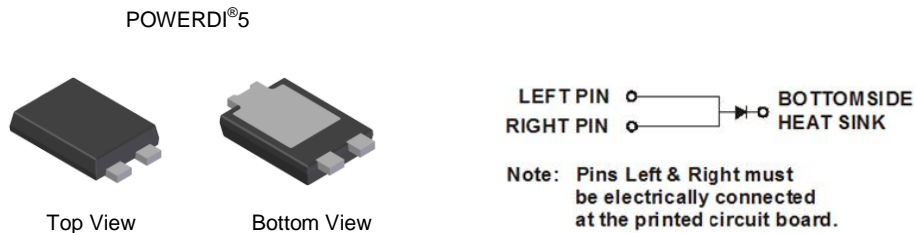


Features

- Designed as Bypass Diodes for Solar Panels
- Selectively Rated for +200°C Maximum Junction Temperature for High Thermal Reliability
- Patented Super Barrier Rectifier Technology
- High Forward Surge Capability
- Ultra Low Forward Voltage Drop
- Excellent High Temperature Stability
- **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**

Mechanical Data

- Case: POWERDI®5
- Case Material: Molded Plastic, "Green" Molding Compound. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Finish – Matte Tin Annealed over Copper Leadframe. Solderable per MIL-STD-202, Method 208 Ⓔ3
- Weight: 0.093 grams (Approximate)

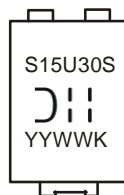


Ordering Information (Note 4)

| Part Number | Case | Packaging |
|--------------------------|-----------|-------------------|
| SBR15U30SP5-13 | POWERDI®5 | 5,000/Tape & Reel |
| SBR15U30SP5-13D (Note 5) | POWERDI®5 | 5,000/Tape & Reel |

- Notes:
1. EU Directive 2002/95/EC (RoHS) & 2011/65/EU (RoHS 2) compliant. All applicable RoHS exemptions applied.
 2. See http://www.diodes.com/quality/lead_free.html for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
 3. Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
 4. For packaging details, go to our website at <http://www.diodes.com/products/packages.html>.
 5. "D" suffix designate for the 12mm Tape and Reel option.

Marking Information



S15U30S = Product Type Marking Code
 ⏏ = Manufacturers' Code Marking
 K = Factory Designator
 YYWW = Date Code Marking
 YY = Last Two Digits of Year (ex: 15 for 2015)
 WW = Week Code (01 - 53)

Maximum Ratings (@T_A = +25°C, unless otherwise specified.)

Single phase, half wave, 60Hz, resistive or inductive load.
For capacitance load, derate current by 20%.

| Characteristic | Symbol | Value | Unit |
|---|---------------------|-------|------|
| Peak Repetitive Reverse Voltage | V _{RRM} | 30 | V |
| Working Peak Reverse Voltage | V _{RWM} | | |
| DC Blocking Voltage | V _{RM} | | |
| RMS Reverse Voltage | V _{R(RMS)} | 21 | V |
| Average Rectified Output Current | I _O | 15 | A |
| Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load | I _{FSM} | 280 | A |

