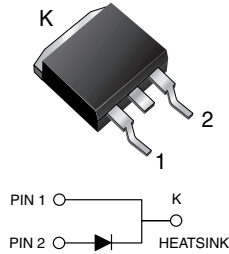


Ultrafast Plastic Rectifier

D²PAK (TO-263AB)


LINKS TO ADDITIONAL RESOURCES



PRIMARY CHARACTERISTICS	
$I_{F(AV)}$	8.0 A
V_{RRM}	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	Single

FEATURES

- Power pack
- Glass passivated pellet chip junction
- Ultrafast recovery time
- Low switching losses, high efficiency
- Low leakage current
- 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 94V-0 flammability rating
 Base P/N-M3 - RoHS-compliant, 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 ($T_A = 25\text{ °C}$ unless otherwise noted)			
PARAMETER	SYMBOL	GIB1404	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 $T_C = 125\text{ °C}$	$I_{F(AV)}$	8.0	A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I_{FSM}	125	A
Operating and storage temperature range	T_J, T_{STG}	-65 to +150	°C



ELECTRICAL CHARACTERISTICS ($T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)						
PARAMETER	TEST CONDITIONS		SYMBOL	GIB1404	UNIT	
Max. instantaneous forward voltage	$I_F = 4\text{ A}$	$T_J = 25\text{ }^\circ\text{C}$	V_F	0.900	V	
	$I_F = 8\text{ A}$	$T_J = 25\text{ }^\circ\text{C}$		0.975		
	$I_F = 4\text{ A}$	$T_J = 100\text{ }^\circ\text{C}$		0.800		
	$I_F = 8\text{ A}$	$T_J = 100\text{ }^\circ\text{C}$		0.895		
Max. DC reverse current at rated DC blocking voltage			I_R	$T_C = 25\text{ }^\circ\text{C}$	5.0	μA
				$T_C = 100\text{ }^\circ\text{C}$	150	
Max. reverse recovery time	$I_F = 0.5\text{ A}, I_R = 1.0\text{ A}, I_{rr} = 0.25\text{ A}$		t_{rr}	35	ns	
Typical junction capacitance	4 V, 1 MHz		C_J	85	pF	

THERMAL CHARACTERISTICS ($T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)			
PARAMETER	SYMBOL	GIB1404	UNIT
Typical thermal resistance ⁽¹⁾	$R_{\theta JC}$	2.25	$^\circ\text{C/W}$

Note

⁽¹⁾ Thermal resistance from junction to case mounted on heatsink

ORDERING INFORMATION					
PACKAGE	PREFERRED P/N	UNIT WEIGHT (g)	PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
D ² PAK (TO-263AB)	GIB1404-M3/I	1.33	I	900/reel	Tape and reel
D ² PAK (TO-263AB)	GIB1404HM3/I ⁽¹⁾	1.33	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)

