

### FEATURES

- ◆ Fast switching for high efficiency
- ◆ Low noise
- ◆ Trr = 20ns
- ◆ Low reverse leakage current
- ◆ High voltage super FRD
- ◆ PFC application

### MECHANICAL DATA

- ◆ Case : Molded plastic TO-220AC / TO-220FP
- ◆ Epoxy : UL94V-0 rate flame retardant
- ◆ Terminals : Solder able per MIL-STD-202 method 208
- ◆ Mounting position : Any

### 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%

Symbol	Characteristics	CMPFCD86	
		Rating	Unit
V <sub>RRM</sub>	Recurrent Peak Reverse Voltage	600	V
V <sub>RMS</sub>	RMS Voltage	420	V
V <sub>DC</sub>	DC Blocking Voltage	600	V
I <sub>F(AV)</sub>	Average Forward Rectified Current @T <sub>c</sub> =140°C	8.0	A
I <sub>FSM</sub>	Peak Forward Surge Current 8.3ms single half sine-wave Super imposed on rated load (JEDEC Method)	100	A
I <sub>FSM</sub>	Peak Forward Surge Current 1.0ms single Square-wave superimposed on rated load (JEDEC Method)	150	A
V <sub>F</sub>	Instantaneous Forward Voltage @8A	2.9	V
I <sub>R</sub>	DC Reverse Current @T <sub>J</sub> =25°C At Rated DC Blocking Voltage @T <sub>J</sub> =150°C	10	uA
		500	
Trr	Maximum Reverse Recovery Time (note1)	20	nS
C <sub>J</sub>	Typical Junction Capacitance (note2)	50	pF
R <sub>θJC</sub>	Typical Thermal Resistance (note3)	2.2	°C/W
I <sup>2</sup> t	I <sup>2</sup> t Value For Fusing Tp=10ms	91	A <sup>2</sup> s
T <sub>J</sub>	Operating Temperature Range	-65~175	°C
T <sub>STG</sub>	Storage Temperature Range	-65~175	°C

**Notes :** 1. Reverse recovery test conditions I<sub>F</sub>=0.5A , I<sub>R</sub>=1.0A , Irr=0.25A  
 2. Measured at 1.0MHz and applied reverse voltage of 4.0 Volts DC.  
 3. Thermal Resistance junction to case.



