

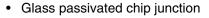
## Vishay General Semiconductor

## **Dual Common-Cathode Ultrafast Plastic Rectifier**



PRIMARY CHARACTERISTICS							
$I_{F(AV)}$	16 A						
$V_{RRM}$	50 V to 200 V						
I <sub>FSM</sub>	125 A						
t <sub>rr</sub>	35 ns						
V <sub>F</sub>	0.895 V						
T <sub>J</sub> max.	150 °C						

#### **FEATURES**





Ultrafast recovery time

· Low switching losses, high efficiency

RoHS

· High forward surge capability

• Solder dip 260 °C, 40 s

 Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC

#### **TYPICAL APPLICATIONS**

For use in high frequency rectifier of switching mode power supplies, inverters, freewheeling diodes, dc-to-dc converters, and other power switching application.

#### **MECHANICAL DATA**

Case: TO-220AB

Epoxy meets UL 94V-0 flammability rating

Terminals: Matte tin plated leads, solderable per

J-STD-002 and JESD22-B102

E3 suffix for consumer grade, meets JESD 201 class 1A whisker test, HE3 suffix for high reliability grade (AEC Q101 qualified), meets JESD 201 class 2 whisker test

Polarity: As marked

MAXIMUM RATINGS (T <sub>A</sub> = 25 °C unless otherwise noted)							
PARAMETER	SYMBOL	GI2401	GI2402	GI2403	GI2404	UNIT	
Maximum repetitive peak reverse voltage	$V_{RRM}$	50	100	150	200	٧	
Maximum RMS voltage	$V_{RMS}$	35	70	105	140	V	
Maximum DC blocking voltage	$V_{DC}$	50	100	150	200	V	
Maximum average forward rectified current at T <sub>C</sub> = 100 °C	I <sub>F(AV)</sub>		Α				
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load per diode	I <sub>FSM</sub>		Α				
Operating junction and storage temperature range	T <sub>J</sub> , T <sub>STG</sub>	- 65 to + 150					

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<b>ELECTRICAL CHARACTERISTICS</b> (T <sub>A</sub> = 25 °C unless otherwise noted)								
PARAMETER	TEST C	ONDITIONS	SYMBOL	Gl2401 Gl2402 Gl2403 Gl2404			GI2404	UNIT
Maximum instantaneous forward voltage per diode	$I_F = 4 A$ $I_F = 8 A$ $I_F = 4 A$ $I_F = 8 A$	$T_J = 25 ^{\circ}\text{C}$ $T_J = 25 ^{\circ}\text{C}$ $T_J = 100 ^{\circ}\text{C}$ $T_J = 100 ^{\circ}\text{C}$	V <sub>F</sub>	0.900 0.975 0.800 0.895			<b>V</b>	
Maximum DC reverse current at rated DC blocking voltage per diode		T <sub>C</sub> = 25 °C T <sub>C</sub> = 100 °C	I <sub>R</sub>			5.0 500	μΑ	
Maximum reverse recovery time per diode	$I_F = 0.5 A$ $I_{rr} = 0.25 A$	, I <sub>R</sub> = 1.0 A,	t <sub>rr</sub>	35			ns	
Typical junction capacitance per diode	4.0 V, 1 M	Hz	CJ	85			pF	

THERMAL CHARACTERISTICS (T <sub>A</sub> = 25 °C unless otherwise noted)							
PARAMETER	SYMBOL	GI2401	GI2402	GI2403	GI2404	UNIT	
Typical thermal resistance per diode <sup>(1)</sup>	$R_{ hetaJA} \ R_{ hetaJC}$	16 2.2				°C/W	

#### Note:

(1) Thermal resistance from junction to ambient and from junction to case per leg mounted on heatsink

ORDERING INFORMATION (Example)									
PACKAGE	PREFERRED P/N	UNIT WEIGHT (g)	PACKAGE CODE	BASE QUANTITY	DELIVERY MODE				
TO-220AB	GI2401-E3/45	1.85	45	50/tube	Tube				
TO-220AB	GI2401HE3/45 (1)	1.85	45	50/tube	Tube				

### Note:

(1) Automotive grade AEC Q101 qualified

### **RATINGS AND CHARACTERISTICS CURVES**

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

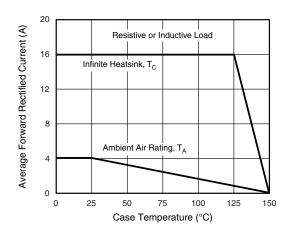


Figure 1. Maximum Forward Current Derating Curve

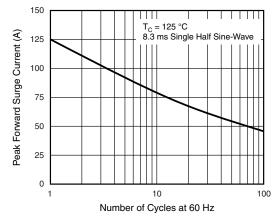


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current Per Diode



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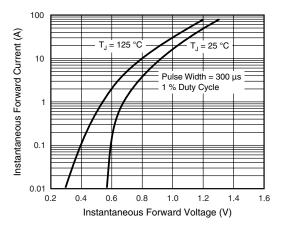


Figure 3. Typical Instantaneous Forward Characteristics Per Diode

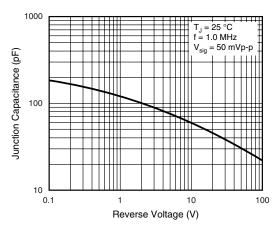


Figure 5. Typical Junction Capacitance Per Diode

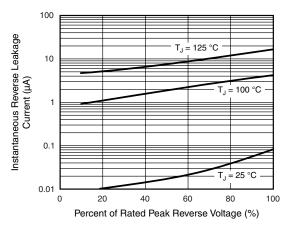
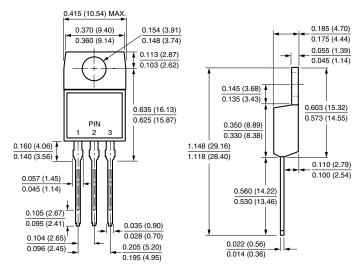


Figure 4. Typical Reverse Leakage Characteristics Per Diode

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

#### TO-220AB







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Document Number: 91000 www.vishay.com Revision: 11-Mar-11