Pb Free Plating Product

HER3001C thru HER3008C

30 Ampere Heat Sink Dual Common Cathode High Efficiency Rectifier Diodes

Features

- Fast switching for high efficiency
- Low forward voltage drop
- High current capability
- Low reverse leakage current
- High surge current capability

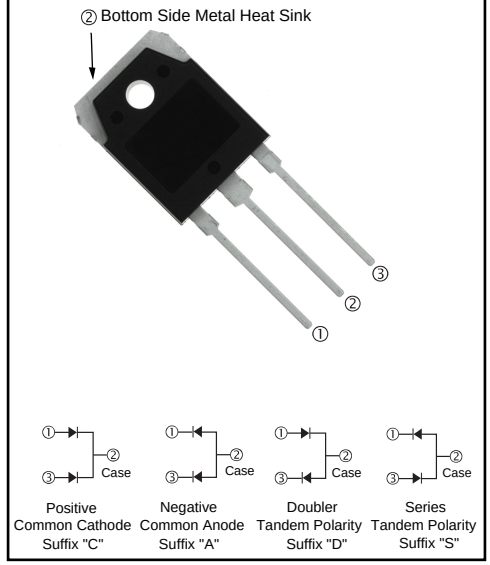
Application

- Automotive Inverters and Solar Inverters
- Plating Power Supply,Motor Control,SMPS and UPS
- Car Audio Amplifiers and Sound Device Systems

Mechanical Data

- Case: Heatsink TO-3PN open metal package
- Epoxy: UL 94V-0 rate flame retardant
- Terminals: Solderable per MIL-STD-202 method 208
- Polarity: As marked on diode body
- Mounting position: Any
- Weight: 0.65 gram approximately

TO-3PN



Maximum Ratings and Electrical Characteristics @T_A=25°C unless otherwise specified

Single Phase, half wave, 60Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

Characteristic	Symbol	HER 3001C	HER 3002C	HER 3003C	HER 3004C	HER 3005C	HER 3006C	HER 3007C	HER 3008C	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	50	100	200	300	400	600	800	1000	V
RMS Reverse Voltage	$V_{R(RMS)}$	35	70	140	210	280	420	560	700	V
Average Rectified Output Current @T_C = 100°C	I_O	30								A
Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	300								A
Forward Voltage @I_F = 15A	V_{FM}	1.0				1.3	1.7			V
Peak Reverse Current @T_A = 25°C At Rated DC Blocking Voltage @T_A = 125°C	I_{RM}	10 500								μA
Reverse Recovery Time (Note 1)	t_{rr}	50					80			nS
Typical Junction Capacitance (Note 2)	C_j	175					145			pF
Operating and Storage Temperature Range	T_j, T_{STG}	-55 to +150								°C

Note: 1. Measured with IF = 0.5A, IR = 1.0A, IRR = 0.25A. See figure 5.
2. Measured at 1.0 MHz and applied reverse voltage of 4.0V D.C.

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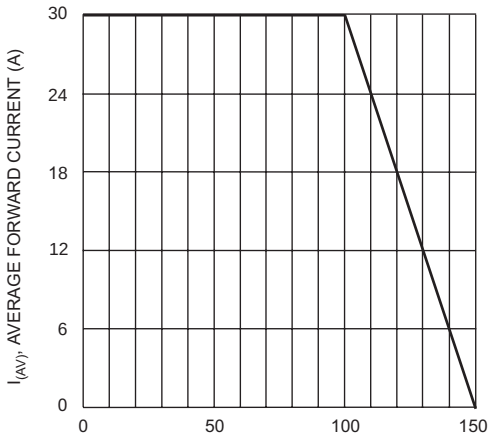


