

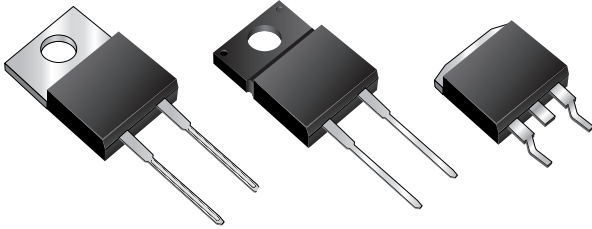


# FES16JT, FESF16JT, FESB16JT Series

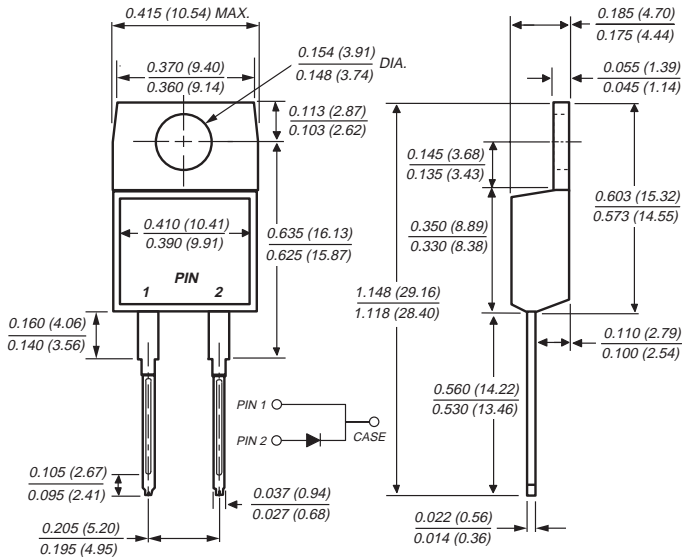
Vishay Semiconductors  
formerly General Semiconductor

## Ultrafast Plastic Rectifiers

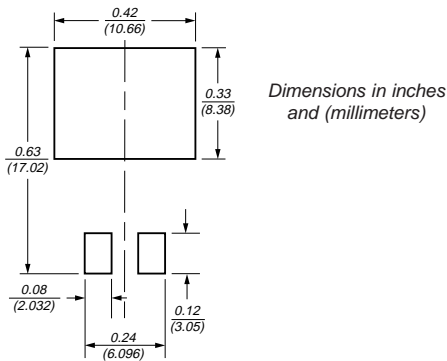
Reverse Voltage 50 to 600V  
Forward Current 16A  
Reverse Recovery Time 35/50ns



TO-220AC (FES16JT Series)

