

# HER1601CT THRU HER1608CT

## GLASS PASSIVATED HIGH EFFICIENCY RECTIFIERS

Reverse Voltage – 50 to 1000 Volts

Forward Current – 16.0 Amperes

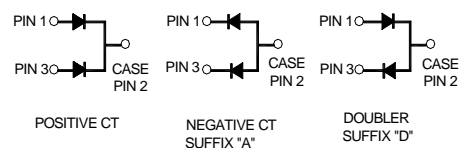
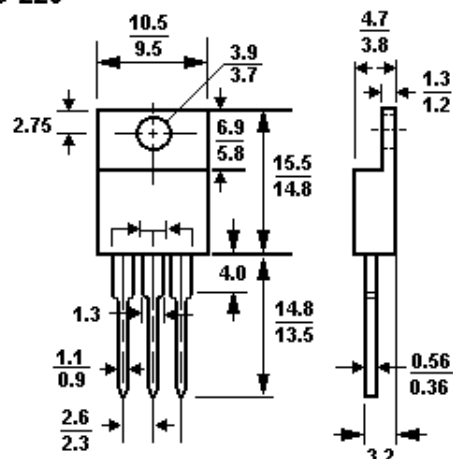
### Features

- Plastic package has Underwriters Laboratory Flammability Classification 94V-O utilizing Flame Retardant Epoxy Molding Compound.
- Low power loss, high efficiency.
- Low forward voltage, high current capability.
- High surge capacity.
- Ultra fast recovery times, high voltage.

### Mechanical Data

- Case: Molded plastic, TO-220
- Epoxy: UL 94V-O rate flame retardant.
- Terminals: leads solderable per MIL-STD-202, method 208 guaranteed
- Polarity: As marked
- Mounting Position: Any

### TO-220



Dimensions in mm

### Absolute Maximum Ratings and Characteristics

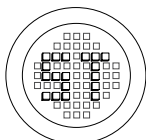
Ratings at 25°C ambient temperature unless otherwise specified. Single phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%.

	Symbols	HER 1601CT	HER 1602CT	HER 1603CT	HER 1604CT	HER 1605CT	HER 1606CT	HER 1607CT	HER 1608CT	Units
Maximum recurrent 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 at $T_C = 100^\circ$	$I_{(AV)}$	16.0								Amps
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	$I_{FSM}$	125								Amps
Maximum forward voltage at 8.0A DC and 25°	$V_F$	1.0		1.3		1.7			Volts	
Typical junction Capacitance (Note1)	$C_J$	80				50				pF
Maximum reverse recovery time (Note2)	$T_{RR}$	50				80				ns
Typical thermal resistance (Note3)	$R_{\theta JC}$	3.0								? /W
Maximum reverse current at rated DC blocking voltage	@ $T_A = 25^\circ$	10.0								$\mu$ Amps
	@ $T_A = 125^\circ$	500								$\mu$ Amps
Operating and storage temperature range	$T_J, T_s$	-55 to +150								?

Notes :1. Measured at 1 MHz and applied reverse voltage of 4.0 VDC.

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

3. Thermal resistance from junction to case per leg mounted on heatsink.



®

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

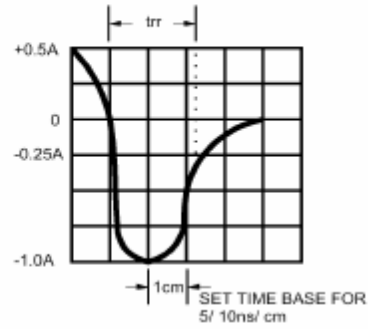
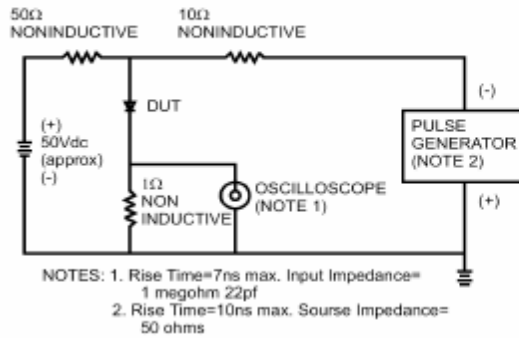