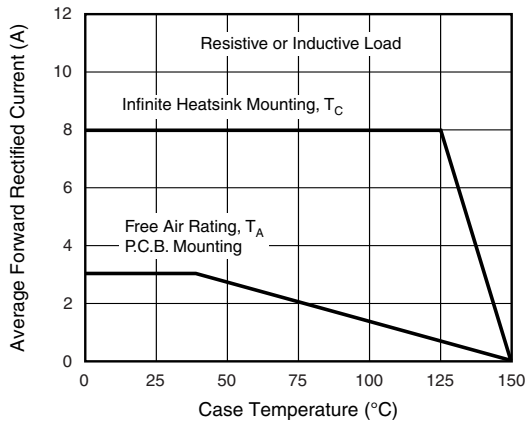


Fig. 1 - Max. Forward Current Derating Curve

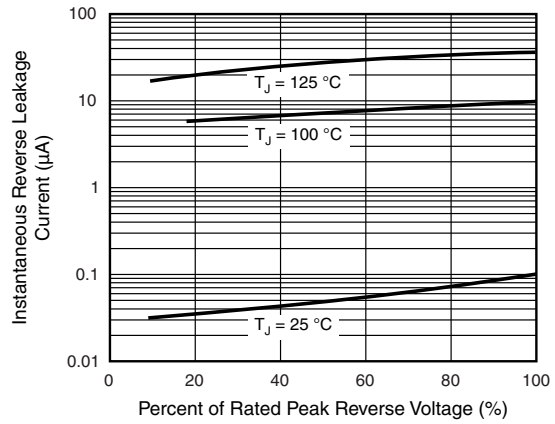


Fig. 4 - Typical Reverse Leakage Characteristics

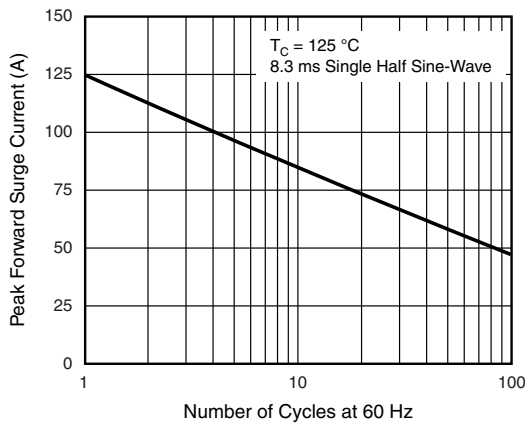


Fig. 2 - Max. Non-Repetitive Peak Forward Surge Current

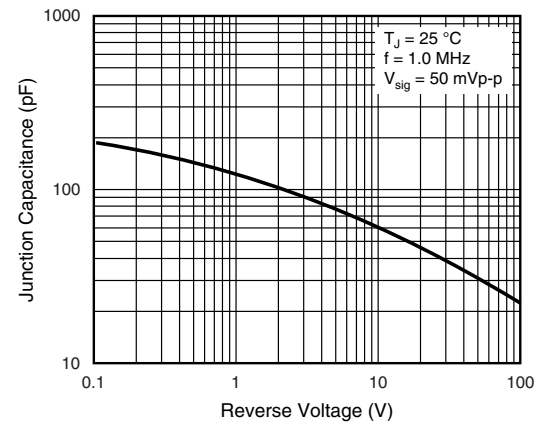


Fig. 5 - Typical Junction Capacitance

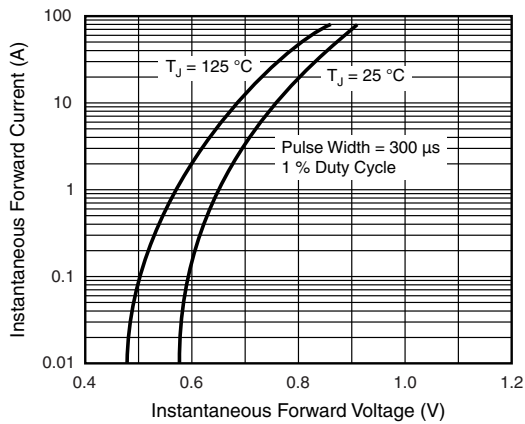
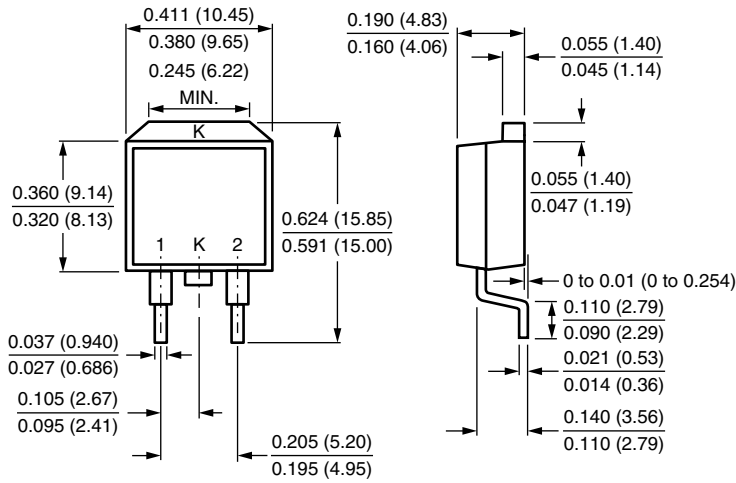


Fig. 3 - Typical Instantaneous Forward Characteristics

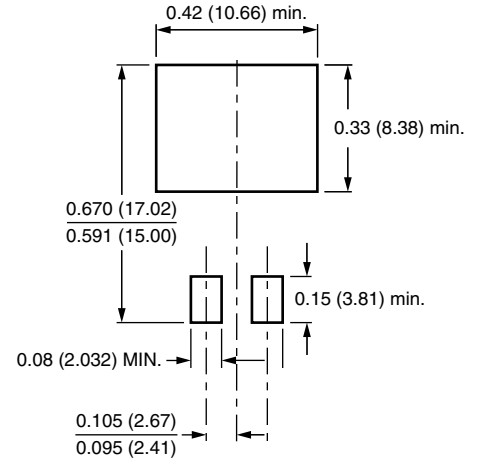


PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

D²PAK (TO-263AB)



Mounting Pad Layout





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