



**THE DATASHEET OF  
APD160VHTR-E1**



**SCHOTTKY BARRIER RECTIFIER**

**APD160**

**Features**

- Low Forward Voltage Drop
- Very Small Conduction Losses
- High Surge Capability
- Surge Overload Rating to 35A Peak

**Applications**

- Low Voltage High Frequency Inverters
- DC-DC Converters
- Free Wheeling
- Polarity Protection

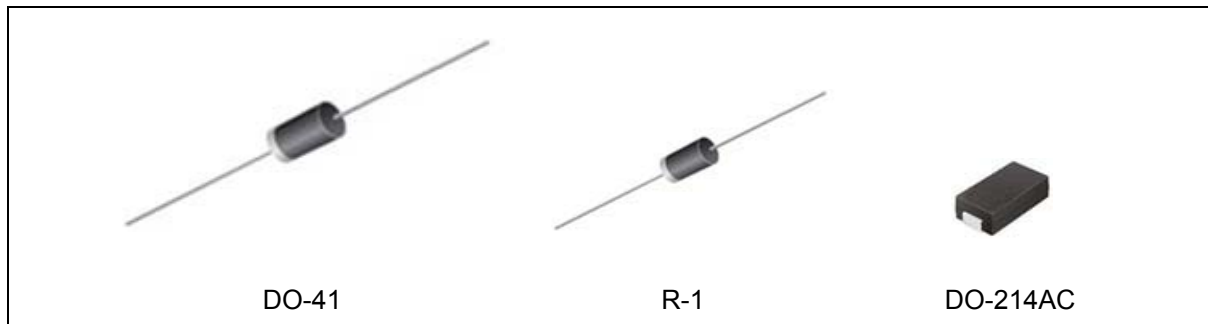


Figure 1. Package Types of APD160

**Pin Configuration**

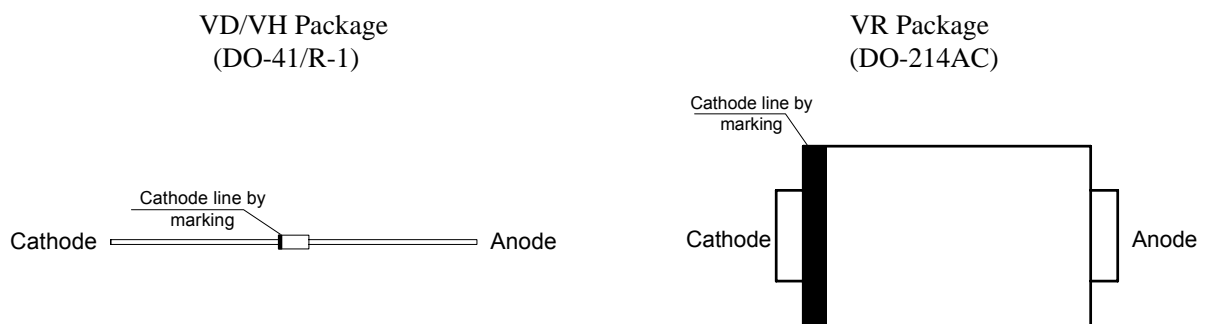
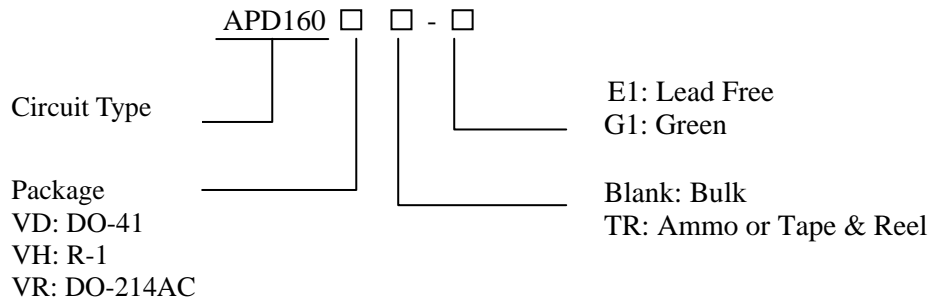


Figure 2. Pin Configuration of APD160 (Top View)

**SCHOTTKY BARRIER RECTIFIER**

**APD160**

**Ordering Information**



Package	Temperature Range	Part Number		Marking ID		Packing Type
		Lead Free	Green	Lead Free	Green	
DO-41	-65 to 125°C	APD160VD-E1	APD160VD-G1	D160VD	160VDG	Bulk
		APD160VDTR-E1	APD160VDTR-G1	D160VD	160VDG	Ammo
R-1	-65 to 125°C	APD160VH-E1	APD160VH-G1	D160VH	160VHG	Bulk
		APD160VHTR-E1	APD160VHTR-G1	D160VH	160VHG	Ammo
DO-214AC	-65 to 125°C		APD160VRTR-G1		160VRG	Tape & Reel

BCD Semiconductor's Pb-free products, as designated with "E1" suffix in the part number, are RoHS compliant. Products with "G1" suffix are available in green packages.

