

**SCHOTTKY BARRIER RECTIFIERS**

**APD240**

**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

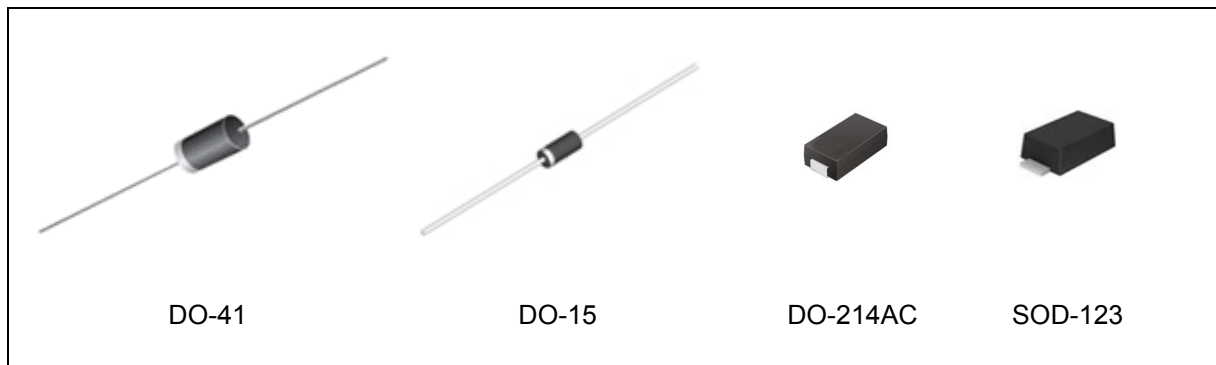


Figure 1. Package Types of APD240

**Pin Configuration**

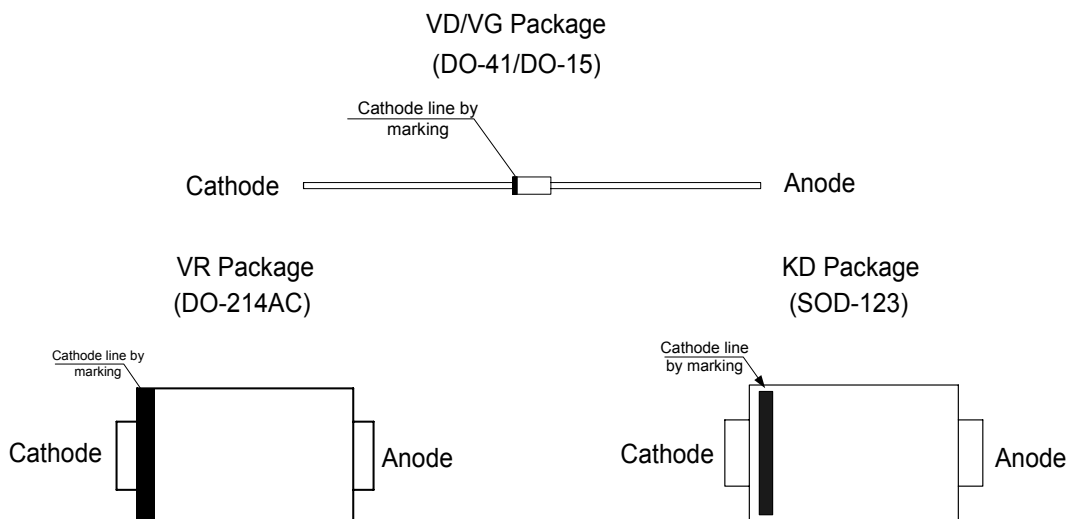


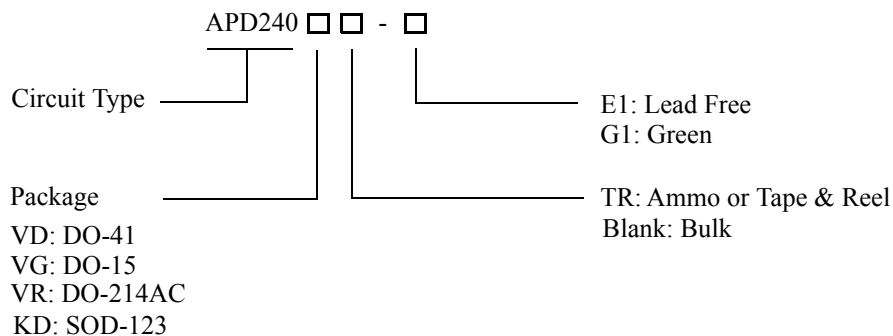
Figure 2. Pin Configuration of APD240



**SCHOTTKY BARRIER RECTIFIERS**

**APD240**

**Ordering Information**



| Package  | Temperature Range | Part Number   |               | Marking ID |        | Packing Type |
|----------|-------------------|---------------|---------------|------------|--------|--------------|
|          |                   | Lead Free     | Green         | Lead Free  | Green  |              |
| DO-41    | -65 to 125°C      | APD240VD-E1   | APD240VD-G1   | D240VD     | 240VDG | Bulk         |
|          |                   | APD240VDTR-E1 | APD240VDTR-G1 | D240VD     | 240VDG | Ammo         |
| DO-15    | -65 to 125°C      | APD240VG-E1   | APD240VG-G1   | D240VG     | 240VGG | Bulk         |
|          |                   | APD240VGTR-E1 | APD240VGTR-G1 | D240VG     | 240VGG | Ammo         |
| DO-214AC | -65 to 125°C      |               | APD240VRTR-G1 |            | 240VRG | Tape & Reel  |
| SOD-123  | -65 to 125°C      |               | APD240KDTR-G1 |            | G11    | 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****APD240****Absolute Maximum Ratings** ( $T_A=25^{\circ}\text{C}$ , unless otherwise noted) (Note 1)

| Parameter                                                                              | Symbol      | Value      | Unit               |
