

FAST RECOVERY RECTIFIERS

VOLTAGE RANGE: 100 --- 600 V

CURRENT: 20 A

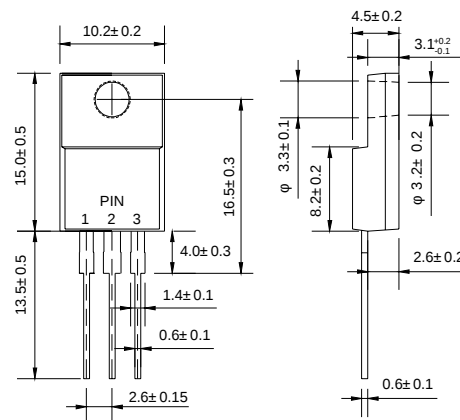
FEATURES

- ◇ Low cost
- ◇ Diffused junction
- ◇ Low leakage
- ◇ Low forward voltage drop
- ◇ High current capability
- ◇ Easily cleaned with Freon, Alcohol, Isopropanol and similar solvents
- ◇ The plastic material carries U/L recognition 94V-0

MECHANICAL DATA

- ◇ Case: JEDEC ITO-220AB, molded plastic
- ◇ Terminals: solderable per MIL-STD-202, Method 208
- ◇ Polarity: Color band denotes cathode
- ◇ Weight: 0.06 ounces, 1.67 grams
- ◇ Mounting position: Any

ITO-220AB



Dimensions in millimeters

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 by 20%.

		FR 2010FC	FR 2020FC	FR 2040FC	FR 2060FC	UNITS
Maximum recurrent peak reverse voltage	V_{RRM}	100	200	400	600	V
Maximum RMS voltage	V_{RMS}	70	140	280	420	V
Maximum DC blocking voltage	V_{DC}	100	200	400	600	V
Maximum average forward rectified current @ $T_A = 75^\circ\text{C}$	$I_{F(AV)}$	20				A
Peak forward surge current 8.3ms single half-sine-wave superimposed on rated load @ $T_J = 125^\circ\text{C}$	I_{FSM}	200				A
Maximum instantaneous forward voltage @ 10 A	V_F	1.3				V
Maximum reverse current @ $T_A = 25^\circ\text{C}$ at rated DC blocking voltage @ $T_A = 100^\circ\text{C}$	I_R	10 150				μA
Maximum reverse recovery time (Note1)	t_{rr}	150			250	ns
Typical junction capacitance (Note2)	C_J	35				pF
Typical thermal resistance (Note3)	$R_{\theta JA}$	3.0				$^\circ\text{C/W}$
Operating junction temperature range	T_J	- 55 --- +150				$^\circ\text{C}$
Storage temperature range	T_{STG}	- 55 --- + 150				$^\circ\text{C}$

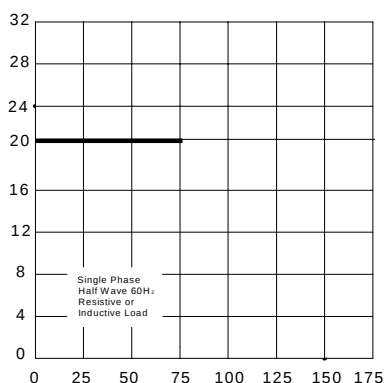
NOTE:1. Measured with $I_F = 0.5\text{A}$, $I_R = 1\text{A}$, $t_{rr} = 0.25\text{A}$.

2. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.

3. Thermal resistance from junction to ambient.

FIG.1 – FORWARD DERATING CURVE

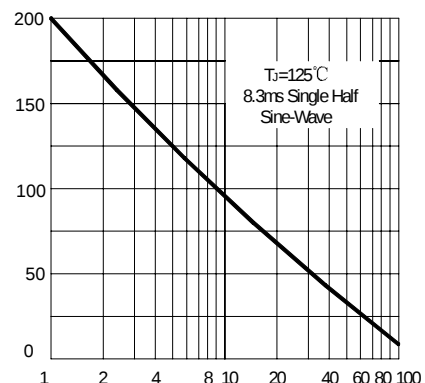
AVERAGE FORWARD RECTIFIED CURRENT
AMPERES



AMBIENT TEMPERATURE, °C

FIG.2-PEAK FORWARD SURGE CURRENT

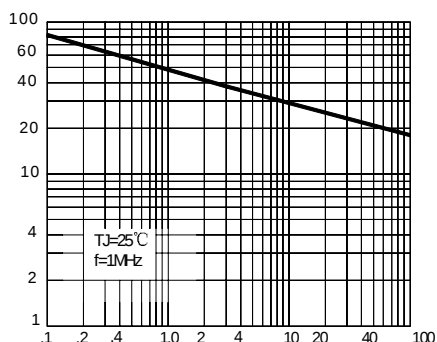
PEAK FORWARD SURGE CURRENT
AMPERES



NUMBER OF CYCLES AT 60 Hz

FIG.3-TYPICAL JUNCTION CAPACITANCE

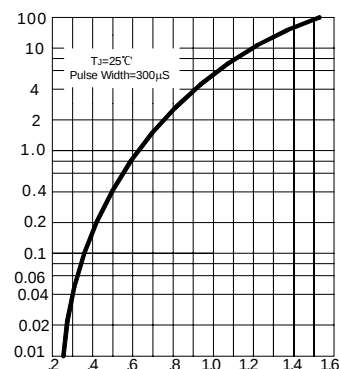
JUNCTION CAPACITANCE, pF



REVERSE VOLTAGE, VOLTS

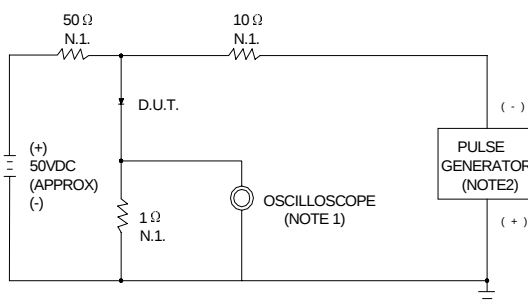
FIG.4 –TYPICAL FORWARD CHARACTERISTIC

INSTANTANEOUS FORWARD CURRENT
AMPERES

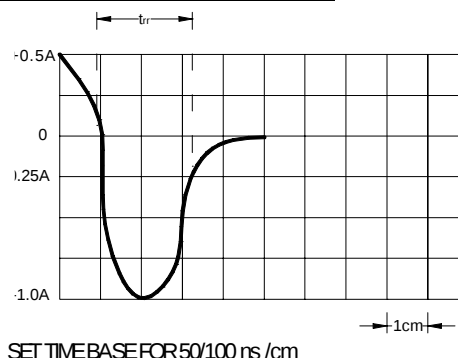


INSTANTANEOUS FORWARD VOLTAGE, VOLTS

FIG.5 – REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM



NOTES: 1. RISE TIME=7ns MAX. INPUT IMPEDANCE=1MΩ, 22pF
2. RISE TIME=10ns MAX. SOURCE IMPEDANCE=50Ω



SET TIME BASE FOR 50/100 ns /cm