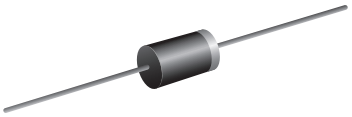
Glass Passivated Junction Plastic Rectifier

SUPERECTIFIER®



DO-41 (DO-204AL)

FEATURES

- Superectifier structure for high reliability application
- Cavity-free glass-passivated junction
- Low forward voltage drop
- 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

RoHS COMPLIANT

TYPICAL APPLICATIONS

For use in general purpose rectification of power supplies, inverters, converters and freewheeling diodes.

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	
$I_{F(AV)}$	1.0 A
V_{RRM}	100 V to 1000 V
I_{FSM}	30 A
I_R	5.0 µA
V_F	1.1 V
T_J max.	175 °C
Package	DO-41 (DO-204AL)
Circuit configuration	Single

MAXIMUM RATINGS (T_A = 25 °C unless otherwise noted)

PARAMETER	SYMBOL	GP10-4002	GP10-4003	GP10-4004	GP10-4005	GP10-4006	GP10-4007	UNIT
Maximum repetitive peak reverse voltage	V_{RRM}	100 to 1000 (fig.5)						V
Maximum average forward rectified current 0.375" (9.5 mm) lead length (fig. 1)	$I_{F(AV)}$	1.0						A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I_{FSM}	30						A
Maximum full load reverse current, full cycle average, 0.375" (9.5 mm) lead length at T_A = 75 °C	$I_{R(AV)}$	30						µA
Operating junction and storage temperature range	T_J, T_{STG}	-65 to +175						°C

ELECTRICAL CHARACTERISTICS (T_A = 25 °C unless otherwise noted)

PARAMETER	TEST CONDITIONS	SYMBOL	GP10-4002	GP10-4003	GP10-4004	GP10-4005	GP10-4006	GP10-4007	UNIT
Maximum instantaneous forward voltage	1.0 A	V_F	1.1						V
Maximum DC reverse current at rated DC blocking voltage	T_A = 25 °C	I_R	5.0						µA
	T_A = 125 °C		50						
Typical reverse recovery time	I_F = 0.5 A, I_R = 1.0 A, I_{rr} = 0.25 A	t_{rr}	3.0						µs
Typical junction capacitance	4.0 V, 1 MHz	C_J	8.0				7.0		pF

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THERMAL CHARACTERISTICS (T_A = 25 °C unless otherwise noted)								
PARAMETER	SYMBOL	GP10-4002	GP10-4003	GP10-4004	GP10-4005	GP10-4006	GP10-4007	UNIT
Typical thermal resistance	$R_{\theta JA}$ (1)	55						°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
GP10-4002-E3/54	0.335	54	5500	13" diameter paper tape and reel
GP10-4002-E3/73	0.335	73	3000	Ammo pack packaging

RATINGS AND CHARACTERISTICS CURVES (T_A = 25 °C unless otherwise noted)

