

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

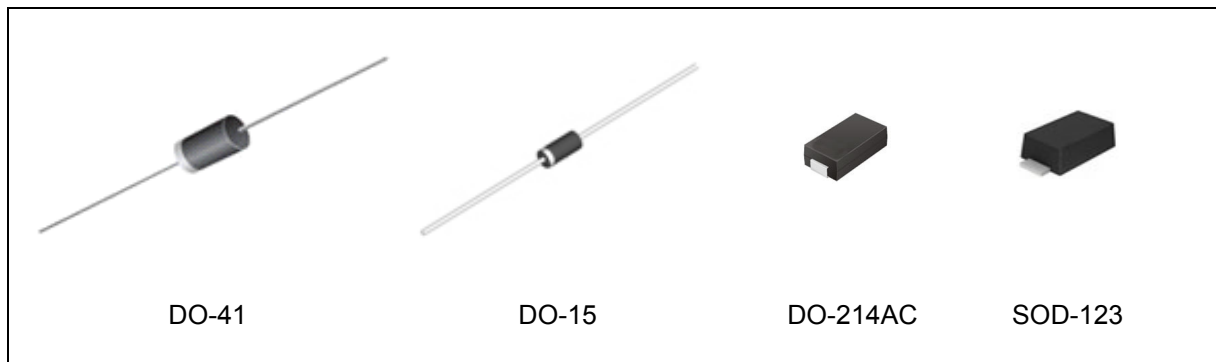


Figure 1. Package Types of APD240

Pin Configuration

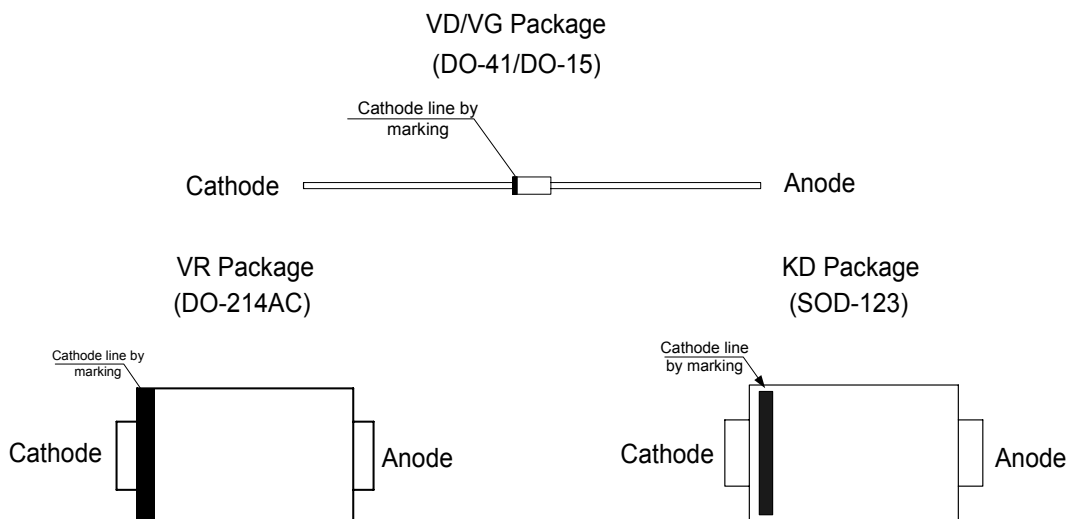


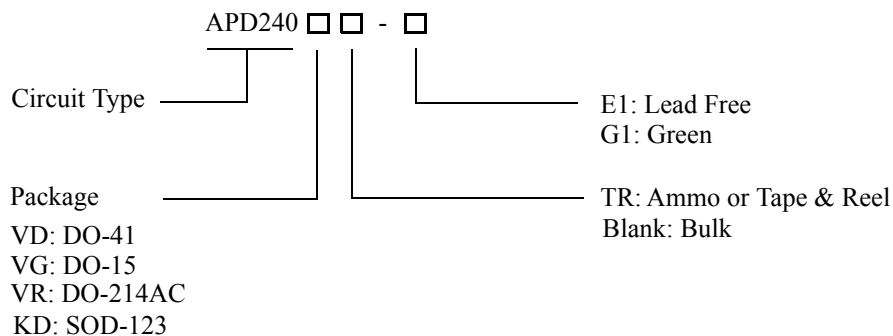
Figure 2. Pin Configuration of APD240



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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 | 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 0.375 " (9.5mm) Lead Length (See Figure 3) | $I_{F(AV)}$ | 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

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

| Parameter | Symbol | Values | Unit |
|----------------------------|---------------|-------------|-----------------------------|
| Typical Thermal Resistance | θ_{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 μs pulse width, 1.0% duty cycle.

