

**SCHOTTKY BARRIER RECTIFIERS**

**APD245**

**Features**

- Low Forward Voltage Drop
- Very Small Conduction Losses
- High Surge Capability
- Surge Overload Rating up to 50A Peak Value

**Applications**

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

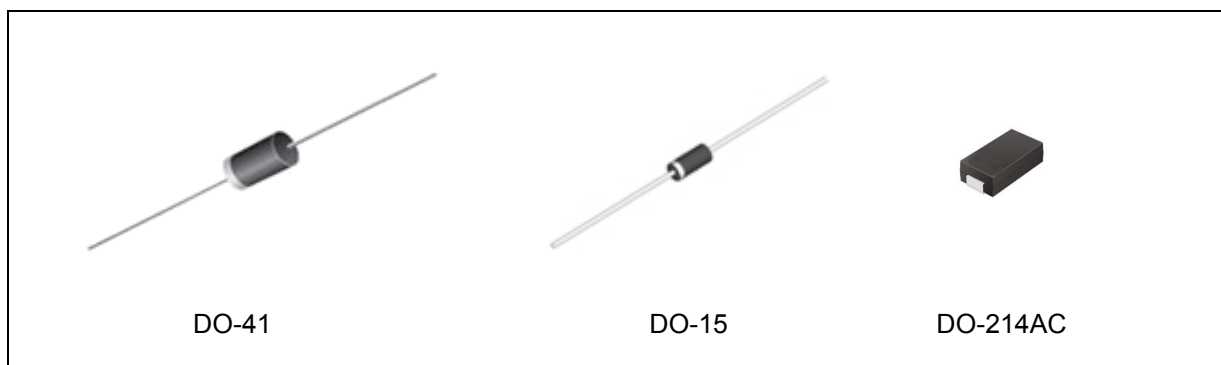


Figure 1. Package Types of APD245

**Pin Configuration**

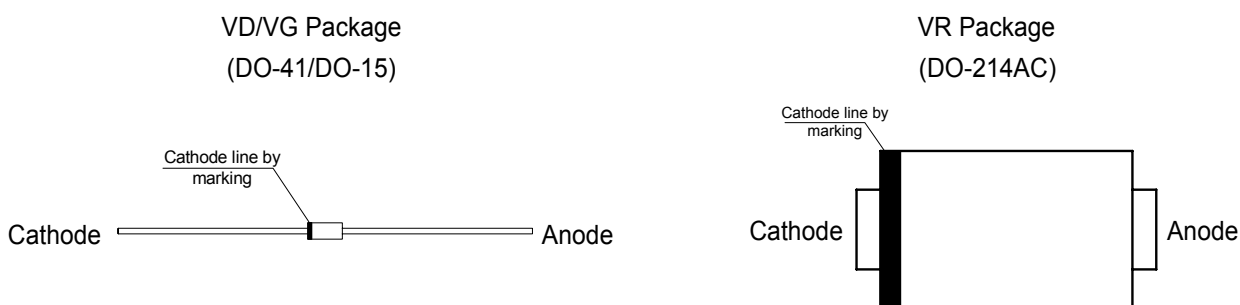


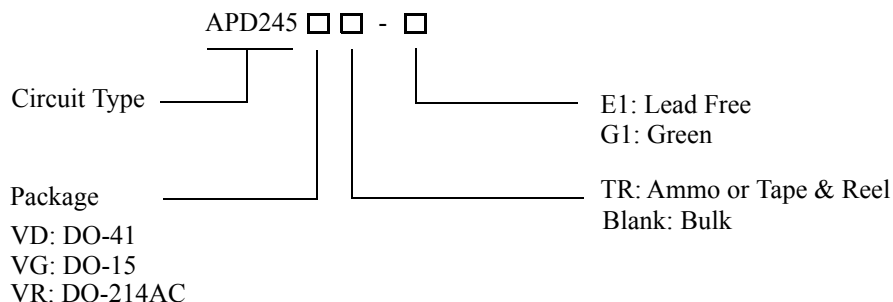
Figure 2. Pin Configuration of APD245



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**Ordering Information**



Package	Temperature Range	Part Number		Marking ID		Packing Type
		Lead Free	Green	Lead Free	Green	
DO-41	-65 to 125°C	APD245VD-E1	APD245VD-G1	D245VD	245VDG	Bulk
		APD245VDTR-E1	APD245VDTR-G1	D245VD	245VDG	Ammo
DO-15	-65 to 125°C	APD245VG-E1	APD245VG-G1	D245VG	245VGG	Bulk
		APD245VGTR-E1	APD245VGTR-G1	D245VG	245VGG	Ammo
DO-214AC	-65 to 125°C		APD245VRTR-G1		245VRG	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 RECTIFIERS****APD245****Absolute Maximum Ratings** ( $T_A=25^{\circ}\text{C}$ , unless otherwise noted) (Note 1)

