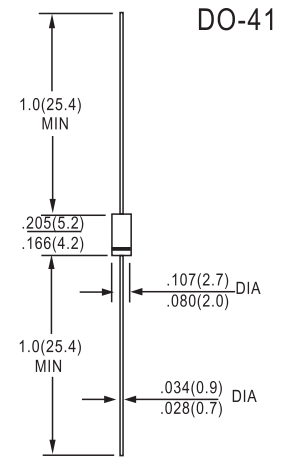


**TAYCHIPST****HIGH EFFICIENCY RECTIFIER****ERB38-04 THRU ERB38-06****400V-600V 0.8A****FEATURES**

- 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 DO-41, molded plastic
 Terminals: Axial lead, solderable per
 MIL - STD-202, Method 208
 Polarity: Color band denotes cathode
 Weight: 0.012 ounces, 0.34 grams
 Mounting position: Any



Dimensions in inches and (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%.

		ERB38 - 04	ERB38 - 05	ERB38 - 06	UNITS
Maximum recurrent peak reverse voltage	V_{RRM}	400	500	600	V
Maximum RMS voltage	V_{RMS}	280	350	420	V
Maximum DC blocking voltage	V_{DC}	400	500	600	V
Maximum average forward rectified current 9.5mm lead length, @ $T_A = 75^\circ\text{C}$	$I_{F(AV)}$	0.8			A
Peak forward surge current 8.3ms single half-sine-wave superimposed on rated load @ $T_J = 125^\circ\text{C}$	I_{FSM}	20.0			A
Maximum instantaneous forward voltage @ 0.8A	V_F	2.5			V
Maximum reverse current @ $T_A = 25^\circ\text{C}$ at rated DC blocking voltage @ $T_A = 100^\circ\text{C}$	I_R	5.0 50.0			μA
Maximum reverse recovery time (Note1)	t_{rr}	50			ns
Typical junction capacitance (Note2)	C_J	20		15	pF
Typical thermal resistance (Note3)	$R_{\theta JA}$	60			$^\circ\text{C/W}$
Operating junction temperature range	T_J	- 55 ----- + 150			$^\circ\text{C}$
Storage temperature range	T_{STG}	- 55 ----- + 150			$^\circ\text{C}$

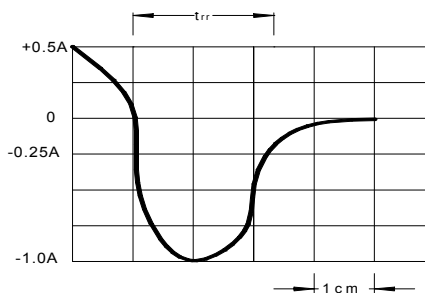
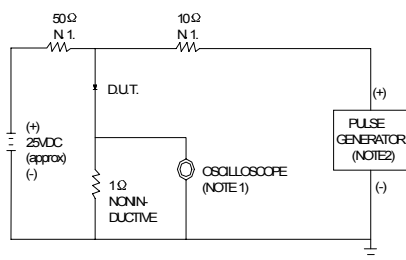
NOTE: 1. Measured with $I_F = 0.5\text{A}$, $I_R = 1\text{A}$, $I_{rr} = 0.25\text{A}$.

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

3. Thermal resistance from junction to ambient.

RATINGS AND CHARACTERISTIC CURVES ERB38-04 THRU ERB38-06

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

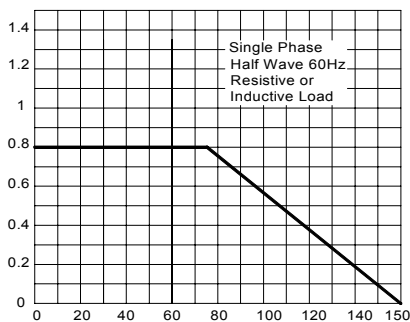


NOTES: 1. RISE TIME=7ns MAX. INPUT IMPEDANCE=1MΩ. 22pF
2. RISE TIME=10ns MAX. SOURCE IMPEDANCE=50Ω.

SET TIME BASE FOR 20/30 ns/cm

FIG.2 -FORWARD DERATING CURVE

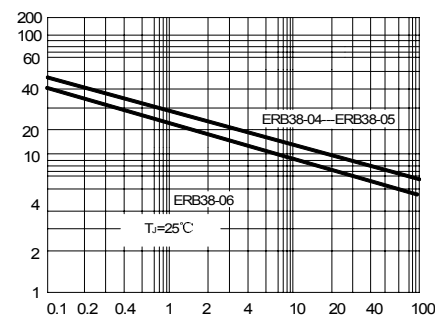
AVERAGE FORWARD RECTIFIED CURRENT.
AMPERES



AMBIENT TEMPERATURE. °C

FIG.3-TYPICAL JUNCTION CAPACITANCE

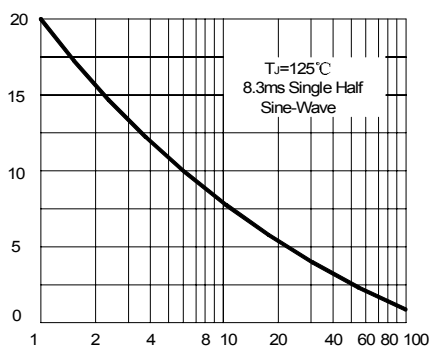
JUNCTION CAPACITANCE,pF



REVERSE VOLTAGE,VOLTS

FIG.4-PEAK FORWARD SURGE CURRENT

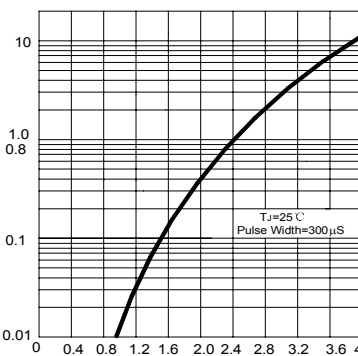
PEAK FORWARD SURGE CURRENT.
AMPERES



NUMBER OF CYCLES AT 60HZ

FIG.5 - TYPICAL FORWARD CHARACTERISTIC

INSTANTANEOUS FORWARD CURRENT
AMPERES



INSTANTANEOUS FORWARD VOLTAGE, VOLTS