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

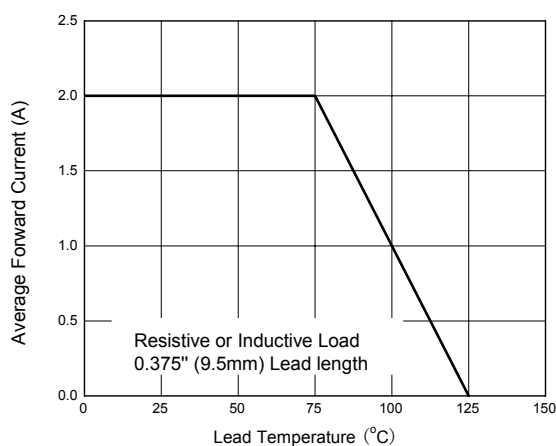


Figure 3. Forward Current Derating Curve

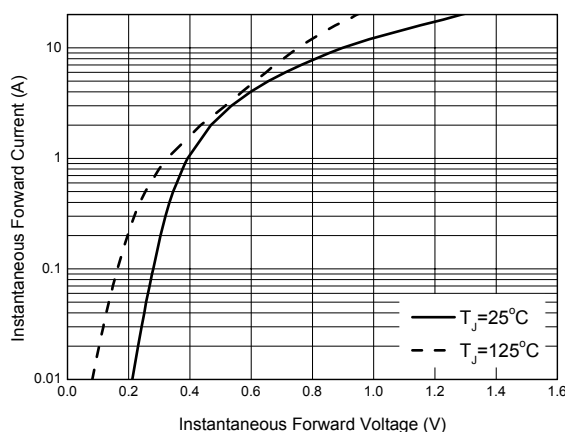


Figure 4. Typical Instantaneous Forward Characteristics



Typical Performance Characteristics (Continued)

