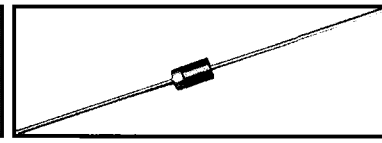
# ER1001 thru ER1007

**1 AMP. EFFICIENT RECOVERY RECTIFIERS**



VOLTAGE RANGE
50 to 1000 Volts
CURRENT
1.0 Ampere

## FEATURES

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

## MECHANICAL DATA

Case: JEDEC DO-41, molded plastic

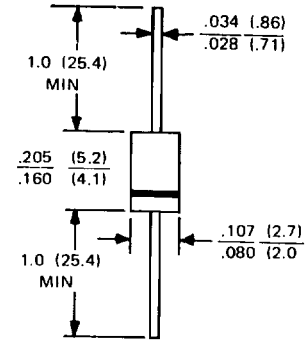
Terminals: Plated axial leads, solderable per MIL-STD-202, Method 208

Polarity: Color band denotes cathode

Weight: 0.012 ounce, 0.3 grams

Mounting position: Any

## DO-41




Dimensions in inches and (millimeters)

## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25° C ambient temperature unless otherwise specified.
Single phase, half wave, 60Hz, resistive or inductive load,
For capacitive load, derate current by 20%.

| | | ER1001 | ER1002 | ER1003 | ER1004 | ER1005 | ER1006 | ER1007 | UNITS |
|---|---|---|---|---|---|---|---|---|---|
| Maximum Recurrent Peak Reverse Voltage | $V_{RRM}$ | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| Maximum RMS Voltage | $V_{RMS}$ | 35 | 70 | 140 | 280 | 420 | 560 | 700 | V |
| Maximum DC Blocking Voltage | $V_{DC}$ | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| Maximum Average Forward Rectified Current .375", (9.5mm) Lead Lengths@$T_A$ = 75° C | $I_{(AV)}$ | 1.0 | | | | | | | A |
| Peak Forward Surge Current 8.3 ms single half-sine-wave superimposed on rated load | $I_{FSM}$ | 30 | | | | | | | A |
| Maximum Forward Voltage at 1.0A DC | $V_F$ | 1.2 | | | | | | | V |
| Maximum DC Reverse Current @$T_A$=25° C<br>at Rated DC Blocking Voltage @$T_A$= 100° C | $I_R$ | 5<br>100 | | | | | | | uA<br>uA |
| Maximum Reverse Recovery Time (Note 1) @ $T_j$ =25°C | $T_{RR}$ | 100 | | | | 150 | | | ns |
| Typical Junction Capacitance (Note 2) | $C_J$ | 20 | | | | 10 | | | pF |
| Typical Thermal Resistance (Note 3) | $R_{\theta JA}$ | 10 | | | | | | | °C/W |
| Operating Temperature Range | $T_J$ | −65 to + 150 | | | | | | | °C |
| Storage Temperature Range | $T_{STG}$ | −65 to + 175 | | | | | | | °C |

NOTES: 1. Measured with IF = 0.5A, IR = 1A, Irr = 0.25A
2. Measured at 1.0 MHz and applied reverse voltage of 4.0V DC
3. Thermal Resistance Junction to Ambient.

LITEON

FIG. 1 – FORWARD DERATING CURVE

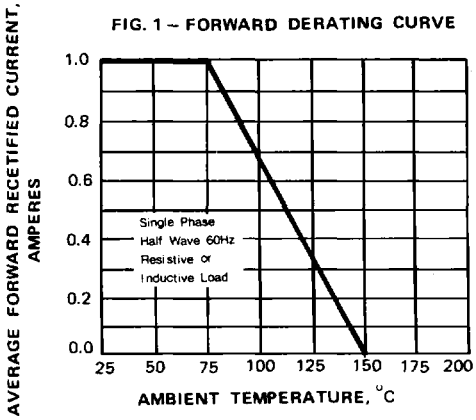



FIG. 2 – PEAK FORWARD SURGE CURRENT

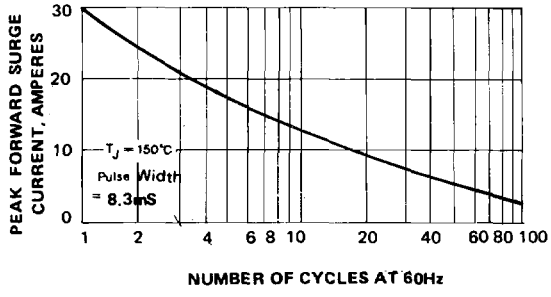



FIG. 3– TYPICAL JUNCTION CAPACITANCE

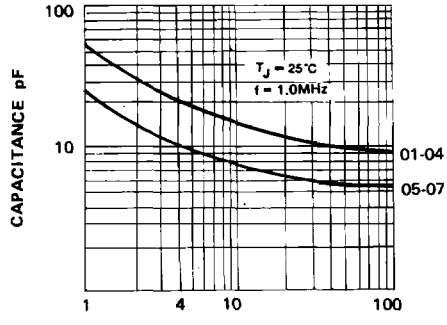



FIG. 4 – TYPICAL FORWARD CHARACTERISTIC

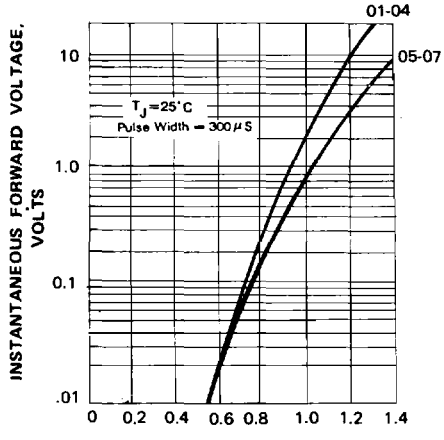
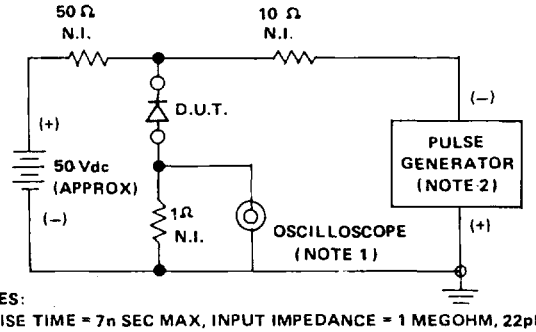
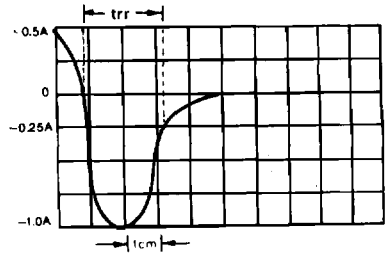



FIG. 5 – REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM




SET TIME BASE FOR
20/50 ns/cm

NOTES:
1. RISE TIME = 7n SEC MAX, INPUT IMPEDANCE = 1 MEGOHM, 22pF.
2. RISE TIME = 10n SEC MAX, SOURCE IMPEDANCE = 50 OHM,