

Pb Free Plating Product

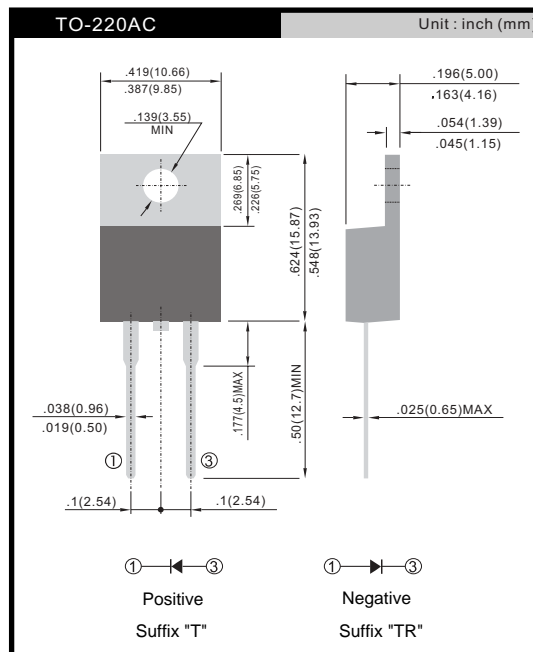
FES16ATR thru FES16JTR



16.0 Ampere Reverse Polarity Super Fast Recovery Rectifier Diode

- Features**
- \* Glass passivated chip junction
  - \* Low forward voltage drop
  - \* High current capability
  - \* Low reverse leakage current
  - \* High surge current capability
- Application**
- \* Automotive Inverters/Solar Inverters
  - \* Plating Power Supply, SMPS and UPS
  - \* Car Audio Amplifiers and Sound Device Systems

- Mechanical Data**
- \* Case: Heatsink TO-220AC
  - \* Epoxy: UL 94V-0 rate flame retardant
  - \* Terminals: Solderable per MIL-STD-202 method 208
  - \* Polarity: As marked on diode body
  - \* Mounting position: Any
  - \* Weight: 2.1 gram approxiamtely



**Maximum Ratings and Electrical Characteristics**

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

Type Number	Symbol	FES 16ATR	FES 16BTR	FES 16CTR	FES 16DTR	FES 16FTR	FES 16GTR	FES 16HTR	FES 16JTR	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	$I_{F(AV)}$	16								A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	$I_{FSM}$	200								A
Maximum Instantaneous Forward Voltage (Note 1) @ 16 A	$V_F$	0.975			1.3		1.7			V
Maximum Reverse Current @ Rated VR $T_A=25\text{ }^\circ\text{C}$ $T_A=100\text{ }^\circ\text{C}$	$I_R$	10				400				uA
Maximum Reverse Recovery Time (Note 2)	$T_{rr}$	35								nS
Typical Junction Capacitance (Note 3)	$C_j$	130				100				pF
Typical Thermal Resistance	$R_{\theta JC}$	1								$^\circ\text{C/W}$
Operating Temperature Range	$T_J$	- 65 to + 150								$^\circ\text{C}$
Storage Temperature Range	$T_{STG}$	- 65 to + 150								$^\circ\text{C}$

Note 1: Pulse Test with PW=300 usec, 1% Duty Cycle  
 Note 2: Reverse Recovery Test Conditions:  $I_F=0.5A$ ,  $I_R=1.0A$ ,  $I_{RR}=0.25A$   
 Note 3: Measured at 1 MHz and Applied Reverse Voltage of 4.0V D.C.

RATINGS AND CHARACTERISTIC CURVES (FES16ATR thru FES16JTR)

FIG.1 FORWARD CURRENT DERATING CURVE

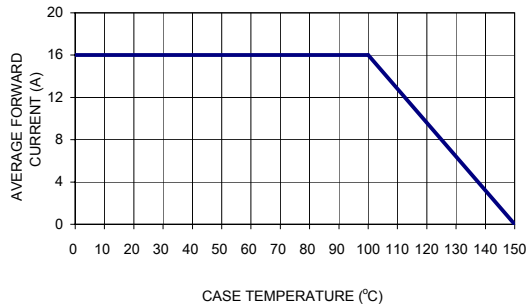


FIG. 2 TYPICAL REVERSE CHARACTERISTICS

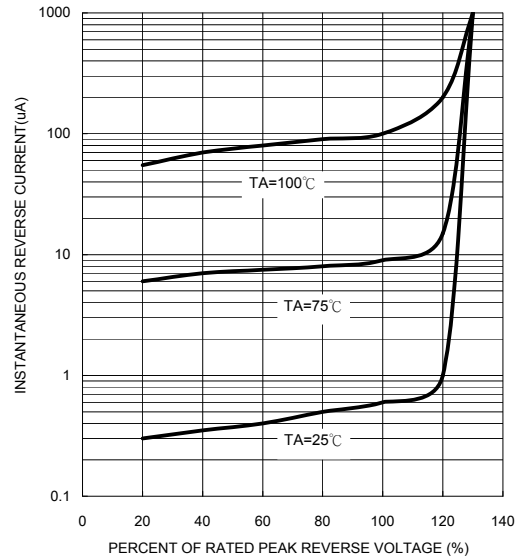


FIG. 3 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

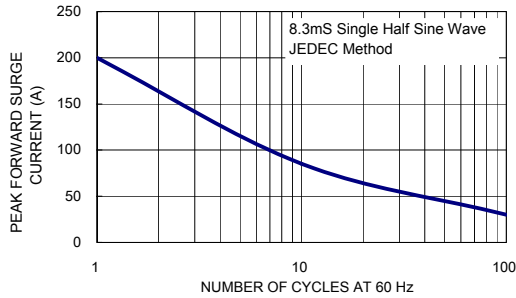


FIG. 5 TYPICAL FORWARD CHARACTERISTICS

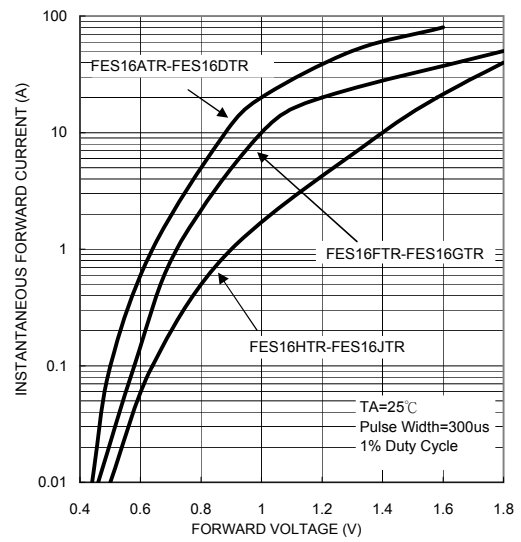


FIG. 4 TYPICAL JUNCTION CAPACITANCE

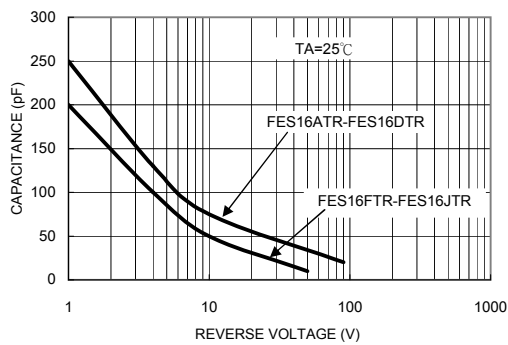


FIG.6- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