|----------------------------------------------------------------------------------------|-------------|------------|--------------------|
| Maximum Repetitive Peak Reverse Voltage                                                | $V_{RRM}$   | 40         | V                  |
| Maximum DC Blocking Voltage                                                            | $V_{DC}$    | 40         | V                  |
| Maximum RMS Voltage                                                                    | $V_{RMS}$   | 28         | V                  |
| Average Rectified Forward Current<br>0.375 " (9.5mm) Lead Length (See Figure 3)        | $I_{F(AV)}$ | 2.0        | A                  |
| Non-Repetitive Peak Forward Surge Current<br>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**

**APD240**

**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                          |
|                            |               | SOD-123     | 200                         |
|                            |               |             | $^{\circ}\text{C}/\text{W}$ |

**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   |
|                                        |        |                           | mA   |

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)

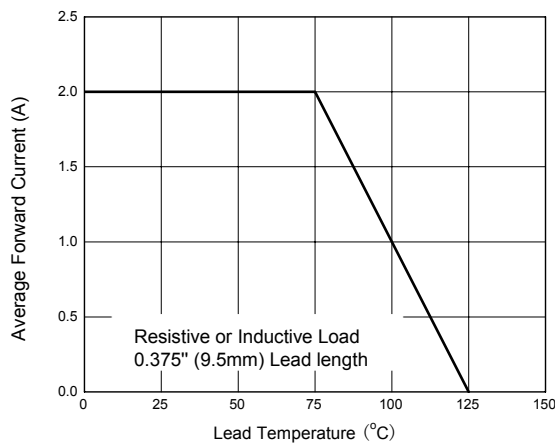


Figure 3. Forward Current Derating Curve

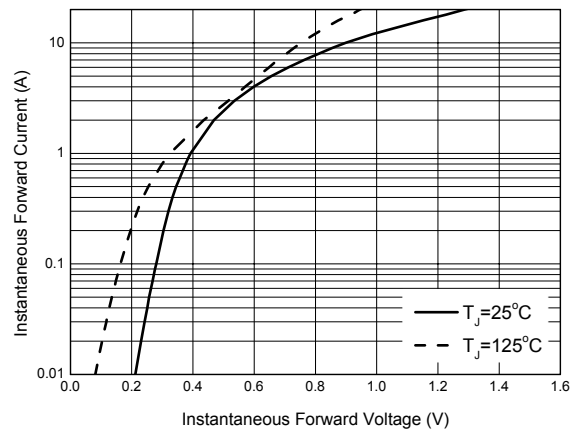


Figure 4. Typical Instantaneous Forward Characteristics



Typical Performance Characteristics (Continued)

