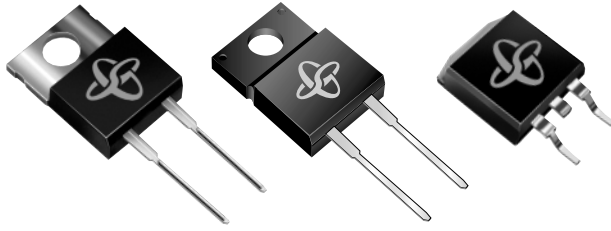


**GENERAL SEMICONDUCTOR® FES8JT, FESF8JT, FESB8JT Series**



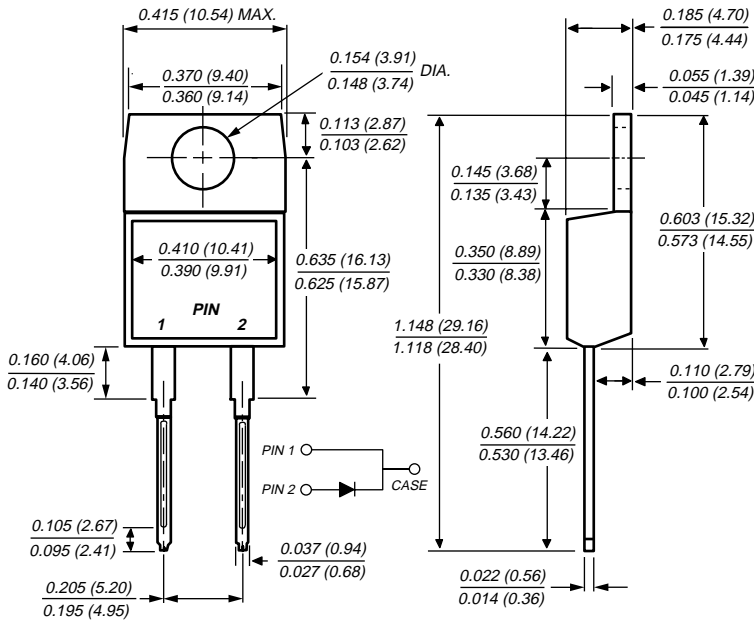
**Ultrafast Plastic Rectifiers**

Reverse Voltage 50 to 600V

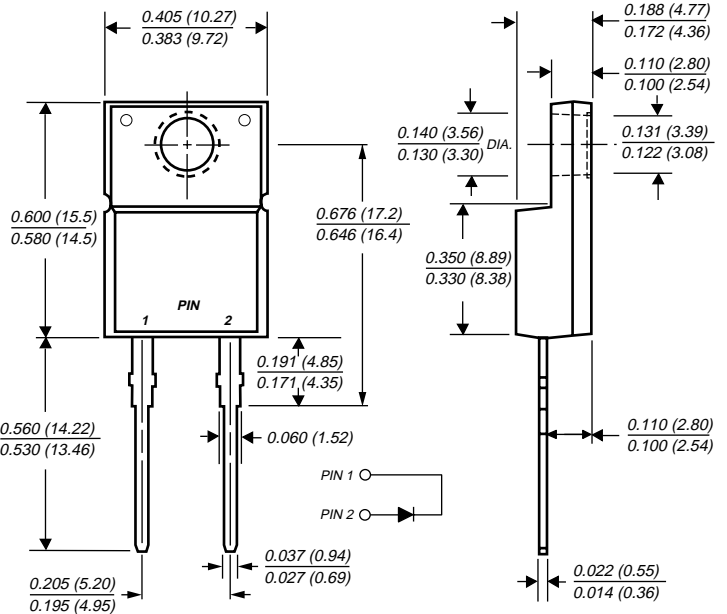
Forward Current 8.0 A

Reverse Recovery Time 35 to 50ns

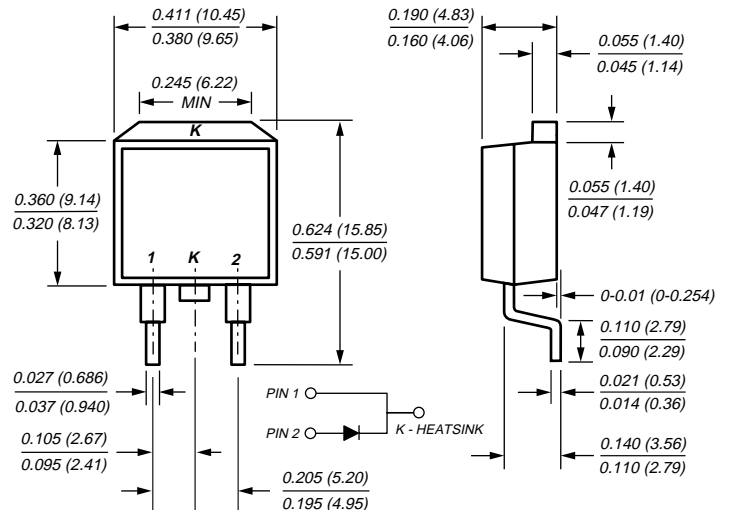
**TO-220AC (FES8JT)**



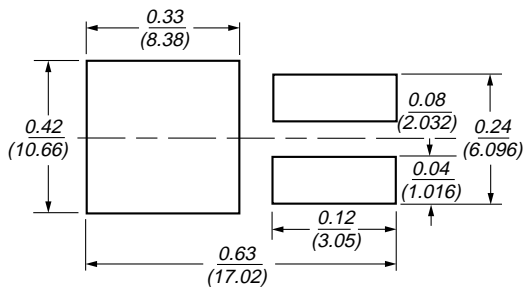
**ITO-220AC (FESF8JT)**



**TO-263AB (FESB8JT)**



**Mounting Pad Layout TO-263AB**



Dimensions in inches and (millimeters)

