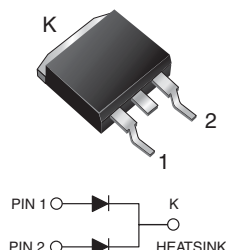


Dual Common Cathode Ultrafast Plastic Rectifier

D²PAK (TO-263AB)


DESIGN SUPPORT TOOLS AVAILABLE



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	0.895 V
$T_J \text{ max.}$	150 °C
Package	D ² PAK (TO-263AB)
Circuit configurations	Common cathode

FEATURES

- Power pack
- Glass passivated chip junction
- Ultrafast recovery time
- Low switching losses, high efficiency
- High forward surge capability
- Meets MSL level 1, per J-STD-020, LF maximum peak of 245 °C
- AEC-Q101 qualified available
 - Automotive ordering code: base P/NHE3
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912



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: D²PAK (TO-263AB)

Molding compound meets UL 94V-0 flammability rating Base P/N-E3 - RoHS-compliant, commercial grade Base P/NHE3_X - RoHS-compliant and AEC-Q101 qualified ("_X" denotes revision code e.g. A, B,...)

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

Mounting Torque: 10 in-lbs max.

MAXIMUM RATINGS ($T_A = 25\text{ °C}$ unless otherwise noted)						
PARAMETER	SYMBOL	GIB2401	GIB2402	GIB2403	GIB2404	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 $T_C = 125\text{ °C}$	$I_{F(AV)}$	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

ELECTRICAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)								
PARAMETER	TEST CONDITIONS		SYMBOL	GIB2401	GIB2402	GIB2403	GIB2404	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 per diode at rated DC blocking voltage		T _C = 25 °C	I _R	50			5.0	μA
		T _C = 100 °C		150			500	
Max. reverse recovery time	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 V, 1 MHz		C _J	85				pF



THERMAL CHARACTERISTICS ($T_C = 25\text{ }^{\circ}\text{C}$ unless otherwise noted)

PARAMETER	SYMBOL	GIB2401	GIB2402	GIB2403	GIB2404	UNIT
Typical thermal resistance per diode ⁽¹⁾	$R_{\theta JC}$	1.2				$^{\circ}\text{C/W}$

Note

⁽¹⁾ Thermal resistance 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-263AB	GIB2401-E3/45	1.35	45	50/tube	Tube
TO-263AB	GIB2401-E3/81	1.35	81	900/reel	Tape and reel
TO-263AB	GIB2401HE3_A/P ⁽¹⁾	1.35	P	50/tube	Tube
TO-263AB	GIB2401HE3_A/I ⁽¹⁾	1.35	I	900/reel	Tape and reel

