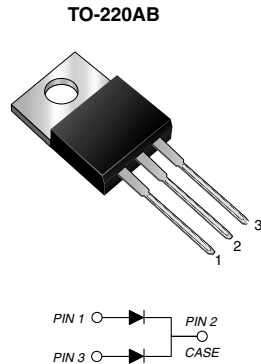


## Dual Common-Cathode Ultrafast Plastic Rectifier



PRIMARY CHARACTERISTICS	
$I_{F(AV)}$	16 A
$V_{RRM}$	50 V to 200 V
$I_{FSM}$	125 A
$t_{rr}$	35 ns
$V_F$	0.895 V
$T_J \text{ max.}$	150 °C

### FEATURES

- Glass passivated chip junction
- Ultrafast recovery time
- Low switching losses, high efficiency
- High forward surge capability
- Solder dip 260 °C, 40 seconds
- 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, free-wheeling 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-002B and JESD22-B102D

E3 suffix for commercial grade, HE3 suffix for high reliability grade (AEC Q101 qualified)

**Polarity:** As marked

MAXIMUM RATINGS ( $T_A = 25\text{ °C}$ unless otherwise noted)						
PARAMETER	SYMBOL	GI2401	GI2402	GI2403	GI2404	UNIT
Maximum repetitive peak reverse voltage	$V_{RRM}$	50	100	150	200	V
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 $T_C = 100\text{ °C}$	$I_{F(AV)}$	16				A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load per diode	$I_{FSM}$	125				A
Operating junction and storage temperature range	$T_J, T_{STG}$	- 65 to + 150				°C

<b>ELECTRICAL CHARACTERISTICS</b> ( $T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)							
PARAMETER	TEST CONDITIONS	SYMBOL	GI2401	GI2402	GI2403	GI2404	UNIT
Maximum instantaneous forward voltage per diode	$I_F = 4\text{ A}, T_J = 25\text{ }^\circ\text{C}$ $I_F = 8\text{ A}, T_J = 25\text{ }^\circ\text{C}$ $I_F = 4\text{ A}, T_J = 100\text{ }^\circ\text{C}$ $I_F = 8\text{ A}, T_J = 100\text{ }^\circ\text{C}$	$V_F$		0.900 0.975			V
Maximum DC reverse current at rated DC blocking voltage per diode	$T_C = 25\text{ }^\circ\text{C}$ $T_C = 100$	$I_R$		50 150		5.0 500	$\mu\text{A}$
Maximum reverse recovery time per diode	at $I_F = 0.5\text{ A}, I_R = 1.0\text{ A}, I_{rr} = 0.25\text{ A}$	$t_{rr}$		35			ns
Typical junction capacitance per diode	at 4.0 V, 1 MHz	$C_J$		85			pF

<b>THERMAL CHARACTERISTICS</b> ( $T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)							
PARAMETER	SYMBOL	GI2401	GI2402	GI2403	GI2404	UNIT	
Typical thermal resistance per diode <sup>(1)</sup>	$R_{\theta JA}$ $R_{\theta JC}$		16 2.2			$^\circ\text{C/W}$	

**Note:**

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

<b>ORDERING INFORMATION</b> (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 <sup>(1)</sup>	1.85	45	50/Tube	Tube

