



HIGH EFFICIENCY RECTIFIER

TVR1B --- TVR1J

VOLTAGE RANGE: 100--- 600 V

CURRENT: 0.5 A

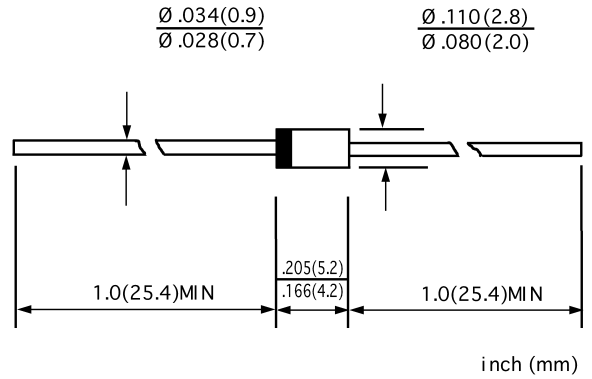
FEATURES

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

DO - 41



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%.

		TVR1B	TVR1D	TVR1G	TVR1J	UNITS
Maximum peak repetitive 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 9.5mm lead length, @ $T_A=75^\circ C$	$I_{F(AV)}$	0.5				A
Peak forward surge current 10ms single half-sine-wave superimposed on rated load @ $T_J=125^\circ C$	I_{FSM}	10.0				A
Maximum instantaneous forward voltage @ 0.5 A	V_F	1.2				V
Maximum reverse current @ $T_A=25^\circ C$ at rated DC blocking voltage @ $T_A=100^\circ C$	I_R	10.0 50.0				μA
Maximum reverse recovery time (Note1)	t_{rr}	100				ns
Typical junction capacitance (Note2)	C_J	20			15	pF
Typical thermal resistance (Note3)	$R_{\theta JA}$	60				$^\circ C/W$
Operating junction temperature range	T_J	- 55 ----- + 150				$^\circ C$
Storage temperature range	T_{STG}	- 55 ----- + 150				$^\circ C$

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

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

3. Thermal resistance from junction to ambient.

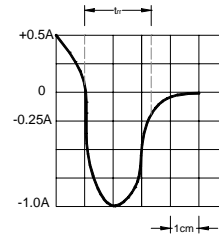
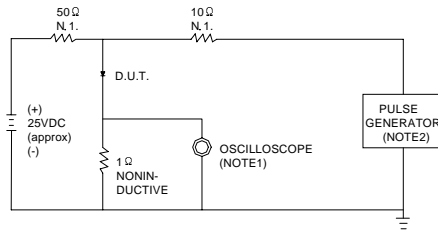
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FIG.1 – TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC



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

SET TIME BASE FOR 10/20 ns/cm

FIG.2 – TYPICAL FORWARD CHARACTERISTIC

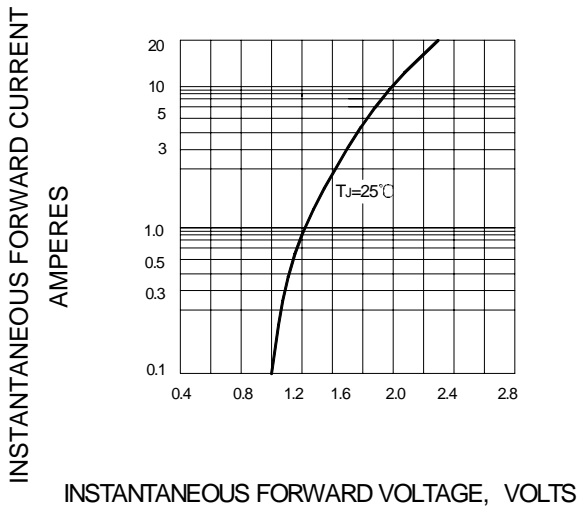


FIG.3 – FORWARD DERATING CURVE

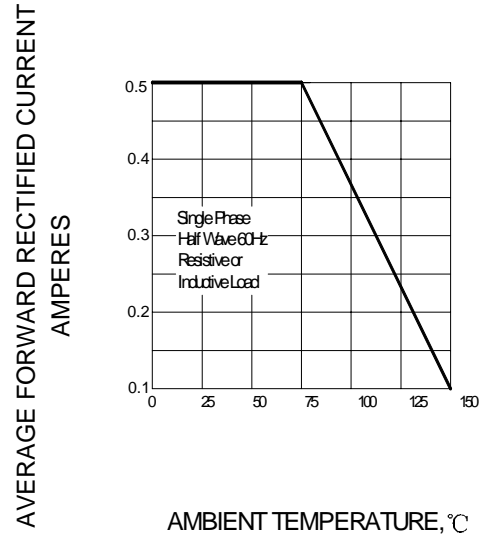


FIG.4 – PEAK FORWARD SURGE CURRENT

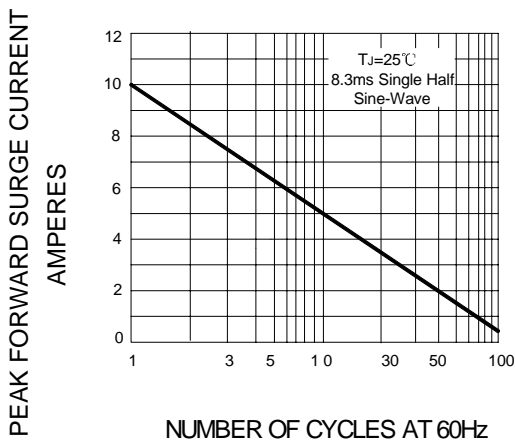


FIG.4-TYPICAL JUNCTION CAPACITANCE