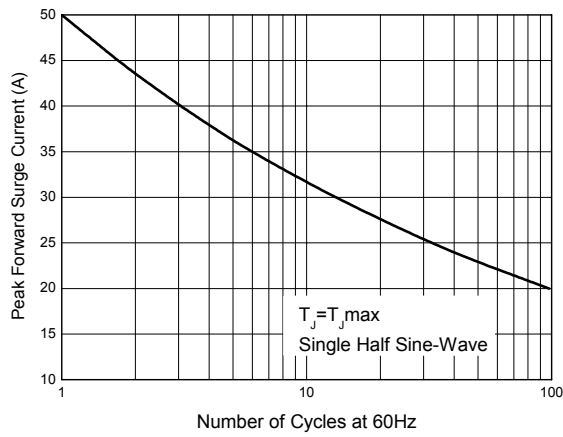


Figure 5. Maximum Non-Repetitive Peak Forward Surge Current

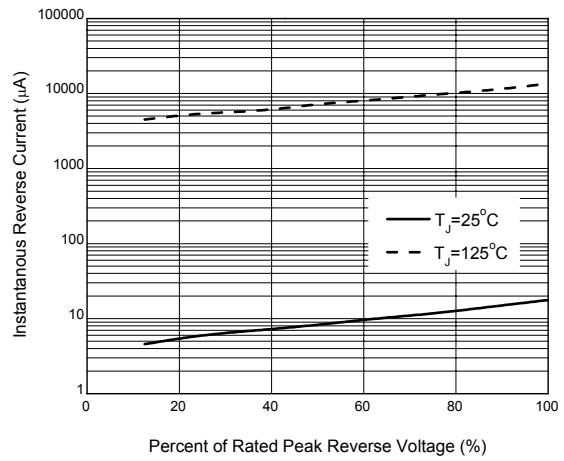


Figure 6. Typical Reverse Characteristics

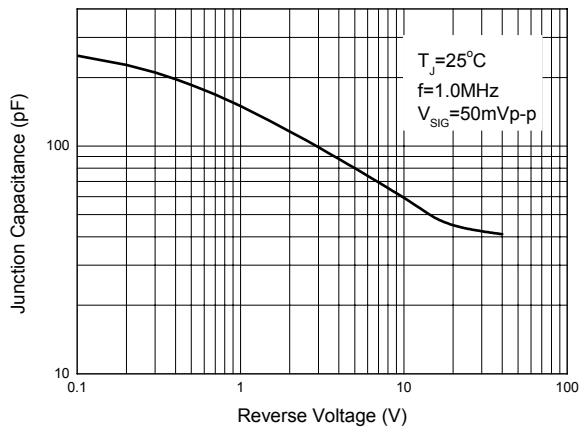
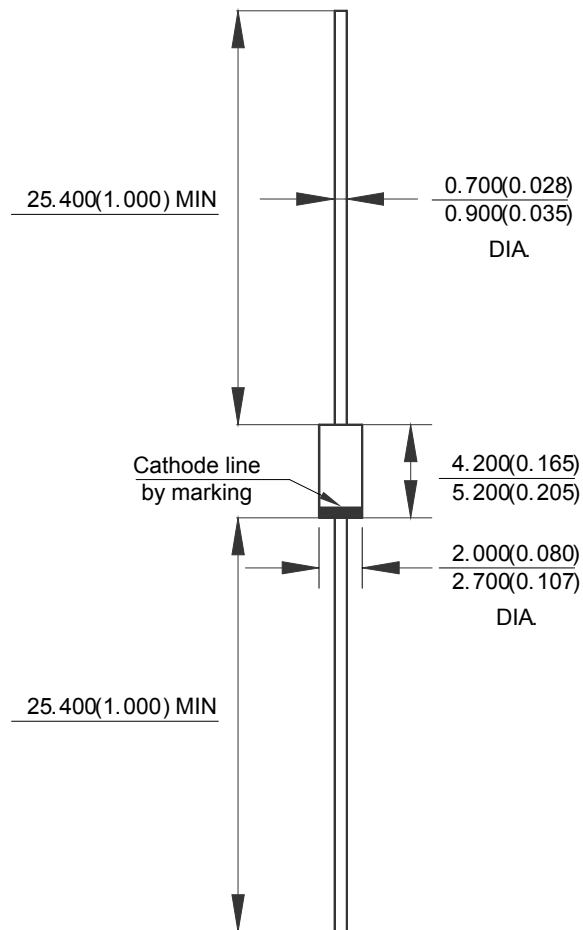


