



HY ELECTRONIC (CAYMAN) LIMITED

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Ultra Low $V_F=0.32V$ at $I_F=2.5A$

HTR10L45CT, HTRF10L45CT
HTRI10L45CT, HTRB10L45CT

SCHOTTKY BARRIER RECTIFIERS	REVERSE VOLTAGE	45	Volts	
	FORWARD CURRENT	10	Amperes	
FEATURES <ul style="list-style-type: none"> ●Metal of silicon rectifier , majority carrier conduction ●Trench Schottky Technology ●Low power loss, high efficiency ●High current capability, low V_F ●High surge capacity ●Plastic package has UL flammability classification 94V-0 ●For use in low voltage,high frequency inverters,free wheeling,switching power supplies, DC-DC converter,and polarity protection applications MECHANICAL DATA <ul style="list-style-type: none"> ●Case: TO-220AB / ITO-220AB / TO-262AA / TO-263AB ●Polarity: As marked on the body ●Weight: 0.08ounces,2.24 grams ●Mounting position :Any 	TO-220AB HTR10L45CT	ITO-220AB HTRF10L45CT	 HALOGEN FREE RoHS COMPLIANT	
	TO-263AB HTRB10L45CT	TO-262AA HTRI10L45CT		

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%

MAXIMUM RATINGS (T_A = 25 °C unless otherwise noted)

CHARACTERISTICS	SYMBOL	HTR10L45CT, HTRF10L45CT, HTRI10L45CT, HTRB10L45CT	UNIT
Maximum Recurrent Peak Reverse Voltage	V _{RRM}	45	V
Maximum RMS Voltage	V _{RMS}	31	V
Maximum DC Blocking Voltage	V _{DC}	45	V
Maximum Average Forward Rectified Current (See Fig.1)	I _(AV)	10	A
Maximum Average Forward Rectified Current (Per Leg)		5	
Peak Forward Surge Current 8.3ms Single Half Sine-Wave Super Imposed on Rated Load	I _{FSM}	50	A
Peak repetitive reverse current at tp = 2 μs, 1 kHz	I _{RRM}	1	A
Operating Temperature Range	T _J	-55 to +150	°C
Storage Temperature Range	T _{STG}	-55 to +175	°C

ELECTRICAL CHARACTERISTICS (T_A = 25 °C unless otherwise noted)

PARAMETER / CONDITIONS	SYMBOL	Typ	Max	UNIT	
Breakdown voltage per diode	V _{BR}	48(minimun)	-	V	
Forward Voltage (Note1)	V _F	IF=2.5A @TJ=25°C	0.40	0.42	V
		IF=2.5A @TJ=125°C	0.31	0.33	
		IF=5A @TJ=25°C	0.47	0.49	
		IF=5A @TJ=125°C	0.43	0.45	
Maximum DC Reverse Current @TJ=25°C	I _R		500	uA	
at Rated DC Bolcking Voltage @TJ=125°C			120	mA	
Typical Junction Capacitance (Note2)	C _J		484	pF	

THERMAL CHARACTERISTICS (T_A = 25 °C unless otherwise noted)

PARAMETER	SYMBOL	Typ				UNIT
		HTR10L45CT	HTRF10L45CT	HTRI10L45CT	HTRB10L45CT	
Thermal Resistance Per Diode (Note3)	R _{θJC}	3.0	5.5	3.5	3.5	°C/W

NOTES:1.300us pulse width,2% duty cycle.
 2.Measured at 1.0 MHz and applied reverse voltage of 5.0V DC.
 3.Thermal resistance junction to case.