### TYPICAL CHARACTERISTICS

FIG.1 - FORWARD CURRENT DERATING CURVE

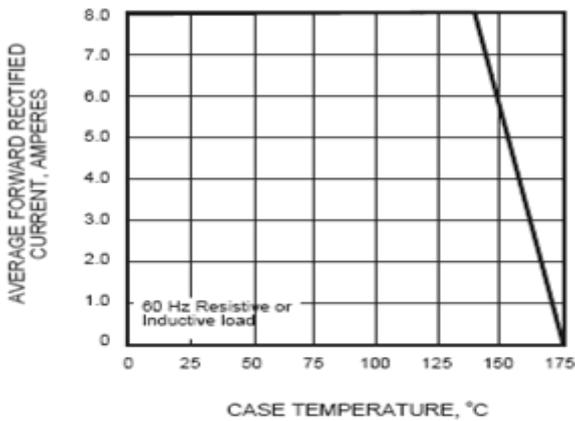


FIG.2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

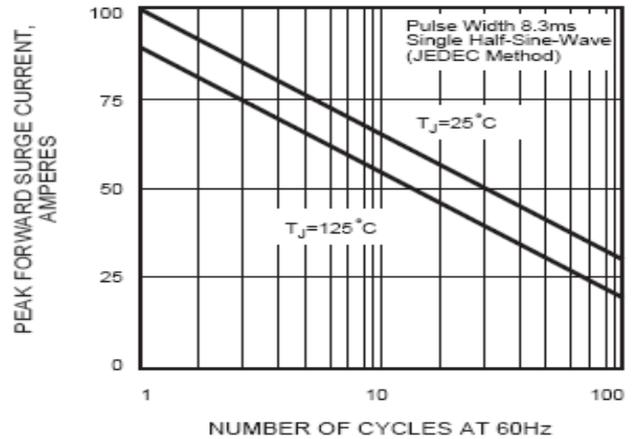


FIG.3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