Figure 7. Typical Junction Capacitance

**Mechanical Dimensions****DO-41****Unit: mm(inch)**



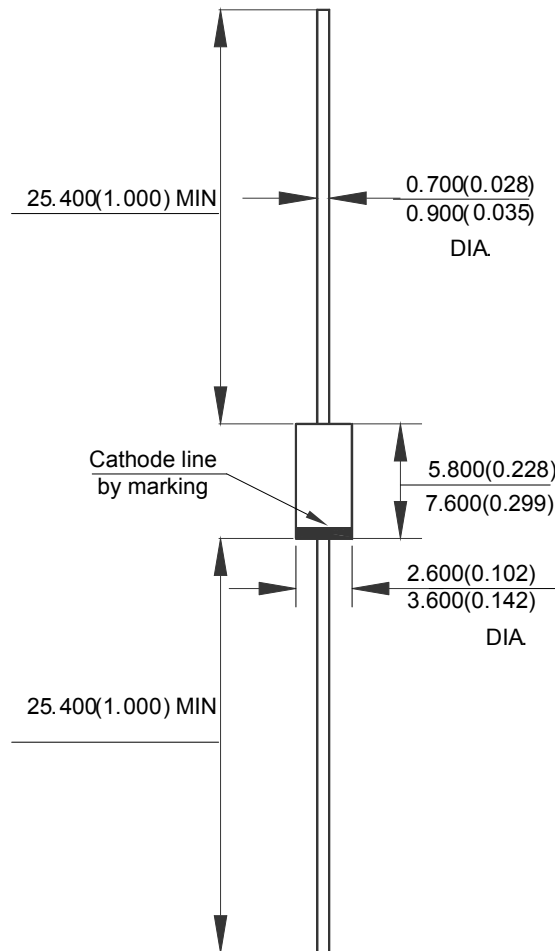
**SCHOTTKY BARRIER RECTIFIERS**

**APD240**

**Mechanical Dimensions (Continued)**

**DO-15**

**Unit: mm(inch)**





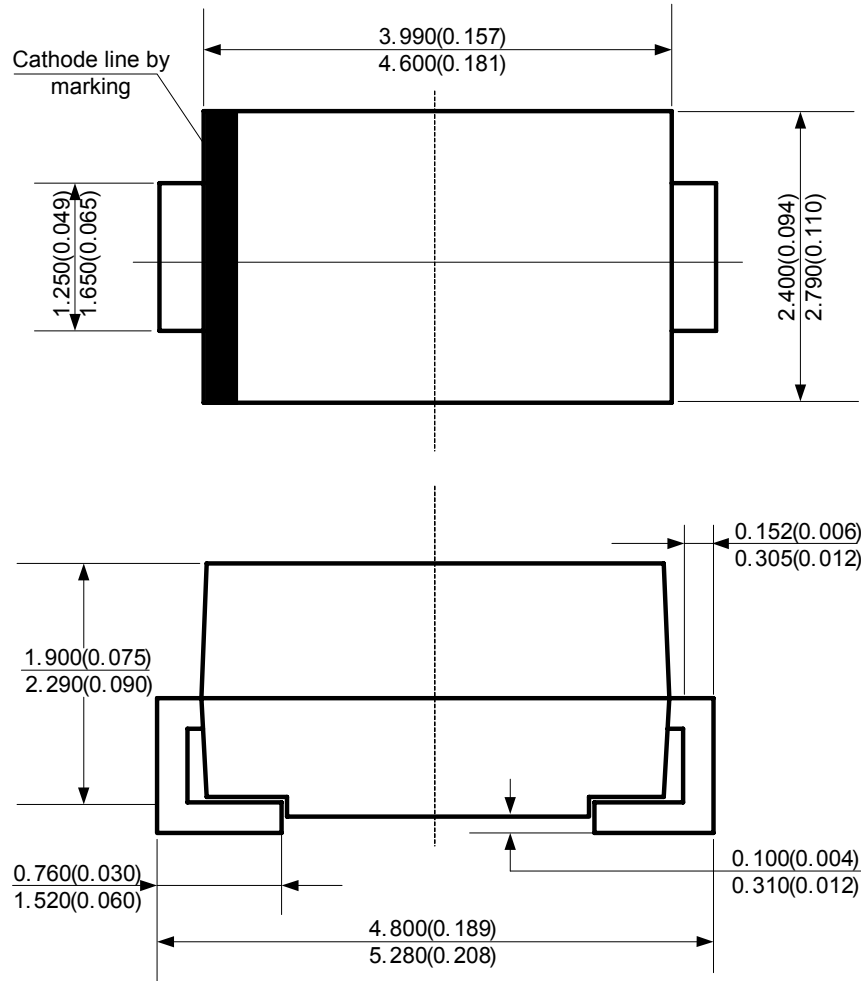