**Note:**

(1) Automotive grade AEC Q101 qualified

## RATINGS AND CHARACTERISTICS CURVES

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

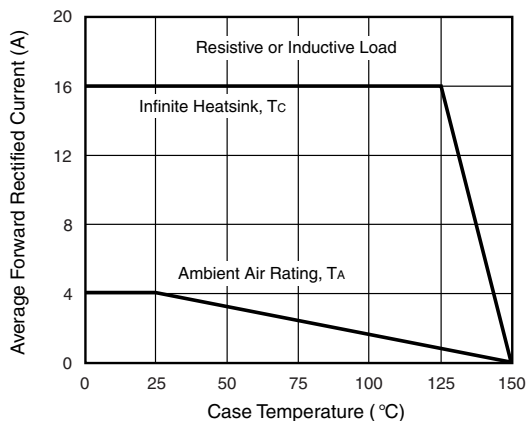


Figure 1. Maximum Forward Current Derating Curve

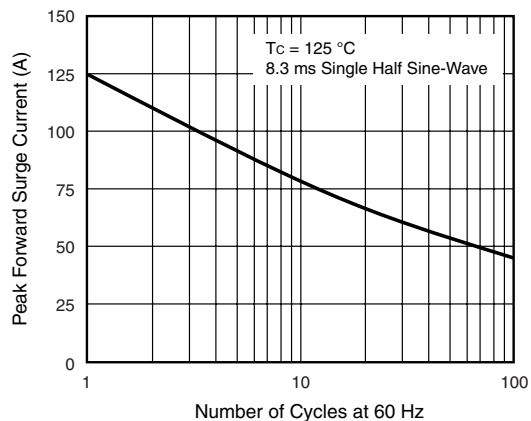


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current Per Diode

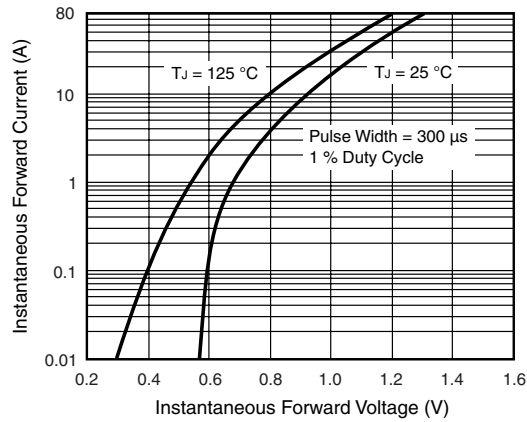


Figure 3. Typical Instantaneous Forward Characteristics Per Diode

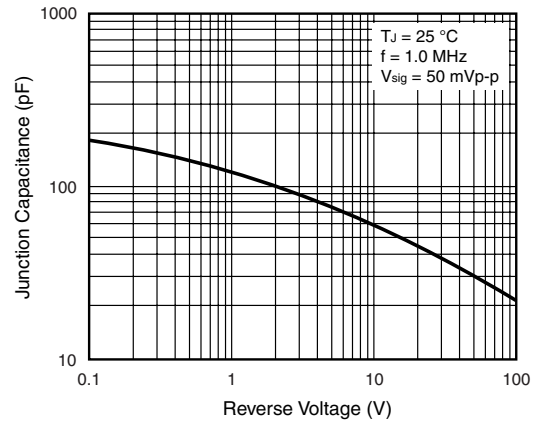


Figure 5. Typical Junction Capacitance Per Diode

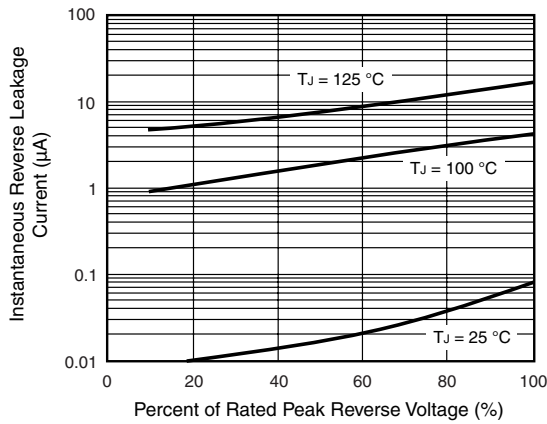
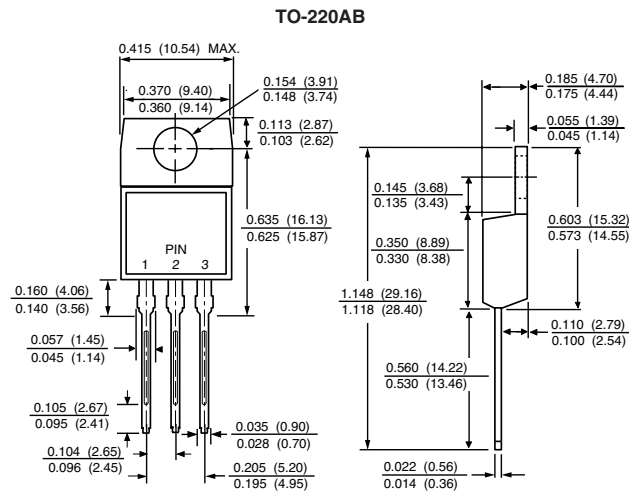


Figure 4. Typical Reverse Leakage Characteristics Per Diode

### PACKAGE OUTLINE DIMENSIONS in inches (millimeters)





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