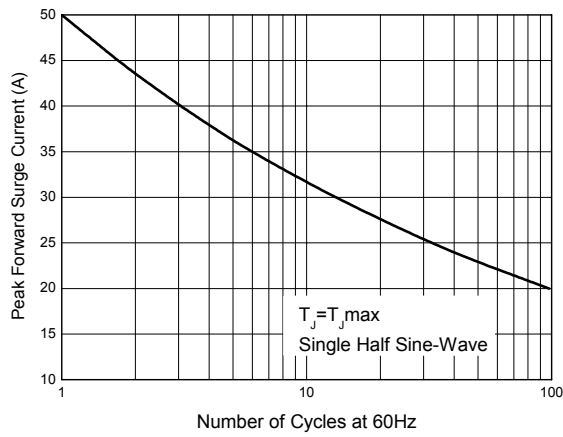


Figure 5. Maximum Non-Repetitive Peak Forward Surge Current

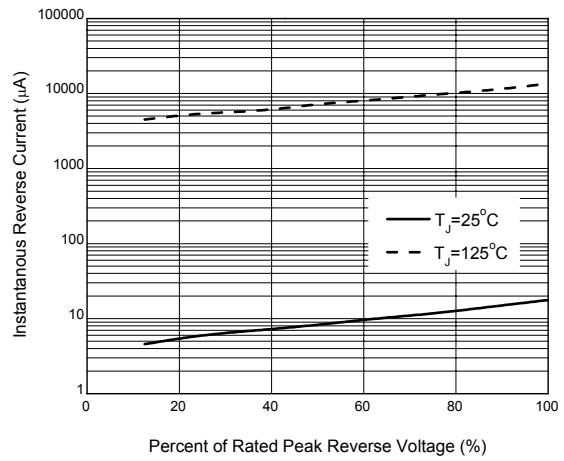


Figure 6. Typical Reverse Characteristics

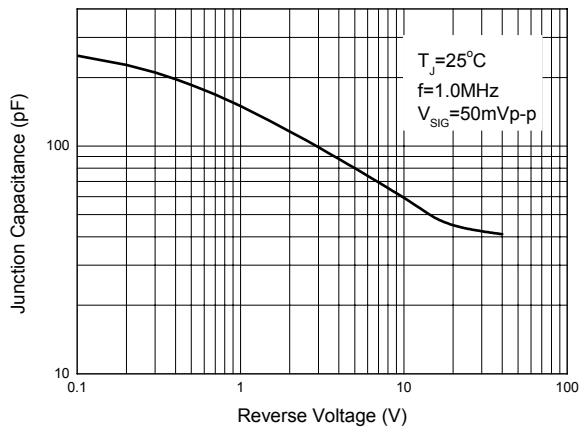
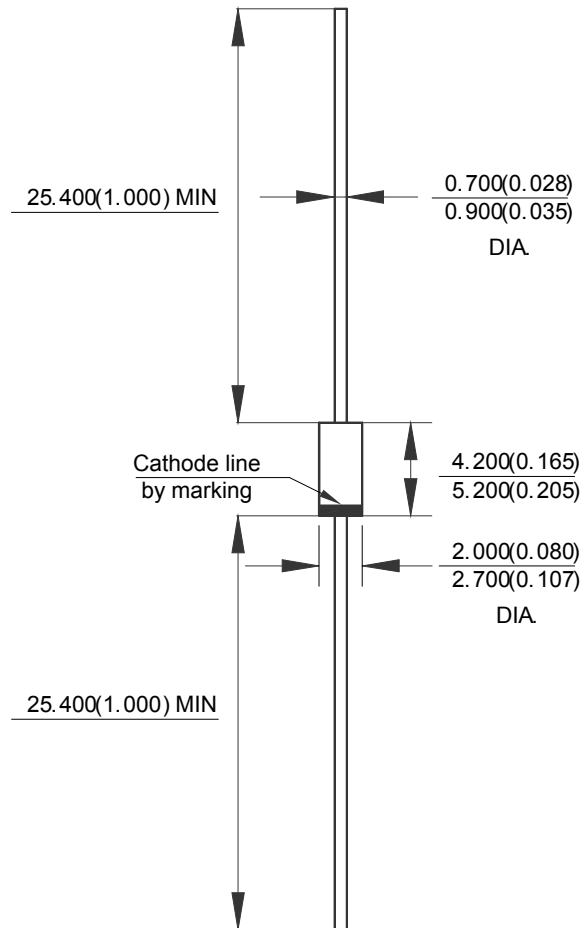


Figure 7. Typical Junction Capacitance

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



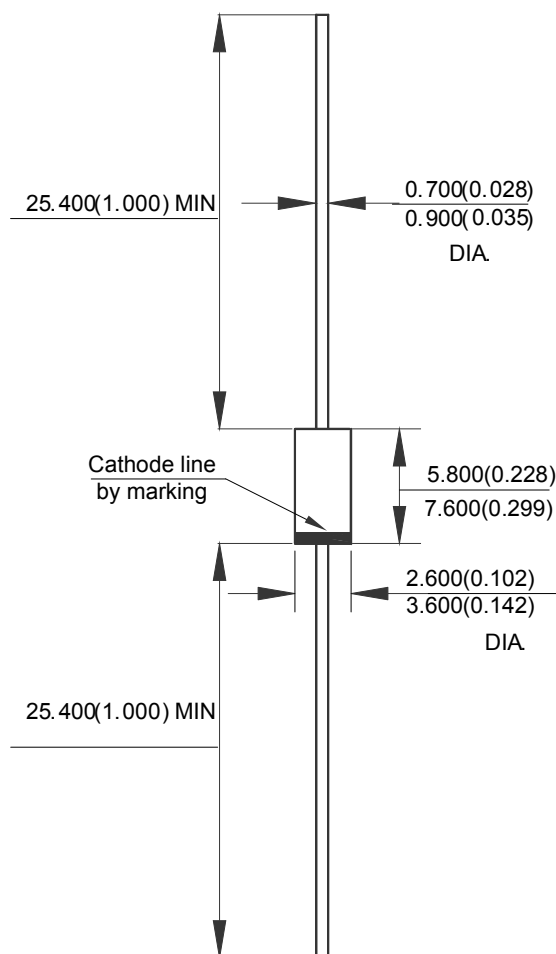
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Mechanical Dimensions (Continued)

