

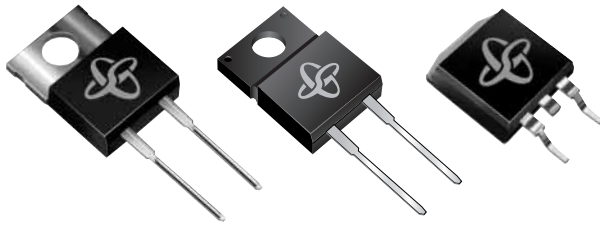
FES16JT, FESF16JT, FESB16JT Series

Ultrafast Plastic Rectifiers

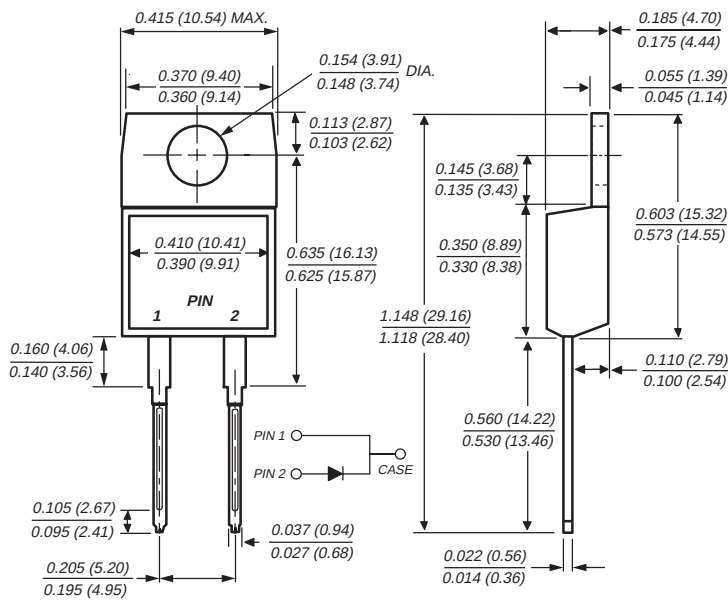
Reverse Voltage 50 to 600V

Forward Current 16A

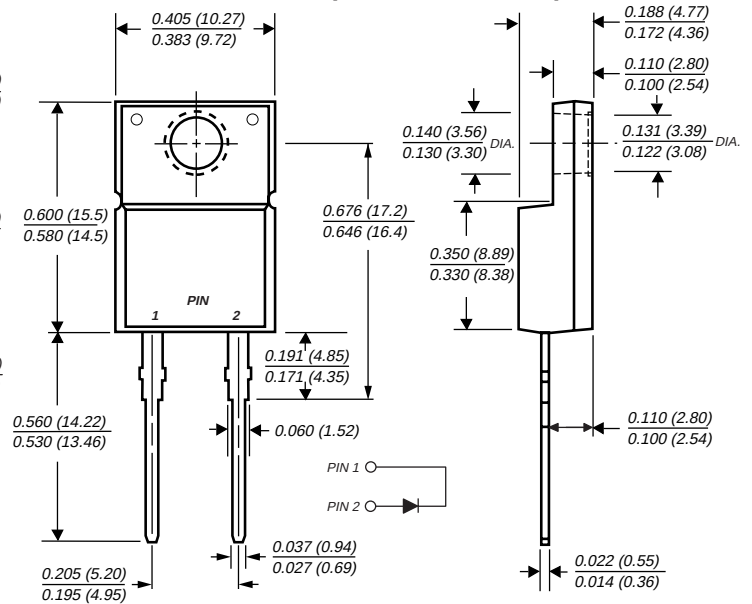
Reverse Recovery Time 35/50ns



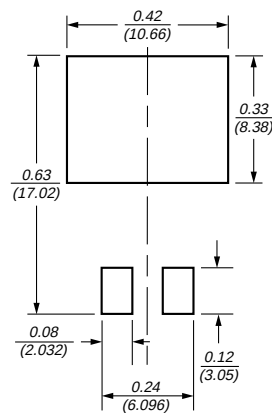
TO-220AC (FES16JT Series)



ITO-220AC (FESF16JT Series)

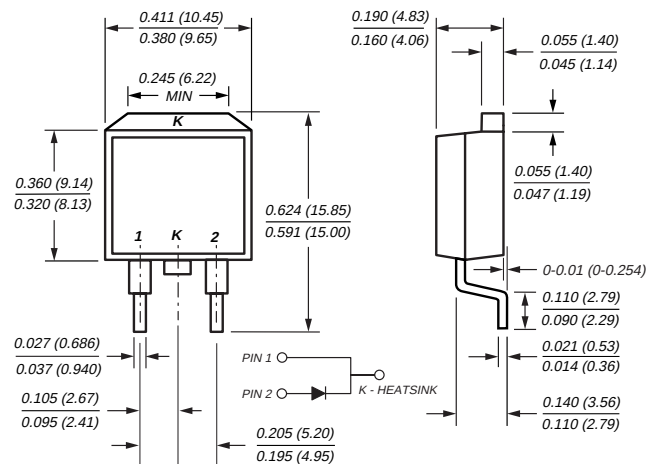


Mounting Pad Layout TO-263AC



Dimensions in inches and (millimeters)

TO-263AB (FESB16JT Series)



