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Vishay General Semiconductor

Dual Common Cathode Ultrafast Plastic Rectifier





FEPF16xT Series



LINKS TO ADDITIONAL RESOURCES



PRIMARY CHARACTERISTICS					
I _{F(AV)}	2 x 8.0 A				
V _{RRM}	300 V to 600 V				
I _{FSM}	125 A				
t _{rr}	50 ns				
V_{F}	1.30 V, 1.50 V				
T _J max.	150 °C				
Package	ITO-220AB				
Circuit configurations	Common cathode				

FEATURES

- Power pack
- · Glass passivated pellet 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 for ITO-220AB package
- 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: ITO-220AB

Molding compound meets UL 94 V-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 JESD 22-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 _C = 25 °C unless otherwise noted)							
PARAMETER	SYMBOL	FEPF16FT	FEPF16GT	FEPF16HT	FEPF16JT	UNIT	
Maximum repetitive peak reverse voltage	V_{RRM}	300	400	500	600	V	
Maximum RMS voltage	V_{RMS}	210	280	350	420	V	
Maximum DC blocking voltage	V_{DC}	300	400	500	600	V	
Maximum average forward rectified current at $T_C = 100 ^{\circ}C$	I _{F(AV)}	16			Α		
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load per diode	I _{FSM}	125			Α		
Operating storage and temperature range	T _J , T _{STG}	-55 to +150			°C		
Isolation voltage from terminal to heatsink t = 1 min	V_{AC}	1500			V		



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ELECTRICAL CHARACTERISTICS (T _C = 25 °C unless otherwise noted)							
PARAMETER	TEST CONDITIONS	SYMBOL	FEPF16FT	FEPF16GT	FEPF16HT FEPF16JT	UNIT	
Maximum instantaneous forward voltage per diode	8.0 A	V _F ⁽¹⁾	1.3		1.5	V	
Maximum DC reverse current per diode	T _C = 25 °C	I_	10			μΑ	
at rated DC blocking voltage	T _C = 100 °C	I _R		00			
Maximum reverse recovery time per diode	$I_F = 0.5 \text{ A}, I_R = 1.0 \text{ A}, I_{rr} = 0.25 \text{ A}$	t _{rr}	50			ns	
Typical junction capacitance per diode	4.0 V, 1 MHz	CJ	8	5	60	pF	

Note

 $^{^{(1)}\,}$ Pulse test: 300 μs pulse width, 1 % duty cycle

THERMAL CHARACTERISTICS (T _C = 25 °C unless otherwise noted)						
PARAMETER	SYMBOL	FEPF	UNIT			
Typical thermal resistance from junction to case per diode	$R_{\theta JC}$	3.1	°C/W			

ORDERING INFORMATION (Example)							
PACKAGE	PREFERRED P/N	UNIT WEIGHT (g)	PACKAGE CODE	BASE QUANTITY	DELIVERY MODE		
ITO-220AB	FEPF16JT-E3/45	1.97	45	50/tube	Tube		
ITO-220AB	FEPF16JTHE3_A/P (1)	1.97	45	50/tube	Tube		

Note

(1) AEC-Q101 qualified



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

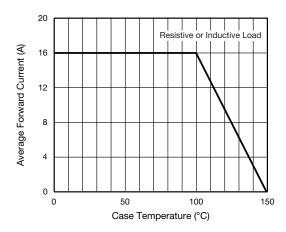


Fig. 1 - Forward Current Derating Curve

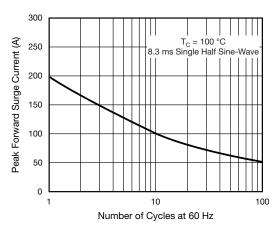


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current Per Diode

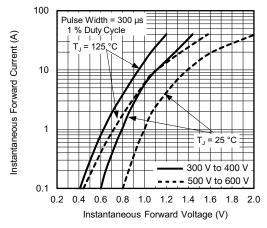


Fig. 3 - Typical Instantaneous Forward Characteristics Per Diode

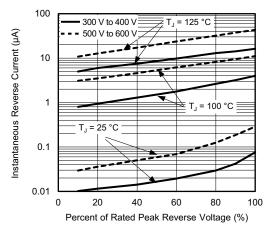


Fig. 4 - Typical Reverse Characteristics Per Diode

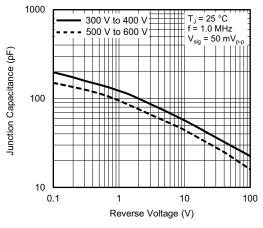
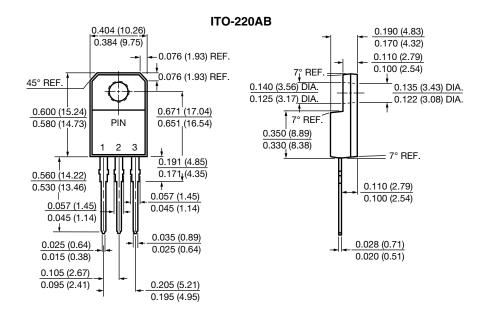


Fig. 5 - Typical Junction Capacitance Per Diode



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PACKAGE OUTLINE DIMENSIONS in inches (millimeters)





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