**SCHOTTKY BARRIER RECTIFIERS**

**APD240**

**Mechanical Dimensions (Continued)**

**DO-214AC**

**Unit: mm(inch)**







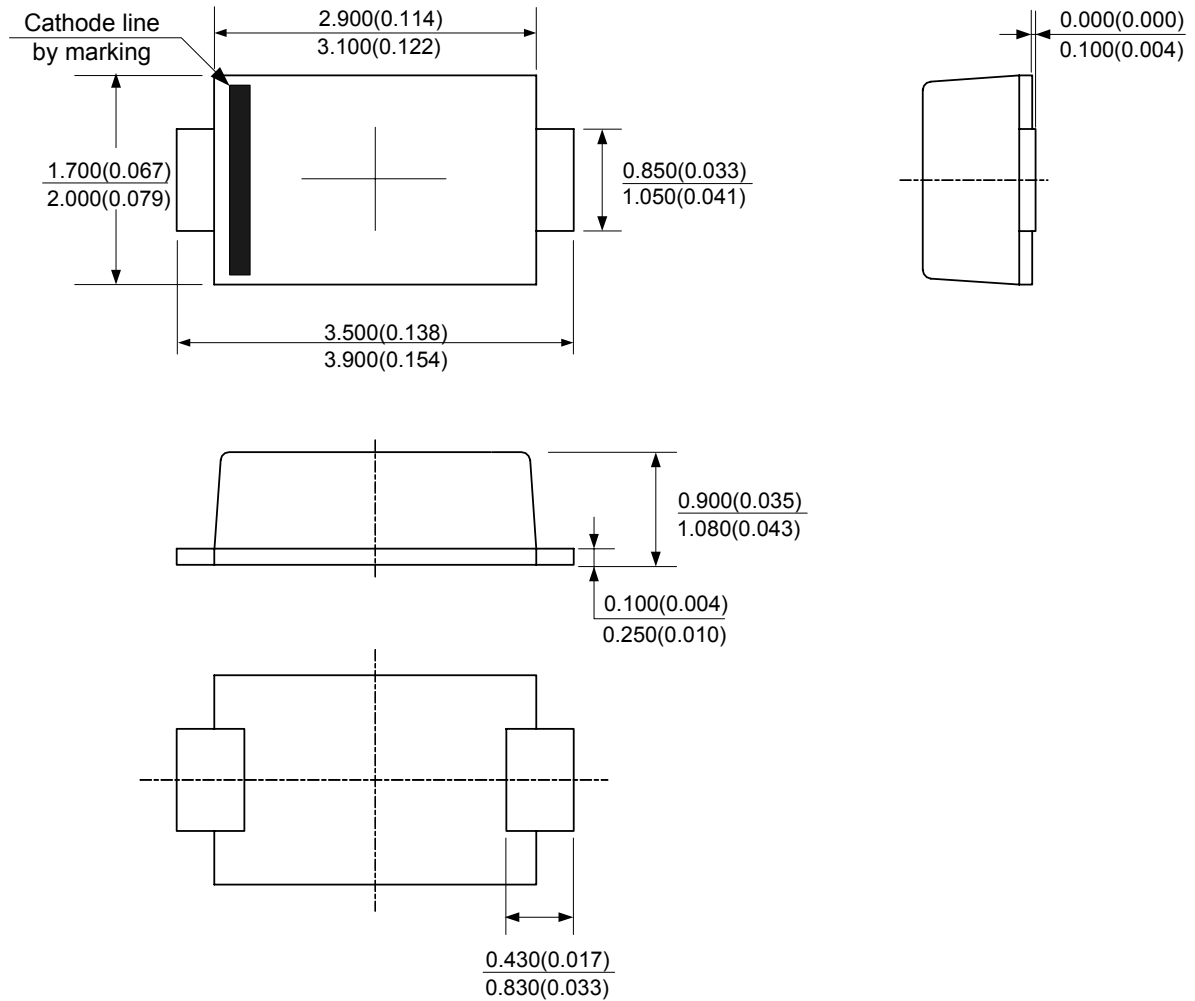
**SCHOTTKY BARRIER RECTIFIERS**

**APD240**

**Mechanical Dimensions (Continued)**

**SOD-123**

**Unit: mm(inch)**





## **BCD Semiconductor Manufacturing Limited**

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