**SCHOTTKY BARRIER RECTIFIER****APD160****Absolute Maximum Ratings** ( $T_A=25^\circ\text{C}$  unless otherwise noted) (Note 1)

Parameter	Symbol	Value	Unit
Maximum Repetitive Peak Reverse Voltage	$V_{RRM}$	60	V
Maximum DC Blocking Voltage	$V_{DC}$	60	V
Maximum RMS Voltage	$V_{RMS}$	42	V
Average Rectified Forward Current 0.375" (9.5mm) Lead Length	$I_{F(AV)}$	1.0	A
Non-repetitive Peak Forward Surge Current 8.3ms Single Half Sine-wave on Rated Load	$I_{FSM}$	35	A
Operating Junction Temperature Range	$T_J$	-65 to 125	$^\circ\text{C}$
Storage Temperature Range	$T_{STG}$	-65 to 150	$^\circ\text{C}$

Note 1: Stresses greater than those listed under "Absolute Maximum Ratings" may cause permanent damage to the device. These are stress ratings only, and functional operation of the device at these or any other conditions beyond those indicated under "Recommended Operating Conditions" is not implied. Exposure to "Absolute Maximum Ratings" for extended periods may affect device reliability.

**Thermal Characteristics** ( $T_A=25^\circ\text{C}$  unless otherwise noted)

Parameter	Symbol	Value	Unit
Typical Thermal Resistance	$\theta_{JA}$	DO-41	80
		R-1	80
		DO-214AC	100
			$^\circ\text{C/W}$

**Electrical Characteristics** ( $T_A=25^\circ\text{C}$  unless otherwise noted)

Parameter	Symbol	Min	Typ	Max	Unit
Forward Voltage @ $I_F=1.0\text{A}$	$V_F$		0.68		V
Reverse Current @ Rated $V_R$ (Note 2)	$I_R$	$T_A=25^\circ\text{C}$		0.5	mA
		$T_A=100^\circ\text{C}$		10	

Note 2: Pulse Test: 300 $\mu\text{s}$  pulse width, 1.0% duty cycle.

**SCHOTTKY BARRIER RECTIFIER**

**APD160**

**Typical Performance Characteristics**

( $T_A=25^{\circ}\text{C}$  unless otherwise noted)

