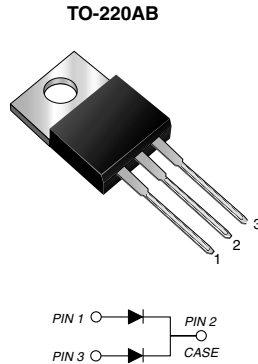


Dual Common Cathode Ultrafast Plastic Rectifier



FEATURES

- Power pack
- Glass passivated chip junction
- Ultrafast recovery time
- Low switching losses, high efficiency
- High forward surge capability
- Solder dip 275 °C max., 10 s per JESD 22-B106
- AEC-Q101 qualified
- Material categorization: For definitions of compliance please see www.vishay.com/doc?99912


RoHS
COMPLIANT

TYPICAL APPLICATIONS

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

MECHANICAL DATA

Case: TO-220AB

Molding compound meets UL 94V-0 flammability rating
 Base P/N-E3 - RoHS-compliant, commercial grade
 Base P/NHE3 - RoHS-compliant, AEC-Q101 qualified

Terminals: Matte tin plated leads, solderable per J-STD-002 and JESD22-B102

E3 suffix meets JESD 201 class 1A whisker test, HE3 suffix meets JESD 201 class 2 whisker test

Polarity: As marked

PRIMARY CHARACTERISTICS	
$I_{F(AV)}$	16 A
V_{RRM}	50 V, 100 V, 150 V, 200 V
I_{FSM}	125 A
t_{rr}	35 ns
V_F at I_F	0.895 V
T_J max.	150 °C
Package	TO-220AB
Diode variation	Common cathode

MAXIMUM RATINGS ($T_A = 25$ °C unless otherwise noted)						
PARAMETER	SYMBOL	GI2401	GI2402	GI2403	GI2404	UNIT
Max. repetitive peak reverse voltage	V_{RRM}	50	100	150	200	V
Max. RMS voltage	V_{RMS}	35	70	105	140	V
Max. DC blocking voltage	V_{DC}	50	100	150	200	V
Max. average forward rectified current at $T_C = 100$ °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

ELECTRICAL CHARACTERISTICS ($T_A = 25$ °C unless otherwise noted)							
PARAMETER	TEST CONDITIONS	SYMBOL	GI2401	GI2402	GI2403	GI2404	UNIT
Max. instantaneous forward voltage per diode	$I_F = 4$ A, $T_J = 25$ °C	V_F	0.900				V
	$I_F = 8$ A, $T_J = 25$ °C		0.975				
	$I_F = 4$ A, $T_J = 100$ °C		0.800				
	$I_F = 8$ A, $T_J = 100$ °C		0.895				
Max. DC reverse current at rated DC blocking voltage per diode	$T_C = 25$ °C	I_R	50		5.0		μ A
	$T_C = 100$ °C		150		500		
Max. reverse recovery time per diode	$I_F = 0.5$ A, $I_R = 1.0$ A, $I_{rr} = 0.25$ A	t_{rr}	35				ns
Typical junction capacitance per diode	4.0 V, 1 MHz	C_J	85				pF



