

# HER103, HER107

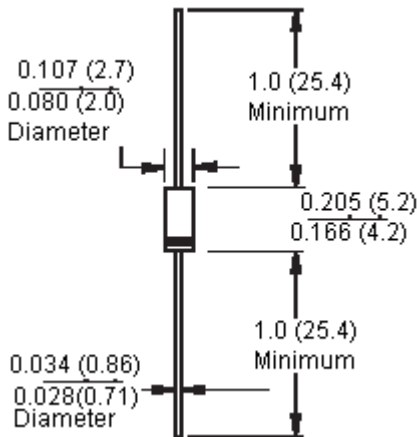
## Power Diodes - Fast Recovery



### High Efficiency



#### DO-41



Dimensions : Inches (Millimetres)

### Features:

- Fast reverse recovery time,  $t_{rr}$ .
- Low forward voltage drop,  $V_F$ .
- Low cost axial packages.
- High current capability.
- High reliability.
- High surge current capability.

### Mechanical Data:

Cases	: Moulded plastic DO-41.
Lead	: Axial leads, solderable per MIL-STD-202, Method 208 guaranteed.
Polarity	: Colour band denotes cathode end.
High temperature soldering guaranteed	: 260°C/10 seconds/0.375", (9.5mm) lead lengths at 5lbs., (2.3kg) tension.

### Maximum Ratings and Electrical Characteristics

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

Type Number	Symbol	HER103	HER107	Unit
Maximum recurrent peak reverse voltage	$V_{RRM}$	200	800	V
Maximum RMS voltage	$V_{RMS}$	140	560	
Maximum DC blocking voltage	$V_{DC}$	200	800	
Maximum average forward rectified current, 0.375" (9.5mm) lead length at $T_A = 55^\circ\text{C}$	$I_{(AV)}$	1.0		A
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	$I_{FSM}$	30		
Maximum instantaneous forward voltage at 1.0A	$V_F$	1.0	1.7	V
Maximum DC reverse current $T_A = 25^\circ\text{C}$ at rated DC blocking voltage $T_A = 100^\circ\text{C}$	$I_R$	5.0 100		$\mu\text{A}$
Maximum reverse recovery time (Note 1)	$T_{rr}$	50	75	ns



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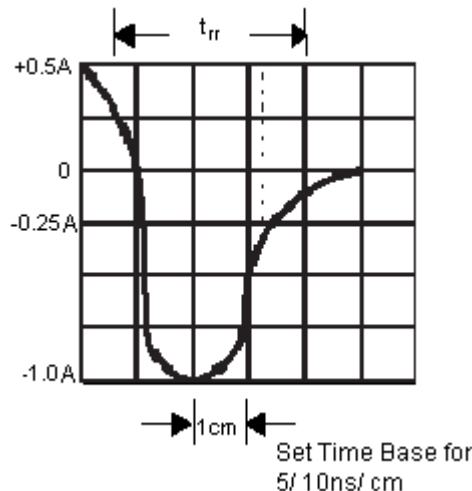
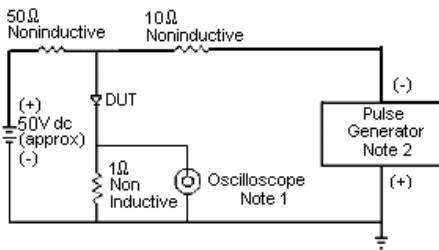
Type Number	Symbol	HER103	HER107	Unit
Typical junction capacitance (Note 2)	$C_j$	25	20	pF
Typical thermal resistance (Note 3)	$R_{\theta JA}$	70		$^{\circ}\text{C/W}$
Operating temperature range	$T_j$	-65 to +150		$^{\circ}\text{C}$
Storage temperature range	$T_{STG}$			

### Notes:

- Reverse recovery test conditions:  $I_F = 0.5\text{A}$ ,  $I_R = 1.0\text{A}$ ,  $I_{RR} = 0.25\text{A}$ .
- Measured at 1MHz and applied reverse voltage of 4.0V dc.
- Mount on Cu-Pad Size 5mm x 5mm on PCB.

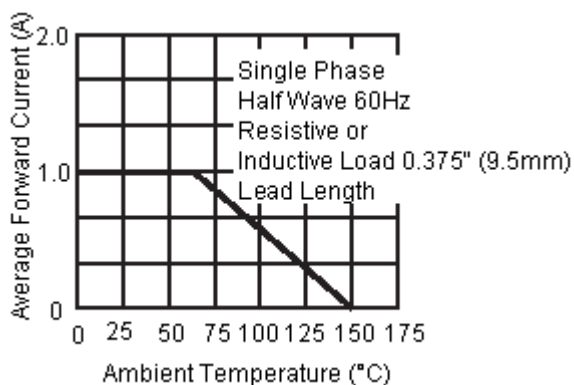
### Ratings and Characteristic Curves

Figure 1 Reverse Recovery Time Characteristic and Test Circuit Diagram



- Note:
- Rise Time = 7nS maximum  
Input Impedance =  $1\text{M}\Omega$ , 22pF.
  - Rise Time = 10nS maximum  
Source Impedance =  $50\Omega$ .

