

Pb Free Plating Product

## FR1001CT thru FR1007CT



## 10.0 Ampere Heatsink Dual Common Cathode Fast Recovery Rectifiers

**Features**

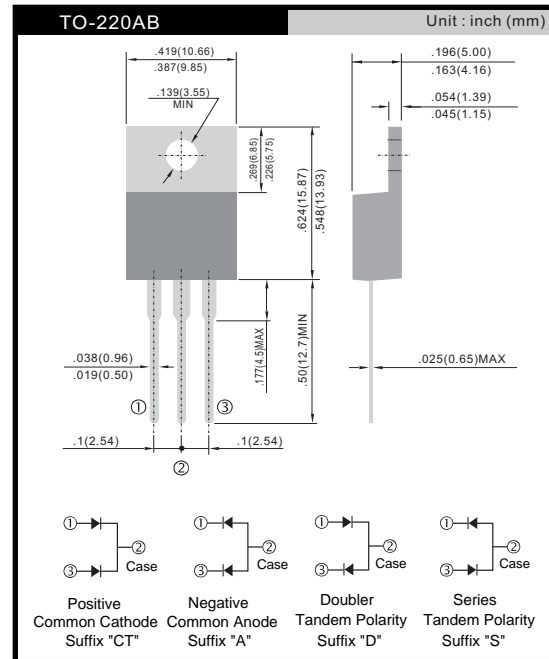
- \* Fast switching for high efficiency
- \* Low forward voltage drop
- \* High current capability
- \* Low reverse leakage current
- \* High surge current capability

**Application**

- \* Automotive Inverters/Solar Inverters
- \* Plating Power Supply, SMPS and UPS
- \* Car Audio Amplifiers and Sound Device Systems

**Mechanical Data**

- \* Case: Heatsink TO-220AB
- \* 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**

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%.

	Symbols	FR1001CT	FR1002CT	FR1003CT	FR1004CT	FR1005CT	FR1006CT	FR1007CT	Units
Maximum Recurrent Peak Reverse Voltage	$V_{RRM}$	50	100	200	400	600	800	1000	Volts
Maximum RMS Voltage	$V_{RMS}$	35	70	140	280	420	560	700	Volts
Maximum DC Blocking Voltage	$V_{DC}$	50	100	200	400	600	800	1000	Volts
Maximum Average Forward Rectified Current See Fig. 2	$I_{(AV)}$	10.0							Amp
Peak Forward Surge Current, 8.3ms single half-sine-wave superimposed on rated load (JEDEC method)	$I_{FSM}$	125							Amp
Maximum Forward Voltage at 5.0A DC and 25°C	$V_F$	1.3							Volts
Maximum Reverse Current at $T_C=25^\circ\text{C}$ at Rated DC Blocking Voltage $T_C=125^\circ\text{C}$	$I_R$	5.0 100							$\mu\text{Amp}$
Typical Thermal Resistance (Note 1)	$R_{\theta JC}$	3							°C/W
Maximum Reverse Recovery Time (Note 2)	$T_{RR}$	150				250	500		nS
Operating and Storage Temperature Range	$T_J, T_{stg}$	-55 to +150							°C

**NOTES:**

1- Thermal Resistance from Junction to Case per Leg Mounted on Heatsink.

2- Reverse Recovery Test Conditions:  $I_F=5A$ ,  $I_R=1A$ ,  $I_{RR}=.25A$ .

**RATINGS AND CHARACTERISTIC CURVES**

FIG. 1- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

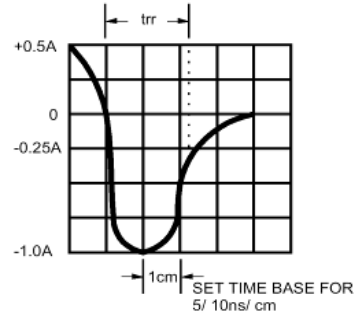
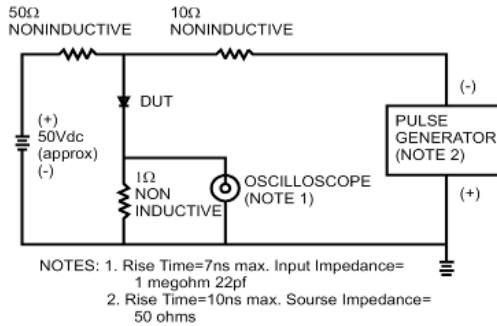


FIG. 2- MAXIMUM FORWARD CURRENT DERATING CURVE

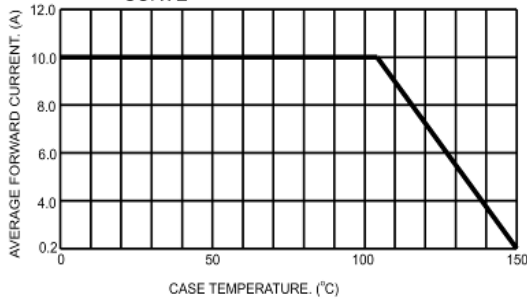


FIG. 5- TYPICAL REVERSE CHARACTERISTICS PER LEG

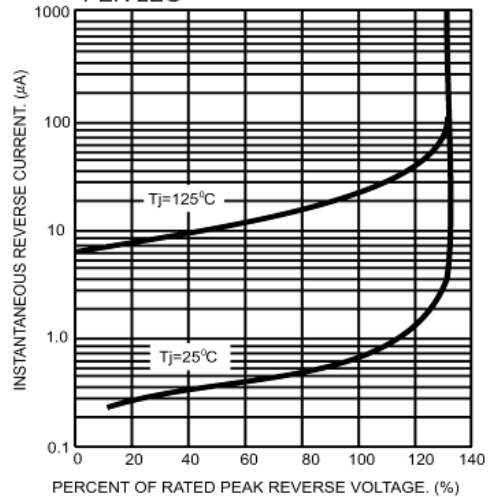


FIG. 3- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

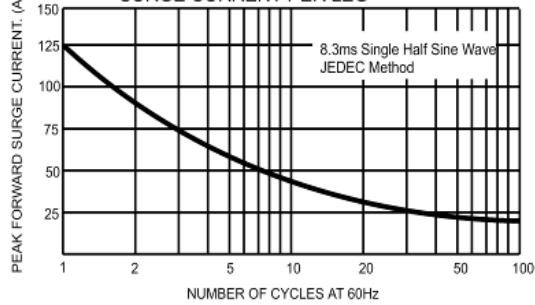


FIG. 6- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PER LEG

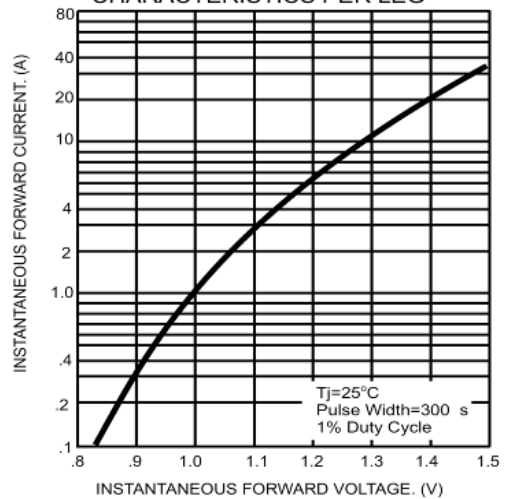


FIG. 4- TYPICAL JUNCTION CAPACITANCE PER LEG

