

Silicon Diode

FES8BT

Fast Efficient Rectifier

100V / 8A

DATASHEET

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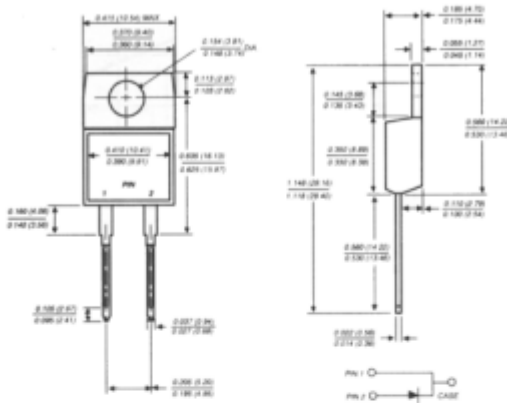
Source: General Semiconductor Databook 1998

FES8AT THRU FES8JT

FAST EFFICIENT PLASTIC RECTIFIER

Reverse Voltage - 50 to 600 Volts Forward Current - 8.0 Amperes

TO-220AC



Dimensions in inches and (millimeters)

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
- ◆ High temperature soldering guaranteed: 250°C, 0.16" (4.06mm) from case for 10 seconds



MECHANICAL DATA

Case: JEDEC TO-220AC fully overmolded plastic body over passivated chip
Terminals: Plated lead solderable per MIL-STD-750, Method 2026
Polarity: As marked
Mounting Position: Any
Mounting Torque: 5 in. - lbs. max.
Weight: 0.064 ounce, 1.81 grams

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

	SYMBOLS	FES 8AT	FES 8BT	FES 8CT	FES 8DT	FES 8FT	FES 8GT	FES 8HT	FES 8JT	UNITS	
Maximum recurrent peak reverse voltage	V _{RRM}	50	100	150	200	300	400	500	600	Volts	
Maximum RMS voltage	V _{RMS}	35	70	105	140	210	280	350	420	Volts	
Maximum DC blocking voltage	V _{DC}	50	100	150	200	300	400	500	600	Volts	
Maximum average forward rectified current at T _C =100°C	I _(AV)	8.0								Amps	
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I _{FSM}	125.0								Amps	
Maximum instantaneous forward voltage at 8.0A	V _F	0.95		1.3			1.5			Volts	
Maximum DC reverse current at rated DC blocking voltage T _C =25°C at T _C =100°C	I _R	10.0 500.0								µA	
Maximum reverse recovery time (NOTE 1)	t _{rr}	35.0			50.0					ns	
Typical junction capacitance (NOTE 2)	C _J	85.0					60.0				pF
Typical thermal resistance (NOTE 3) (NOTE 4)	R _{θJA} R _{θJC}	15.0 2.2									°C/W
Operating junction and storage temperature range	T _J , T _{STG}	-65 to +150								°C	

NOTES:

- (1) Reverse recovery test conditions: I_F=0.5A, I_R=1.0A, I_{rr}=0.25A
- (2) Measured at 1.0 MHz and applied reverse voltage of 4.0 Volts
- (3) Thermal resistance from junction to ambient in free air, no heatsink
- (4) Thermal resistance from junction to case mounted on heatsink

RATINGS AND CHARACTERISTIC CURVES FES8AT THRU FES8JT

FIG. 1 - MAXIMUM FORWARD CURRENT DERATING CURVES

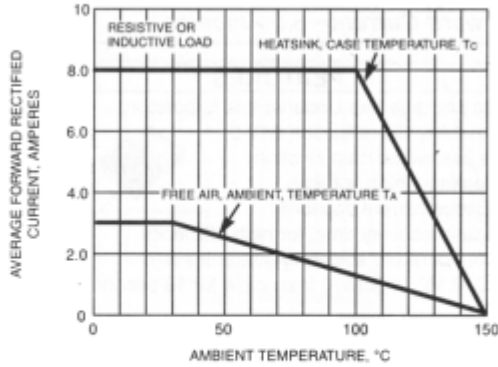


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

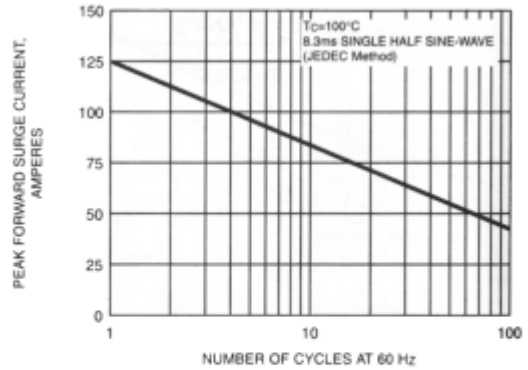


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

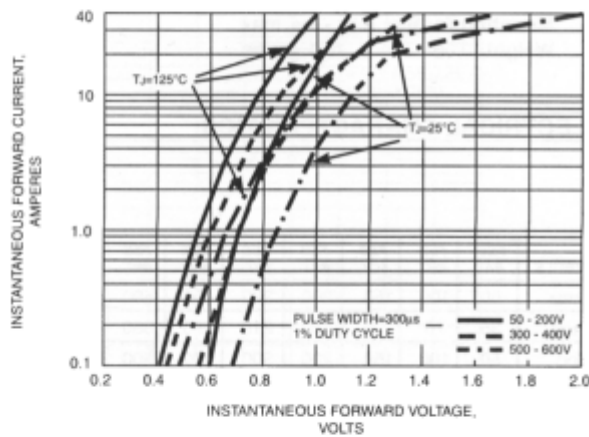


FIG. 4 - TYPICAL REVERSE LEAKAGE CHARACTERISTICS

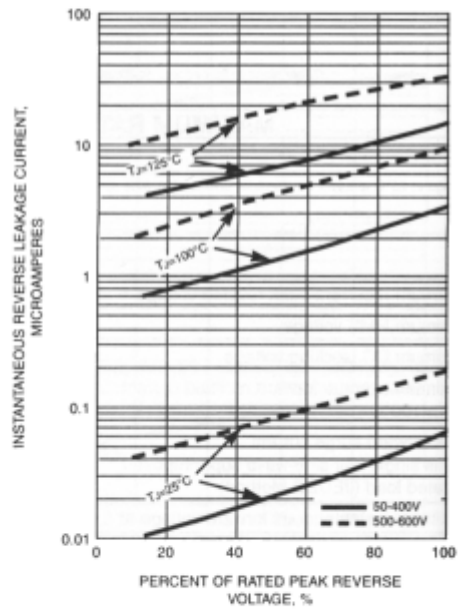


FIG. 5 - TYPICAL JUNCTION CAPACITANCE

