

HER20CT Series



High Efficiency Rectifiers

Reverse Voltage: 200 to 1000 Volts

Forward Current: 20.0 Ampere

RoHS Device

Halogen Free

Features

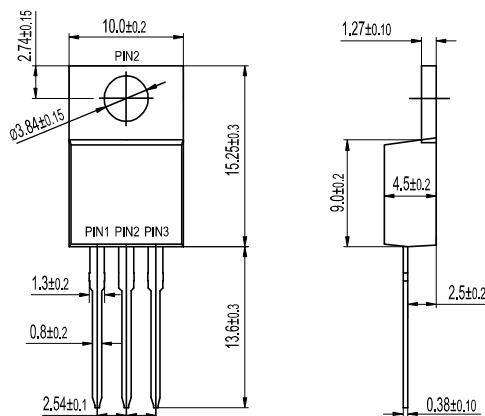
- Glass passivated chip junctions
- High Speed recovery time for switching mode application
- High Forward Surge Capability
- Low Reverse Current
- Lead free in compliance with EU RoHS 2011/65/EU directive

Mechanical data

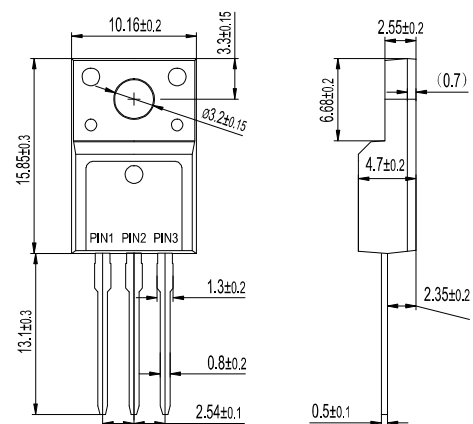
- Circuit figure: Common cathode
- Leads: Solderable per mil-std-202, Method 208
- Polarity: as marked
- Mounting torque: 5 in-lbs maximum
- Terminals: Puretin plated
- Weight: TO-220AB 1.85 grams
ITO-220AB 1.70 grams
TO-262AB 1.45 grams
TO-263(D²PAK) 1.35 grams

Package outline

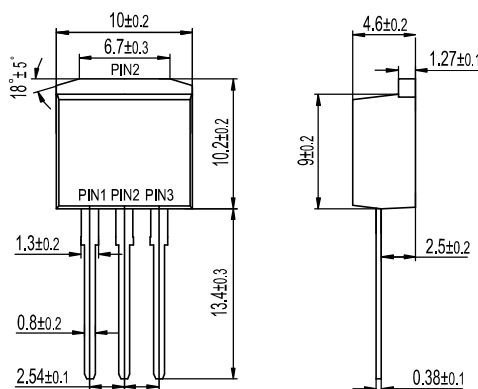
Dimensions in millimeters



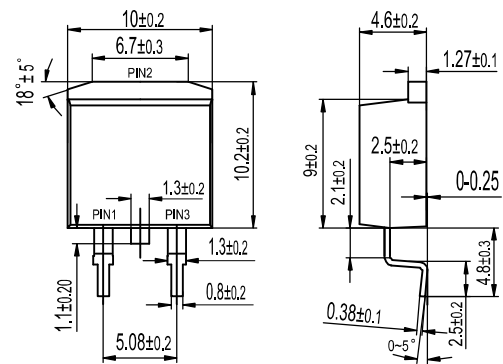
TO-220AB
HER20XXCT



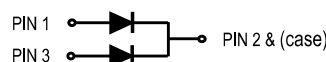
ITO-220AB
HER20XXFCT



TO-262AB
HER20XXWCT



TO-263(D²PAK)
HER20XXBCT



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 2002CT 2002FCT 2002WCT 2002BCT	HER 2003CT 2003FCT 2003WCT 2003BCT	HER 2004CT 2004FCT 2004WCT 2004BCT	HER 2006CT 2006FCT 2006WCT 2006BCT	HER 2008CT 2008FCT 2008WCT 2008BCT	HER 2010CT 2010FCT 2010WCT 2010BCT	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 per device per diode	I _{AV}	20.0 10.0						A
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load	I _{FSM}	300						A
Typical thermal resistance per diode (Note 1) TO-220AB ITO-220AB TO-262AB TO-263(D ² PAK)	R _{θJC}	2.0 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 2002CT 2002FCT 2002WCT 2002BCT	HER 2003CT 2003FCT 2003WCT 2003BCT	HER 2004CT 2004FCT 2004WCT 2004BCT	HER 2006CT 2006FCT 2006WCT 2006BCT	HER 2008CT 2008FCT 2008WCT 2008BCT	HER 2010CT 2010FCT 2010WCT 2010BCT	Unit
Maximum instantaneous forward voltage at specified current	V _F	1.0	1.3		1.7			V
Maximum DC reverse current at rated DC blocking voltage T _a = 25°C T _a = 100°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