DO-15

Unit: mm(inch)





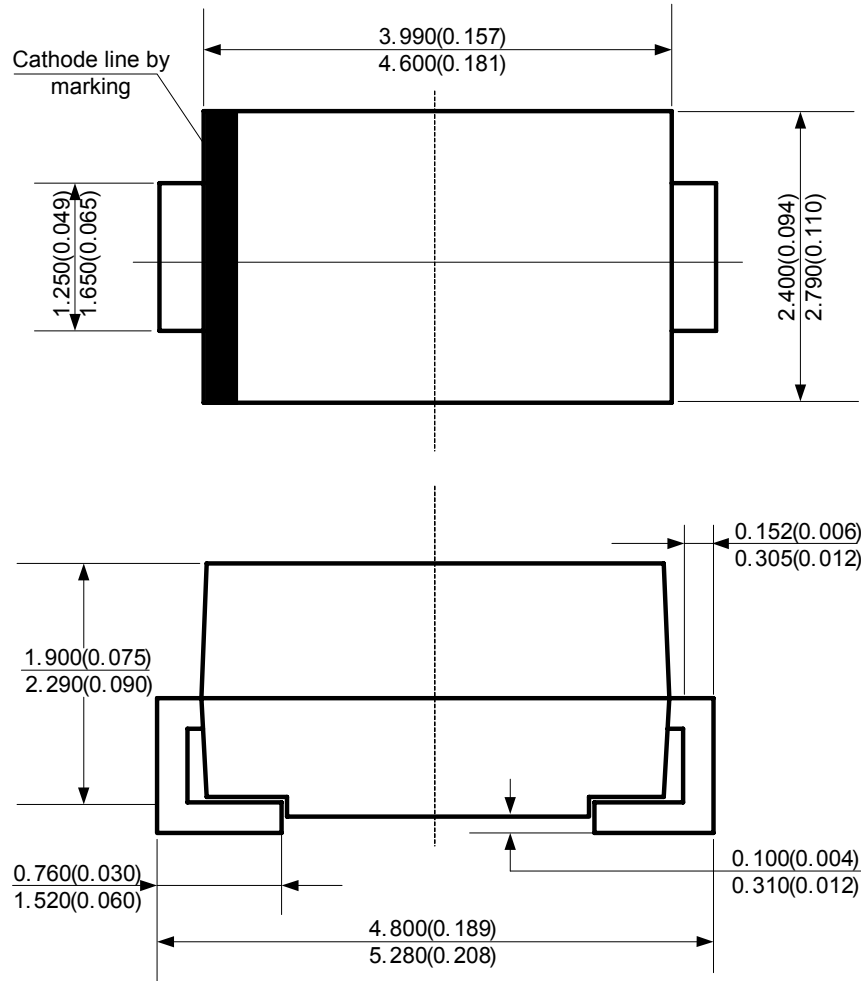
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Mechanical Dimensions (Continued)

DO-214AC

Unit: mm(inch)





