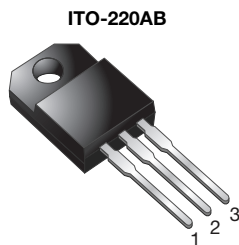
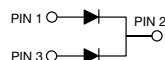


## Dual Common Cathode Ultrafast Plastic Rectifier



FEPF16xT Series



**RoHS**  
COMPLIANT

### 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](http://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.

### 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

MAXIMUM RATINGS ( $T_C = 25\text{ °C}$ 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 $T_C = 100\text{ °C}$	$I_{F(AV)}$	16				A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load per diode	$I_{FSM}$	125				A
Operating storage and temperature range	$T_J, T_{STG}$	-55 to +150				°C
Isolation voltage from terminal to heatsink $t = 1\text{ min}$	$V_{AC}$	1500				V



ELECTRICAL CHARACTERISTICS (T <sub>C</sub> = 25 °C unless otherwise noted)							
PARAMETER	TEST CONDITIONS	SYMBOL	FEPF16FT	FEPF16GT	FEPF16HT	FEPF16JT	UNIT
Maximum instantaneous forward voltage per diode	8.0 A	V <sub>F</sub> <sup>(1)</sup>	1.3		1.5		V
Maximum DC reverse current per diode at rated DC blocking voltage	T <sub>C</sub> = 25 °C	I <sub>R</sub>	10				μA
	T <sub>C</sub> = 100 °C		500				
Maximum reverse recovery time per diode	I <sub>F</sub> = 0.5 A, I <sub>R</sub> = 1.0 A, I <sub>rr</sub> = 0.25 A	t <sub>rr</sub>	50				ns
Typical junction capacitance per diode	4.0 V, 1 MHz	C <sub>J</sub>	85		60		pF

**Note**(1) Pulse test: 300  $\mu\text{s}$  pulse width, 1 % duty cycle

THERMAL CHARACTERISTICS ( $T_C = 25\text{ }^{\circ}\text{C}$ unless otherwise noted)			
PARAMETER	SYMBOL	FEPPF	UNIT
Typical thermal resistance from junction to case per diode	$R_{\theta JC}$	3.1	$^{\circ}\text{C/W}$

ORDERING INFORMATION (Example)					
PACKAGE	PREFERRED P/N	UNIT WEIGHT (g)	PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
ITO-220AB	FEPPF16JT-E3/45	1.97	45	50/tube	Tube
ITO-220AB	FEPPF16JT E3_A/P (1)	1.97	45	50/tube	Tube

**Note**

(1) AEC-Q101 qualified

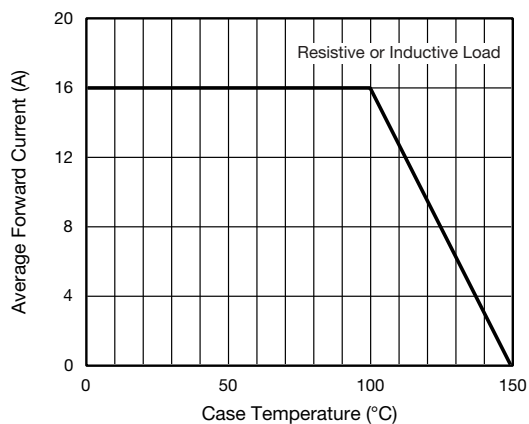
**RATINGS AND CHARACTERISTICS CURVES** ( $T_A = 25\text{ }^{\circ}\text{C}$  unless otherwise noted)