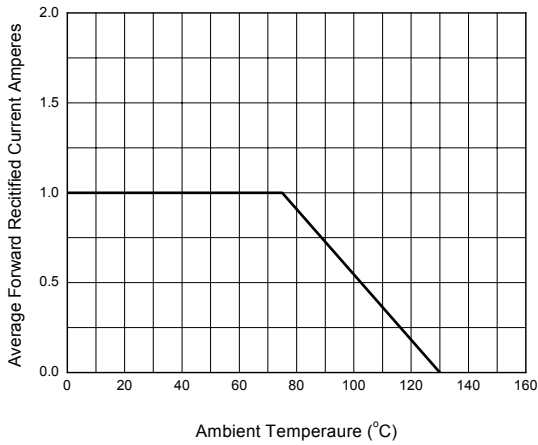


Figure 3. Forward Current Derating Curve

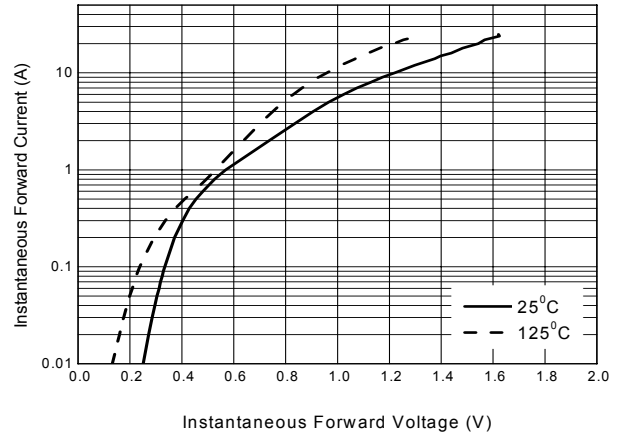


Figure 4. Typical Instantaneous Forward Characteristics

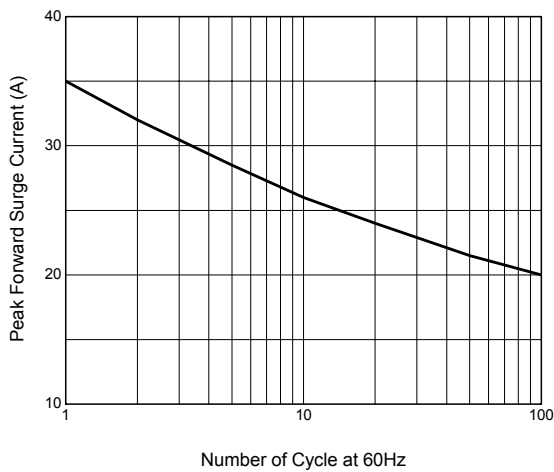


Figure 5. Maximum Non-Repetitive Surge Current

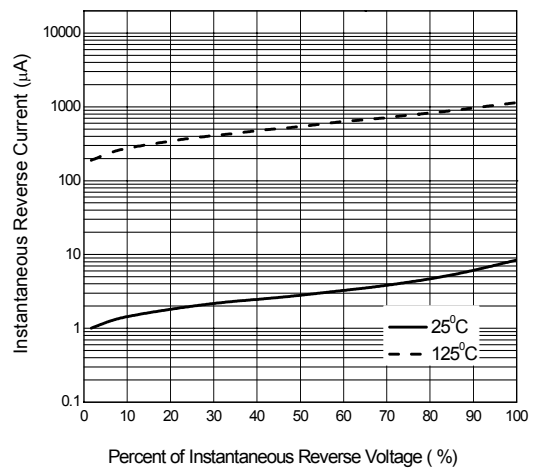


Figure 6. Typical Reverse Characteristics

**Typical Performance Characteristics (Continued)**

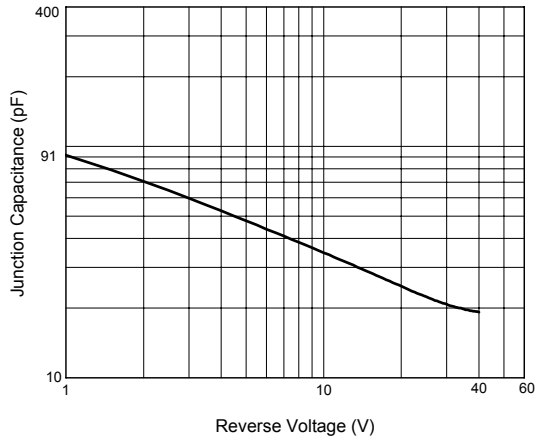


Figure 7. Typical Junction Capacitance

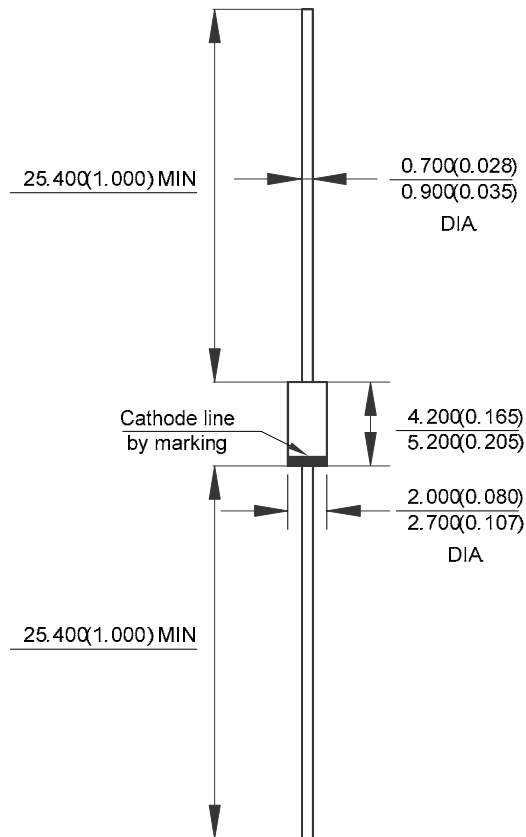