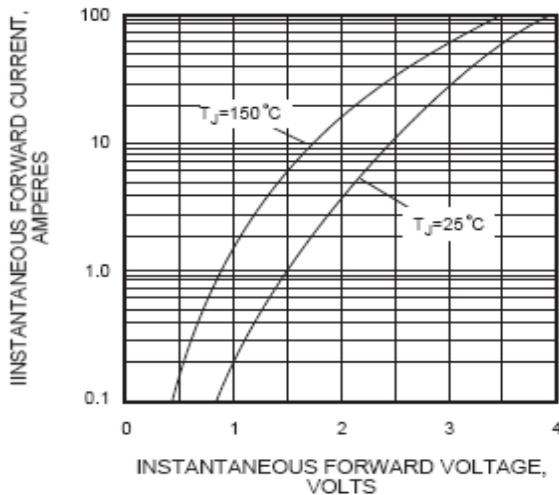


FIG.4 - TYPICAL REVERSE CHARACTERISTICS

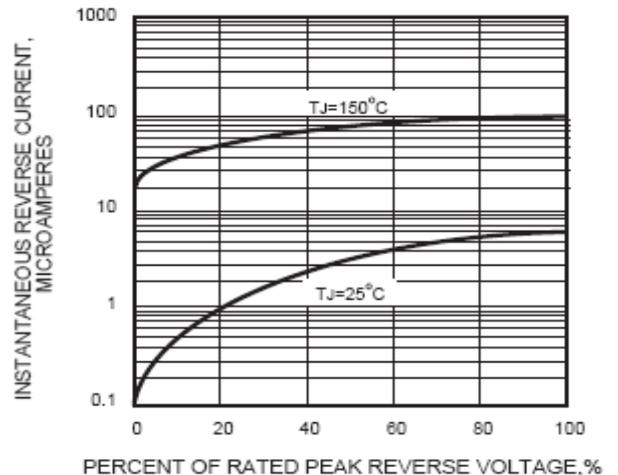


FIG.5 - TYPICAL JUNCTION CAPACITANCE

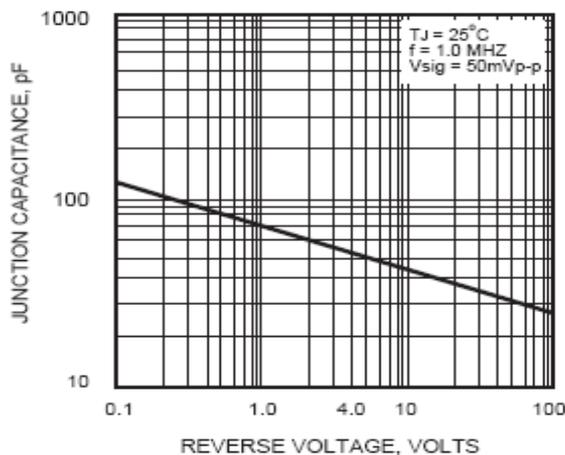