Parameter	Symbol	Value	Unit
Maximum Repetitive Peak Reverse Voltage	$V_{RRM}$	45	V
Maximum DC Blocking Voltage	$V_{DC}$	45	V
Maximum RMS Voltage	$V_{RMS}$	32	V
Average Rectified Forward Current 0.375 " (9.5mm) Lead Length	$I_{F(AV)}$	2.0	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave on Rated Load	$I_{FSM}$	50	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.



**SCHOTTKY BARRIER RECTIFIERS**

**APD245**

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

Parameter	Symbol	Values	Unit
Typical Thermal Resistance	$\theta_{JA}$	DO-41/DO-15	52
		DO-214AC	90

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

Parameter	Symbol	Values	Unit
Forward Voltage @ $I_F=2.0\text{A}$	$V_F$	0.5	V
Reverse Current @ Rated $V_R$ (Note 2)	$I_R$	$T_A=25^{\circ}\text{C}$	0.5
		$T_A=100^{\circ}\text{C}$	10

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

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

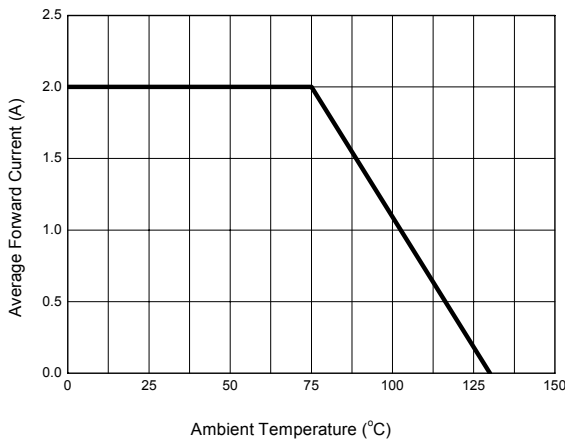


Figure 3. Forward Current Derating Curve

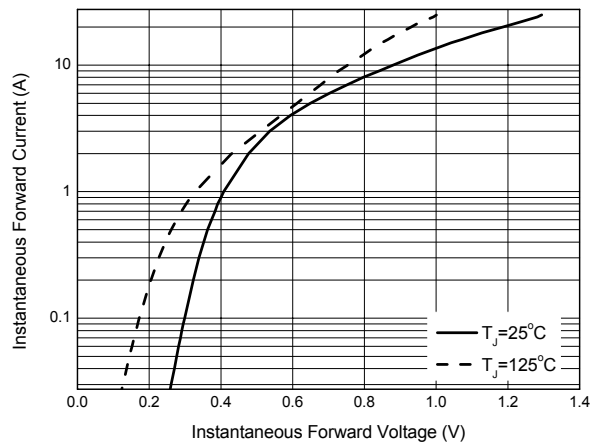


Figure 4. Typical Instantaneous Forward Characteristics



Typical Performance Characteristics (Continued)