**SCHOTTKY BARRIER RECTIFIER**

**APD160**

**Mechanical Dimensions**

**DO-41**

**Unit: mm(inch)**



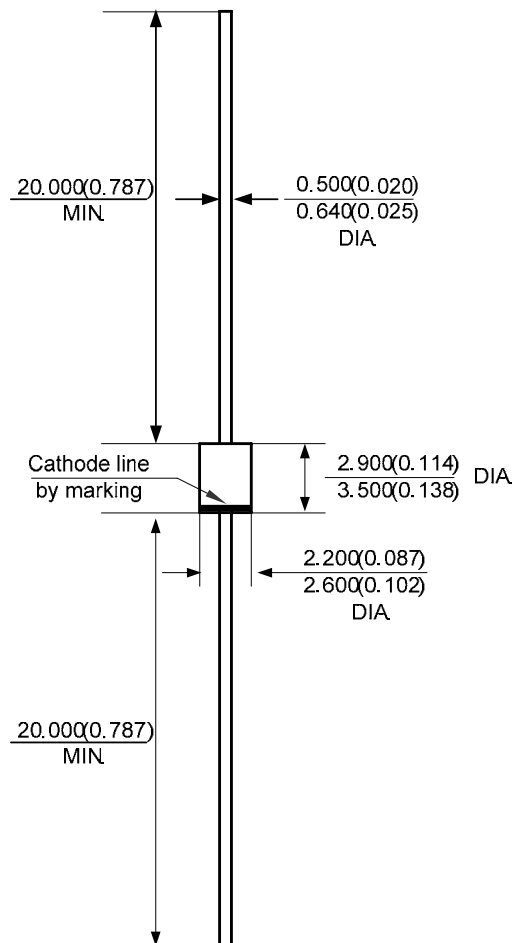
**SCHOTTKY BARRIER RECTIFIER**

**APD160**

**Mechanical Dimensions (Continued)**

**R-1**

**Unit: mm(inch)**



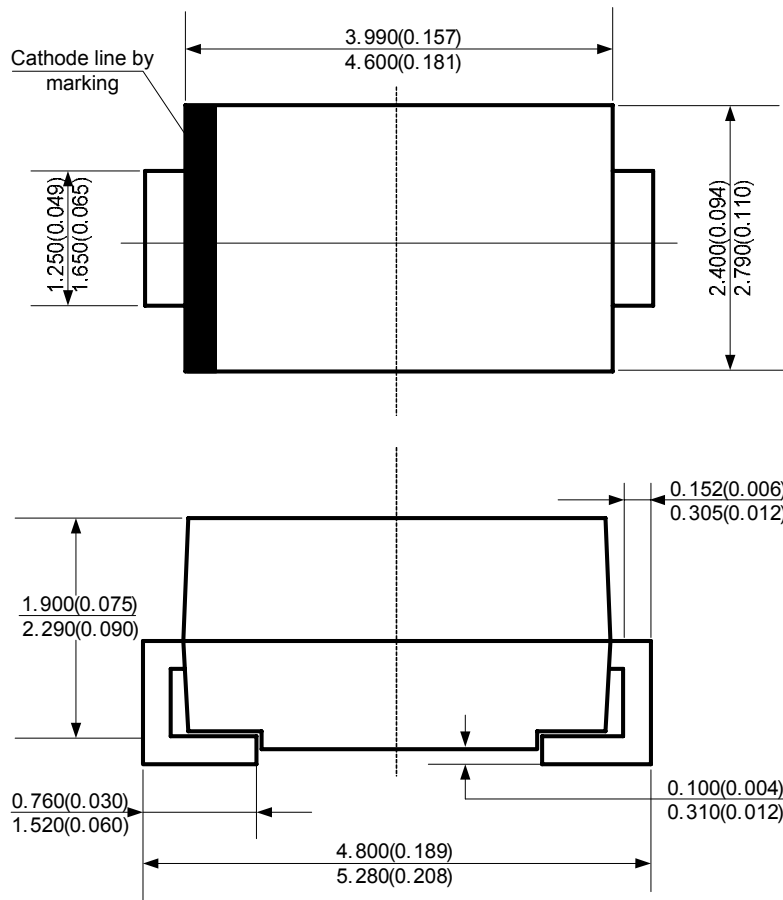
**SCHOTTKY BARRIER RECTIFIER**

**APD160**

**Mechanical Dimensions (Continued)**

**DO-214AC**

**Unit: mm(inch)**





## **BCD Semiconductor Manufacturing Limited**

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