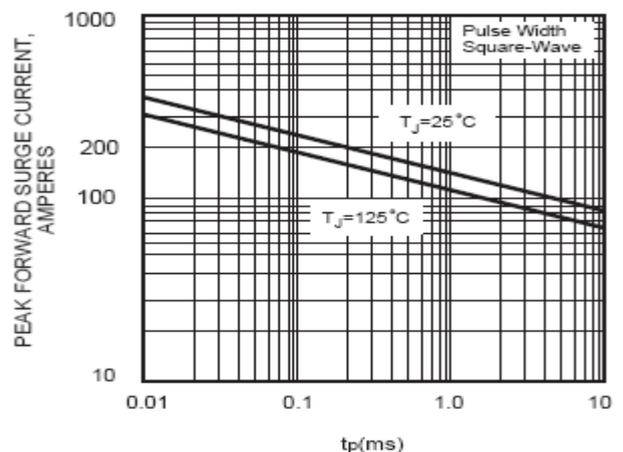
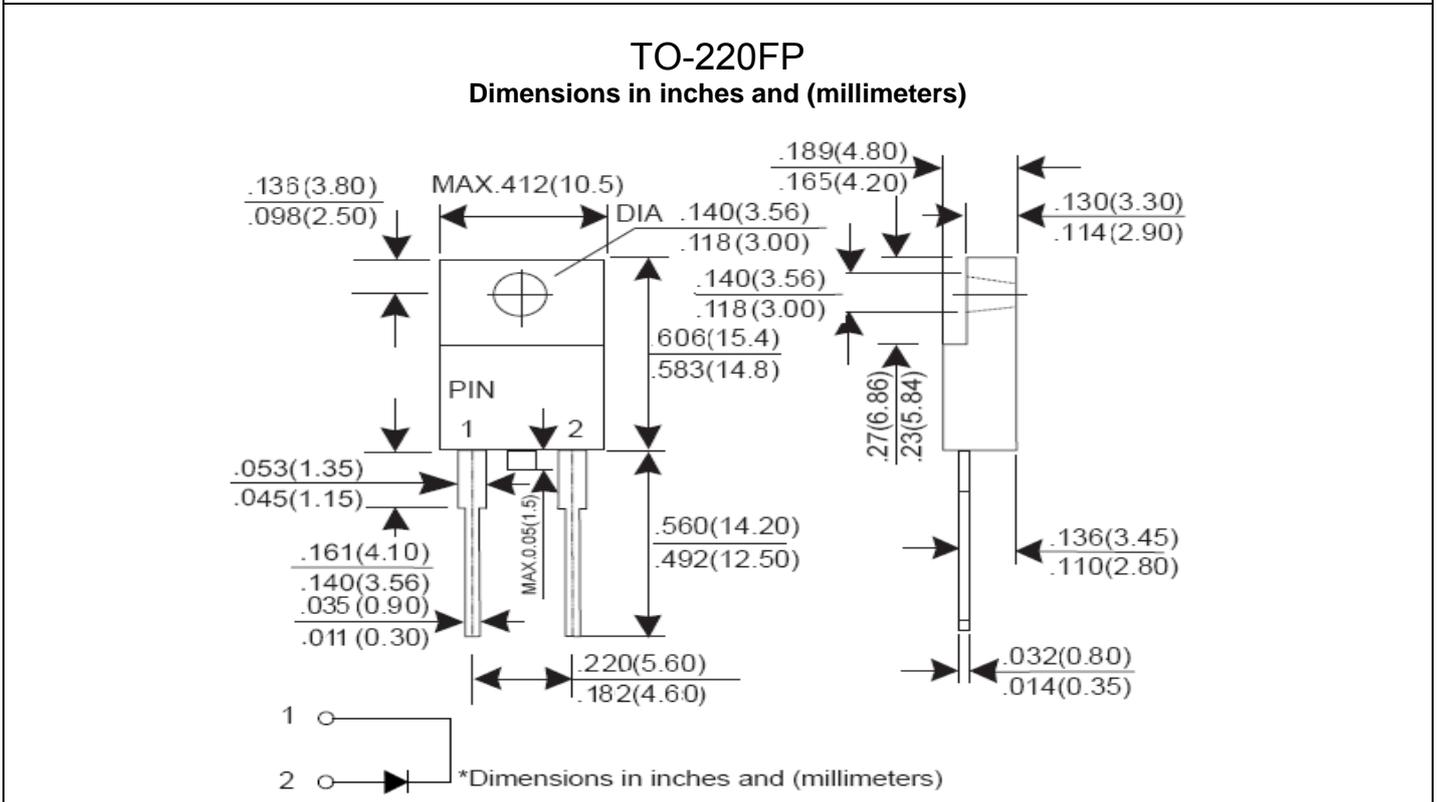
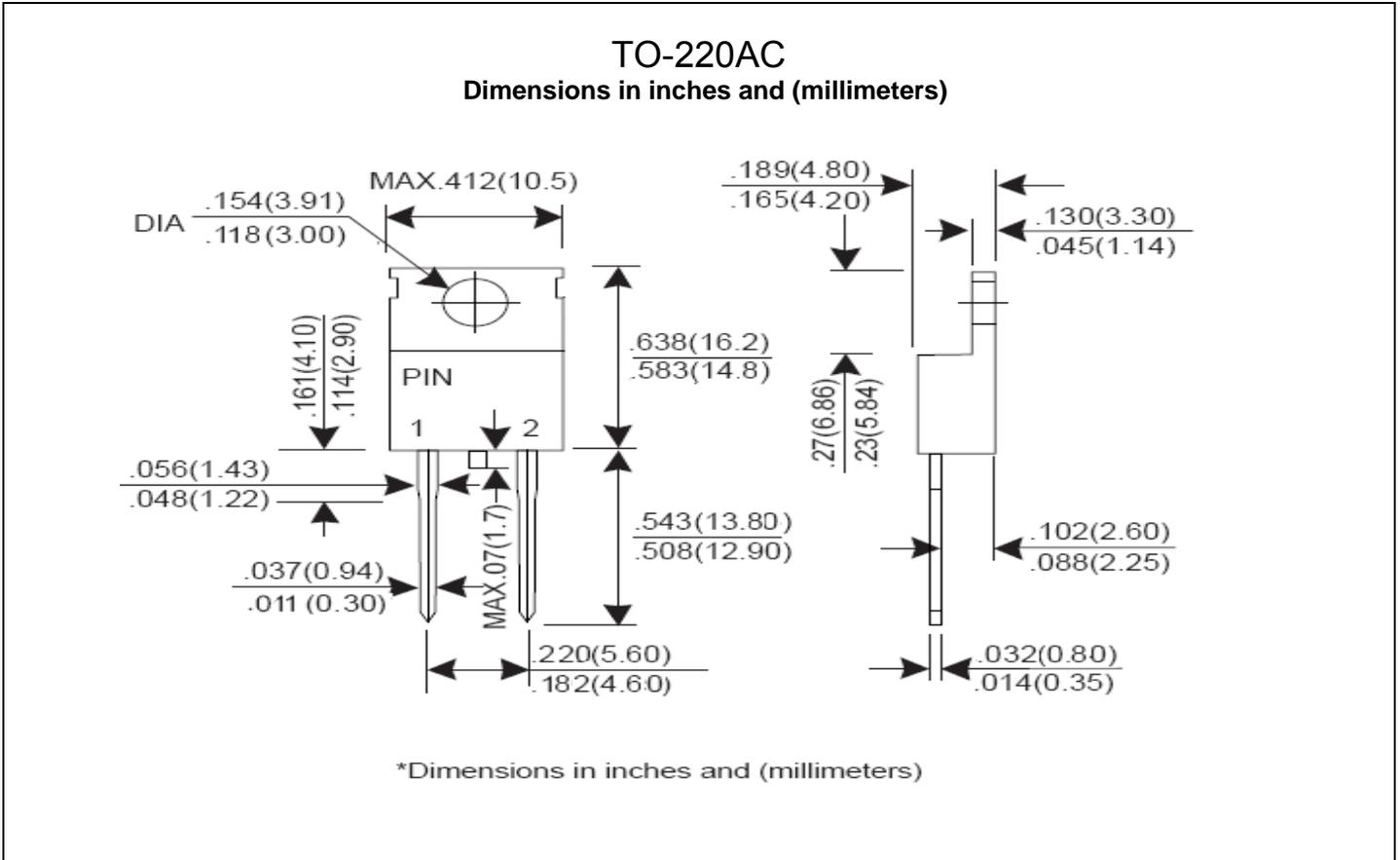


FIG.6 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT



### PACKAGE DIMENSION



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