Fig. 1 - Forward Current Derating Curve

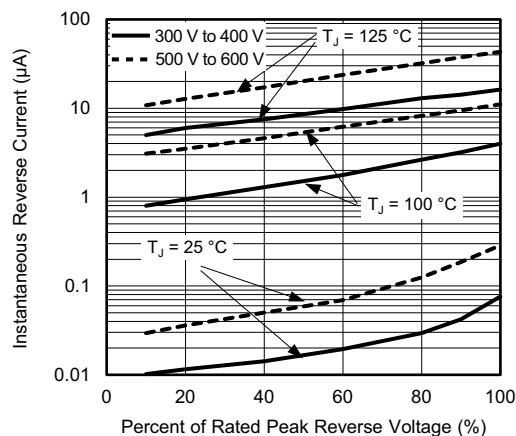


Fig. 4 - Typical Reverse Characteristics Per Diode

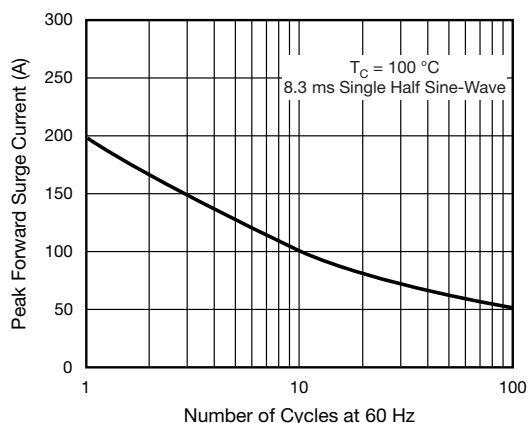


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current Per Diode

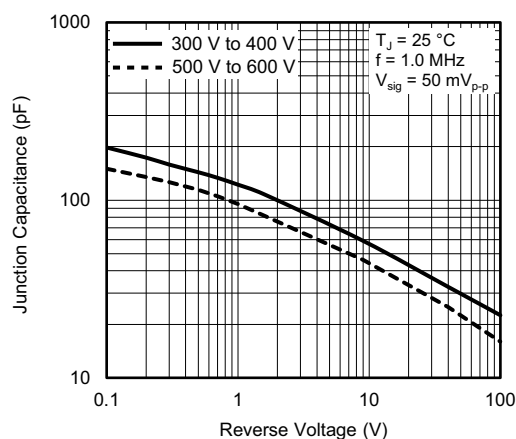


Fig. 5 - Typical Junction Capacitance Per Diode

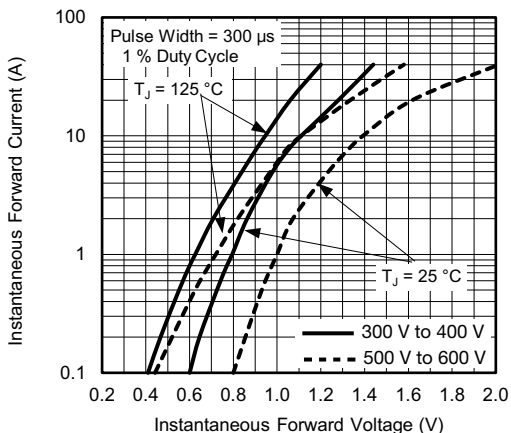
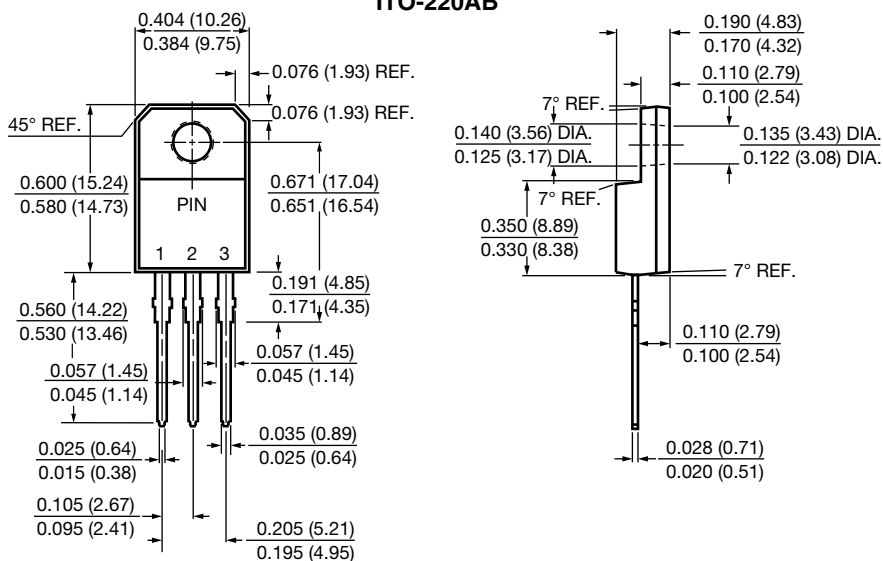


Fig. 3 - Typical Instantaneous Forward Characteristics Per Diode

**PACKAGE OUTLINE DIMENSIONS** in inches (millimeters)

**ITO-220AB**




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