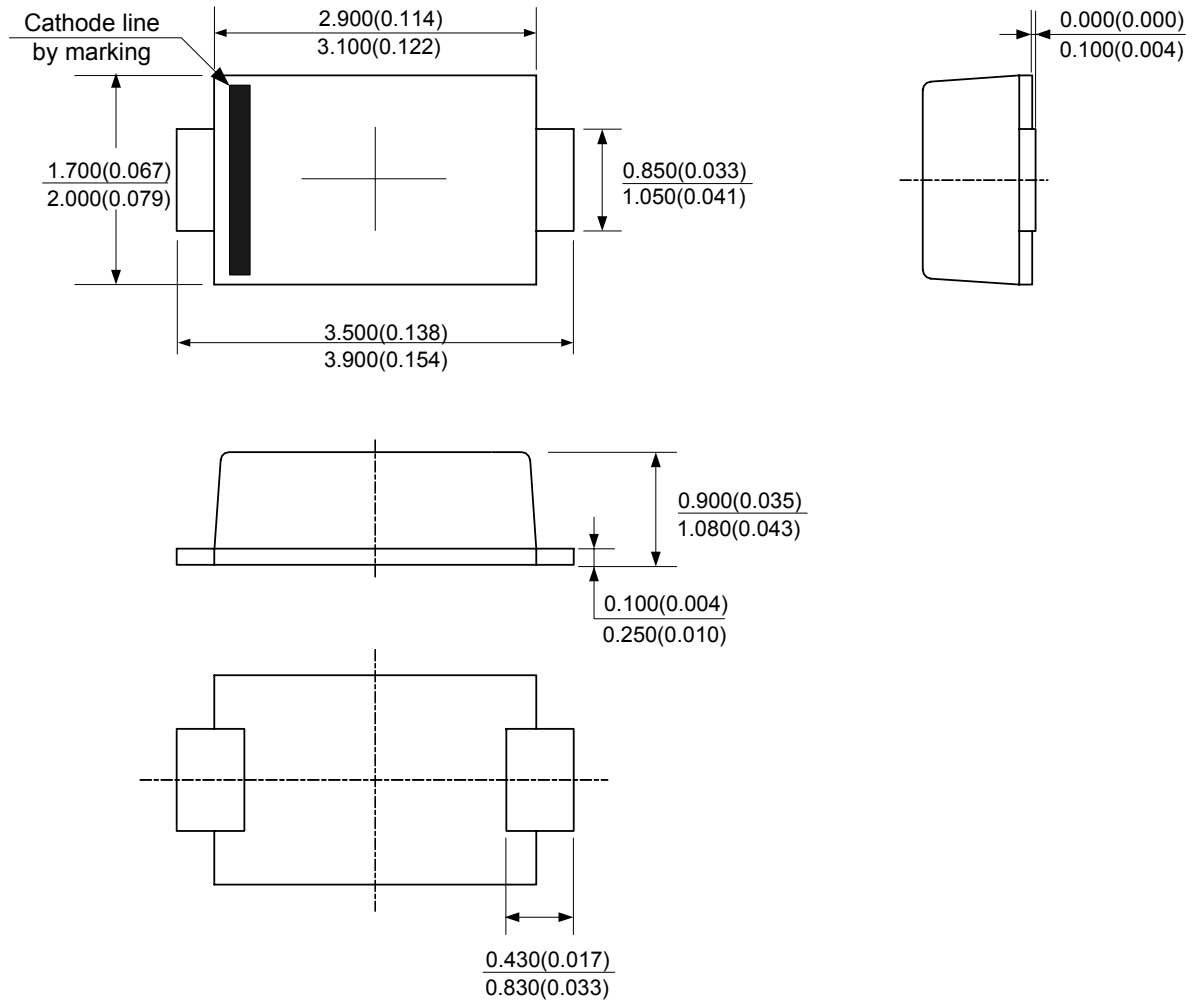
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Mechanical Dimensions (Continued)

SOD-123

Unit: mm(inch)





BCD Semiconductor Manufacturing Limited

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MAIN SITE

- Headquarters

BCD Semiconductor Manufacturing Limited

No. 1600, Zi Xing Road, Shanghai ZiZhu Science-based Industrial Park, 200241, China
Tel: +86-21-24162266, Fax: +86-21-24162277

- Wafer Fab

Shanghai SIM-BCD Semiconductor Manufacturing Co., Ltd.

800 Yi Shan Road, Shanghai 200233, China
Tel: +86-21-6485 1491, Fax: +86-21-5450 0008

REGIONAL SALES OFFICE

Shenzhen Office

Shanghai SIM-BCD Semiconductor Manufacturing Co., Ltd., Shenzhen Office

Unit A Room 1203, Skyworth Bldg., Gaoxin Ave. 1.S., Nanshan District, Shenzhen, China
Tel: +86-755-8826 7951
Fax: +86-755-8826 7865

Taiwan Office

BCD Semiconductor (Taiwan) Company Limited

4F, 298-1, Rui Guang Road, Nei-Hu District, Taipei, Taiwan
Tel: +886-2-2656 2808
Fax: +886-2-2656 2806

USA Office

BCD Semiconductor Corp.

30920 Huntwood Ave. Hayward, CA 94544, USA
Tel : +1-510-324-2988
Fax: +1-510-324-2788



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Как с нами связаться

Телефон: 8 (812) 309 58 32 (многоканальный)

Факс: 8 (812) 320-02-42

Электронная почта: org@eplast1.ru

Адрес: 198099, г. Санкт-Петербург, ул. Калинина, дом 2, корпус 4, литера А.