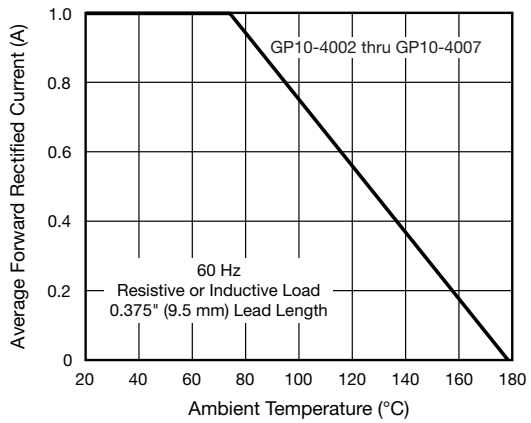


Fig. 1 - Forward Current Derating Curve

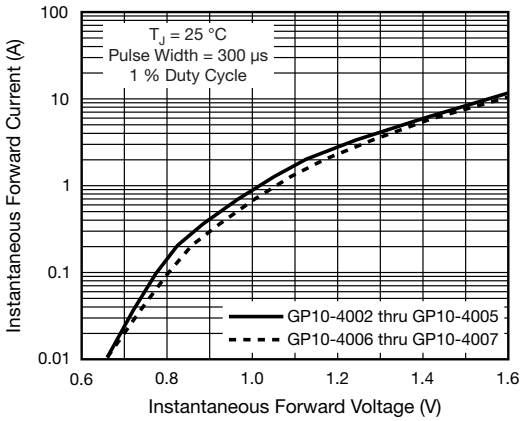


Fig. 3 - Typical Instantaneous Forward Characteristics

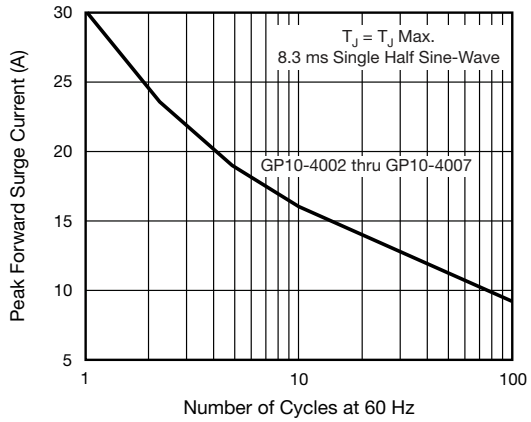


Fig. 2 - Maximum Non-repetitive Peak Forward Surge Current

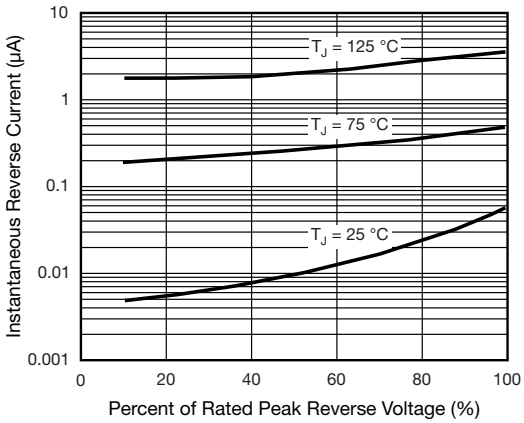


Fig. 4 - Typical Reverse Characteristics

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GP10-4002..... 100 V
GP10-4003..... 200 V
GP10-4004..... 400 V
GP10-4005..... 600 V
GP10-4006..... 800 V
GP10-4007..... 1000 V

Fig. 5 - Maximum Repetitive Peak Reverse Voltage, V_{RRM}

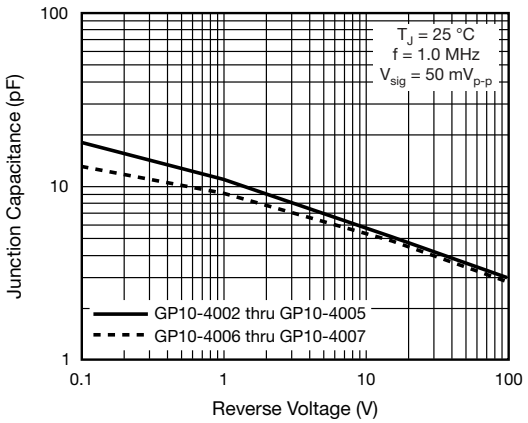
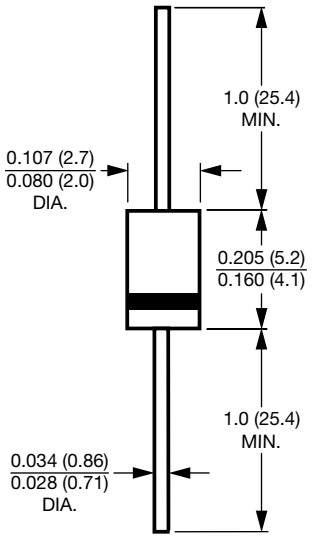


Fig. 6 - Typical Junction Capacitance

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

DO-41 (DO-204AL)



Note

- Lead diameter is $\frac{0.026\ (0.66)}{0.023\ (0.58)}$ for suffix “E” part numbers

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