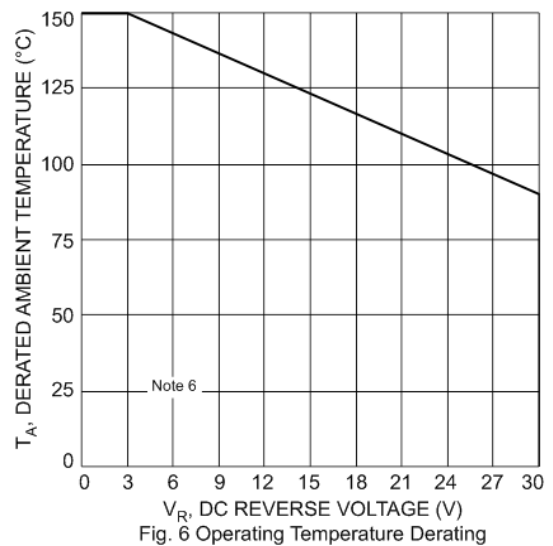
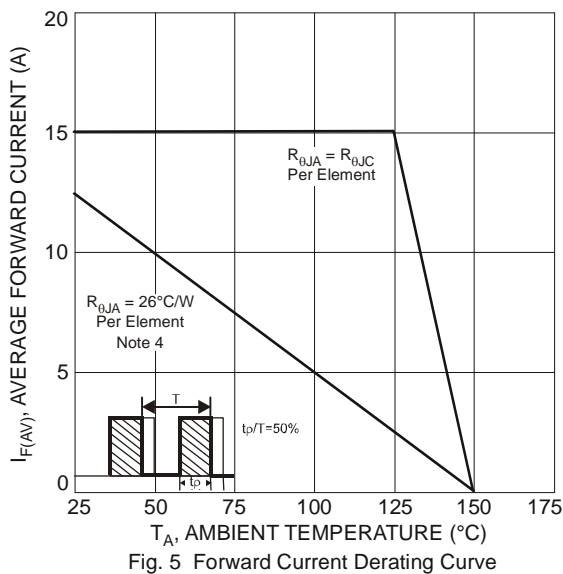
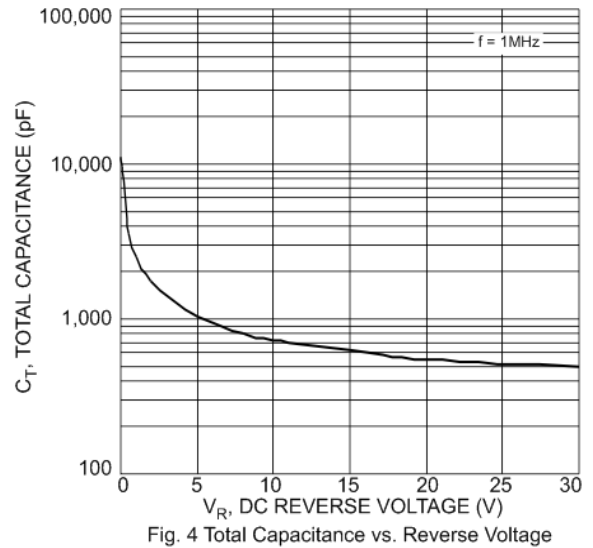
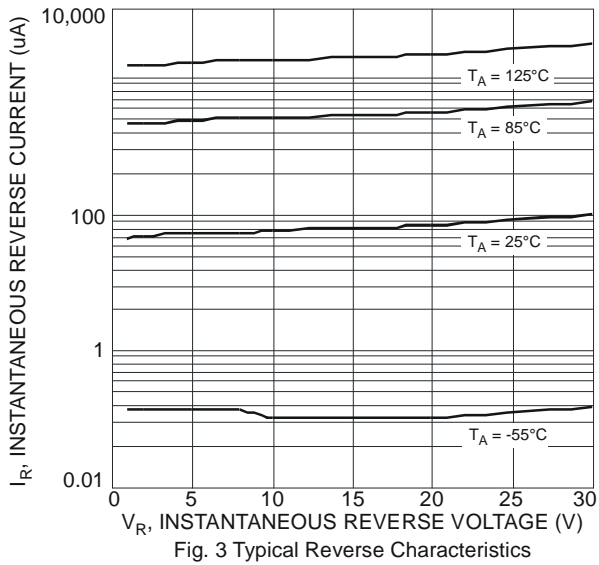
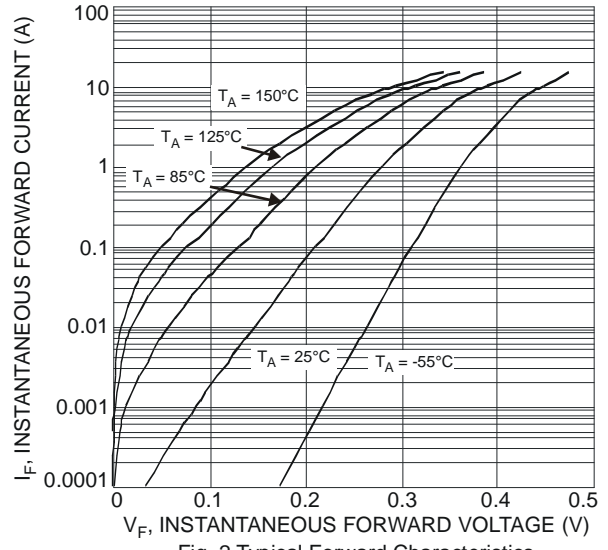
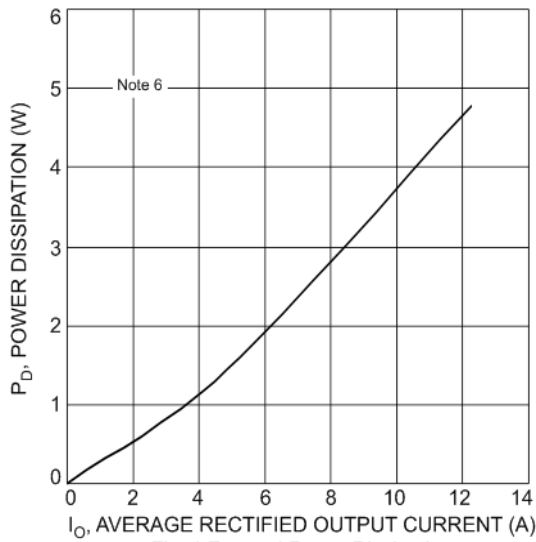
Thermal Characteristics

| Characteristic | Symbol | Value | Unit |
|---|------------------|-------------|------|
| Maximum Thermal Resistance | R _{θJA} | 26 | °C/W |
| Thermal Resistance Junction to Ambient (Note 6) | | | |
| Operating Temperature Range | T _J | -65 to +150 | °C |
| | | ≤180 | |
| | | ≤200 | |
| Storage Temperature Range | T _{STG} | -65 to +175 | °C |

