

## High Voltage Glass Passivated Junction Plastic Rectifier


**DO-41 (DO-204AL)**
**SUPERRECTIFIER®**

### FEATURES

- Superrectifier structure for high reliability application
- Cavity-free glass-passivated junction
- Low leakage current
- High forward surge capability
- Solder dip 275 °C max. 10 s, per JESD 22-B106
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)


**RoHS**  
COMPLIANT

### TYPICAL APPLICATIONS

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

### 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

PRIMARY CHARACTERISTICS	
I <sub>F(AV)</sub>	0.25 A
V <sub>RRM</sub>	2000 V, 2500 V, 3000 V, 3500 V, 4000 V
I <sub>FSM</sub>	15 A
I <sub>R</sub>	5.0 µA
V <sub>F</sub>	3.0 V
T <sub>J</sub> max.	175 °C
Package	DO-41 (DO-204AL)
Circuit configuration	Single

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 <sub>A</sub> = 55 °C	I <sub>F(AV)</sub>	0.25					A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I <sub>FSM</sub>	15					A
Operating junction and storage temperature range	T <sub>J</sub> , T <sub>STG</sub>	-65 to +175					°C

**ELECTRICAL CHARACTERISTICS** ( $T_A = 25^\circ\text{C}$  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	$V_F$			3.0			V
Maximum DC reverse current at rated DC blocking voltage	$T_A = 25^\circ\text{C}$ $T_A = 100^\circ\text{C}$	$I_R$			5.0			$\mu\text{A}$
					50			
Typical reverse recovery time	$I_F = 0.5 \text{ A}$ , $I_R = 1.0 \text{ A}$ , $I_{rr} = 0.25 \text{ A}$	$t_{rr}$			2.0			$\mu\text{s}$
Typical junction capacitance	4.0 V, 1 MHz	$C_J$			3.0			pF

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

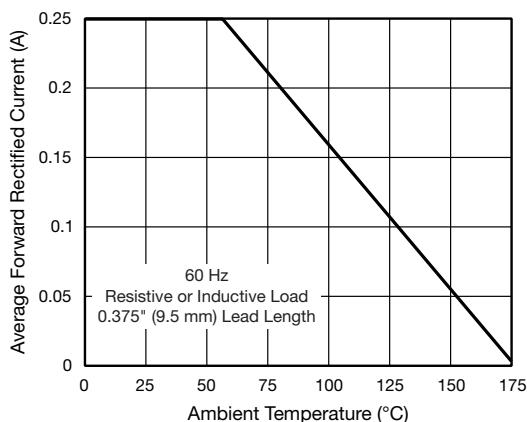
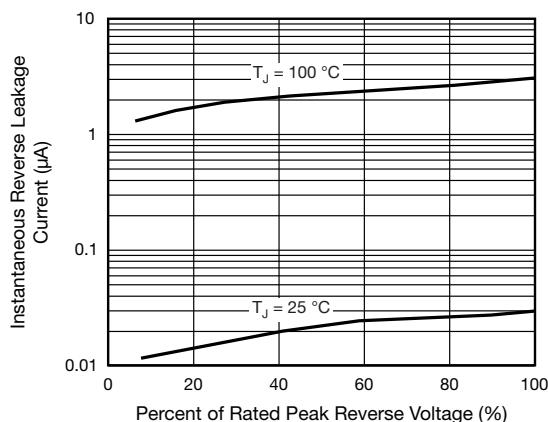
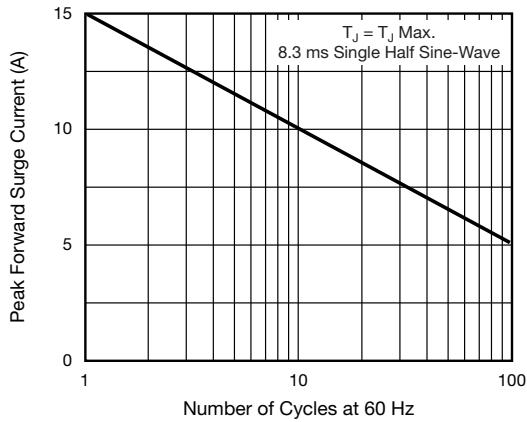
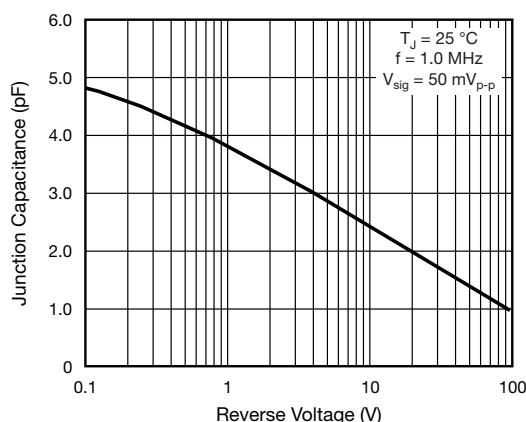
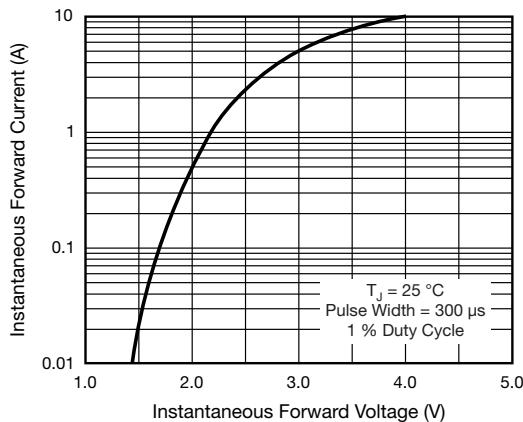
PARAMETER	SYMBOL	GP02-20	GP02-25	GP02-30	GP02-35	GP02-40	UNIT
Typical thermal resistance	$R_{\theta JA}^{(1)}$			130			$^\circ\text{C/W}$

**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
GP02-20-E3/54	0.339	54	5500	13" diameter paper tape and reel
GP02-20-E3/73	0.339	73	3000	Ammo pack packaging

**RATINGS AND CHARACTERISTICS CURVES** ( $T_A = 25^\circ\text{C}$  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**



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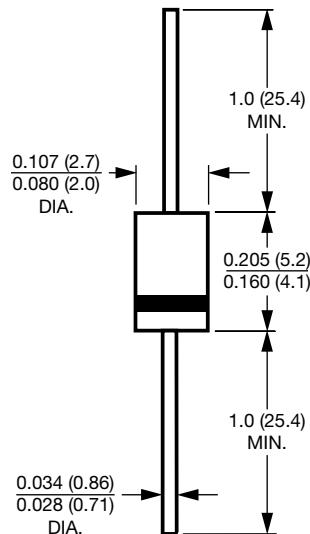
**Not for New Designs**

# GP02-20, GP02-25, GP02-30, GP02-35, GP02-40

Vishay General Semiconductor

## PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

DO-41 (DO-204AL)



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