

High Efficiency Rectifiers

Reverse Voltage: 200 to 1000 Volts

Forward Current: 16.0 Ampere

RoHS Device

Halogen Free

Features

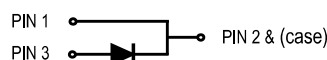
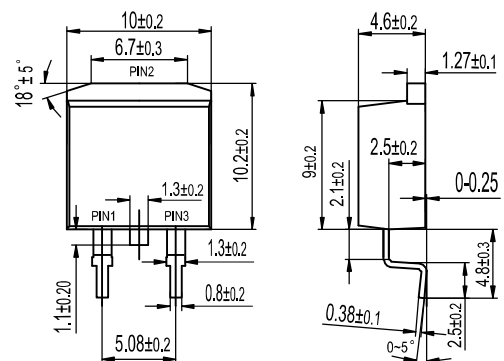
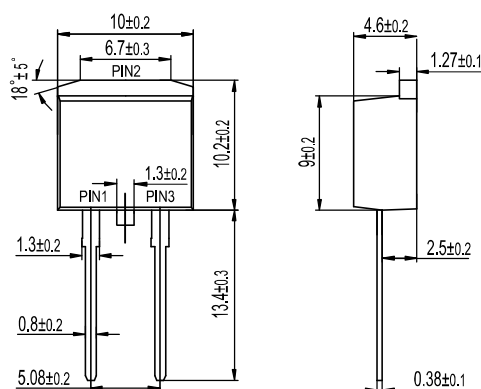
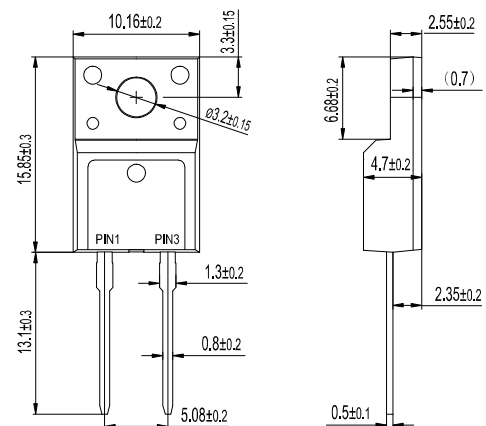
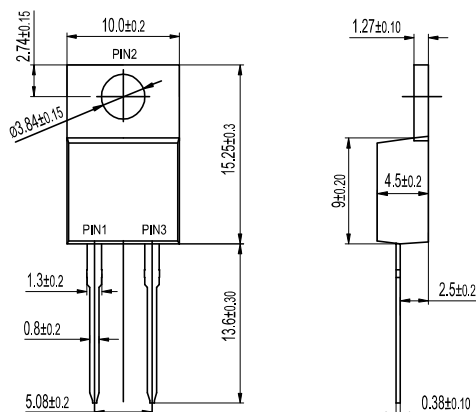
- Glass passivated chip junctions
- High Speed recovery time for switching mode application
- High Forward Surge Capability
- Low Reverse Current
- Lead free in compliance with EU RoHS 2011/65/EU directive

Mechanical data

- Circuit figure: Single positive
- Leads: Solderable per mil-std-202, Method 208
- Polarity: as marked
- Mounting torque: 5 in-lbs maximum
- Terminals: Puretin plated
- Weight: TO-220AC 1.80 grams
ITO-220AC 1.65 grams
TO-262AC 1.45 grams
TO-263(D²PAK) 1.35 grams

Package outline

Dimensions in millimeters



Company reserves the right to improve product design, functions and reliability without notice.

Rev:1.0

Maximum Ratings and Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

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

Parameter	Symbol	HER 1602 1602F 1602W 1602B	HER 1603 1603F 1603W 1603B	HER 1604 1604F 1604W 1604B	HER 1606 1606F 1606W 1606B	HER 1608 1608F 1608W 1608B	HER 1610 1610F 1610W 1610B	Unit
Maximum repetitive peak reverse voltage	V _{RRM}	200	300	400	600	800	1000	V
Maximum RMS voltage	V _{RMS}	140	210	280	420	560	700	V
Maximum DC blocking voltage	V _{DC}	200	300	400	600	800	1000	V
Maximum average forward rectified current	I _{AV}	16						A
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load	I _{FSM}	250						A
TO-220AC Typical thermal resistance ITO-220AC per diode (Note 1) TO-262AC TO-263(D2PAK)	R _{θJC}	2.5 4.0 2.5 2.5						°C/W
Operating junction temperature range	T _J	-55 ~ +150						°C
Storage temperature range	T _{stg}	-55 ~ +150						°C
Characteristics	Symbol	HER 1602 1602F 1602W 1602B	HER 1603 1603F 1603W 1603B	HER 1604 1604F 1604W 1604B	HER 1606 1606F 1606W 1606B	HER 1608 1608F 1608W 1608B	HER 1610 1610F 1610W 1610B	Unit
Maximum instantaneous forward voltage at specified current	V _F	1.0	1.3		1.7			V
Maximum DC reverse current T _a = 25°C at rated DC blocking voltage T _a =125°C	I _R	5.0 250						μA
Maximum reverse recovery time (Note 2)	t _{rr}	50				100		ns

Notes: 1. Thermal resistance from junction to case.

