

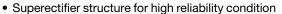
## Vishay General Semiconductor

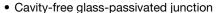
# **Glass Passivated Junction Fast Switching Plastic Rectifier**



PRIMARY CHARACTERISTICS							
I <sub>F(AV)</sub>	0.5 A						
$V_{RRM}$	1200 V to 2000 V						
I <sub>FSM</sub>	20 A						
V <sub>F</sub>	1.8 V						
t <sub>rr</sub>	300 ns						
I <sub>R</sub>	5.0 μA						
T <sub>J</sub> max.	175 °C						
Package	DO-41 (DO-204AL)						
Circuit configuration	Single						

### **FEATURES**





RoHS COMPLIANT

- Fast switching for high efficiency
- Low leakage current, typical I<sub>R</sub> less than 0.2 μA
- · 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**

High voltage rectification of G2 grid CRT and TV, snubber circuit of camera flash.

### **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

<b>MAXIMUM RATINGS</b> (T <sub>A</sub> = 25 °C unless otherwise noted)									
PARAMETER	SYMBOL	RGP02- 12E	RGP02- 14E	RGP02- 15E	RGP02- 16E	RGP02- 17E	RGP02- 18E	RGP02- 20E	UNIT
Maximum repetitive peak reverse voltage	V <sub>RRM</sub>	1200	1400	1500	1600	1700	1800	2000	V
Maximum RMS voltage	V <sub>RMS</sub>	840	980	1050	1120	1190	1260	1400	V
Maximum DC blocking voltage	$V_{DC}$	1200	1400	1500	1600	1700	1800	2000	V
Maximum average forward rectified current 0.375" (9.5 mm) lead length at $T_A = 55$ °C	I <sub>F(AV)</sub>	I <sub>F(AV)</sub> 0.5						Α	
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated	I <sub>FSM</sub>	20						А	
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	RGP02- 12E	RGP02- 14E	RGP02- 15E	RGP02- 16E	RGP02- 17E	RGP02- 18E	RGP02- 20E	UNIT
Maximum instantaneous forward voltage	0.1 A		V <sub>F</sub>				1.8				V
Maximum DC reverse current at		T <sub>A</sub> = 25 °C	1-				5.0				
rated DC blocking voltage		T <sub>A</sub> = 125 °C	l <sub>R</sub>		50				μA		
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>	300					ns		

THERMAL CHARACTERISTICS (T <sub>A</sub> = 25 °C unless otherwise noted)									
PARAMETER	SYMBOL	RGP02- 12E	RGP02- 14E	RGP02- 15E	RGP02- 16E	RGP02- 17E	RGP02- 18E	RGP02- 20E	UNIT
Typical thermal resistance	R <sub>0JA</sub> (1)	65							°C/W
Typical thermal resistance	R <sub>0JL</sub> (1)	30						C/VV	

#### Note

<sup>(1)</sup> Thermal resistance from junction to ambient and from junction to lead 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					
RGP02-12E-E3/54	0.24	54	5500	13" diameter paper tape and reel					
RGP02-12E-E3/73	0.24	73	3000	Ammo pack packaging					

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

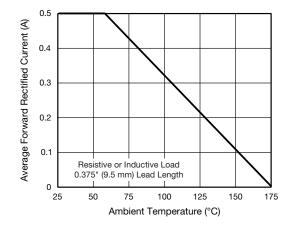


Fig. 1 - Forward Current Derating Curve

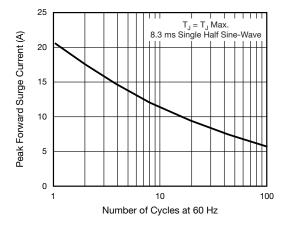


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current



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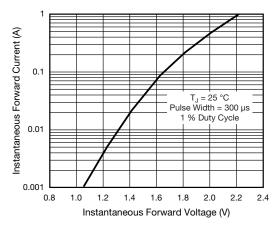


Fig. 3 - Typical Instantaneous Forward Characteristics

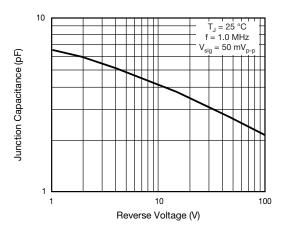


Fig. 5 - Typical Junction Capacitance

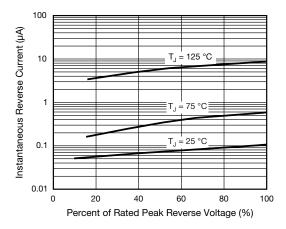
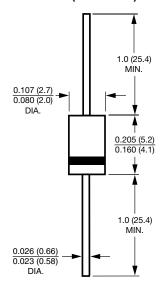


Fig. 4 - Typical Reverse Characteristics

### **PACKAGE OUTLINE DIMENSIONS** in inches (millimeters)

### DO-41 (DO-204AL)





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