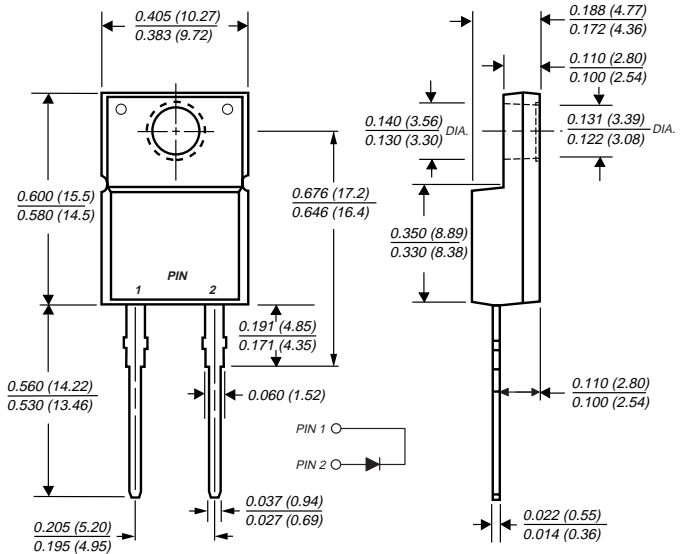


Mounting Pad Layout TO-263AB

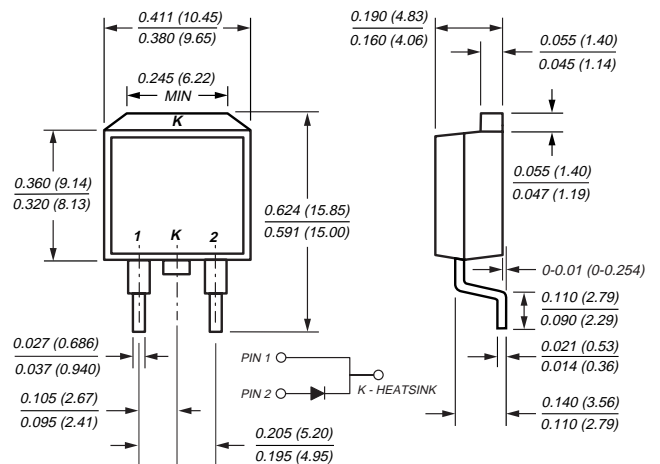


Dimensions in inches and millimeters

ITO-220AC (FESF16JT Series)



TO-263AB (FESB16JT Series)



## Features

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- 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-220AC, ITO-220AC & TO-263AB molded plastic body

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

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

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

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

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

# FES16JT, FESF16JT, FESB16JT Series



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

Parameter	Symbol	FES 16AT	FES 16BT	FES 16CT	FES 16DT	FES 16FT	FES 16GT	FES 16HT	FES 16JT	Unit
Maximum repetitive peak reverse voltage	V <sub>RRM</sub>	50	100	150	200	300	400	500	600	V
Maximum RMS voltage	V <sub>RMS</sub>	35	70	105	140	210	280	350	420	V
Maximum DC blocking voltage	V <sub>DC</sub>	50	100	150	200	300	400	500	600	V
Maximum average forward rectified current at T <sub>C</sub> =100°C	I <sub>F(AV)</sub>	16.0								A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) at T <sub>C</sub> =100°C	I <sub>FSM</sub>	250.0								A
Operating storage and temperature range	T <sub>J</sub> , T <sub>STG</sub>	-65 to +150								°C
RMS isolation voltage (FESF) from terminals to heatsink with t = 1.0 second, RH ≤ 30%	V <sub>ISOL</sub>	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	FES 16AT	FES 16BT	FES 16CT	FES 16DT	FES 16FT	FES 16GT	FES 16HT	FES 16JT	Unit	
Maximum instantaneous forward voltage at 16A	V <sub>F</sub>	0.975			1.30		1.50			V	
Maximum DC reverse current at rated DC blocking voltage T <sub>C</sub> = 100°C	I <sub>R</sub>	10 500								μA	
Maximum reverse recovery time at I <sub>F</sub> = 0.5A, I <sub>R</sub> = 1.0A, I <sub>rr</sub> = 0.25A	t <sub>rr</sub>	35			50					ns	
Typical junction capacitance at 4.0V, 1MHz	C <sub>J</sub>	175						145			pF

## Thermal Characteristics (T<sub>C</sub> = 25°C unless otherwise noted)

Parameter	Symbol	FES	FESF	FESB	Unit
Typical thermal resistance from junction to case	R <sub>θJC</sub>	1.2	1.7	1.2	°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 ≤ 4.9mm (0.19")
- (4) Pulse test: 300μs pulse width, 1% duty cycle

