

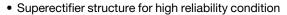
Vishay General Semiconductor

Glass Passivated Junction Fast Switching Rectifier



PRIMARY CHARACTERISTICS							
I _{F(AV)} 0.5 A							
V _{RRM}	1200 V to 2000 V						
I _{FSM}	20 A						
t _{rr}	300 ns						
I _R	5.0 μΑ						
T _J max.	175 °C						

FEATURES





- · Cavity-free glass-passivated junction
- Fast switching for high efficiency
- Low leakage current, typical I_R less than 0.2 μA
- · High forward surge capability
- Meets environmental standard MIL-S-19500
- Solder dip 275 °C max. 10 s, per JESD 22-B106
- AEC-Q101 qualified
- Compliant to RoHS Directive 2002/95/EC and in accordance to WEEE 2002/96/EC

TYPICAL APPLICATIONS

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

MECHANICAL DATA

Case: DO-204AL, 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: Color band denotes cathode end

MAXIMUM RATINGS (T _A = 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 _{RRM}	1200	1400	1500	1600	1700	1800	2000	٧
Maximum RMS voltage	V _{RMS}	840	980	1050	1120	1190	1260	1400	٧
Maximum DC blocking voltage	V_{DC}	1200	1400	1500	1600	1700	1800	2000	٧
Maximum average forward rectified current 0.375" (9.5 mm) lead length at $T_A = 55$ °C	I _{F(AV)}	I _{F(AV)} 0.5					Α		
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated	I _{FSM}	SM 20					А		
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	RGP02- 12E	RGP02- 14E	RGP02- 15E	RGP02- 16E	RGP02- 17E	RGP02- 18E	RGP02- 20E	UNIT
Maximum instantaneous forward voltage	0.1 A		V _F				1.8				V
Maximum DC reverse current at		T _A = 25 °C					5.0				
rated DC blocking voltage		T _A = 125 °C	I _R 50					μA			
Maximum reverse recovery time	$I_F = 0.5$ $I_{rr} = 0.2$	A, I _R = 1.0 A, 5 A	t _{rr}	300					ns		

THERMAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)									
PARAMETER	SYMBOL	RGP02- 12E RGP02- 15E RGP02- RGP02- RGP02- 17E RGP02- 18E 20E				RGP02- 20E	UNIT		
Typical thermal resistance	R _{0JA} (1)	65							°C/W
Typical thermal resistance	R _{0JL} (1)	30						•	G/VV

⁽¹⁾ Thermal resistance from junction to ambient and from junction to lead at 0.375" (9.5 mm) lead length, P.C.B. 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					
RGP02-12EHE3/54 (1)	0.24	54	5500	13" diameter paper tape and reel					
RGP02-12EHE3/73 (1)	0.24	73	3000	Ammo pack packaging					

Note

RATINGS AND CHARACTERISTICS CURVES

 $(T_A = 25 \, ^{\circ}C \text{ unless otherwise noted})$

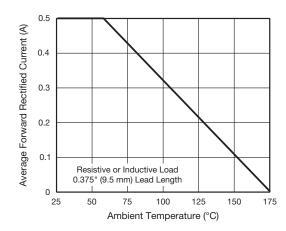


Fig. 1 - Forward Current Derating Curve

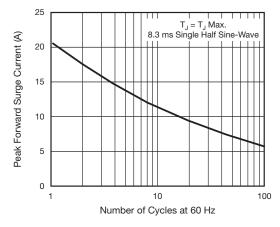


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

⁽¹⁾ AEC-Q101 qualified



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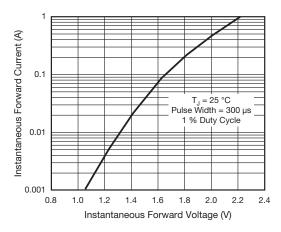


Fig. 3 - Typical Instantaneous Forward Characteristics

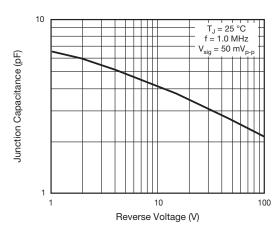


Fig. 5 - Typical Junction Capacitance

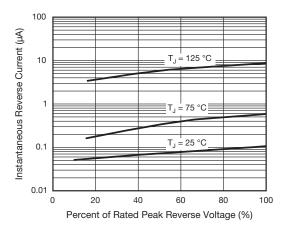
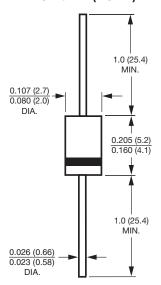


Fig. 4 - Typical Reverse Characteristics

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)







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Наши контакты:

Телефон: +7 812 627 14 35

Электронная почта: sales@st-electron.ru

Адрес: 198099, Санкт-Петербург,

Промышленная ул, дом № 19, литера Н,

помещение 100-Н Офис 331