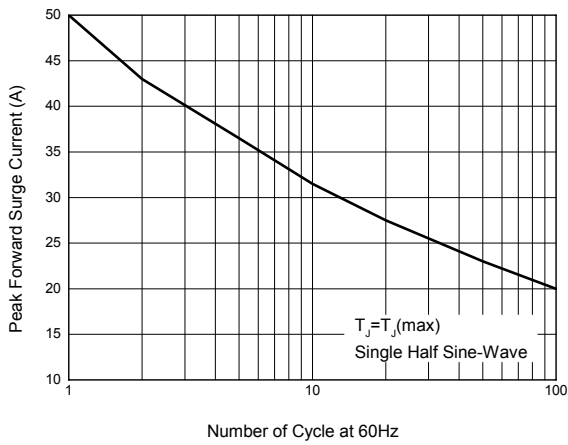


Figure 5. Maximum Non-Repetitive Peak Forward Surge Current

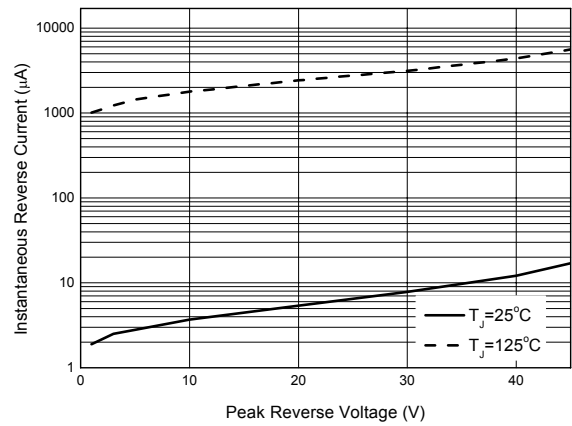


Figure 6. Typical Reverse Characteristics

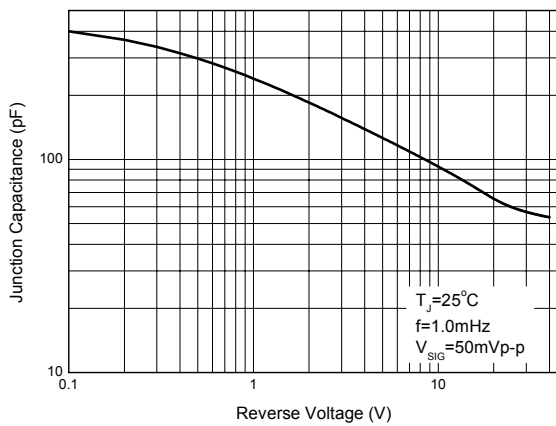


Figure 7. Typical Junction Capacitance



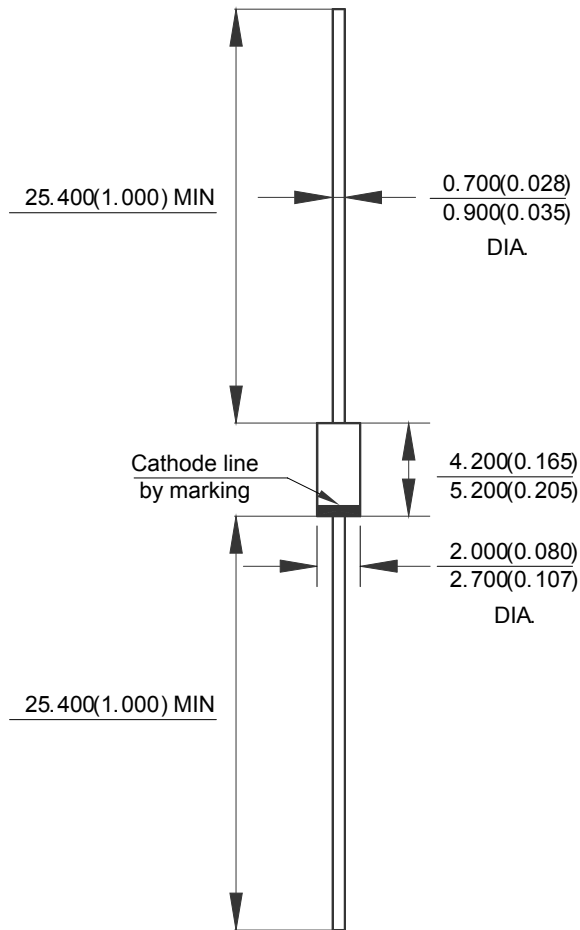
**SCHOTTKY BARRIER RECTIFIERS**

**APD245**

**Mechanical Dimensions**

**DO-41**