Electrical Characteristics (@T_A = +25°C, unless otherwise specified.)

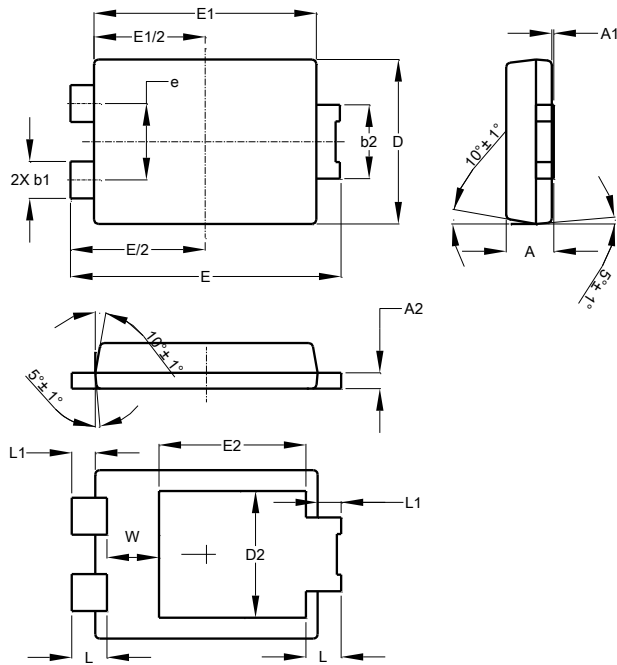
| Characteristic | Symbol | Min | Typ | Max | Unit | Test Condition |
|--------------------------------|----------------|-----|-----|------|------|---|
| Forward Voltage Drop (Per Leg) | V _F | — | — | 0.49 | V | I _F = 15A, T _J = +25°C |
| | | — | — | 0.42 | | I _F = 15A, T _J = +125°C |
| Leakage Current (Note 7) | I _R | — | — | 0.5 | mA | V _R = 30V, T _J = +25°C |
| | | — | — | 100 | | V _R = 30V, T _J = +125°C |

Notes: 6. Polyimide, 2oz. Copper 16x minimum recommended pad layout per <http://www.diodes.com>
7. Short duration pulse test used to minimize self-heating effect.



Package Outline Dimensions

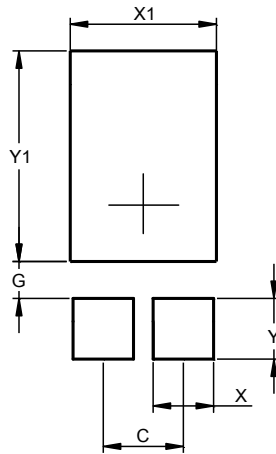
Please see AP02002 at <http://www.diodes.com/datasheets/ap02002.pdf> for the latest version.



| POWERDI [®] 5 | | | |
|------------------------|------|------|-------|
| Dim | Min | Max | Typ |
| A | 1.05 | 1.15 | 1.10 |
| A1 | 0.00 | 0.05 | -- |
| A2 | 0.33 | 0.43 | 0.381 |
| b1 | 0.80 | 0.99 | 0.89 |
| b2 | 1.70 | 1.88 | 1.78 |
| D | 3.90 | 4.05 | 3.966 |
| D2 | -- | -- | 3.054 |
| E | 6.40 | 6.60 | 6.504 |
| e | -- | -- | 1.84 |
| E1 | 5.30 | 5.45 | 5.37 |
| E2 | -- | -- | 3.549 |
| L | 0.75 | 0.95 | 0.85 |
| L1 | 0.50 | 0.65 | 0.57 |
| W | 1.10 | 1.41 | 1.255 |
| All Dimensions in mm | | | |

Suggested Pad Layout

Please see AP02001 at <http://www.diodes.com/datasheets/ap02001.pdf> for the latest version.



| Dimensions | Value (in mm) |
|------------|---------------|
| C | 1.840 |
| G | 0.852 |
| X | 1.390 |
| X1 | 3.360 |
| Y | 1.400 |
| Y1 | 4.860 |

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