RATING AND CHARACTERISTIC CURVES

HTR10L45CT, HTRF10L45CT

HTRI10L45CT, HTRB10L45CT

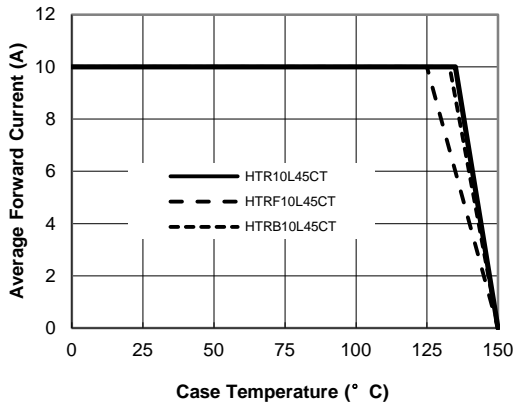


Figure 1. Forward Current Derating Curve

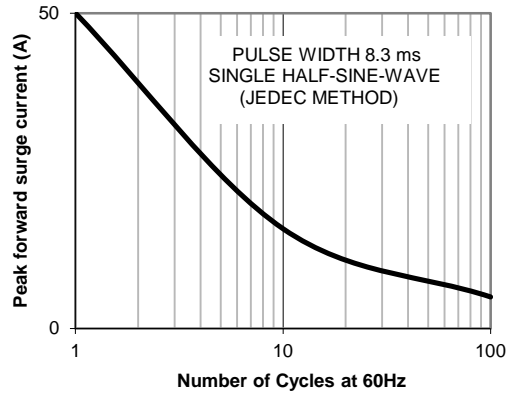


Figure 2. Maximum NON-Repetitive Surge

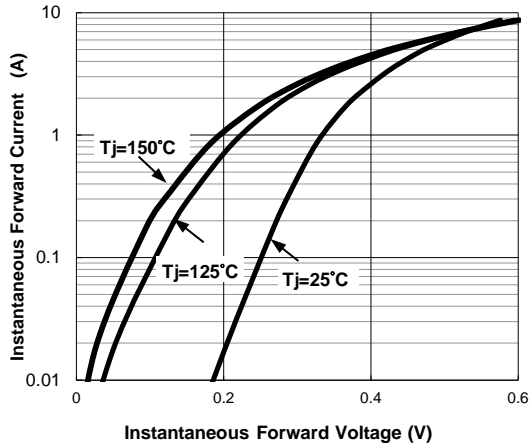


Figure 3. Typical Instantaneous Forward Characteristics Per Leg

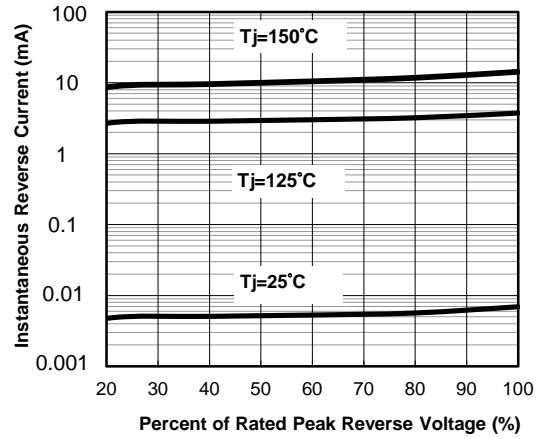


Figure 4. Typical Reverse Characteristics

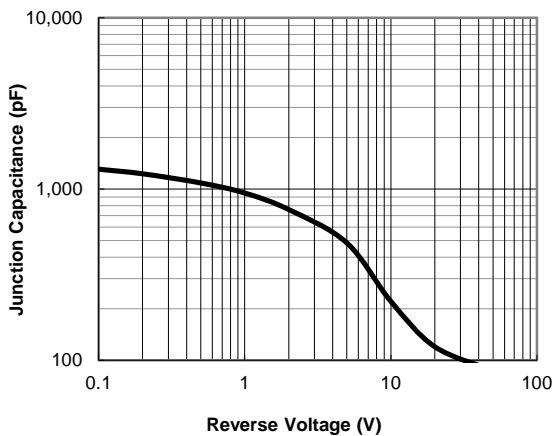


