

ULTRAFAST RECOVERY RECTIFIERS

VOLTAGE	100 to 600 Volts
CURRENT	20 Amperes

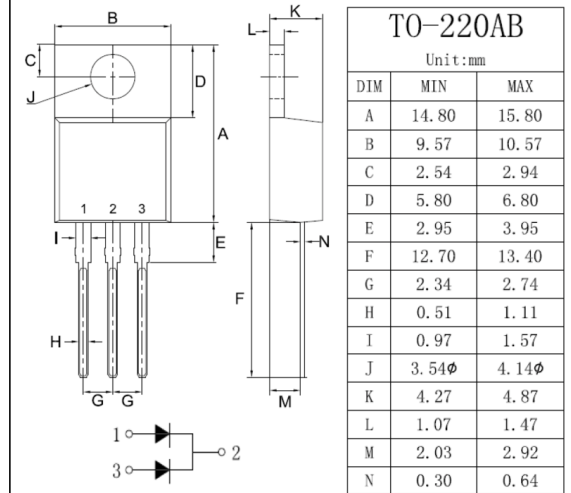
FEATURES

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0. Flame Retardant Epoxy Molding Compound.
- Low power loss, high efficiency.
- Low forward voltage, high current capability.
- High surge capability
- Ultra fast recovery time, high voltage.
- Lead free in comply with EU RoHS.

MECHANICAL DATA

- Case: TO-220AB molded plastic
- Terminals: solder plated, solderable per MIL-STD-750, Method 2026
- Polarity: As marked.
- Mounting Position: Any

TO-220AB



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings 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%

PARAMETER	SYMBOL	SF2010CT	SF2020CT	SF2030CT	SF2040CT	SF2050CT	SF2060CT	UNITS
Maximum Recurrent Peak Reverse Voltage	V _{RRM}	100	200	300	400	500	600	V
Maximum RMS Voltage	V _{RMS}	70	140	210	280	350	420	V
Maximum DC Blocking Voltage	V _{DC}	100	200	300	400	500	600	V
Maximum Average Forward Current at T _C = 100°C	I _{F(AV)}	20						A
Peak Forward Surge Current : 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	I _{FSM}	90						A
Maximum Forward Voltage at 10A	V _F	1	1.3		1.7			V
Maximum DC Reverse Current at Rated DC Blocking Voltage T _J =25°C T _J =125°C	I _R	10 500						μA
Typical Junction Capacitance (Note 1)	C _J	200						pF
Maximum Reverse Recovery Time (Note 2)	t _{rr}	35						ns
Typical Thermal Resistance (Note 3)	R _{θJC}	3						°C / W
Operating Junction and Storage Temperature Range	T _J , T _{STG}	-55 to +150						°C

NOTES:

1. Measured at 1 MHz and applied reverse voltage of 4.0 VDC.
2. Reverse Recovery Test Conditions: $I_F=0.5\text{A}$, $I_R=1\text{A}$, $I_{rr}=0.25\text{A}$.
3. Thermal resistance from Junction to case.

RATING AND CHARACTERISTIC CURVES

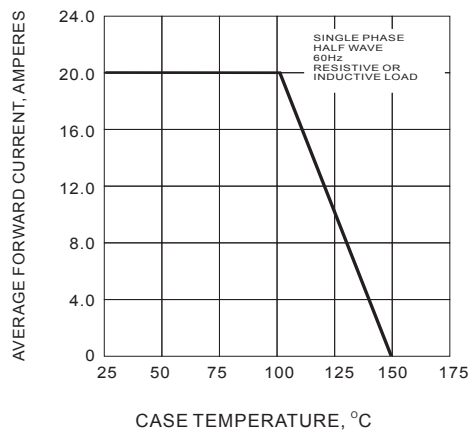


Fig.1 FORWARD CURRENT DERATING CURVE

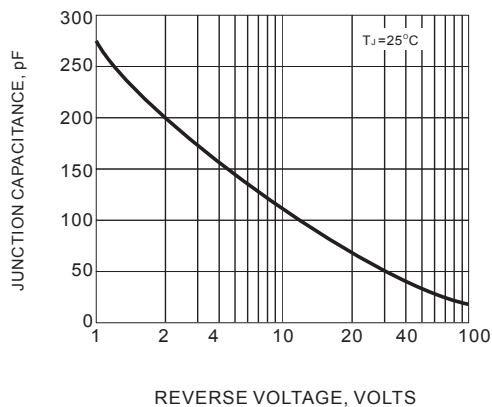


Fig.2 TYPICAL JUNCTION CAPACITANCES

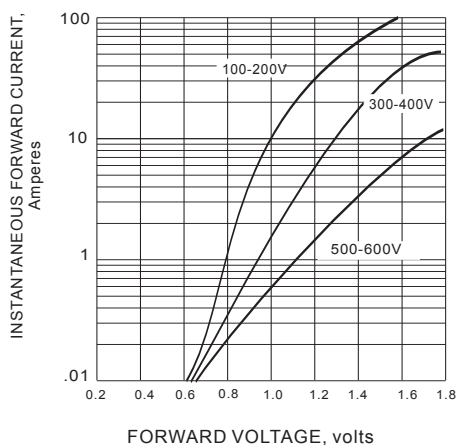


Fig.3 FORWARD CHARACTERISTICS

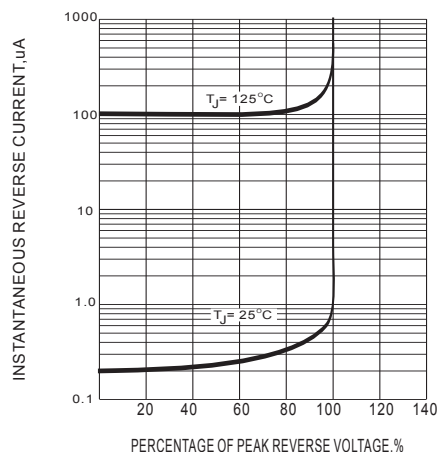


Fig.4 TYPICAL REVERSE CHARACTERISTICS

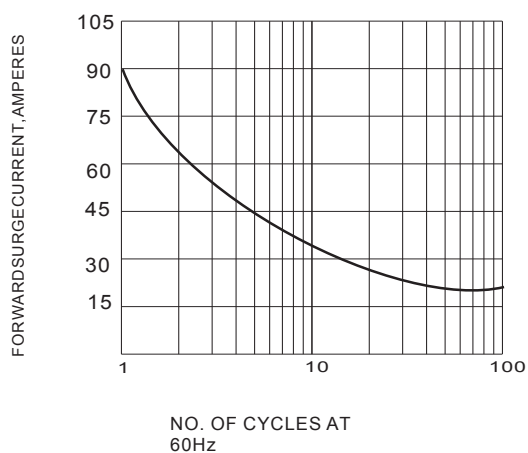


Fig.5 PEAK FORWARD SURGE CURRENT

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