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

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⁾ AEC-Q101 qualified

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

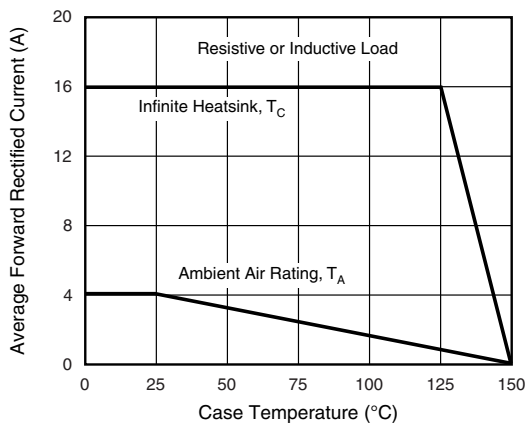


Fig. 1 - Max. Forward Current Derating Curve

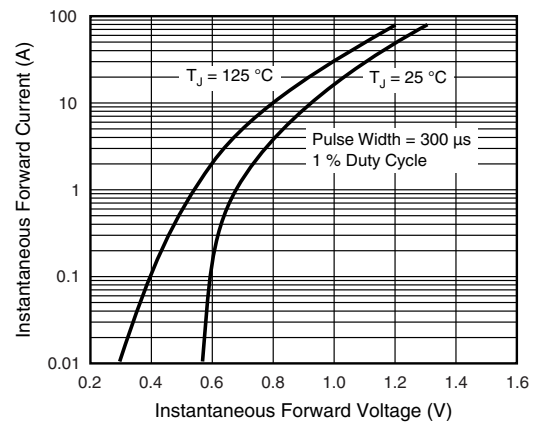


Fig. 3 - Typical Instantaneous Forward Characteristics Per Diode

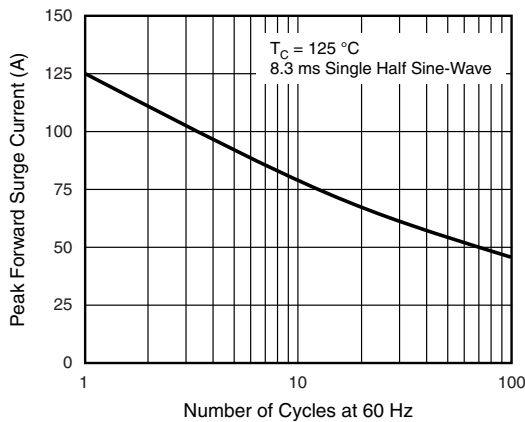


Fig. 2 - Max. Non-Repetitive Peak Forward Surge Current Per Diode

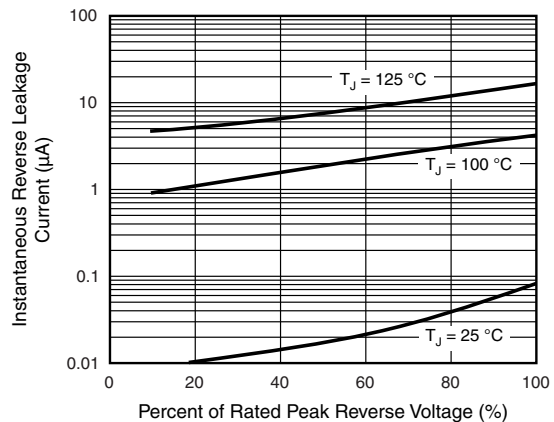


Fig. 4 - Typical Reverse Leakage Characteristics Per Diode

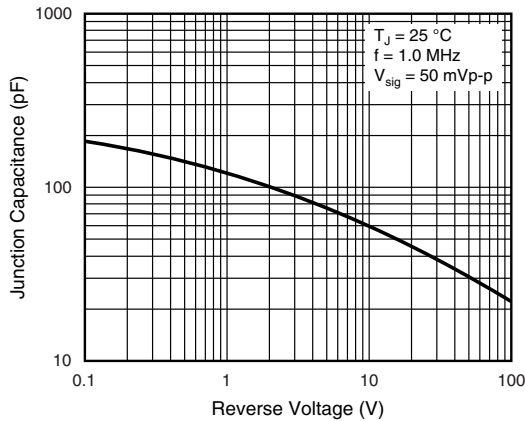
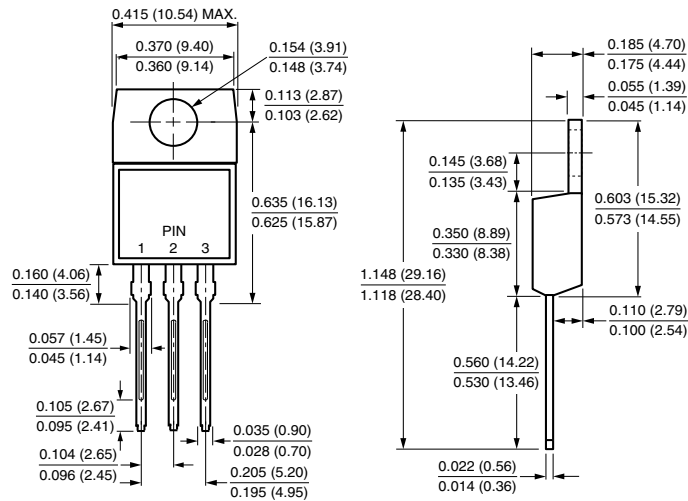


Fig. 5 - Typical Junction Capacitance Per Diode

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

TO-220AB





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