Fig. 1 Forward Current Derating Curve

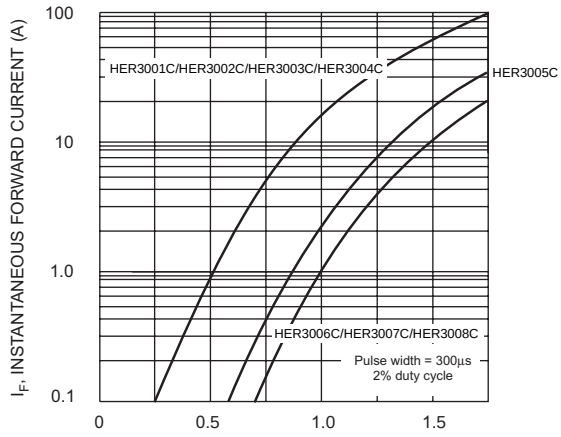


Fig. 2 Typical Forward Characteristics

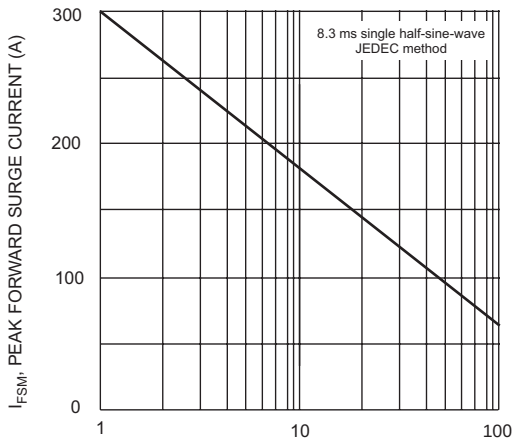


Fig. 3 Maximum Non-Repetitive Surge Current

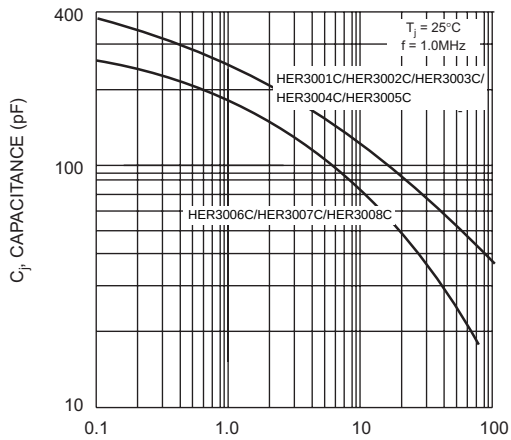
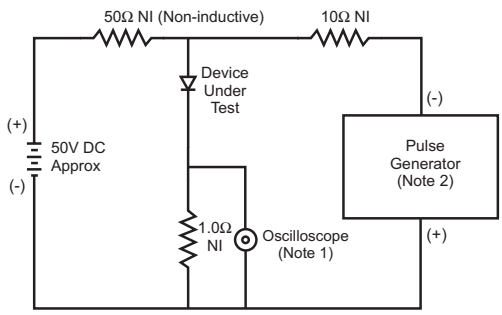


Fig. 4 Typical Junction Capacitance



Notes:
1. Rise Time = 7.0ns max. Input Impedance = 1.0MΩ, 22pF.
2. Rise Time = 10ns max. Input Impedance = 50Ω.

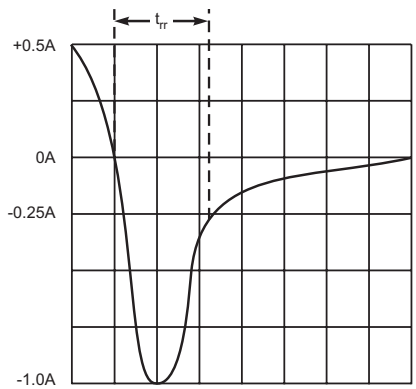
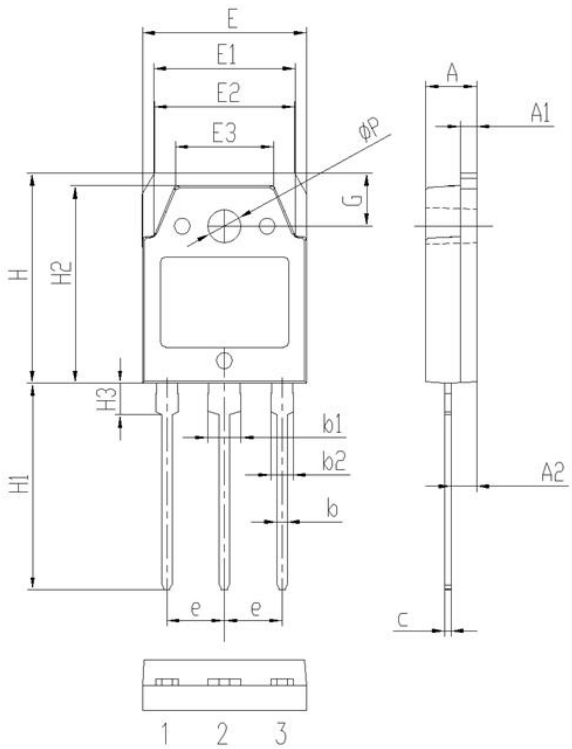


Fig. 5 Reverse Recovery Time Characteristic and Test Circuit

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Package Information

TO-3PN Package Outline



Symbol	Dimensions(millimeters)	
	Min.	Max.
A	4.60	5.00
A1	1.50	2.00
A2	2.20	2.60
b	0.80	1.20
b1	2.90	3.30
b2	1.90	2.30
c	0.40	0.80
e	5.25	5.65
E	15.3	15.7
E1	13.2	13.6
E2	13.1	13.5
E3	9.10	9.50
H	19.7	20.1
H1	19.1	20.1
H2	18.3	18.7
H3	2.80	3.20
G	4.80	5.20
ΦP	3.00	3.40

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