Note

⁽¹⁾ AEC-Q101 qualified

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

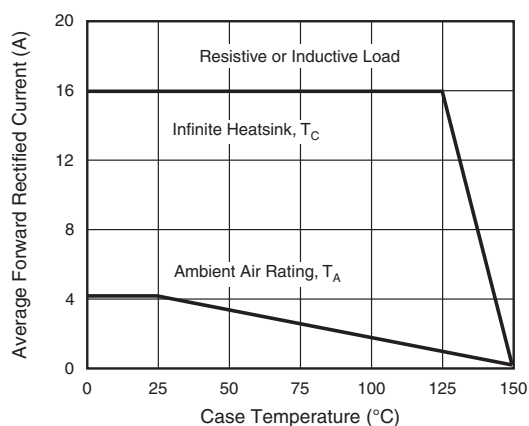


Fig. 1 - Max. Forward Current Derating Curve

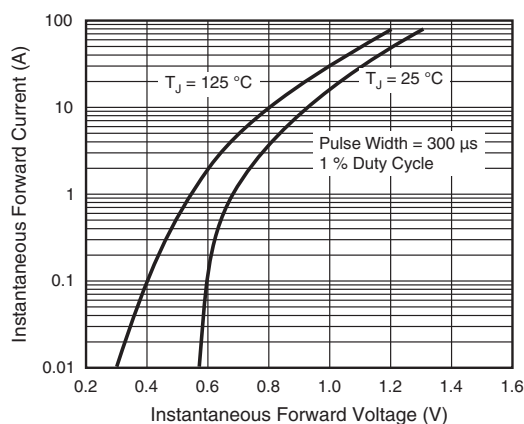


Fig. 3 - Typical Instantaneous Forward Characteristics Per Diode

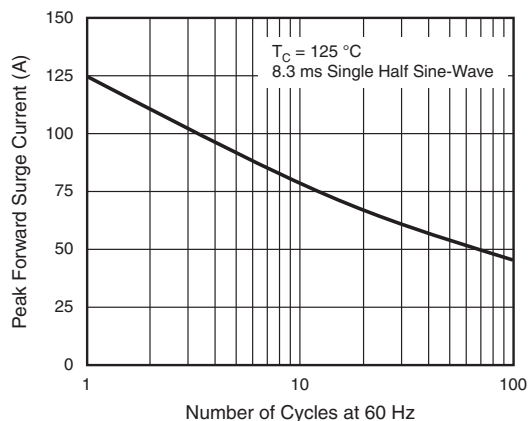


Fig. 2 - Max. Non-Repetitive Peak Forward Surge Current Per Diode

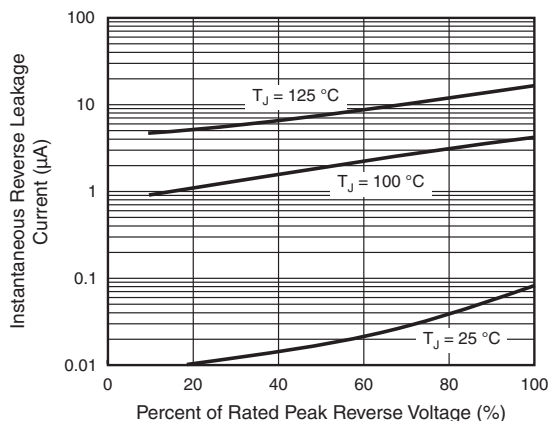


Fig. 4 - Typical Reverse Leakage Characteristics Per Diode

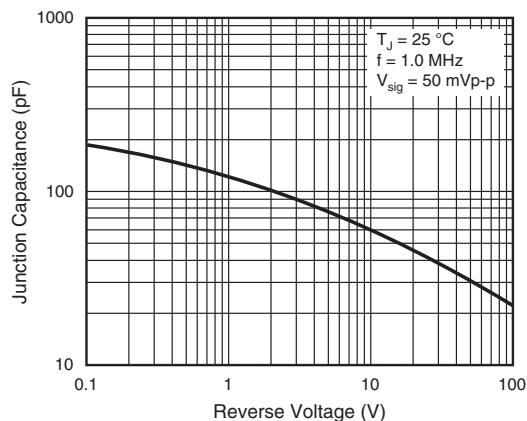
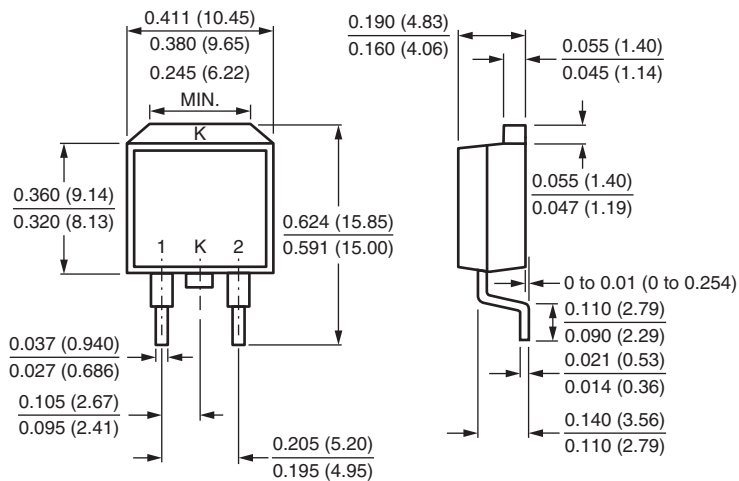
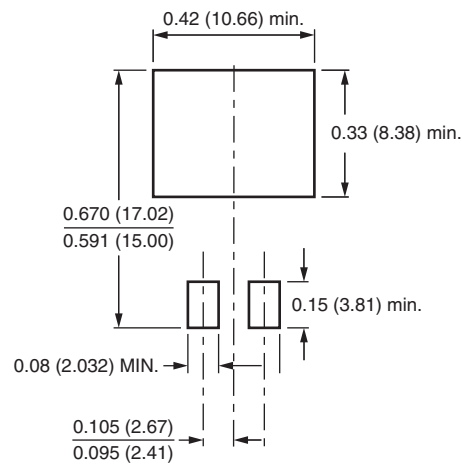


Fig. 5 - Typical Junction Capacitance Per Diode

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

D²PAK (TO-263AB)

Mounting Pad Layout




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