

LITEON POWER
SEMICONDUCTORS**PR1501 thru PR1507**

1-03-15

VOLTAGE RANGE
50 to 1000 Volts
CURRENT
1.5 Amperes

FEATURES

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

MECHANICAL DATA

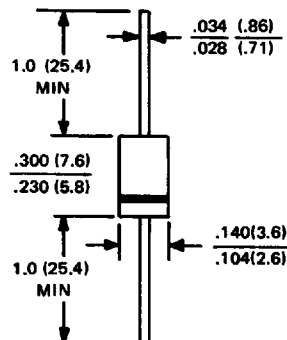
Case: JEDEC DO-41, molded plastic

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-15

All 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%.

		PR1501	PR1502	PR1503	PR1504	PR1505	PR1506	PR1507	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 @ $T_A = 50^{\circ}\text{C}$	$I_{(AV)}$	1.5							A
Peak Forward Surge Current 8.3 ms single half-sine-wave superimposed on rated load @ $T_J = 150^{\circ}\text{C}$	I_{FSM}	50							A
Maximum Forward Voltage at 1.5A DC	V_F	1.2							V
Maximum DC Reverse Current @ $T_A = 25^{\circ}\text{C}$ at Rated DC Blocking Voltage @ $T_A = 100^{\circ}\text{C}$	I_R	5 100							μA μA
Maximum Reverse Recovery Time (Note 1) @ $T_A=25^{\circ}\text{C}$	t_{RR}	150				250	500		ns
Typical Junction Capacitance (Note 2)	C_J	20				10			pF
Typical Thermal Resistance (Note 3)	$R_{\theta JA}$	50							$^{\circ}\text{C/W}$
Operating Temperature Range	T_J	-65 to + 150							$^{\circ}\text{C}$
Storage Temperature Range	T_{STG}	-65 to + 175							$^{\circ}\text{C}$

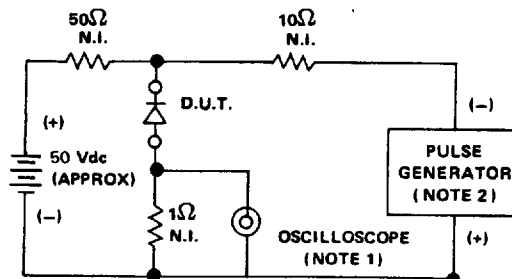
NOTES: 1. Measured with $I_F = 0.5\text{A}$, $I_R = 1\text{A}$, $t_{rr} = 0.25\text{A}$
 2. Measured at 1.0 MHz and applied reverse voltage of 4.0V DC
 3. Thermal Resistance Junction to Ambient.

RATINGS AND CHARACTERISTIC CURVES

PR1501 THRU PR1507

LITEON

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



NOTES:

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

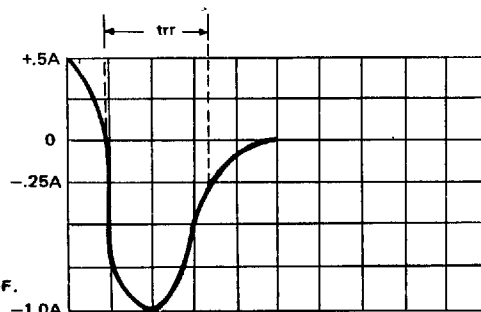
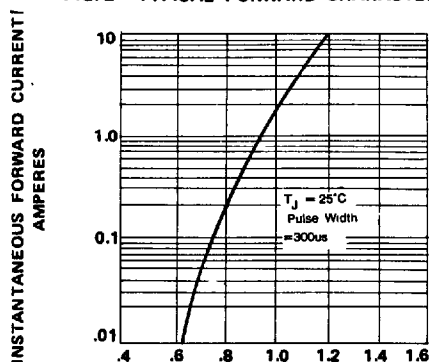
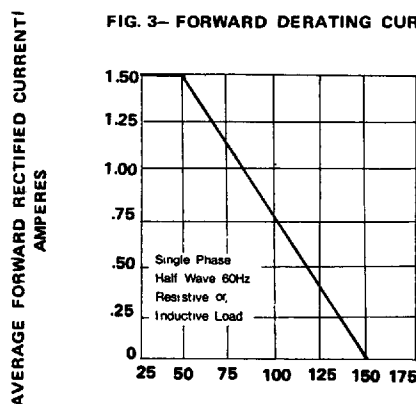
SET TIME BASE FOR
50/100ns/cm

FIG. 2 - TYPICAL FORWARD CHARACTERISTIC



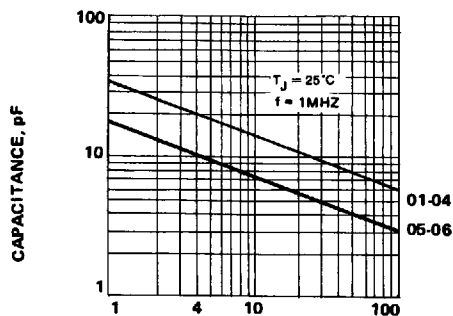
INSTANTANEOUS FORWARD VOLTAGE, VOLTS

FIG. 3- FORWARD DERATING CURVE



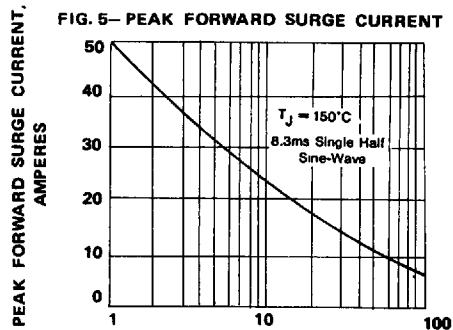
AMBIENT TEMPERATURE, °C

FIG. 4- TYPICAL JUNCTION CAPACITANCE



REVERSE VOLTAGE, VOLTS

FIG. 5- PEAK FORWARD SURGE CURRENT



NUMBER OF CYCLES AT 60Hz