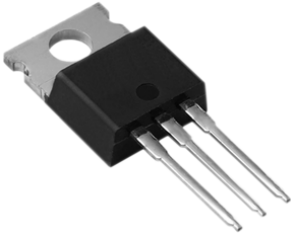


# Schottky Barrier Rectifier

**RoHS  
Compliant**



## Features

- Metal of silicon rectifier, majority carrier conduction
- Trench schottky technology
- Low power loss, high efficiency
- High current capability, low VF
- 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

Case	: TO-220AB
Polarity	: As marked on the body
Weight	: 0.08ounces, 2.24 grams
Mounting position	: Any

## 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%

Characteristic	Symbol	Values	Unit		
<b>Maximum Ratings (TA = 25 °C unless otherwise noted)</b>					
Maximum Recurrent Peak Reverse Voltage	VRRM	45	V		
Maximum RMS Voltage	VRMS	31			
Maximum DC Blocking Voltage	VDC	45			
Maximum Average Forward Rectified Current (See Fig.1)	I(AV)	20	A		
Maximum Average Forward Rectified Current (Per Leg)		10			
Peak Forward Surge Current 8.3ms Single Half Sine-Wave Super Imposed on Rated Load	IFSM	80			
Peak repetitive reverse current at tp = 2µs, 1kHz	IRRM	1			
Operating Temperature Range	TJ	-55 to +150		°C	
Storage Temperature Range	TSTG	-55 to +175			
<b>Electrical Characteristics (TA = 25 °C unless otherwise noted)</b>					
Parameter / Conditions	Symbol	Typ	Max	Unit	
Breakdown voltage per diode	VBR	46 (minimun)	-	V	
Forward Voltage (Note1)	VF	IF=5A @TJ=25°C	0.42		0.45
		IF=5A @TJ=125°C	0.32		0.34
		IF=10A @TJ=25°C	0.47		0.49
		IF=10A @TJ=125°C	0.39		0.4
Maximum DC Reverse Current at Rated DC Bolcking Voltage	IR		110 10	µA mA	

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Parameter / Conditions	Symbol	Values	Unit
Typical Junction Capacitance (Note 2)	C <sub>J</sub>	1250	pF
<b>Thermal Characteristics (T<sub>A</sub> = 25 °C unless otherwise noted)</b>			
Parameter	Symbol	Values	Unit
Thermal Resistance Per Diode (Note3)	R <sub>θJC</sub>	3	°C/W

**Notes:**

1. 300μs pulse width, 2% duty cycle.
2. Measured at 1MHz and applied reverse voltage of 5V DC.
3. Thermal resistance junction to case.

