

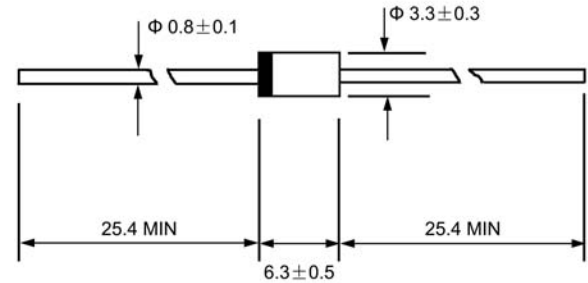
ERC30-01--ERC30-02

High Efficiency Rectifier

VOLTAGE RANGE: 100 --- 200 V

CURRENT: 1.5 A

DO - 15



Dimensions in millimeters

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 DO--15, molded plastic
- ◇ Polarity: Color band denotes cathode
- ◇ Weight: 0.014 ounces, 0.39 grams
- ◇ Mounting position: Any

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%.

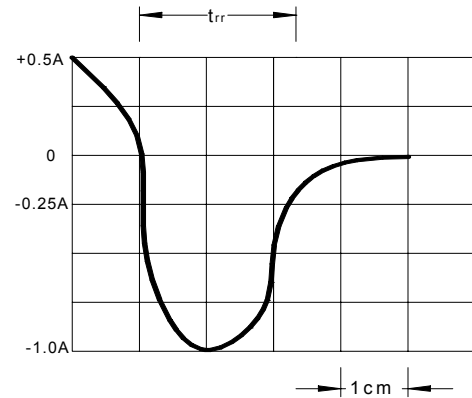
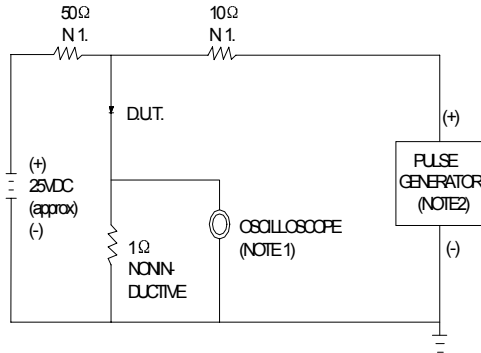
		ERC30 - 01	ERC30 - 02	UNITS
Maximum recurrent peak reverse voltage	V_{RRM}	100	200	V
Maximum RMS voltage	V_{RMS}	70	140	V
Maximum DC blocking voltage	V_{DC}	100	200	V
Maximum average forward rectified current 9.5mm lead length, @ $T_A=75^\circ C$	$I_{F(AV)}$	1.5		A
Peak forward surge current 8.3ms single half-sine-wave superimposed on rated load @ $T_J=125^\circ C$	I_{FSM}	60.0		A
Maximum instantaneous forward voltage @ 1.5A	V_F	0.92		V
Maximum reverse current @ $T_A=25^\circ C$ at rated DC blocking voltage @ $T_A=100^\circ C$	I_R	5.0	100.0	μA
Maximum reverse recovery time (Note1)	t_{rr}	100		ns
Typical junction capacitance (Note2)	C_J	50		pF
Typical thermal resistance (Note3)	$R_{\theta JA}$	50		$^\circ C/W$
Operating junction temperature range	T_J	- 55 ---- + 150		$^\circ C$
Storage temperature range	T_{STG}	- 55 ---- + 150		$^\circ C$

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

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

3. Thermal resistance from junction to ambient.

Ratings AND Characteristic Curves

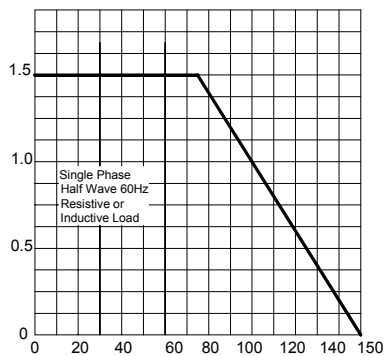
FIG.1 –TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC


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

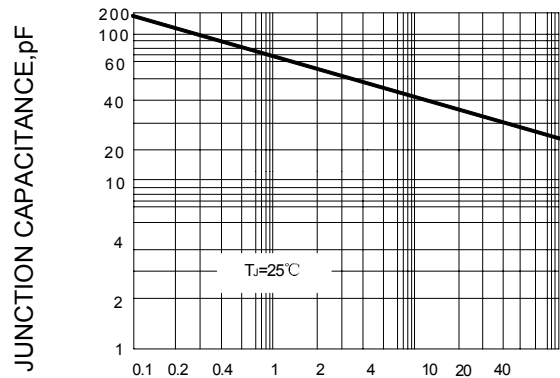
SET TIME BASE FOR 20/30 ns/cm

FIG.2 –FORWARD DERATING CURVE

AVERAGE FORWARD RECTIFIED CURRENT.
AMPERES



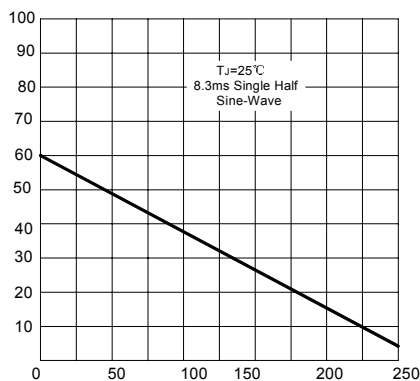
AMBIENT TEMPERATURE. °C

FIG.3–TYPICAL JUNCTION CAPACITANCE


REVERSE VOLTAGE, VOLTS

FIG.4–PEAK FORWARD SURGE CURRENT

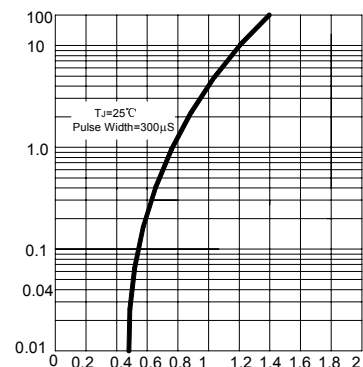
PEAK FORWARD SURGE CURRENT.
AMPERES



NUMBER OF CYCLES AT 60Hz

FIG.5 – TYPICAL FORWARD CHARACTERISTIC

INSTANTANEOUS FORWARD CURRENT
AMPERES



INSTANTANEOUS FORWARD VOLTAGE, VOLTS