Figure 2 Maximum Average Forward Current Derating



# HER103, HER107

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Figure 3 Typical Reverse Characteristics

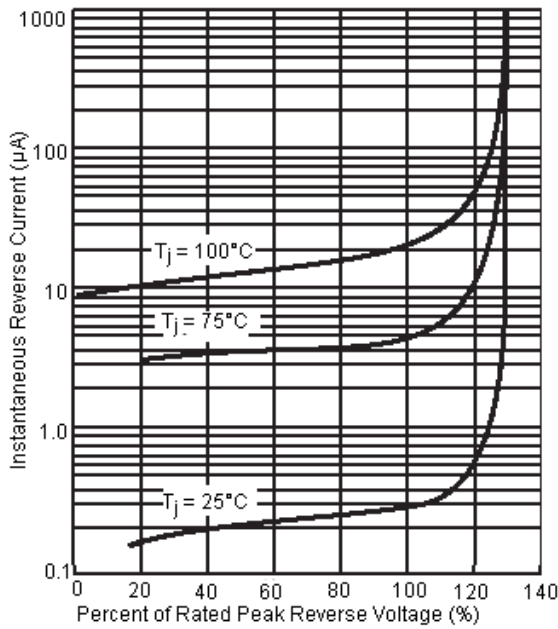


Figure 4 Typical Forward Characteristics

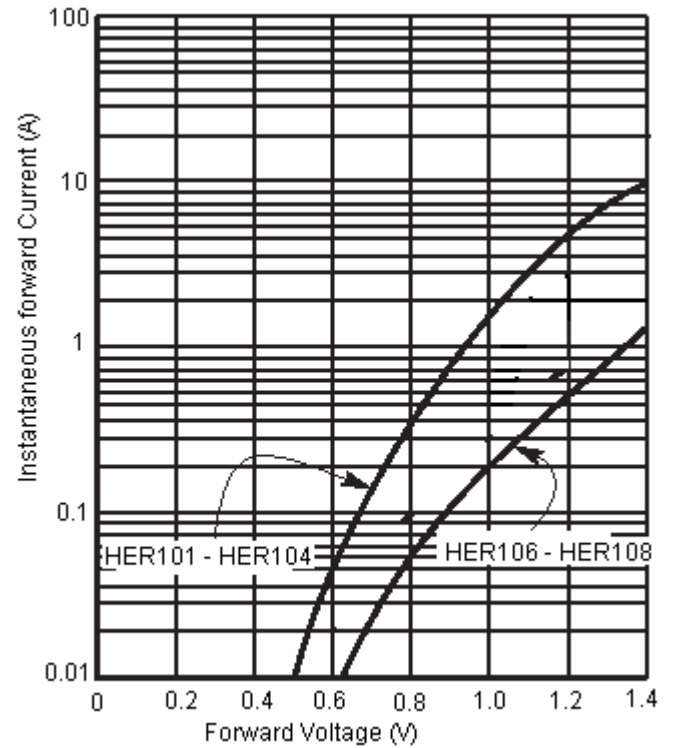


Figure 5 Maximum Non-Repetitive Forward Surge Current

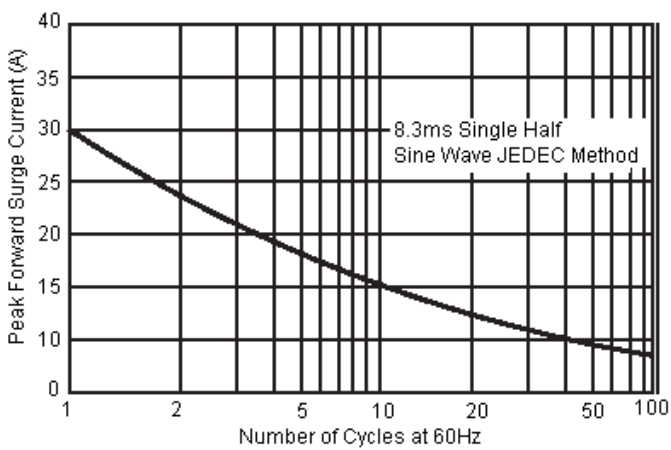
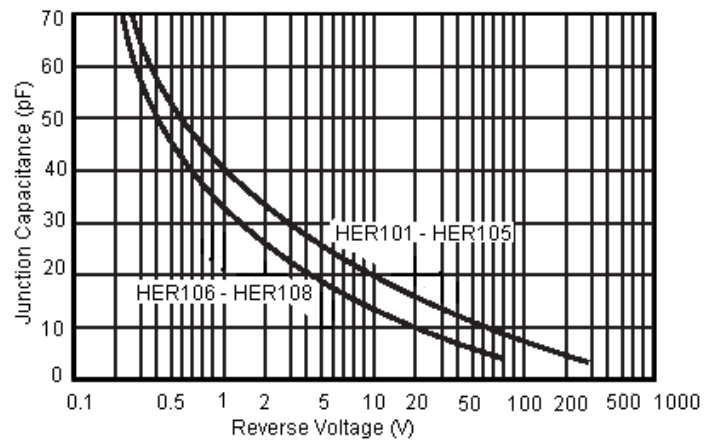


Figure 6 Typical Junction Capacitance



# HER103, HER107

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### Specifications

$V_{rrm}$ maximum (V)	$I_F$ (av) (A)	$I_{FSM}$ (A)	$t_{rr}$ maximum (ns)	$V_F$ (V) at $I_F = 1A$	Length	Diameter	Package	Part Number
200	-	-	-	-	5.2	2.7	DO-41	HER103
800	1.0	30	50	1.0				HER107

Dimensions : Millimetres

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### Notes:

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