**Unit: mm(inch)**

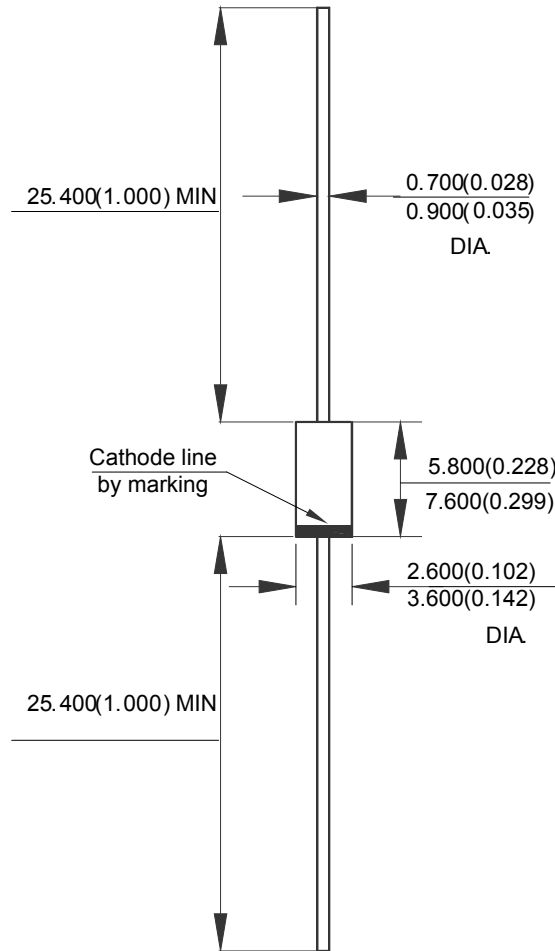




Mechanical Dimensions (Continued)

DO-15

Unit: mm(inch)





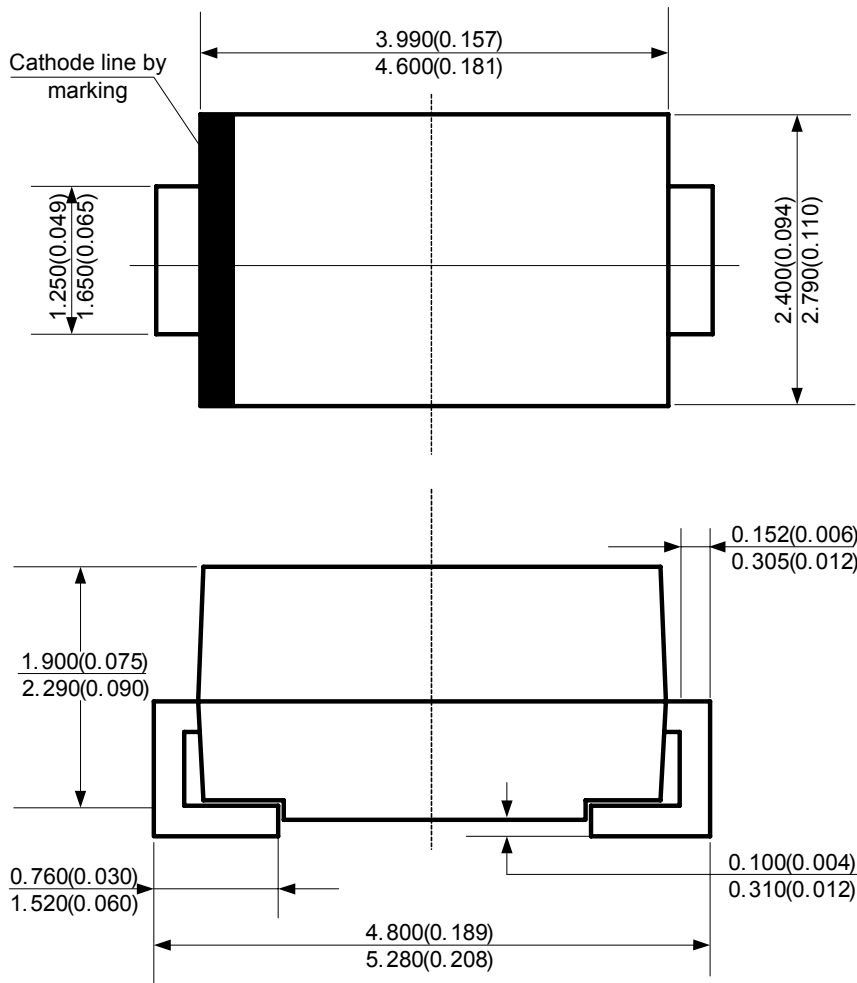
**SCHOTTKY BARRIER RECTIFIERS**

**APD245**

**Mechanical Dimensions (Continued)**

**DO-214AC**

**Unit: mm(inch)**







## **BCD Semiconductor Manufacturing Limited**

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