



# FEP16JT, FEFP16JT, FEPB16JT Series

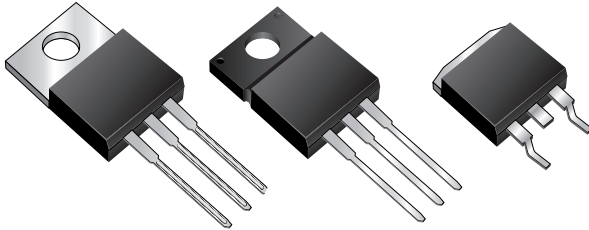
Vishay Semiconductors  
formerly General Semiconductor

## Dual Ultrafast Plastic Rectifier

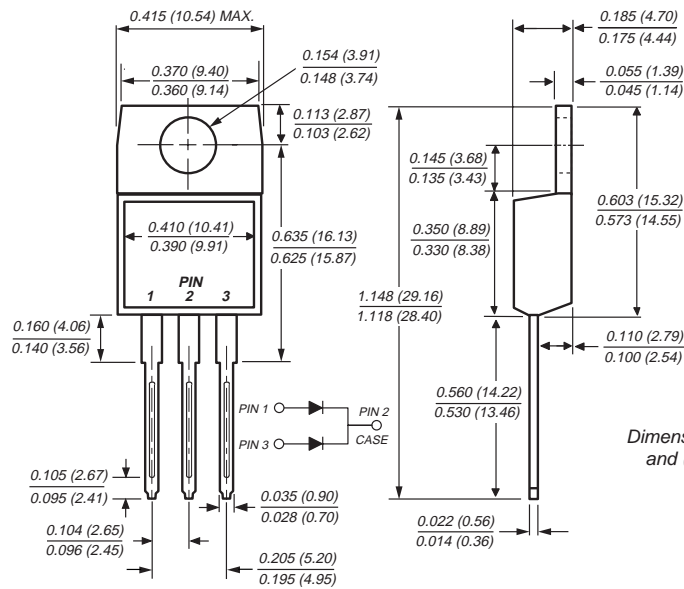
Reverse Voltage 50 to 600V

Forward Current 16A

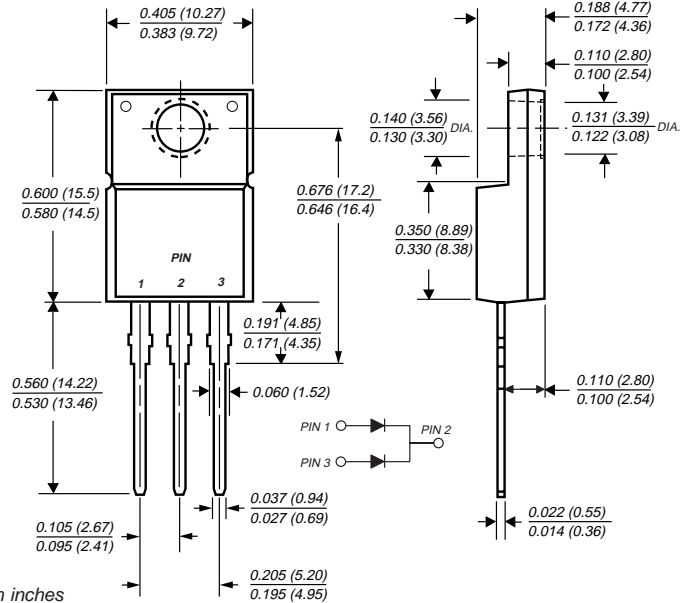
Reverse Recovery Time 35 to 50ns



### TO-220AB (FEP16JT Series)

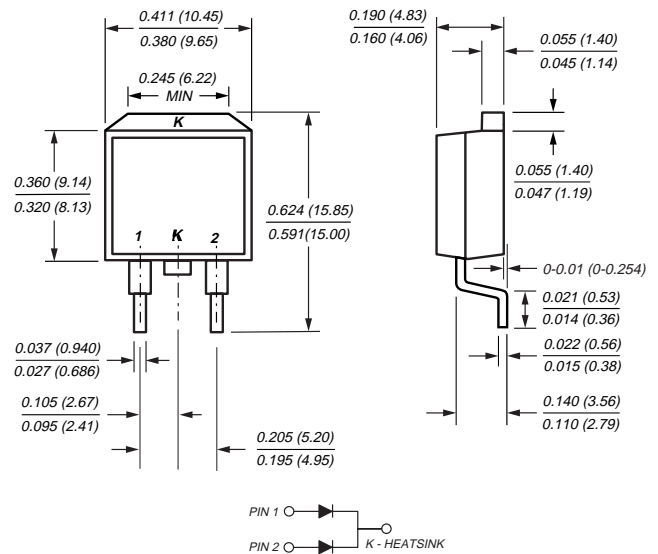


### ITO-220AB (FEFP16JT Series)

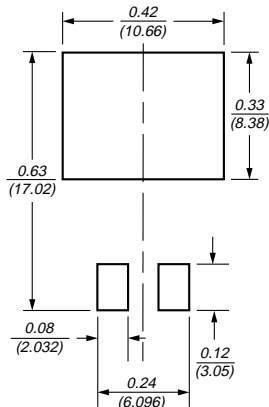


Dimensions in inches and millimeters

### TO-263AB (FEPB16JT Series)



### Mounting Pad Layout TO-263AB



## Features

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Dual rectifier construction, positive centertap
- Glass passivated chip junction
- Low power loss
- High surge current capability
- Low forward voltage, high current capability
- Superfast recovery times for high efficiency

## Mechanical Data

**Case:** JEDEC TO-220AB, ITO-220AB & TO-263AB molded plastic body

**Terminals:** Plated leads, solderable per MIL-STD-750, Method 2026

High temperature soldering guaranteed: 250°C/10 seconds at terminals

**Polarity:** As marked **Mounting Position:** Any

**Mounting Torque:** 10 in-lbs maximum

**Weight:** 0.08 oz., 2.24 g

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## Maximum Ratings Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbol	FEP 16AT	FEP 16BT	FEP 16CT	FEP 16DT	FEP 16FT	FEP 16GT	FEP 16HT	FEP 16JT	Unit
Maximum repetitive peak reverse voltage	$V_{RRM}$	50	100	150	200	300	400	500	600	V
Maximum RMS voltage	$V_{RMS}$	35	70	105	140	210	280	350	420	V
Maximum DC blocking voltage	$V_{DC}$	50	100	150	200	300	400	500	600	V
