



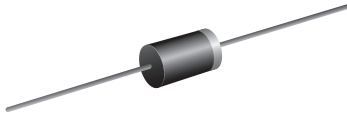
**THE DATASHEET OF  
GP02-40-E3/54**





## High Voltage Glass Passivated Junction Plastic Rectifier

SUPERECTIFIER®



DO-41 (DO-204AL)

### FEATURES

- Superectifier 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

PRIMARY CHARACTERISTICS	
$I_{F(AV)}$	0.25 A
$V_{RRM}$	2000 V, 2500 V, 3000 V, 3500 V, 4000 V
$I_{FSM}$	15 A
$I_R$	5.0 $\mu$ A
$V_F$	3.0 V
$T_J$ max.	175 °C
Package	DO-41 (DO-204AL)
Circuit configuration	Single

### 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

MAXIMUM RATINGS ( $T_A = 25\text{ °C}$ unless otherwise noted)							
PARAMETER	SYMBOL	GP02-20	GP02-25	GP02-30	GP02-35	GP02-40	UNIT
Maximum repetitive peak reverse voltage	$V_{RRM}$	2000	2500	3000	3500	4000	V
Maximum RMS voltage	$V_{RMS}$	1400	1750	2100	2450	2800	V
Maximum DC blocking voltage	$V_{DC}$	2000	2500	3000	3500	4000	V
Maximum average forward rectified current 0.375" (9.5 mm) lead length at $T_A = 55\text{ °C}$	$I_{F(AV)}$	0.25					A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	$I_{FSM}$	15					A
Operating junction and storage temperature range	$T_J, T_{STG}$	-65 to +175					°C



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

Vishay General Semiconductor

ELECTRICAL CHARACTERISTICS (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 blocking voltage	T <sub>A</sub> = 25 °C	I <sub>R</sub>			5.0			μA
	T <sub>A</sub> = 100 °C				50			
Typical reverse recovery time	I <sub>F</sub> = 0.5 A, I <sub>R</sub> = 1.0 A, I <sub>rr</sub> = 0.25 A	t <sub>rr</sub>			2.0			μs
Typical junction capacitance	4.0 V, 1 MHz	C <sub>J</sub>			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	
Typical thermal resistance	R <sub>θJA</sub> <sup>(1)</sup>			130			°C/W	

Note

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

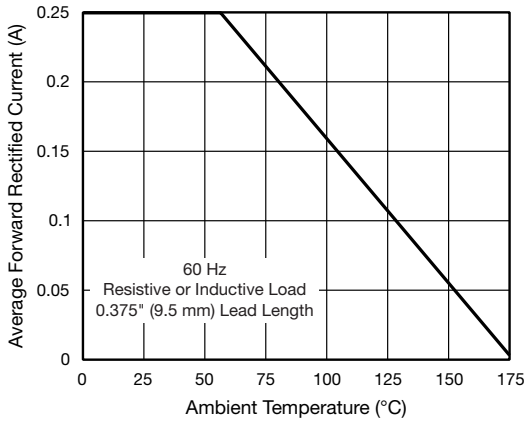


Fig. 1 - Forward Current Derating Curve

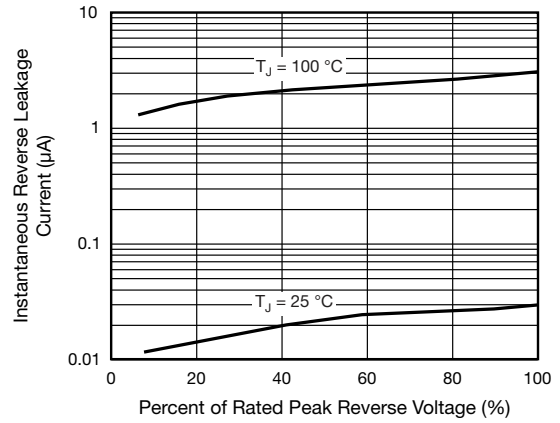


Fig. 4 - Typical Reverse Characteristics

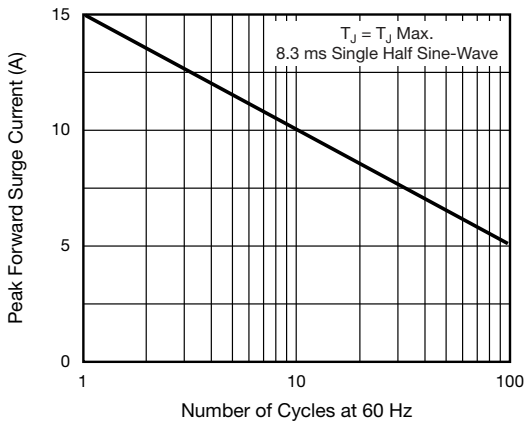


Fig. 2 - Maximum Non-repetitive Peak Forward Surge Current

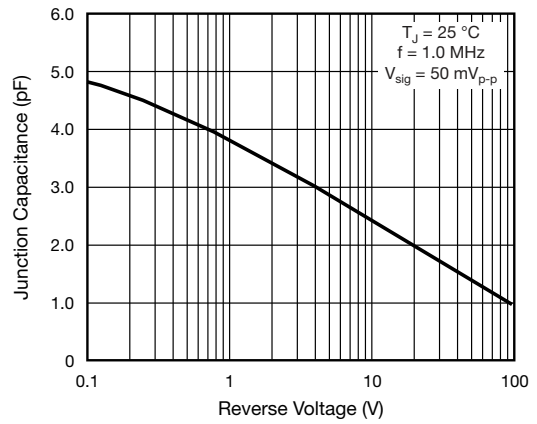


Fig. 5 - Typical Junction Capacitance

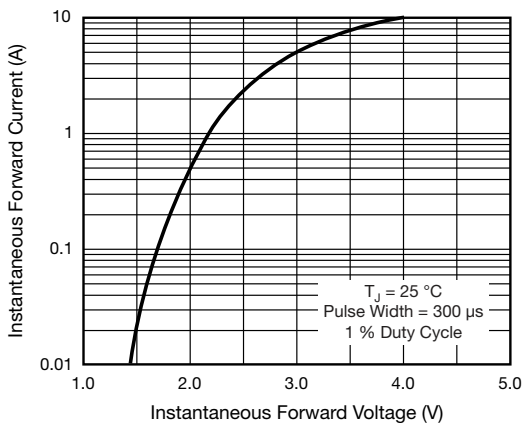
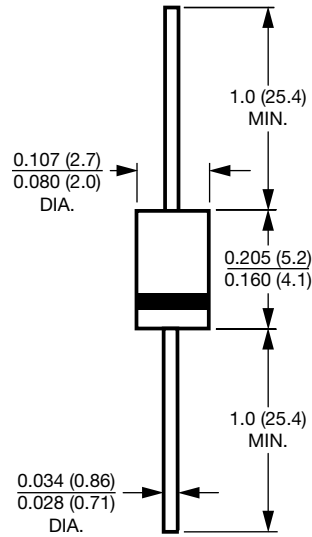


Fig. 3 - Typical Instantaneous Forward Characteristics



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

DO-41 (DO-204AL)





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