2. Test conditions: $I_F=0.5\text{A}$, $I_R=1.0\text{A}$, $I_{RR}=0.25\text{A}$.

Rating and Characteristic Curves

FIG. 1 - TYPICAL FORWARD CURRENT DERATING CURVE

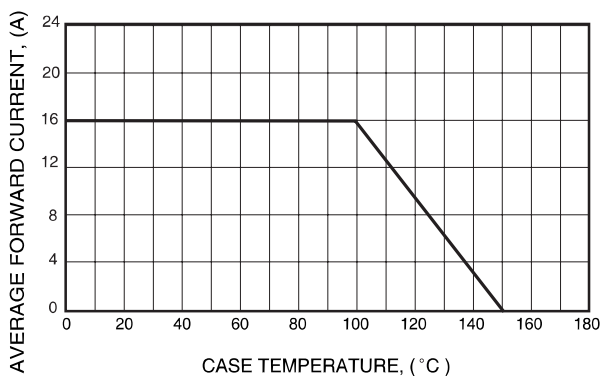


FIG. 3 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

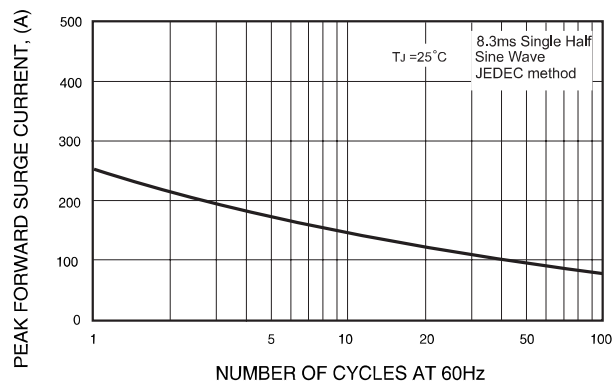


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

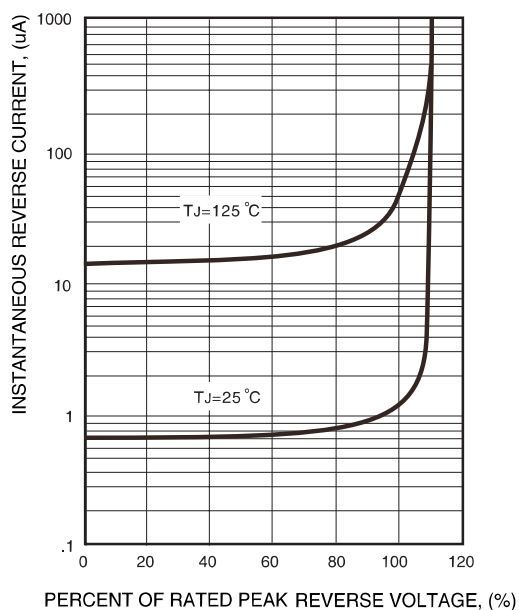


FIG. 2 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

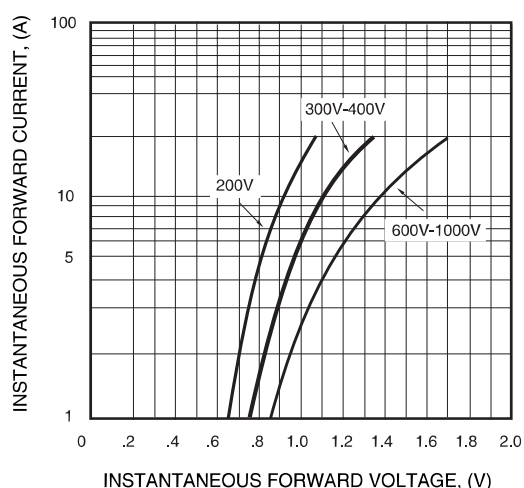
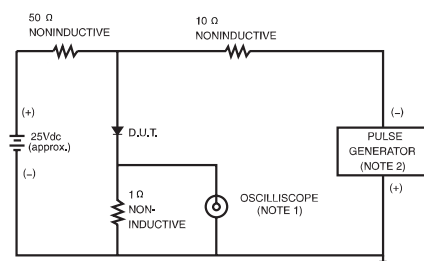
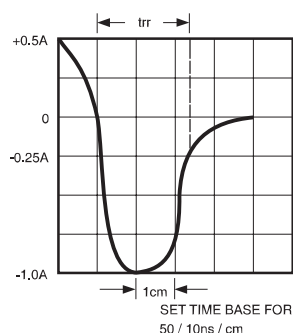


FIG.6- TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTICS

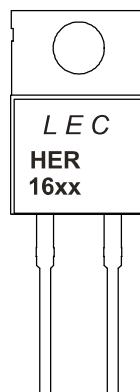


NOTES: 1. Rise Time= 7ns max., Input Impedance= 1 megohm.22pF.
2. Rise Time= 10ns max., Source Impedance= 50 ohms.



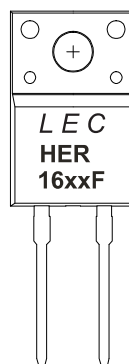
Standard Packaging

Case Type	TUBE PACK	
	TUBE (pcs)	BOX (pcs)
TO-220AC	50	1,000



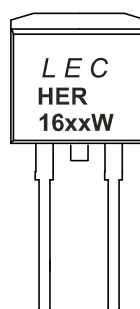
Standard Packaging

Case Type	TUBE PACK	
	TUBE (pcs)	BOX (pcs)
ITO-220AC	50	1,000



Standard Packaging

Case Type	TUBE PACK	
	TUBE (pcs)	BOX (pcs)
TO-262AC	50	1,000



Standard Packaging

Case Type	TUBE PACK		REEL PACK	
	TUBE (pcs)	BOX (pcs)	REEL (pcs)	Reel Size (inch)
TO-263	50	1,000	800	13