Figure 5. Typical Junction Capacitance

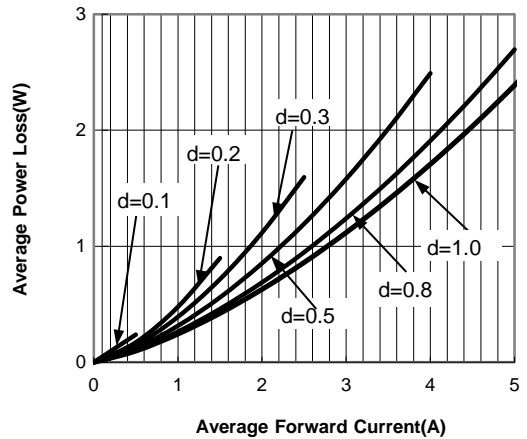


Figure 6. Forward Power Loss Characteristics

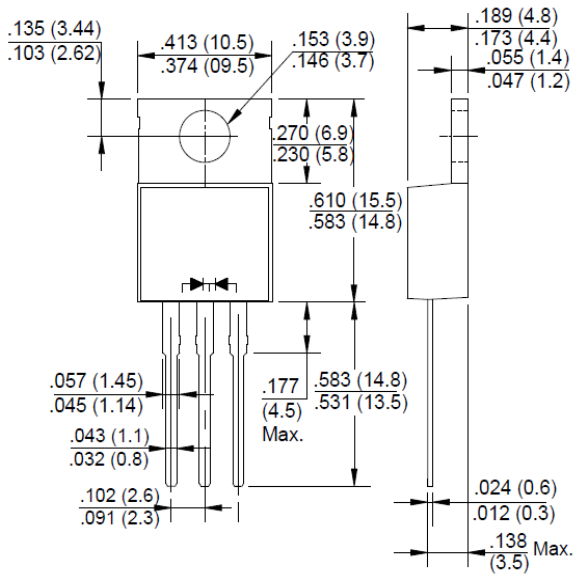
PACKAGE OUTLINE DIMENSIONS

HTR10L45CT, HTRF10L45CT

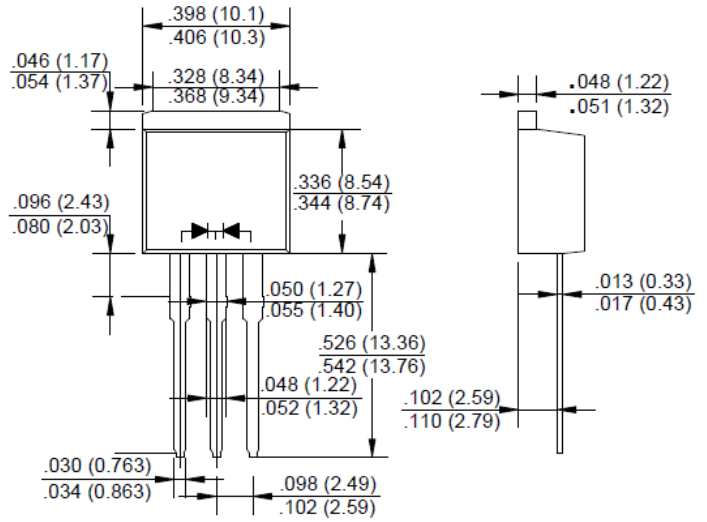
HTRI10L45CT, HTRB10L45CT



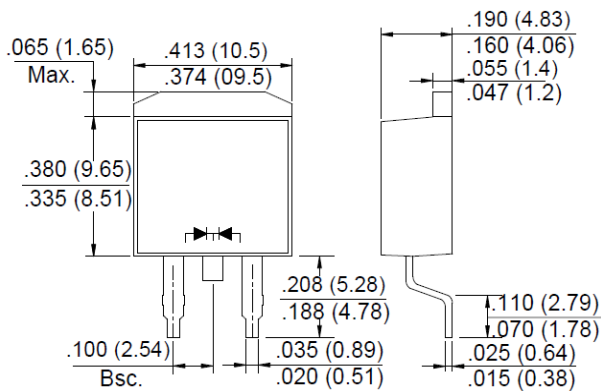
TO-220AB



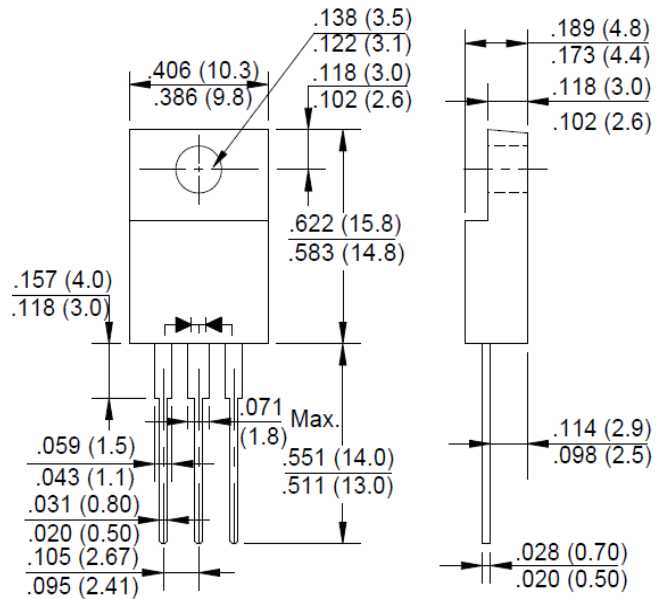
TO-262AA



TO-263AB



ITO-220AB



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