Maximum average forward rectified current at $T_C = 100^\circ\text{C}$	$I_{F(AV)}$	16								A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load (JEDEC Method) at $T_C = 100^\circ\text{C}$ per leg	$I_{FSM}$	200				125				A
Operating storage and temperature range	$T_J, T_{STG}$	-55 to +150								$^\circ\text{C}$
RMS Isolation voltage (FEFP) from terminals to heatsink with $t = 1.0$ second, $RH \leq 30\%$	$V_{ISOL}$	4500 <sup>(1)</sup> 3500 <sup>(2)</sup> 1500 <sup>(3)</sup>								V

## Electrical Characteristics Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbol	FEP 16AT	FEP 16BT	FEP 16CT	FEP 16DT	FEP 16FT	FEP 16GT	FEP 16HT	FEP 16JT	Unit
Maximum instantaneous forward voltage per leg at 8.0A	$V_F$	0.95			1.30		1.50			V
Maximum DC reverse current per leg at rated DC blocking voltage $T_C = 25^\circ\text{C}$ $T_C = 100^\circ\text{C}$	$I_R$	10 500								$\mu\text{A}$
Maximum reverse recovery time per leg at $I_F = 0.5\text{A}$ , $I_R = 1.0\text{A}$ , $I_{rr} = 0.25\text{A}$	$t_{rr}$	35				50				ns
Typical junction capacitance per leg at 4V, 1MHz	$C_J$	85						60		pF

## Thermal Characteristics ( $T_C = 25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	FEP	FEFP	FEPB	Unit
Typical thermal resistance from junction to case per leg	$R_{\theta JC}$	2.2	3.1	2.2	$^\circ\text{C/W}$

### Notes:

- (1) Clip mounting (on case), where lead does not overlap heatsink with 0.110" offset
- (2) Clip mounting (on case), where leads do overlap heatsink
- (3) Screw mounting with 4-40 screw, where washer diameter is  $\leq 4.9\text{mm}$  (0.19")
- (4) Pulse test: 300 $\mu\text{s}$  pulse width, 1% duty cycle

