



**GENERAL
INSTRUMENT**

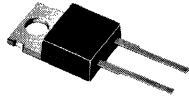
**HIGH CURRENT
FAST EFFICIENT RECTIFIERS
8 TO 30 AMPERES**



FES8-T SERIES

FAST EFFICIENT GLASS PASSIVATED RECTIFIERS

GENERAL
INSTRUMENT



FEATURES

- Plastic material used carries Underwriters Laboratory Flammability Classification 94V-0.
- Exceeds environmental standards of MIL-STD-19500.
- Glass Passivated Junction
- Low power loss, high efficiency
- Low forward voltage, high current capability
- High surge capacity
- Super fast recovery times, high voltage
- High temperature soldering guaranteed: 300°C, .25", (6.35 mm) from case for 10 seconds.

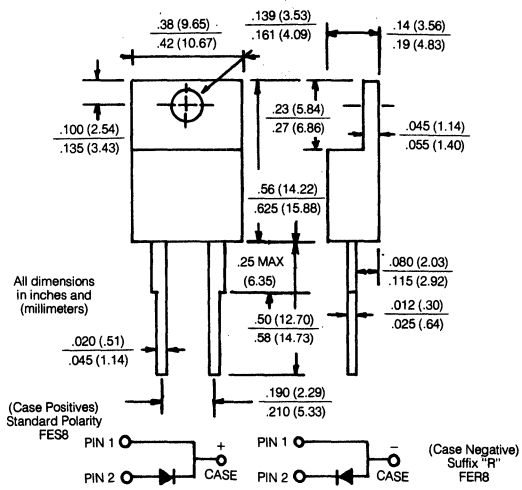
MECHANICAL DATA

Case: TO-220 molded plastic
 Terminals: Lead solderable per MIL-STD 202, Method 208
 Polarity: As marked
 Mounting position: Any
 Weight: .08 ounces, 2.24 grams

VOLTAGE RANGE
50 to 600 Volts

CURRENT
8.0 Amperes

TO-220



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

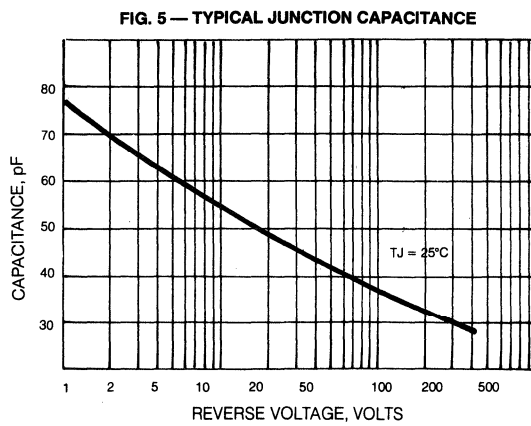
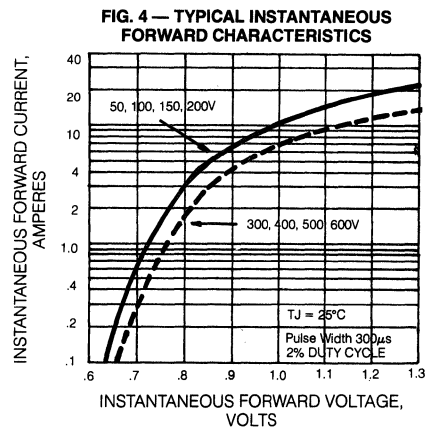
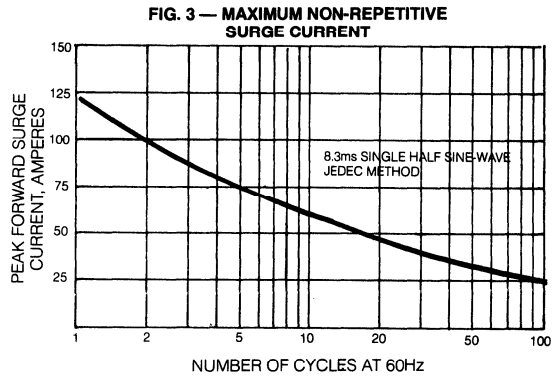
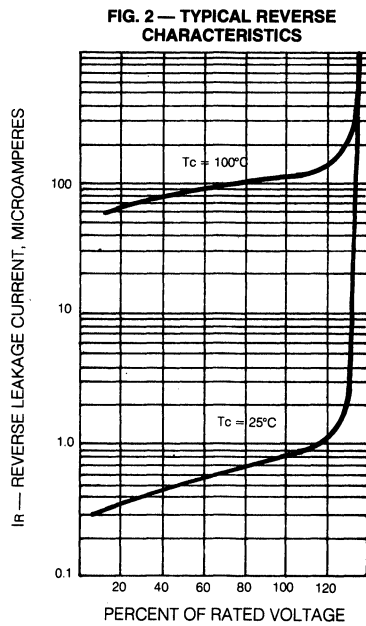
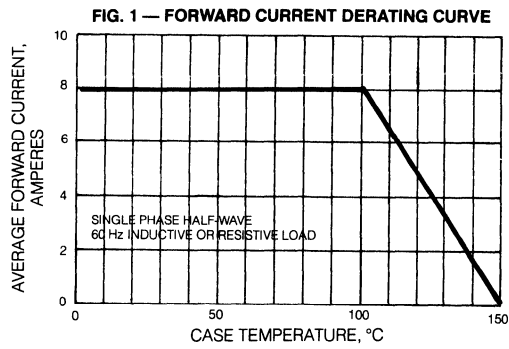
Ratings at 25° ambient temperature unless otherwise specified.
 Single phase, half wave, 60Hz, resistive or inductive load.
 For capacitive load, derate current by 20%.