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 ounce, 2.24 grams

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

FES16JT, FESF16JT, FESB16JT Series

Ultrafast Plastic Rectifiers

Maximum Ratings & Thermal 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 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°C	I _{F(AV)}	16.0								A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) at T _C =100°C	I _{FSM}	250.0								A
Typical thermal resistance ⁽¹⁾	R _{θJA} R _{θJC}	16 1.2								°C/W
Operating storage and temperature range	T _J , T _{STG}	-65 to +150								°C
RMS isolation voltage (FESF) from terminals to heatsink with t = 1.0 second, RH ≤ 30%	V _{ISOL}	4500 ⁽¹⁾ 3500 ⁽²⁾ 1500 ⁽³⁾								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 _F	0.975				1.30		1.50		V
Maximum DC reverse current at rated DC blocking voltageT _C =100°C	I _R	10 500								μA
Maximum reverse recovery time at I _F =0.5A, I _R =1.0A, I _{rr} =0.25A	t _{rr}	35				50				ns
Typical junction capacitance at 4.0V, 1MHz	C _J	175						145		pF

Thermal Characteristics (T_C = 25°C unless otherwise noted)

Parameter	Symbol	FES	FESF	FESB	Unit
Typical thermal resistance from junction to case	R _{θJC}	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

FES16JT, FESF16JT, FESB16JT Series Ultrafast Plastic Rectifiers

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

Fig. 1 – Maximum Forward Current Derating Curve

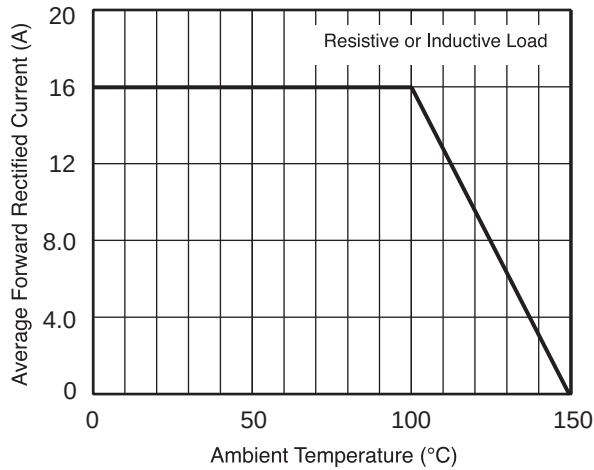


Fig. 2 – Maximum Non-Repetitive Peak Forward Surge Current

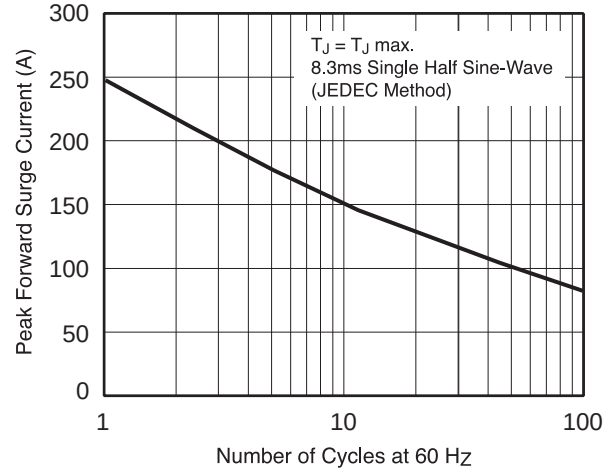


Fig. 3 – Typical Instantaneous Forward Characteristics

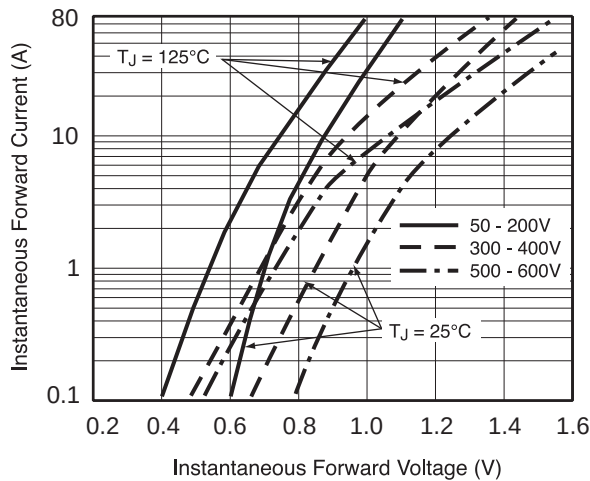


Fig. 4 – Typical Reverse Leakage Characteristics

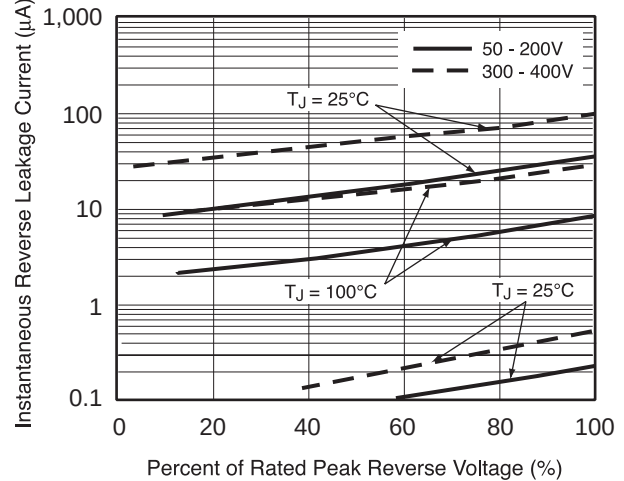


Fig. 5 – Typical Junction Capacitance

