

# Schottky Barrier Rectifier

RoHS  
Compliant

## Features

- Metal of silicon rectifier, majority carrier conduction
- Trench schottky technology
- Low forward voltage drop, high efficiency
- High current capability
- 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	: JEDEC DO-15 molded plastic
Polarity	: Colour band denotes cathode
Weight	: 0.0125ounces, 0.4 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 (T<sub>A</sub> = 25 °C unless otherwise noted)</b>					
Maximum Recurrent Peak Reverse Voltage	V <sub>RRM</sub>	100	V		
Maximum RMS Voltage	V <sub>RMS</sub>	70			
Maximum DC Blocking Voltage	V <sub>DC</sub>	100			
Maximum Average Forward Rectified Current	I(AV)	5	A		
Peak Forward Surge Current 8.3ms Single Half Sine-Wave Super Imposed on Rated Load	I <sub>FSM</sub>	35			
Peak repetitive reverse current at t <sub>p</sub> = 2μs, 1kHz	I <sub>RRM</sub>	2			
Operating Temperature Range	T <sub>J</sub>	-55 to +150	°C		
Storage Temperature Range	T <sub>STG</sub>	-55 to +175			
<b>Electrical Characteristics (T<sub>A</sub> = 25 °C unless otherwise noted)</b>					
Parameter / Conditions	Symbol	Typ	Max	Unit	
Breakdown voltage per diode	V <sub>BR</sub>	105 (minimum)	-	V	
Forward Voltage (Note1)	V <sub>F</sub>	I <sub>F</sub> =2.5A @T <sub>J</sub> =25°C	0.56		0.6
		I <sub>F</sub> =2.5A @T <sub>J</sub> =125°C	0.52		0.56
		I <sub>F</sub> =5A @T <sub>J</sub> =25°C	0.7		0.75
		I <sub>F</sub> =5A @T <sub>J</sub> =125°C	0.64		0.68
Maximum DC Reverse Current at Rated DC Bolcking Voltage	I <sub>R</sub>	@T <sub>J</sub> =25°C	50	μA	
		@T <sub>J</sub> =125°C	20	mA	
Typical Junction Capacitance (Note 2)	C <sub>J</sub>	217		pF	

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Thermal Characteristics (T <sub>A</sub> = 25 °C unless otherwise noted)			
Parameter	Symbol	Values	Unit
Thermal Resistance Per Diode (Note3)	R <sub>θJL</sub>	15	°C/W

**Notes:**

1. 300µs pulse width, 2% duty cycle.
2. Measured at 1MHz and applied reverse voltage of 4V DC.
3. Thermal resistance junction to lead.