	FES8AT	FES8BT	FES8CT	FES8DT	FES8FT	FES8GT	FES8HT	FES8JT	UNITS
Maximum Recurrent Peak Reverse Voltage	50	100	150	200	300	400	500	600	V
Maximum RMS Voltage	35	70	105	140	210	280	350	420	V
Maximum DC Blocking Voltage	50	100	150	200	300	400	500	600	V
Maximum Average Forward Rectified Current at T _c = 100°C	8.0								A
Peak Forward Surge Current, 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)	125								A
Maximum Instantaneous Forward Voltage at 8.0A	0.95			1.3					V
Maximum DC Reverse Current at DC Blocking Voltage T _c = 25°C	10								μA
	500								μA
Typical Junction Capacitance (Note 1)	65								pF
Maximum Reverse Recovery Time (Note 2)	35								ns
Typical Thermal Resistance ROJC (Note 3)	3.0								°C/W
Storage and Operating Temperature Range T _c	-65 to +150								°C

NOTES:

1. Measured at 1 MHz and applied reverse voltage of 4.0 volts.
2. Reverse Recovery Test Conditions: I_F = .5A, I_R = 1A, I_{rr} = .25A.
3. Thermal Resistance Junction to CASE.

**RATING CHARACTERISTIC CURVES
FES8AT THRU FES8JT**



FES16AT THRU FES16JT

FAST EFFICIENT GLASS PASSIVATED RECTIFIERS

**GENERAL
INSTRUMENT**



FEATURES

- Plastic material used carries Underwriters Laboratory Flammability Classification 94V-0.
- Exceeds environmental standards of MIL-STD-19500.
- Glass Passivated Junctions
- Low power loss, high efficiency
- Low forward voltage, high current capability
- High surge capacity
- Super fast recovery time, high voltage

MECHANICAL DATA

Case: TO-220 molded plastic
 Terminals: Lead solderable per MIL-STD-202, Method 208
 Polarity: As marked
 Mounting position: Any
 Weight: .08 ounces, 2.24 grams

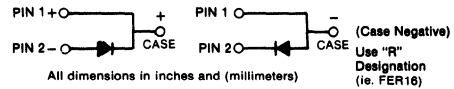
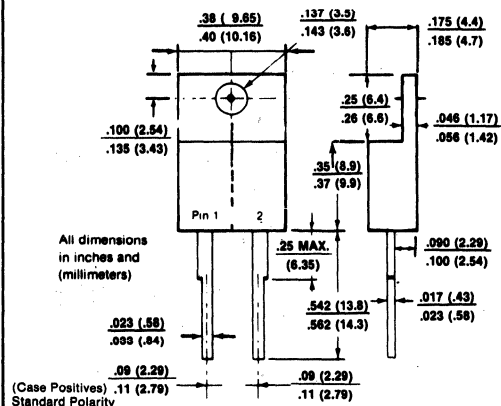
VOLTAGE RANGE

50 to 600 Volts

CURRENT

16 Amperes

TO-220



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.
 Single phase, half wave, 60Hz, resistive or inductive load.
 For capacitive load, derate current by 20%.

