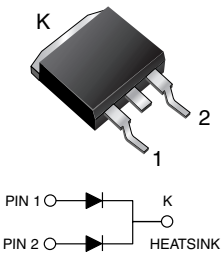
Dual Common Cathode Ultrafast Plastic Rectifier

D²PAK (TO-263AB)



LINKS TO ADDITIONAL RESOURCES

3D Models

PRIMARY CHARACTERISTICS	
$I_{F(AV)}$	16 A
V_{RRM}	200 V
I_{FSM}	125 A
t_{rr}	35 ns
V_F	0.895 V
T_J max.	150 °C
Package	D²PAK (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/NHM3
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

RoHS COMPLIANT
HALOGEN FREE

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 94 V-0 flammability rating

Base P/N-M3 - RoHS-compliant, halogen-free, commercial grade

Base P/NHM3 - RoHS-compliant, halogen-free, AEC-Q101 qualified

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

M3 suffix meets JESD 201 class 1A whisker test, HM3 suffix meets JESD 201 class 2 whisker test

Polarity: as marked

Mounting Torque: 10 in-lbs max.

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

PARAMETER	SYMBOL	GIB2404	UNIT
Max. repetitive peak reverse voltage	V_{RRM}	200	V
Max. RMS voltage	V_{RMS}	140	V
Max. DC blocking voltage	V_{DC}	200	V
Max. average forward rectified current at T_C = 125 °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	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	5.0	μA
		T_C = 100 °C		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 °C unless otherwise noted)			
PARAMETER	SYMBOL	GIB2404	UNIT
Typical thermal resistance per diode (1)	$R_{\theta JC}$	1.2	°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
D^2PAK (TO-263AB)	GIB2404-M3/I	1.35	I	900/reel	Tape and reel
D^2PAK (TO-263AB)	GIB2404HM3/I (1)	1.35	I	900/reel	Tape and reel