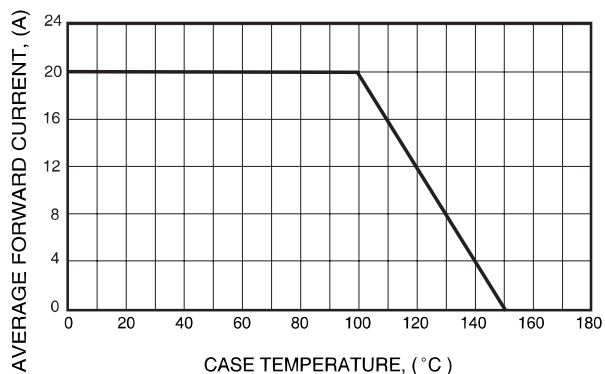


FIG. 3 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

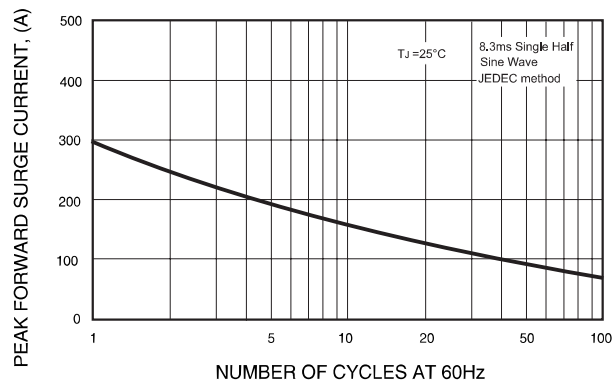


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

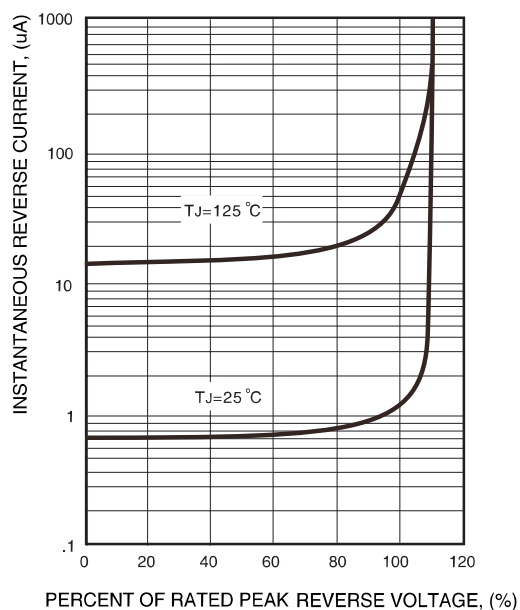


FIG. 2 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

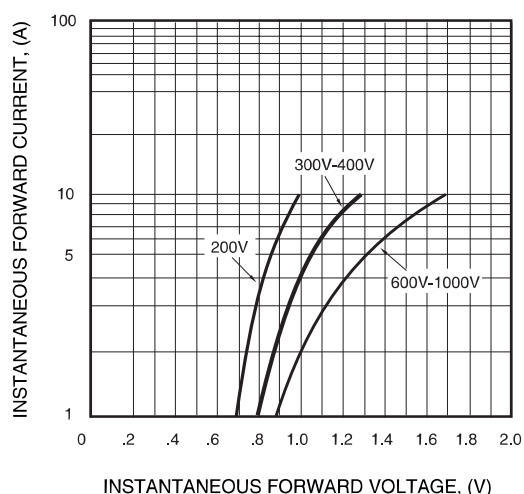
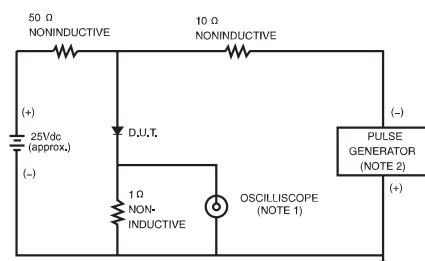
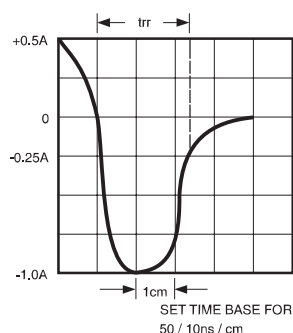


FIG.6- TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTICS

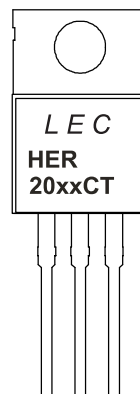


NOTES: 1. Rise Time= 7ns max., Input Impedance= 1 megohm.22pF.
2. Rise Time= 10ns max., Source Impedance= 50 ohms.



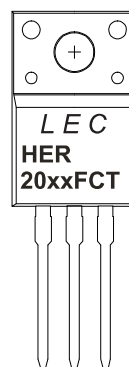
Standard Packaging

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



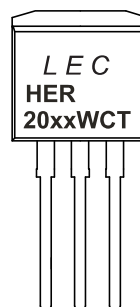
Standard Packaging

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



Standard Packaging

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



Standard Packaging

Case Type	TUBE PACK		REEL PACK	
	TUBE (pcs)	BOX (pcs)	REEL (pcs)	Reel Size (inch)
TO-263 (D ² PAK)	50	1,000	800	13

