

SUPER FAST RECTIFIERS

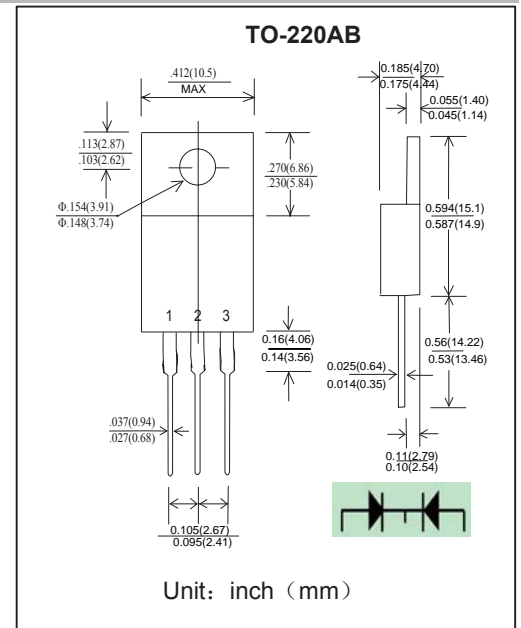
VOLTAGE RANGE: 200--- 600 V
CURRENT:10.0 A

Features

- Ultrafast 35 Nanosecond Recovery Time
- 175°C Operating Junction Temperature
- Popular TO-220AB Package
- Epoxy Meets UL94 , V0 @ 1/8"
- High Temperature Glass Passivated Junction
- Low Forward Voltage
- Low Leakage Current
- Reverse Voltage to 600 Volts
- Pb-Free Packages are Available

Mechanical Characteristics

- Case: Epoxy, Molded
 - Weight: 1.9 grams (approximately)
 - Finish: All External Surfaces Corrosion Resistant and Terminal Leads are Readily Solderable
 - Lead Temperature for Soldering Purposes: 260°C Max. for 10 Seconds
- Shipped 50 units per plastic tube



MAXIMUM RATINGS AND CHARACTERISTICS

@ 25°C Ambient Temperature (unless otherwise noted) Single phase

Rating	Symbol	SF1002	SF1004	SF1006	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	VRRM VRWM VR	200	400	600	V
Average Rectified Forward Current Total Device, (Rated VR), TC = 150°C	IF(AV)	5 10			A
Peak Repetitive Forward Current (Rated VR, Square Wave, 20 kHz), TC = 150°C	IFM	16			A
Nonrepetitive Peak Surge Current (Surge applied at rated load conditions halfwave , single phase, 60 Hz)	IFSM	100			A
Operating Junction Temperature and Storage Temperature T _J , T _{stg}		- 65 to +175			°C
Maximum Thermal Resistance, Junction to Case	R _{θJC}	3.0	2.0		°C/W
Maximum Instantaneous Forward Voltage (1)(IF = 5.0 Amps, TC = 25°C)	VF	1.1	1.4	1.6	V
Maximum Instantaneous Reverse Current (1)	IR	800	800	800	μA
(Rated dc Voltage, T _J = 150°C)(Rated dc Voltage, T _J = 25°C)		10	10	10	
Maximum Reverse Recovery Time (IF = 0.5 A, = IR 1.0 A, IREC = 0.25 A)	T _{rr}	35			ns

(1) Pulse Test: Pulse Width = 300μs, Duty Cycle ≤ 2.0%.