Note

(1) AEC-Q101 qualified

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

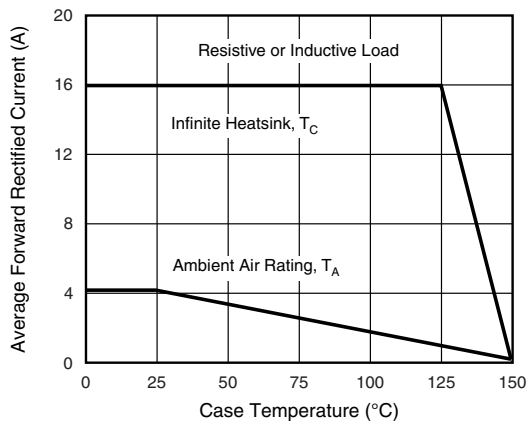


Fig. 1 - Max. Forward Current Derating Curve

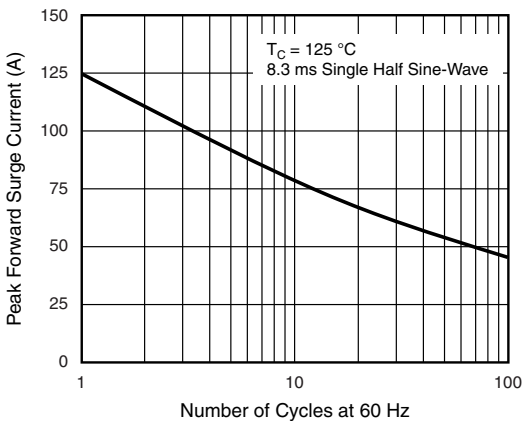


Fig. 2 - Max. Non-Repetitive Peak Forward Surge Current Per Diode

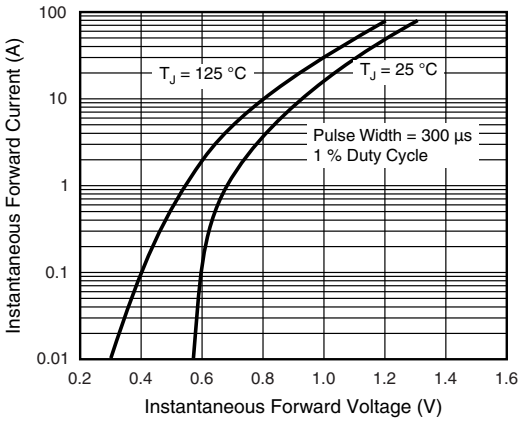


Fig. 3 - Typical Instantaneous Forward Characteristics Per Diode

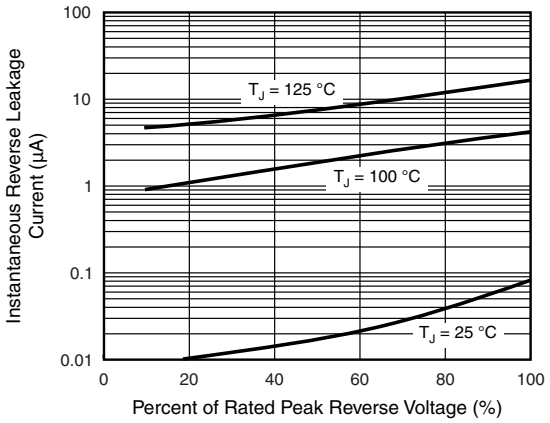


Fig. 4 - Typical Reverse Leakage Characteristics Per Diode

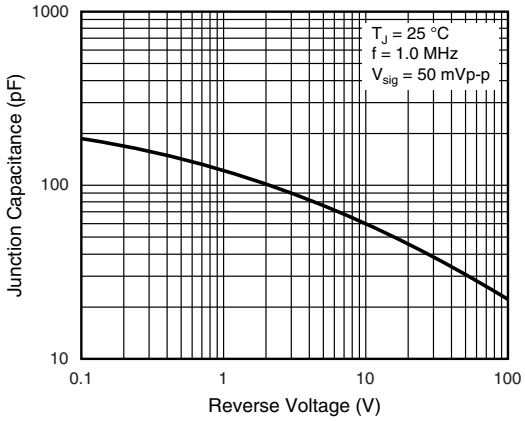
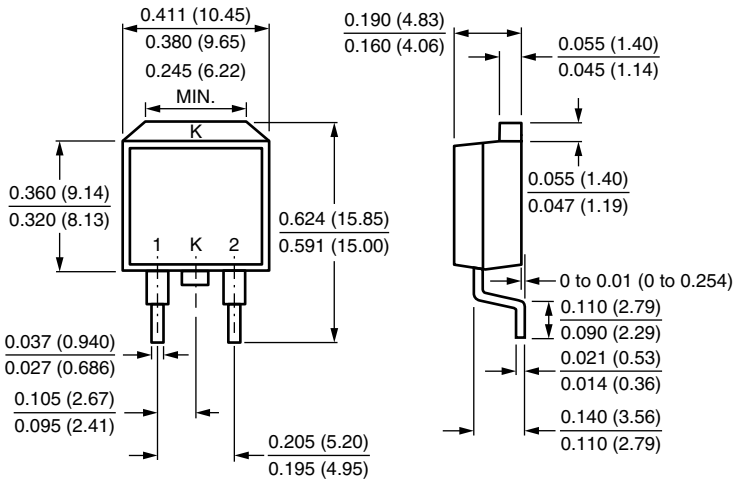


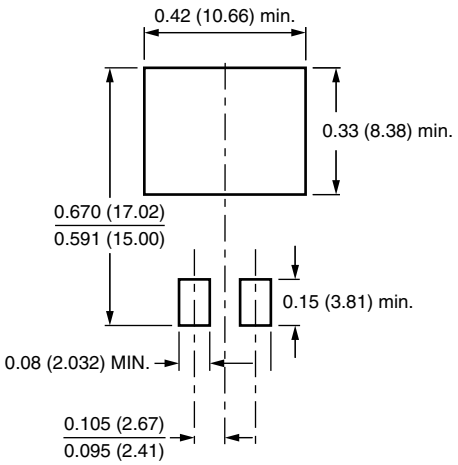
Fig. 5 - Typical Junction Capacitance Per Diode

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

D²PAK (TO-263AB)



Mounting Pad Layout



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