## Rating and Characteristic Curves

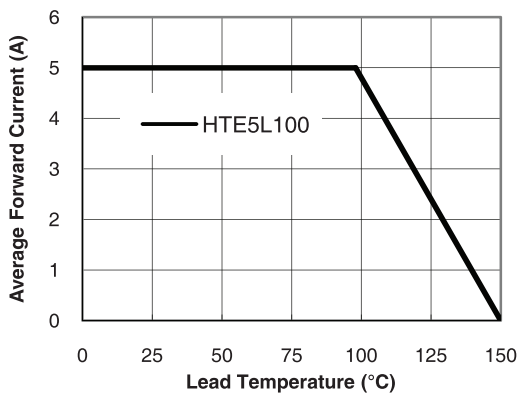


Figure 1. Forward Current Derating Curve

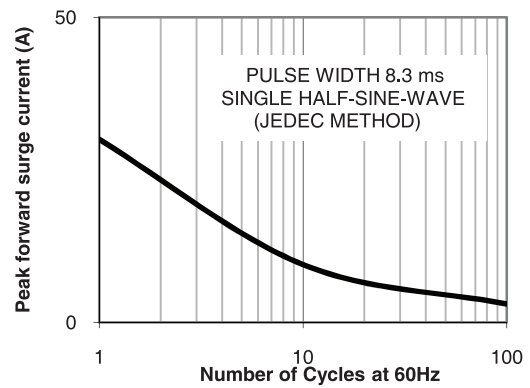


Figure 2. Maximum NON-Repetitive

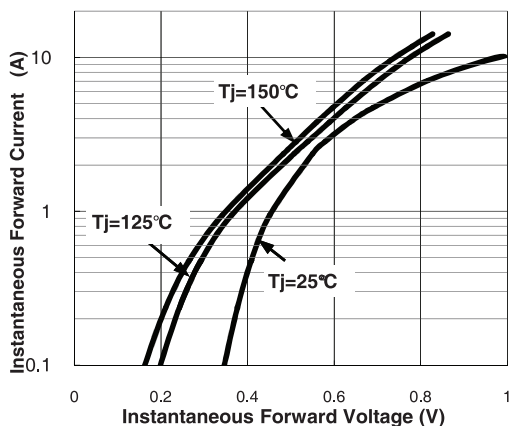


Figure 3. Typical Instantaneous Forward Characteristics Per Leg

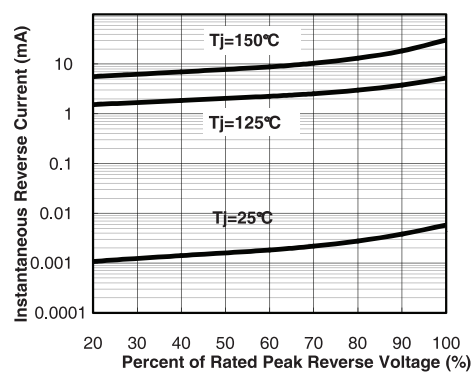


Figure 4. Typical Reverse Characteristics

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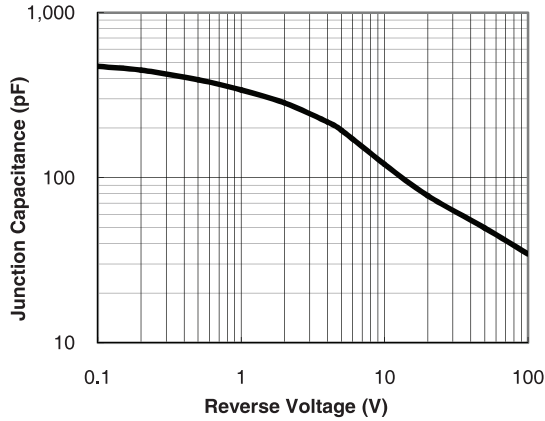


Figure 5. Typical Junction Capacitance

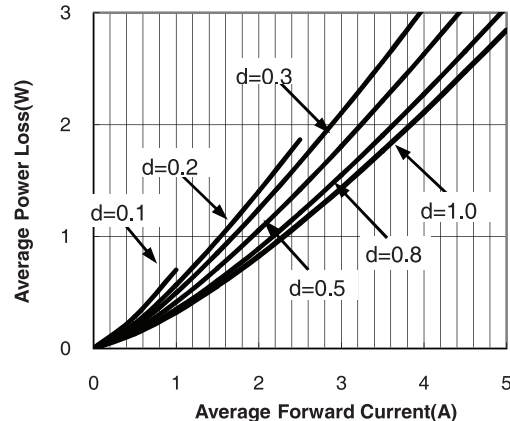
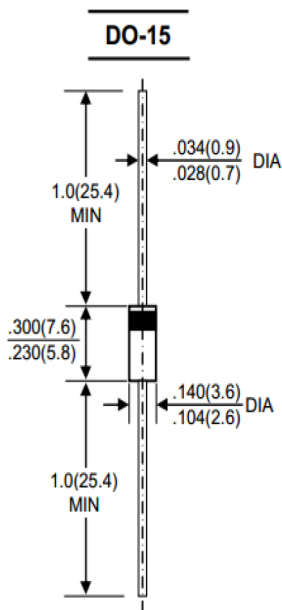


Figure 6. Forward Power Loss Characteristics

## Dimension:



Dimensions : Inches (Millimetres)

## Part Number Table

Description	Part Number
Schottky Barrier Rectifier	HTE5L100

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