	FES 16AT	FES 16BT	FES 16CT	FES 16DT	FES 16FT	FES 16GT	FES 16HT	FES 16JT	UNITS
Maximum Recurrent Peak Reverse Voltage	50	100	150	200	300	400	500	600	V
Maximum RMS Voltage	35	70	105	140	210	280	350	420	V
Maximum DC Blocking Voltage	50	100	150	200	300	400	500	600	V
Maximum Average Forward Rectified Current at Tc = 100°C	16.0								A
Peak Forward Surge Current, 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	250								A
Maximum Instantaneous Forward Voltage at 16A	.975				1.3				V
Maximum DC Reverse Current at Rated DC Blocking Voltage per element Tc = 25°C	10								μA
	500								μA
Typical Junction Capacitance (Note 1)	150								pF
Maximum Reverse Recovery Time (Note 2)	35								ns
Thermal Resistance RθJC (Note 3)	1.5								°C/W
Storage and Operating Temperature Range Tc, Tstg	-65 to +150								°C

NOTES:

1. Measured at 1 MHz and applied reverse voltage of 4.0 volts.
 2. Reverse Recovery Test Conditions: IF = .5A, IR = 1.0A, Irr = .25A.

3. Thermal Resistance Junction to CASE.

**RATING CHARACTERISTIC CURVES
FES16AT THRU FES16JT**

Fig. 1—FORWARD CURRENT DERATING CURVE

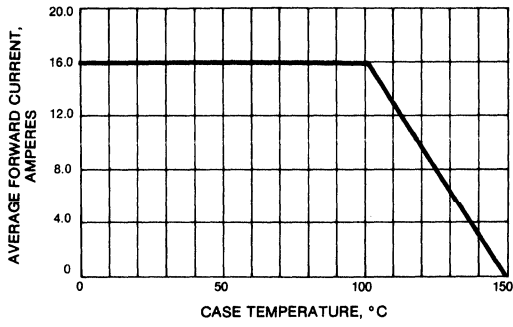


FIG. 2—TYPICAL REVERSE CHARACTERISTICS

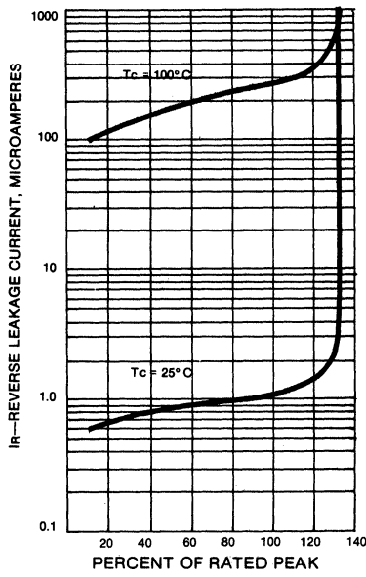


FIG. 3—MAXIMUM NON-REPETITIVE SURGE CURRENT

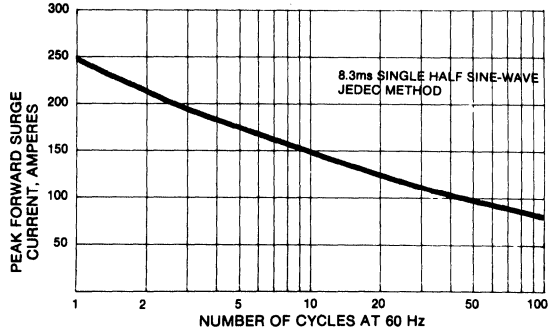


Fig. 4—TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

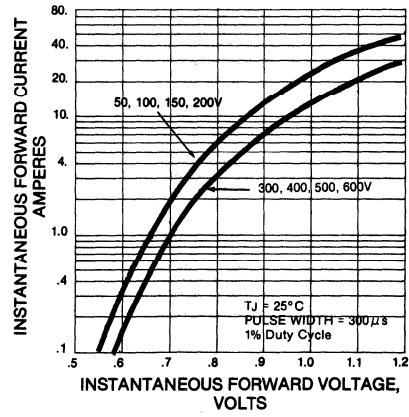


FIG. 5—TYPICAL JUNCTION CAPACITANCE

