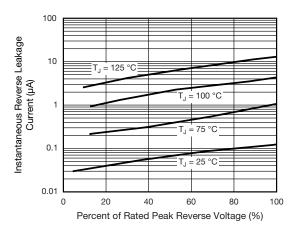
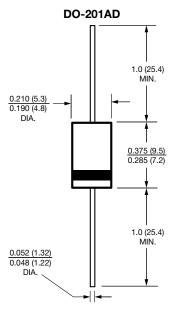


Fig. 4 - Typical Reverse Characteristics

### PACKAGE OUTLINE DIMENSIONS in inches (millimeters)





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