

### III. Fast / Ultra Fast / Super Fast Recovery Rectifier

#### 1.0A Ultra Fast Recovery Rectifier HER101~HER108

(Package: DO-41)

<p><b>FEATURES</b></p> <ul style="list-style-type: none"> <li>• Plastic package carries Underwriters Laboratory Flammability Classification 94V-0</li> <li>• High speed switching for high efficiency</li> <li>• Low reverse leakage</li> <li>• High forward surge current capability</li> <li>• High temperature soldering guaranteed; 250 /10 seconds, 0.375" (9.5mm) lead length, 5 lbs. (2.3 kg) tension</li> </ul> <p><b>MECHANICAL DATA</b></p> <ul style="list-style-type: none"> <li>• Case : JEDEC DO-41, Molded plastic body</li> <li>• Terminals : Plated axial leads, solderable per MIL-STD-750, Method 2026</li> <li>• Polarity : Color band denoted cathode end</li> <li>• Mounting Position : Any</li> <li>• Weight : 0.012 ounce, 0.34 grams</li> </ul>	<p>Case: DO-41 Dimensions in inches and (millimeters)</p>
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#### Ratings & Electrical Characteristics

Ratings at 25 ambient temperature unless otherwise specified.

Single phase half-wave 60 Hz, resistive or inductive load, for capacitive load current derate by 20%.

Characteristic	Symbol	HER 101	HER 102	HER 103	HER 104	HER 105	HER 106	HER 107	HER 108	Units
Maximum repetitive peak reverse voltage	$V_{RRM}$	50	100	200	300	400	600	800	1000	Volts
Maximum RMS voltage	$V_{RMS}$	35	70	140	210	280	420	560	700	Volts
Maximum DC blocking voltage	$V_{DC}$	50	100	200	300	400	600	800	1000	Volts
Maximum average forward rectified current 0.375" (9.5mm) lead length at $T_a = 50$	$I_o$	1.0								Amps
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	$I_{FSM}$	30.0								Amps
Maximum instantaneous forward voltage at 1.0A	$V_F$	1.0		1.3		1.7				Volts
Maximum DC reverse current $T_a = 25$ at rated DC blocking voltage $T_a = 100$	$I_R$	5.0 100.0								$\mu A$
Maximum reverse recovery time (Note 1)	$T_{rr}$	50				75				ns
Typical junction capacitance (Note 2)	$C_j$	15.0				12.0				PF
Typical thermal resistance (Note 3)	$R_{th-JA}$	50.0								/ W
Operating junction and storage temperature range	$T_j, T_{stg}$	-65 to +150								

Note :

1. Reverse recovery conditions:  $I_F = 0.5A$ ,  $I_R = 1.0A$ ,  $I_{RR} = 0.25A$

2. Measured at 1 MHz and applied reverse voltage of 4.0 volts DC

3. Thermal resistance from junction to ambient at 0.375" (9.5mm) lead length P.C.B. mounted

# Ratings and Characteristic Curves of HER101~HER108

FIG. 1- FORWARD CURRENT DERATING CURVE

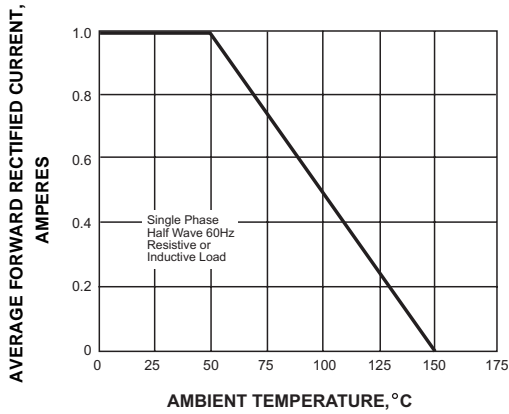


FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

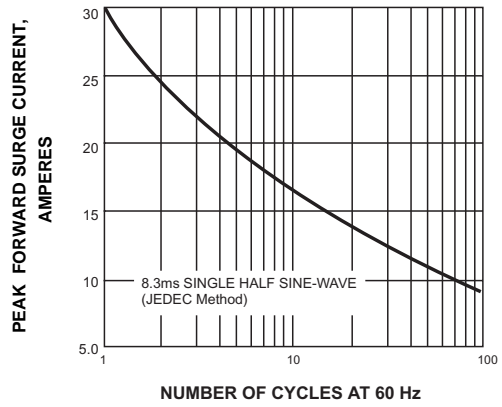


FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

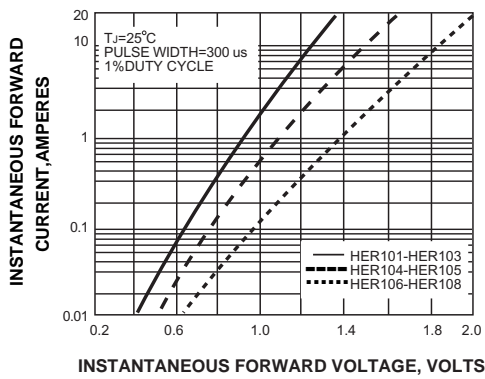


FIG. 4-TYPICAL REVERSE CHARACTERISTICS

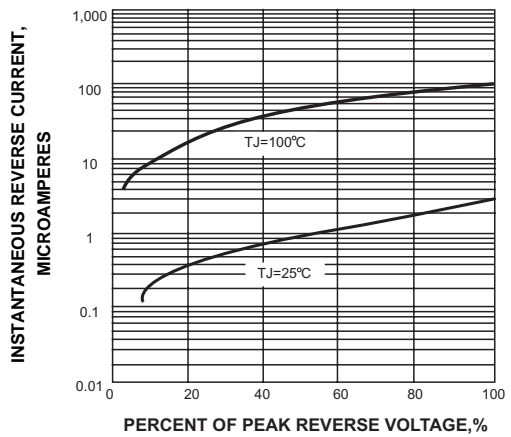


FIG. 5-TYPICAL JUNCTION CAPACITANCE

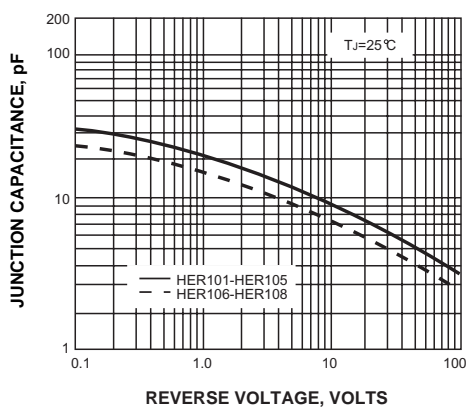


FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE

