

FR1001CT thru FR1007CT



Pb Free Plating Product

10.0 Ampere Heatsink Dual Common Cathode Fast Recovery Rectifiers

Features

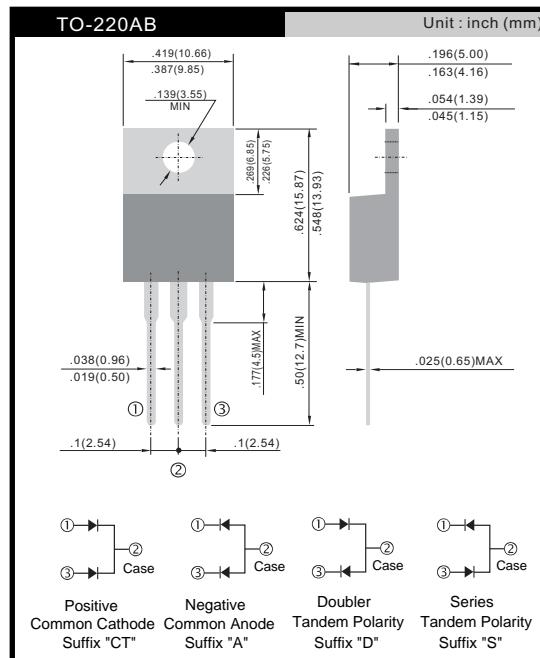
- ★ Fast switching for high efficiency
 - ★ Low forward voltage drop
 - ★ High current capability
 - ★ Low reverse leakage current
 - ★ High surge current capability

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°C at Rated DC Blocking Voltage T_C=125°C	I_R	5.0 100							uAmp
Typical Thermal Resistance (Note 1)	R_{θJC}	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

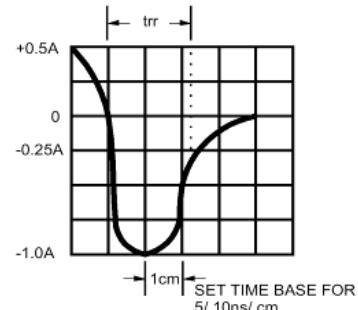
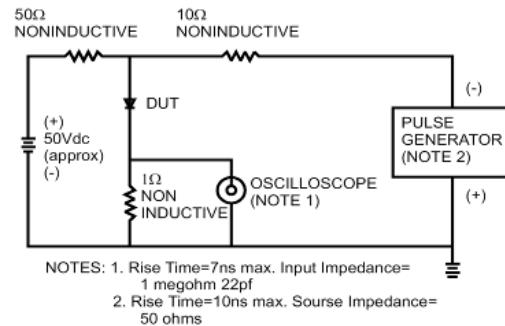


FIG.2- MAXIMUM FORWARD CURRENT DERATING CURVE

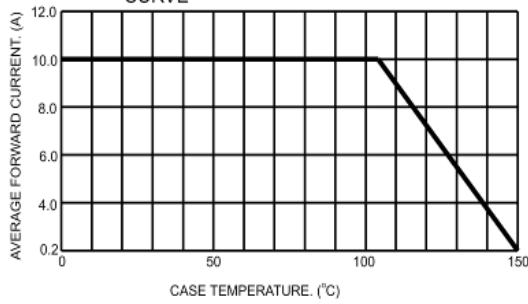


FIG.3- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

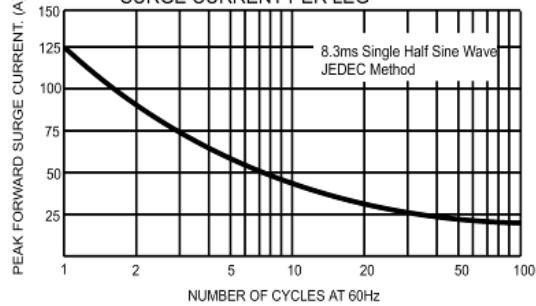


FIG.4- TYPICAL JUNCTION CAPACITANCE PER LEG

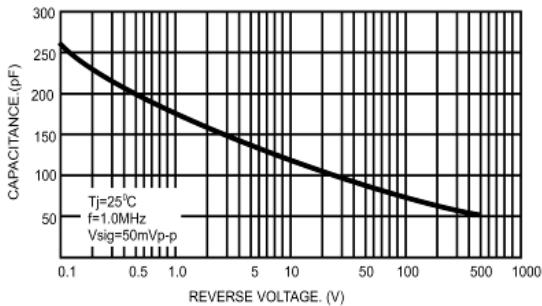


FIG.5- TYPICAL REVERSE CHARACTERISTICS PER LEG

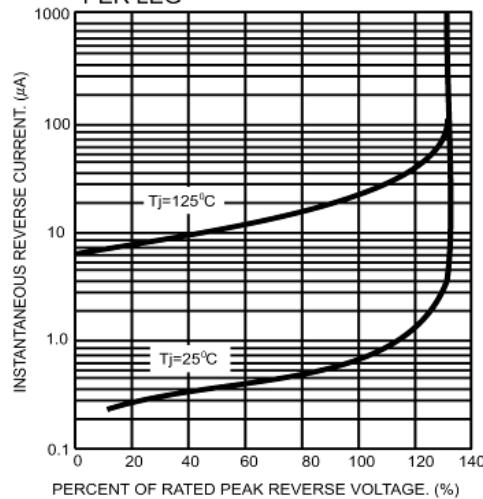


FIG.6- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PER LEG