**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, 0.16" (4.06mm) from case for 10 seconds

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

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

**Weight:** 0.08 ounce, 2.24 grams

**Features**

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Glass passivated chip junction
- Low leakage, high voltage
- High surge current capability
- Superfast recovery time, for high efficiency

## Ultrafast Plastic Rectifiers

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

Parameter	Symbol	FES 8AT	FES 8BT	FES 8CT	FES 8DT	FES 8FT	FES 8GT	FES 8HT	FES 8JT	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>	8.0								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>	125								A
Operating storage and temperature range	T <sub>J</sub> , T <sub>STG</sub>	-55 to +150								°C
RMS Isolation voltage (FESF type only) 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 8AT	FES 8BT	FES 8CT	FES 8DT	FES 8FT	FES 8GT	FES 8HT	FES 8JT	Unit
Maximum instantaneous forward voltage @ 8.0A <sup>(4)</sup>	V <sub>F</sub>	0.95			1.30		1.50			V
Maximum DC reverse current T <sub>C</sub> =25°C 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 4V, 1MHz	C <sub>J</sub>	85						50		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>	2.2	5.0	2.2	°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 ≤ 4.9 mm (0.19")
- (4) Pulse test: 300μs pulse width, 1% duty cycle

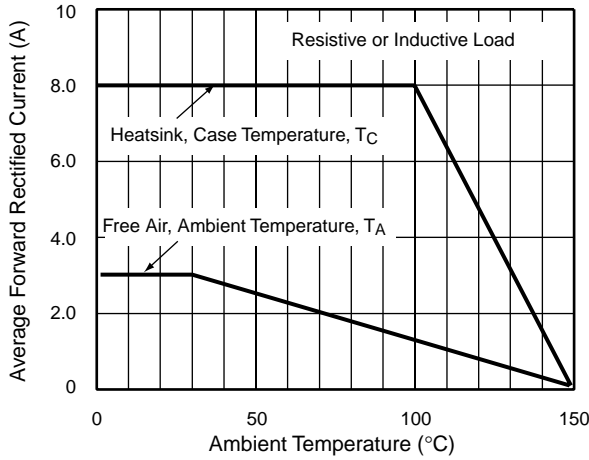
### Ordering Information

Product	Case	Package Code	Package Option
FES8AT thru FES8JT	TO-220AC	45	Anti-Static tube, 50/tube, 2K/carton
FESF8AT thru FESF8JT	ITO-220AC	45	Anti-Static tube, 50/tube, 2K/carton
FESB8AT thru FESB8JT	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

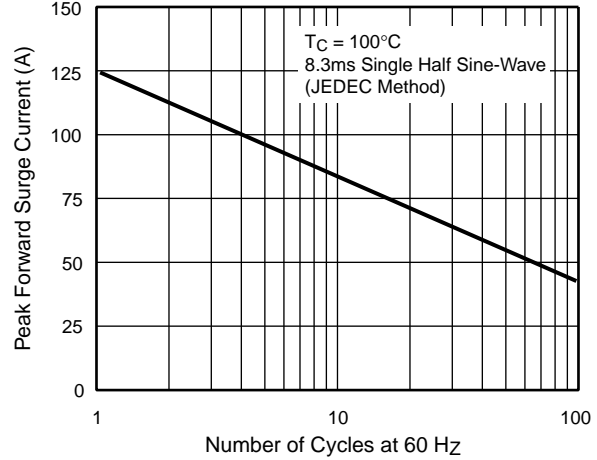
**Ultrafast Plastic Rectifiers**

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

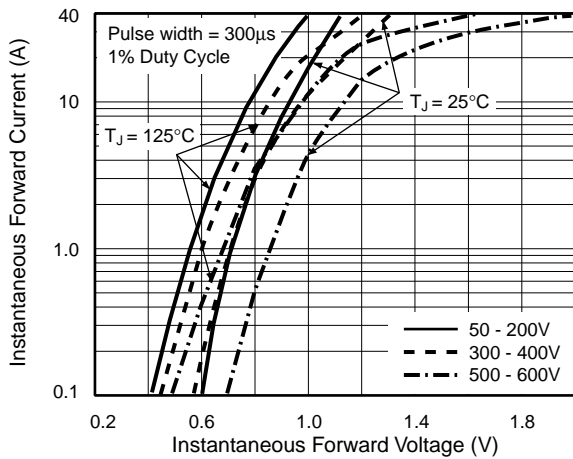
**Fig. 1 – Maximum Forward Current Derating Curve**



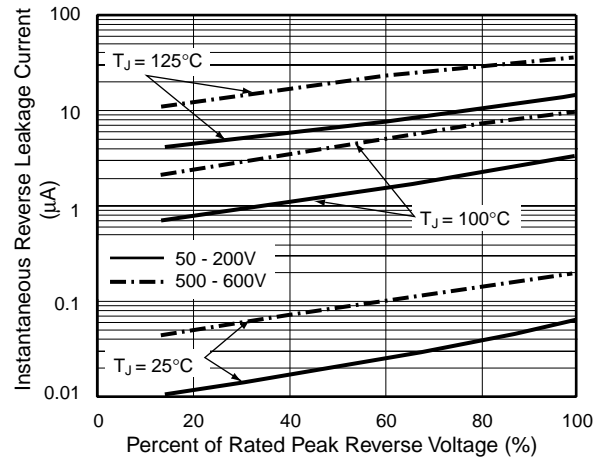
**Fig. 2 – Maximum Non-Repetitive Peak Forward Surge Current**



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



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



**Fig. 5 – Typical Junction Capacitance**