## Rating and Characteristic Curves

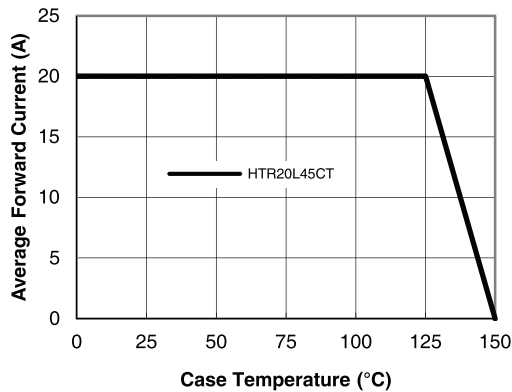


Figure 1. Forward Current Derating Curve

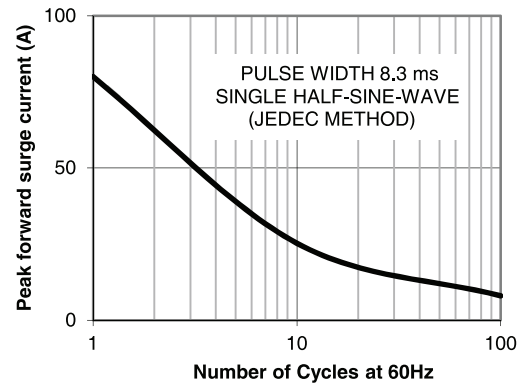


Figure 2. Maximum NON-Repetitive

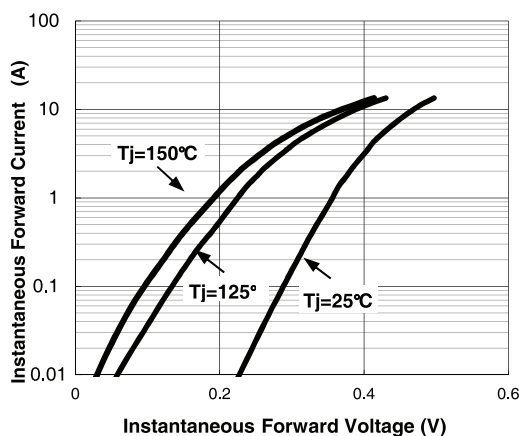


Figure 3. Typical Instantaneous Forward Characteristics Per Leg

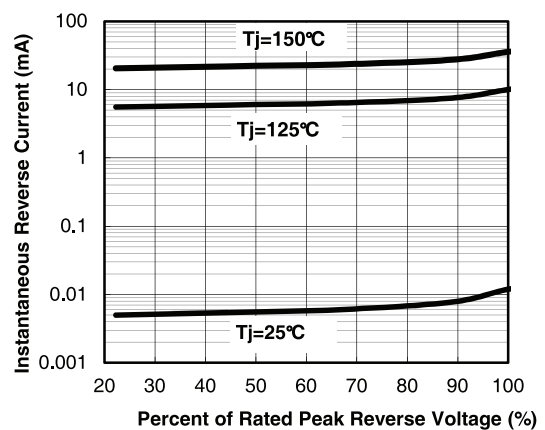


Figure 4. Typical Reverse Characteristics

# Schottky Barrier Rectifier

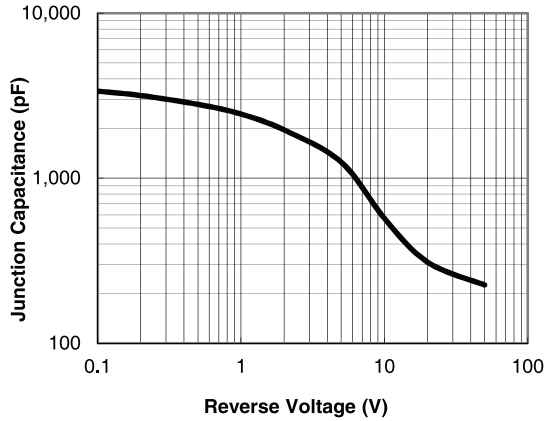


Figure 5. Typical Junction Capacitance

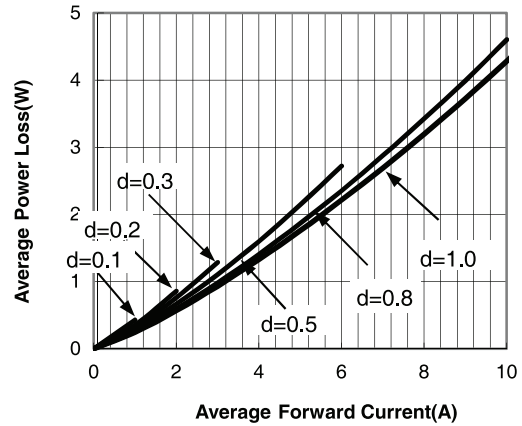
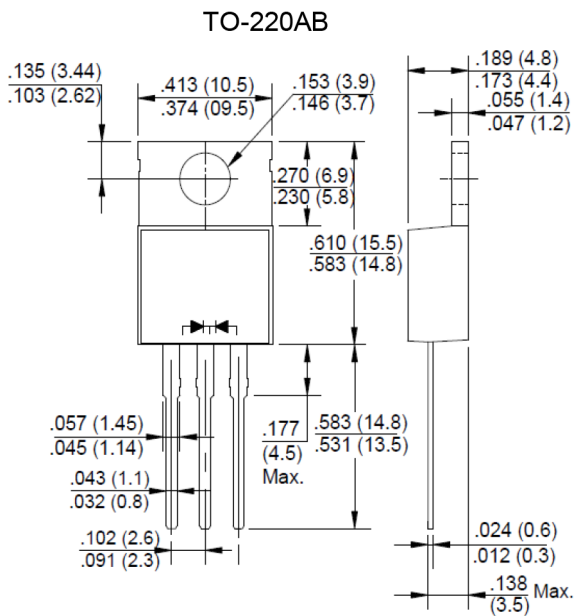


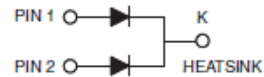
Figure 6. Forward Power Loss Characteristics

## Dimension:



Dimensions : Inches (Millimetres)

### Pin Configuration



### Part Number Table

Description	Part Number
Schottky Barrier Rectifier	HTR20L45CT

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