

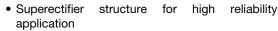
### Vishay General Semiconductor

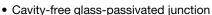
## **High Voltage Glass Passivated Junction Rectifier**



PRIMARY CHARACTERISTICS						
I <sub>F(AV)</sub>	0.25 A					
V <sub>RRM</sub>	1000 V to 4000 V					
I <sub>FSM</sub>	15 A					
I <sub>R</sub>	5.0 μΑ					
V <sub>F</sub>	3.0 V					
T <sub>J</sub> max.	175 °C					

#### **FEATURES**





· Low leakage current

· 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**

For use in rectification of high voltage power supplies, inverters, converters and freewheeling diodes application.

#### **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 <sub>A</sub> = 25 °C unless otherwise noted)							
PARAMETER	SYMBOL	GP02-20	GP02-25	GP02-30	GP02-35	GP02-40	UNIT
Maximum repetitive peak reverse voltage	V <sub>RRM</sub>	2000	2500	3000	3500	4000	V
Maximum RMS voltage	V <sub>RMS</sub>	1400	1750	2100	2450	2800	V
Maximum DC blocking voltage	V <sub>DC</sub>	2000	2500	3000	3500	4000	V
Maximum average forward rectified current 0.375" (9.5 mm) lead length at $T_A = 55$ °C	I <sub>F(AV)</sub>			0.25			Α
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I <sub>FSM</sub>	15			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	GP02-20	GP02-25	GP02-30	GP02-35	GP02-40	UNIT
Maximum instantaneous forward voltage	1.0 A		V <sub>F</sub>	3.0				V	
Maximum DC reverse current at rated DC		T <sub>A</sub> = 25 °C	l_	5.0				- µA	
blocking voltage			I <sub>R</sub>	50					μΛ
Typical reverse recovery time	$I_F = 0.5 I_{rr} = 0.25$	A, I <sub>R</sub> = 1.0 A, 5 A	t <sub>rr</sub>	2.0			μs		
Typical junction capacitance	4.0 V, 1	MHz	CJ	3.0				pF	

THERMAL CHARACTERISTICS (T <sub>A</sub> = 25 °C unless otherwise noted)						
PARAMETER SYMBOL GP02-20 GP02-25 GP02-30 GP02-35 GP02-40 UNIT					UNIT	
Typical thermal resistance	R <sub>0JA</sub> (1)	) 130 °C				°C/W

#### Note

<sup>(1)</sup> Thermal resistance from junction to ambient 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				
GP02-20E3/54	0.339	54	5500	13" diameter paper tape and reel				
GP02-20E3/73	0.339	73	3000	Ammo pack packaging				
GP02-20HE3/54 (1)	0.339	54	5500	13" diameter paper tape and reel				
GP02-20HE3/73 (1)	0.339	73	3000	Ammo pack packaging				

### Note

### **RATINGS AND CHARACTERISTICS CURVES**

(T<sub>A</sub> = 25 °C unless otherwise noted)

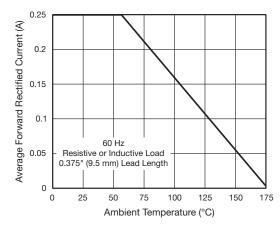


Fig. 1 - Forward Current Derating Curve

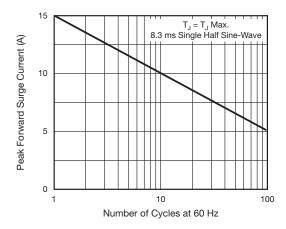


Fig. 2 - Maximum Non-repetitive Peak Forward Surge Current

<sup>(1)</sup> AEC-Q101 qualified



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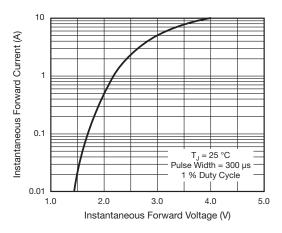


Fig. 3 - Typical Instantaneous Forward Characteristics

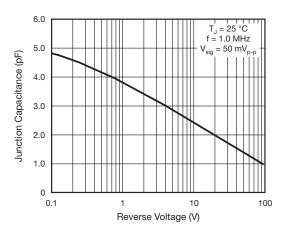


Fig. 5 - Typical Junction Capacitance

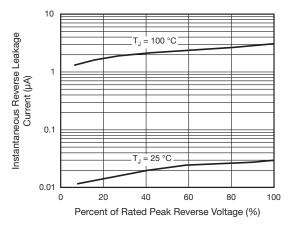
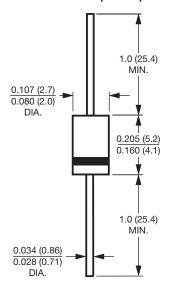


Fig. 4 - Typical Reverse Characteristics

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







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