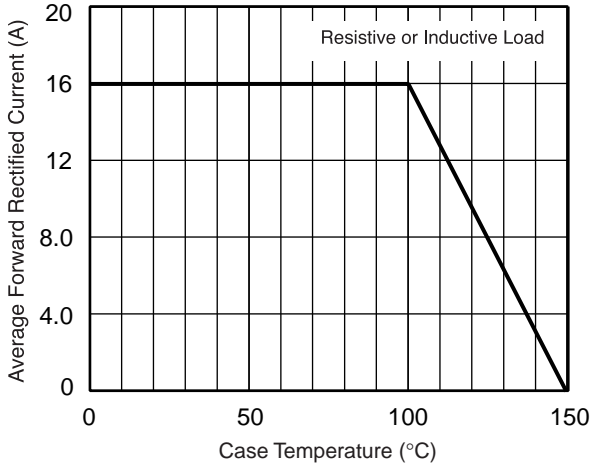
## Ordering Information

Product	Case	Package Code	Package Option
FES16JT	TO-220AC	45	Anti-Static tube, 50/tube, 2K/carton
FESF16JT	ITO-220AC	45	Anti-Static tube, 50/tube, 2K/carton
FESB16JT	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

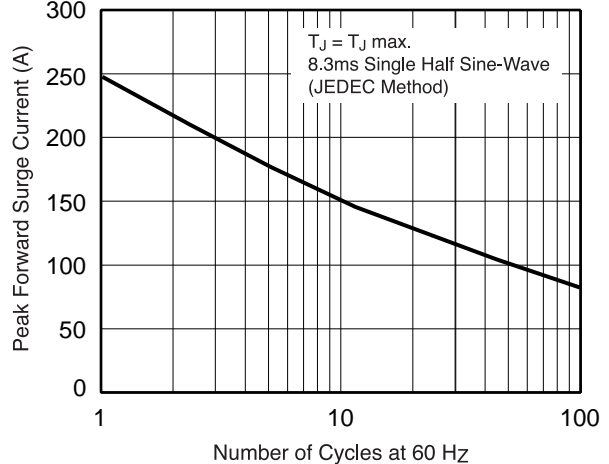


## Ratings and Characteristic Curves ( $T_A = 25^\circ\text{C}$ unless otherwise noted)

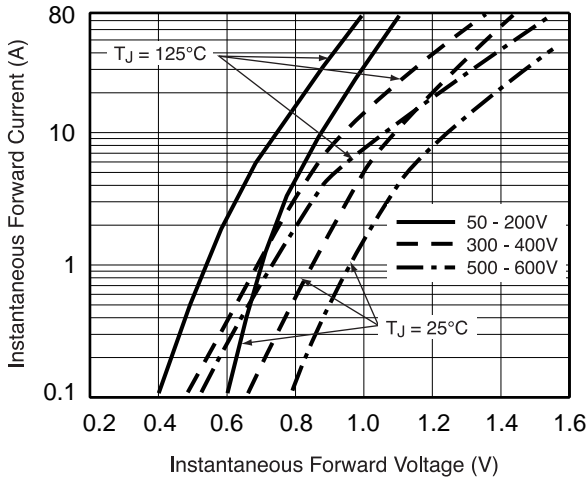
**Fig. 1 – Maximum Forward Current Derating Curve**



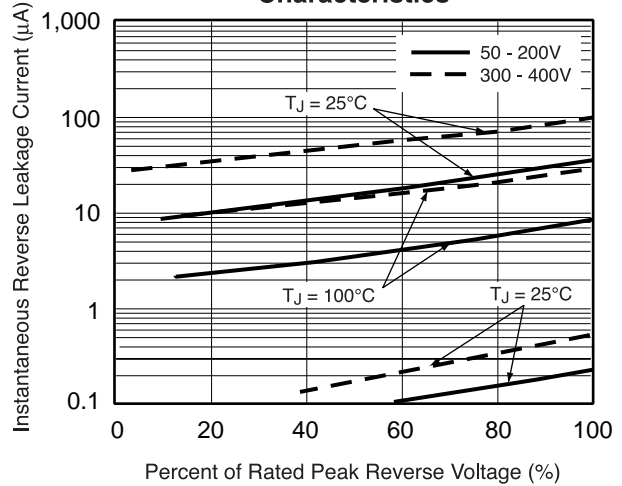
**Fig. 2 – Maximum Non-Repetitive Peak Forward Surge Current**



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



**Fig. 4 – Typical Reverse Leakage Characteristics**



**Fig. 5 – Typical Junction Capacitance**

