



BY459

Super Fast Rectifiers

VOLTAGE RANGE: 1500 V

CURRENT: 12.0 A

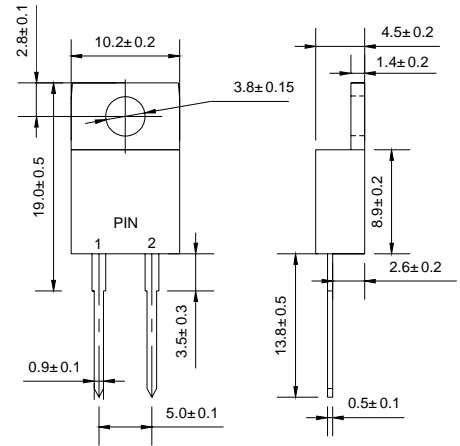
Features

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

Mechanical Data

- ◇ Case: JEDEC TO-220AC, molded plastic
- ◇ Polarity: Color band denotes cathode
- ◇ Weight: 0.064 ounces, 1.96 gram
- ◇ Mounting position: Any

TO - 220AC



Dimensions in millimeters

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 50Hz, resistive or inductive load. For capacitive load, derate by 20%.

		BY459	UNITS
Maximum recurrent peak reverse voltage	V_{RRM}	1500	V
Maximum RMS voltage	V_{RMS}	1050	V
Maximum DC blocking voltage	V_{DC}	1500	V
Maximum average forward rectified current @ $T_A=75^\circ\text{C}$	$I_{F(AV)}$	12.0	A
Peak forward surge current 8.3ms single half-sine-wave superimposed on rated load @ $T_J=125^\circ\text{C}$	I_{FSM}	110.0	A
Maximum instantaneous forward voltage @ 6.5A	V_F	1.30	V
Maximum reverse current @ $T_A=25^\circ\text{C}$ at rated DC blocking voltage @ $T_A=100^\circ\text{C}$	I_R	10.0 100	μA
Maximum reverse recovery time (Note1)	t_{rr}	0.35	μs
Typical thermal resistance (Note2)	$R_{\theta Jmb}$	1.5	K/W
Typical thermal resistance (Note3)	$R_{\theta JA}$	60	K/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. Thermal resistance from junction to case.

3. Thermal resistance from junction to ambient.

Ratings AND Characteristic Curves

FIG.1 – FORWARD DERATING CURVE

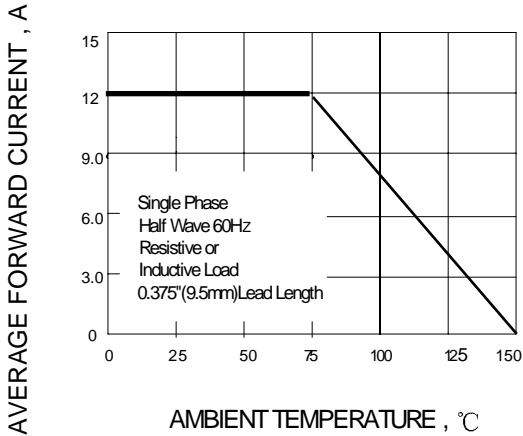


FIG.2 – PEAK FORWARD SURGE CURRENT

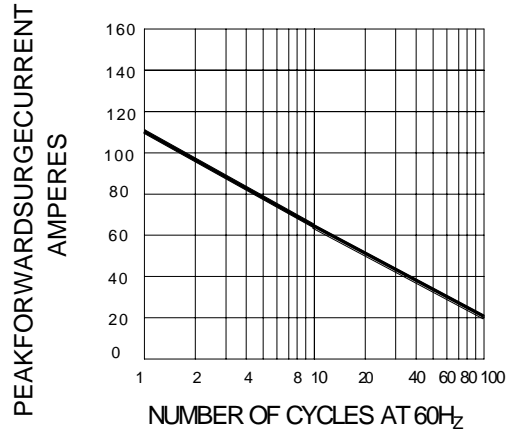


FIG.3 – TYPICAL FORWARD CHARACTERISTIC

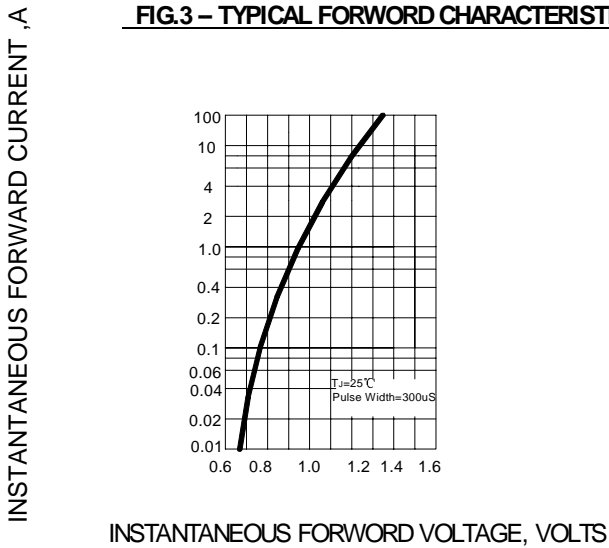


FIG.4 – TYPICAL JUNCTION CAPACITANCE

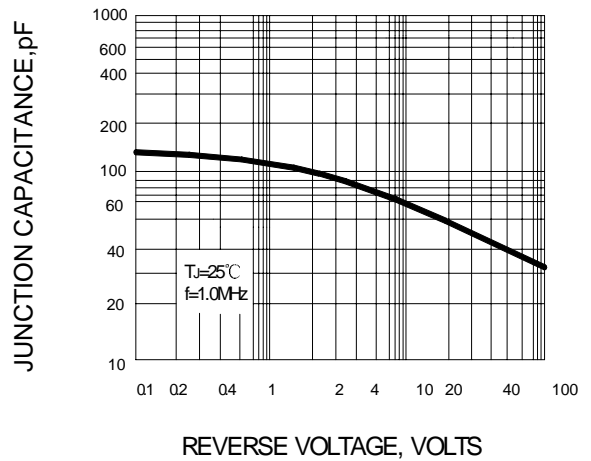


FIG.5 – AVERAGE FORWARD POWER DISSIPATION

