

HIGH EFFICIENCY RECTIFIERS

VOLTAGE RANGE: 50 --- 1000 V
CURRENT: 1.0 A

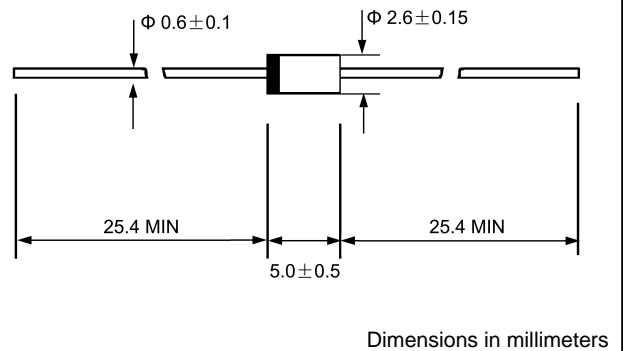
FEATURES

- ◇ Low cost
- ◇ 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 A-405, molded plastic
- ◇ Terminals: Axial lead, solderable per MIL-STD-202, Method 208
- ◇ Polarity: Color band denotes cathode
- ◇ Weight: 0.008 ounces, 0.23 grams
- ◇ Mounting position: Any

A - 405



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%.

| | | HER 101L | HER 102L | HER 103L | HER 104L | HER 105L | HER 106L | HER 107L | HER 108L | UNITS |
|------------------------------------------------------------------------------------------------|-----------------|-----------------|----------|----------|----------|----------|----------|----------|----------|--------------|
| Maximum recurrent peak reverse voltage | V_{RRM} | 50 | 100 | 200 | 300 | 400 | 600 | 800 | 1000 | V |
| Maximum RMS voltage | V_{RMS} | 35 | 70 | 140 | 210 | 280 | 420 | 560 | 700 | V |
| Maximum DC blocking voltage | V_{DC} | 50 | 100 | 200 | 300 | 400 | 600 | 800 | 1000 | V |
| Maximum average forward rectified current 9.5mm lead length, @ $T_A=75^\circ C$ | $I_{F(AV)}$ | 1.0 | | | | | | | | A |
| Peak forward surge current 8.3ms single half-sine-wave superimposed on rated load | I_{FSM} | 30.0 | | | | | | | | A |
| Maximum instantaneous forward voltage @ 1.0 A | V_F | 1.0 | | 1.3 | | 1.7 | | | 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 |
| Typical reverse recovery time (Note1) | t_{rr} | 50 | | | | | 75 | | | 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 ---- + 125 | | | | | | | | $^\circ C$ |
| Storage temperature range | T_{STG} | - 55 ---- + 150 | | | | | | | | $^\circ C$ |

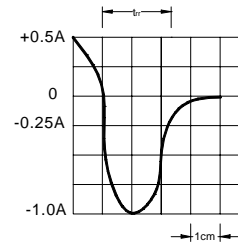
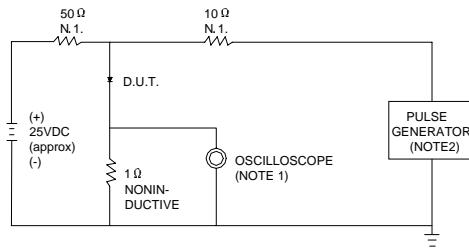
NOTE: 1. Measured with $I_F=0.5A$, $I_R=1A$, $I_r=0.25A$.

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

3. Thermal resistance 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 20/35 ns/cm

FIG.2 -- TYPICAL FORWARD CHARACTERISTIC

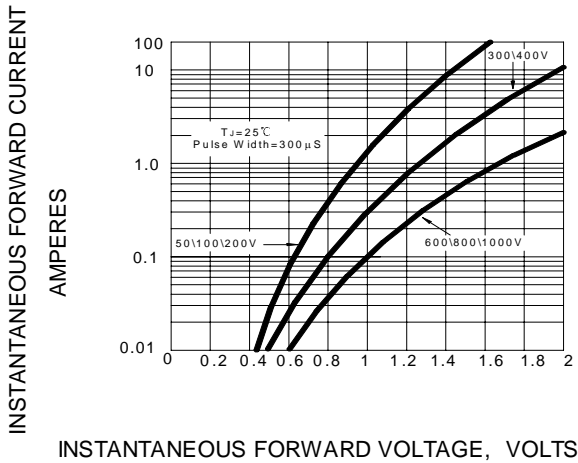


FIG.3 -- FORWARD DERATING CURVE

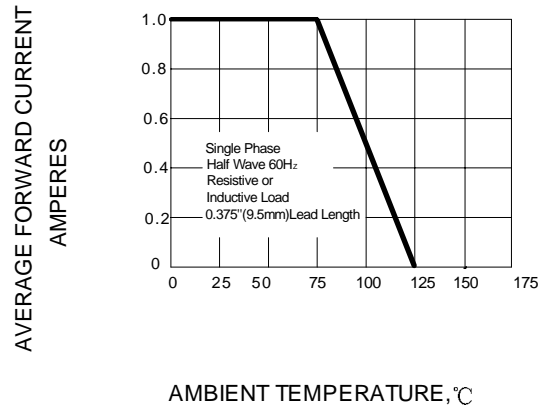


FIG.4 -- TYPICAL JUNCTION CAPACITANCE

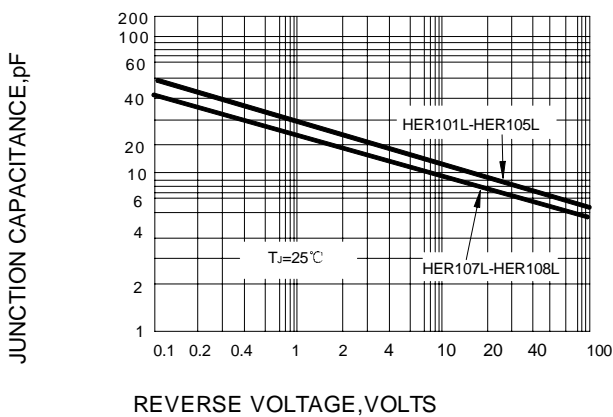


FIG.5 -- PEAK FORWARD SURGE CURRENT