RATINGS AND CHARACTERISTIC CURVES

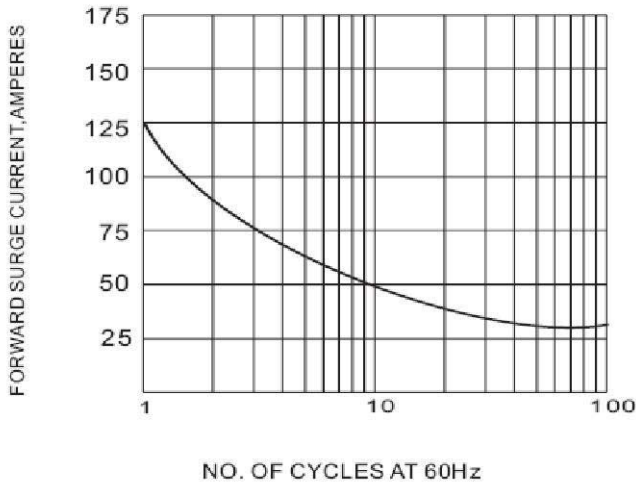


Fig.1 PEAK FORWARD SURGE CURRENT

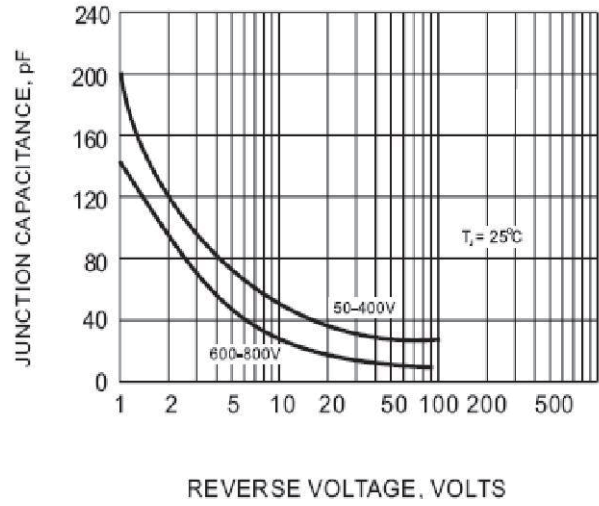


Fig.2 TYPICAL JUNCTION CRPACITANCES

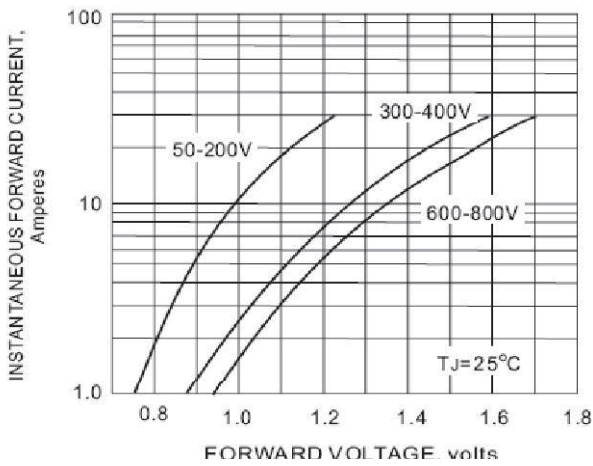


Fig.3 FORWARD CHARACTERISTICS

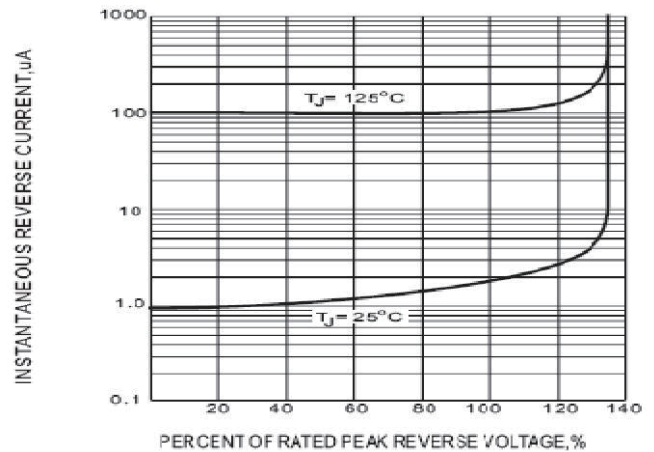


Fig.4 TYPICAL REVERSE CHARACTERISTICS

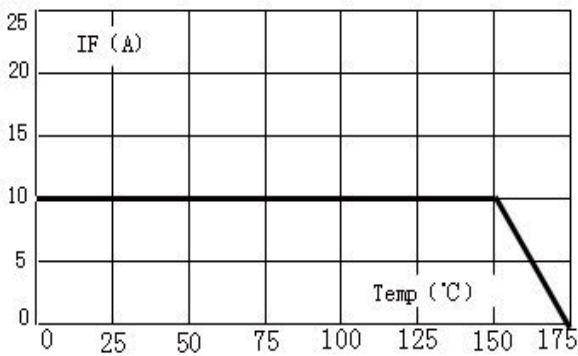


Fig.5 FORWARD CURRENT DERATING CURVE