HALOGEN

FREE

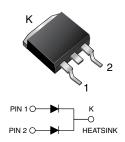


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Vishay General Semiconductor

Dual Common Cathode Ultrafast Plastic Rectifier

D²PAK (TO-263AB)



LINKS TO ADDITIONAL RESOURCES



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	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/NHM3
- 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 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	Α	
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load per diode		125	А	
Operating junction and storage temperature range	T _J , T _{STG}	-65 to +150	°C	



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ELECTRICAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)					
PARAMETER	TEST CO	NDITIONS	SYMBOL	GIB2404	UNIT
Max. instantaneous forward voltage per diode	I _F = 4 A	T _J = 25 °C		0.900	V
	I _F = 8 A	T _J = 25 °C	V _F	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	μА
		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		CJ	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 ² PAK (TO-263AB)	GIB2404-M3/I	1.35	I	900/reel	Tape and reel	
D ² PAK (TO-263AB)	GIB2404HM3/I (1)	1.35	l	900/reel	Tape and reel	

Note

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

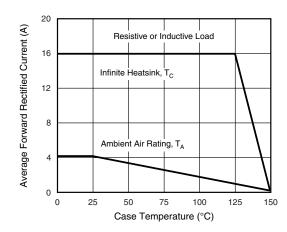


Fig. 1 - Max. Forward Current Derating Curve

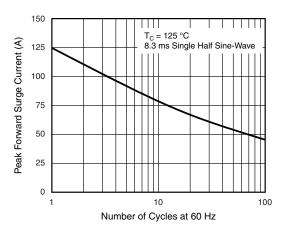


Fig. 2 - Max. Non-Repetitive Peak Forward Surge Current Per Diode

⁽¹⁾ AEC-Q101 qualified



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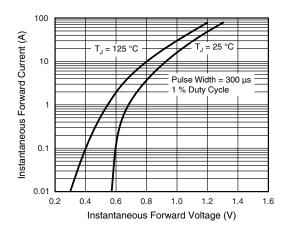


Fig. 3 - Typical Instantaneous Forward Characteristics
Per Diode

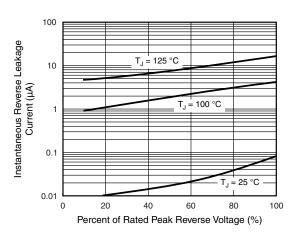


Fig. 4 - Typical Reverse Leakage Characteristics Per Diode

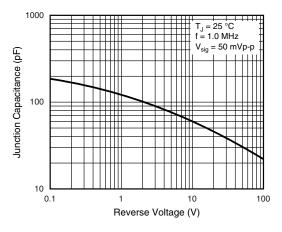
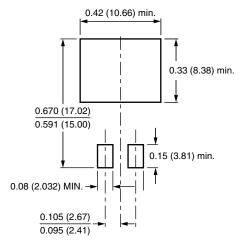


Fig. 5 - Typical Junction Capacitance Per Diode

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

D²PAK (TO-263AB) 0.411 (10.45) 0.190 (4.83) 0.380 (9.65) 0.055 (1.40) 0.160 (4.06) 0.245 (6.22) 0.045 (1.14) MIN. 0.055 (1.40) 0.360 (9.14) 0.047 (1.19) 0.320 (8.13) 0.624 (15.85) 0.591 (15.00) ← 0 to 0.01 (0 to 0.254) 0.110 (2.79) 0.037 (0.940) 0.021 (0.53) 0.027 (0.686) 0.014 (0.36) 0.105 (2.67) 0.140 (3.56) 0.095 (2.41) 0.110 (2.79) 0.205 (5.20) 0.195 (4.95)

Mounting Pad Layout





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