FIG.2- MAXIMUM FORWARD CURRENT DERATING CURVE

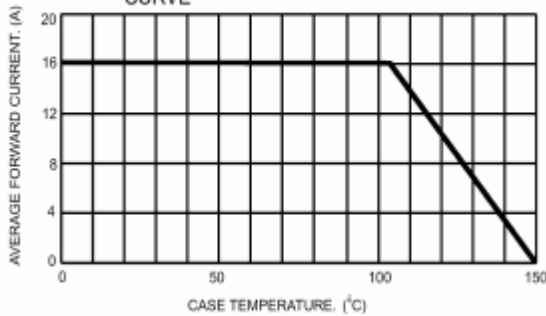


FIG.3- TYPICAL REVERSE CHARACTERISTICS PER LEG

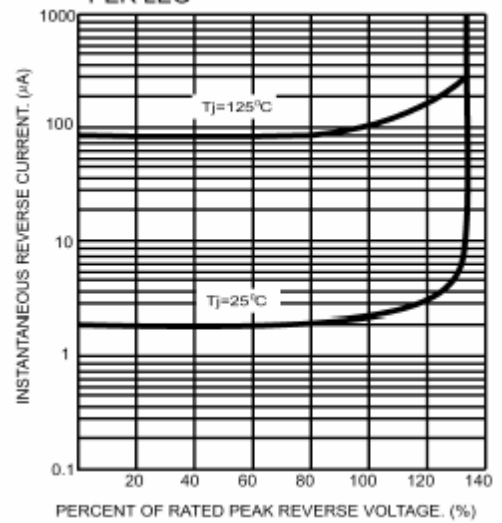


FIG.4- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

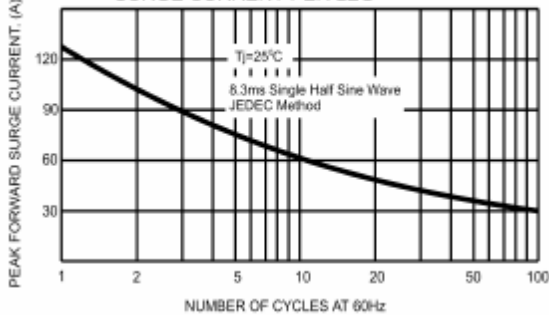


FIG.6- TYPICAL FORWARD CHARACTERISTICS PER LEG

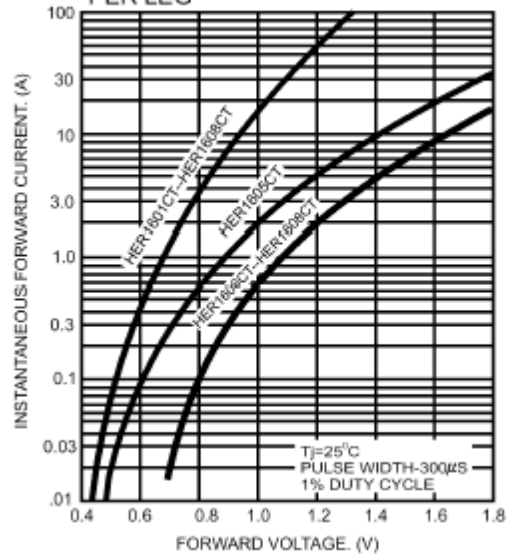
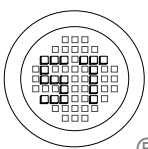
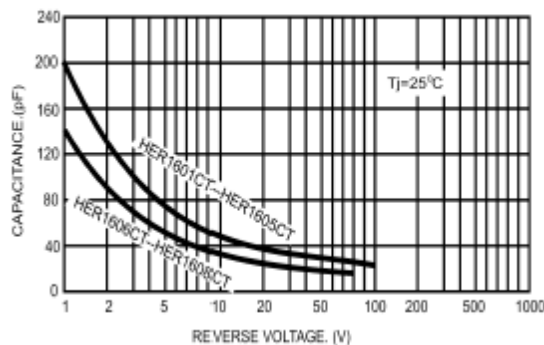
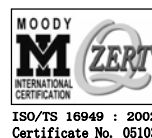


FIG.5- TYPICAL JUNCTION CAPACITANCE PER LEG



**SEMTECH ELECTRONICS LTD.**

(Subsidiary of Semtech International Holdings Limited, a company listed on the Hong Kong Stock Exchange, Stock Code: 724)



ISO/TS 16949 : 2002  
Certificate No. 05103



ISO 14001  
Certificate No. 7116



ISO 9001 : 2000  
Certificate No. 558-199-002-04

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