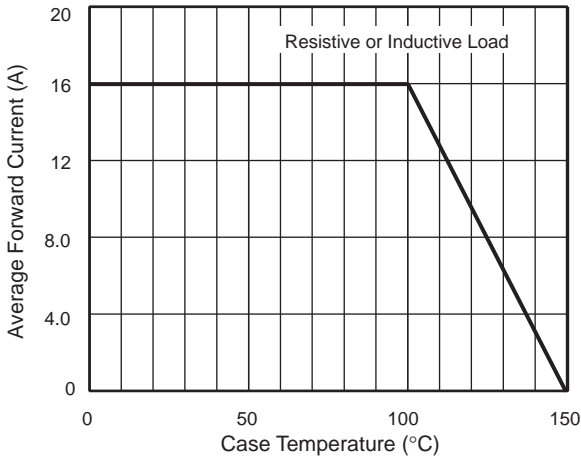
## Ordering Information

Product	Case	Package Code	Package Option
FEP16AT - FEP16JT	TO-220AB	45	Anti-Static tube, 50/tube, 2K/carton
FEFP16AT - FEFP16JT	ITO-220AB	45	Anti-Static tube, 50/tube, 2K/carton
FEPB16AT - FEPB16JT	TO-263AB	31	13" reel, 800/reel, 4.8K/carton
		45	Anti-Static tube, 50/tube, 2K/carton
		81	Anti-Static 13" reel, 800/reel, 4.8K/carton

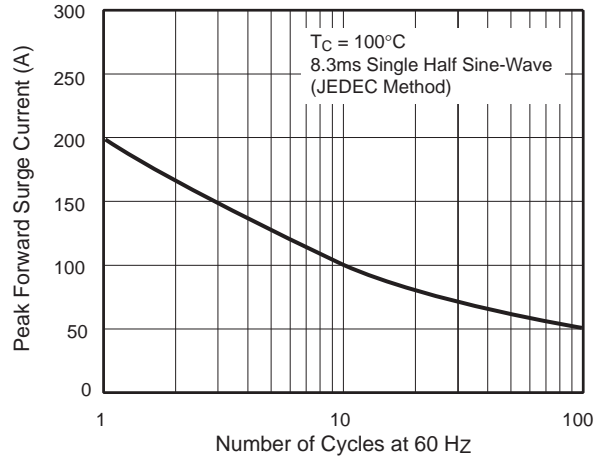


## Ratings and Characteristic Curves ( $T_A = 25^\circ\text{C}$ unless otherwise noted)

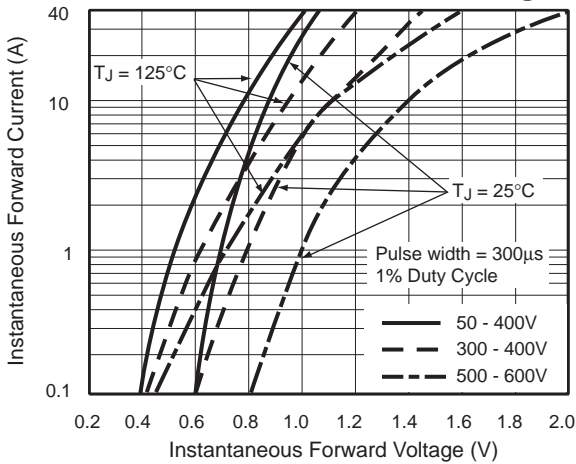
**Fig. 1 – Forward Current Derating Curve**



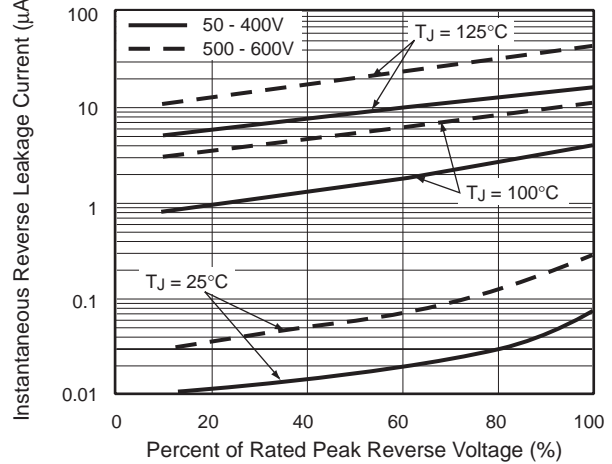
**Fig. 2 – Maximum Non-Repetitive Peak Forward Surge Current**



**Fig. 3 – Typical Instantaneous Forward Characteristics Per Leg**



**Fig. 4 – Typical Reverse Characteristics Per Leg**



**Fig. 5 – Typical Junction Capacitance Per Leg**

