



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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Product Summary

| V_{RRM} (V) | I_o (A) | V_F Max (V) | I_R Max (μ A) |
|---------------|-----------|---------------|----------------------|
| 60 | 1 | 0.50 | 100 |

Applications

- Bridge Diodes
- Blocking Diodes
- Reverse Protection Diodes

Features and Benefits

- Guard Ring Die Construction for Transient Protection
- High Current Capability
- Low Leakage Current
- Patented Interlocking Clip Design for High Surge Current Capacity
- **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**

Mechanical Data

- Case: PowerDI[®]123
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Polarity Indicator: Cathode Band
- Terminals: Matte Tin Finish Annealed over Copper Leadframe. Solderable per MIL-STD-202, Method 208
- Weight: 0.018 grams (Approximate)

PowerDI123



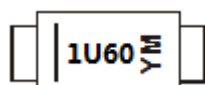
Top View

Ordering Information (Note 4)

| Part Number | Case | Packaging |
|-------------|------------|-------------------|
| SDM1U60P1-7 | PowerDI123 | 3,000/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>.

Marking Information



1U60 = Product Type Marking Code
 YM = Date Code Marking
 Y = Year (ex: E = 2017)
 M = Month (ex: 5 = May)

Date Code Key

| Year | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 |
|------|------|------|------|------|------|------|------|------|------|------|
| Code | B | C | D | E | F | G | H | I | J | K |

| Month | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Code | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | O | N | D |

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

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

| Characteristic | Symbol | Value | Unit |
|---|--------------------|-------|------|
| Peak Repetitive Reverse Voltage | V _{RRM} | 60 | V |
| Working Peak Reverse Voltage | V _{RWM} | | |
| DC Blocking Voltage | V _R | | |
| Average Forward Current | I _{F(AV)} | 1.0 | A |
| Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load | I _{FSM} | 60 | A |

Thermal Characteristics

| Characteristic | Symbol | Typ | Unit |
|--|------------------|-------------|------|
| Thermal Resistance, Junction to Ambient (Note 5) | R _{θJA} | 60 | °C/W |
| Thermal Resistance, Junction to Case (Note 5) | R _{θJC} | 5 | °C/W |
| Storage Temperature Range | T _{STG} | -55 to +150 | °C |

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

| Characteristic | Symbol | Min | Typ | Max | Unit | Test Condition |
|--------------------------|----------------|-----|------|------|------|--|
| Forward Voltage | V _F | — | 0.45 | 0.50 | V | I _F = 1.0A, T _A = +25°C |
| | | | 0.40 | — | | I _F = 1.0A, T _A = +125°C |
| Leakage Current (Note 6) | I _R | — | 15 | 100 | μA | V _R = 60V, T _A = +25°C |
| | | | 10 | — | mA | V _R = 60V, T _A = +125°C |
| Total Capacitance | C _T | — | 52 | — | pF | V _R = 10V, f = 1.0MHz |

Notes: 5. Device mounted on 1inch sq. copper pad, 2oz.
6. Short duration pulse test used to minimize self-heating effect.

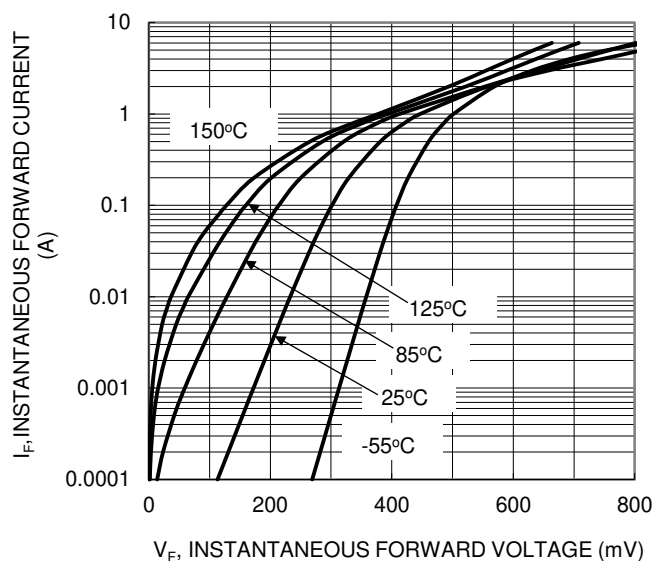


Figure 1. Typical Forward Characteristics

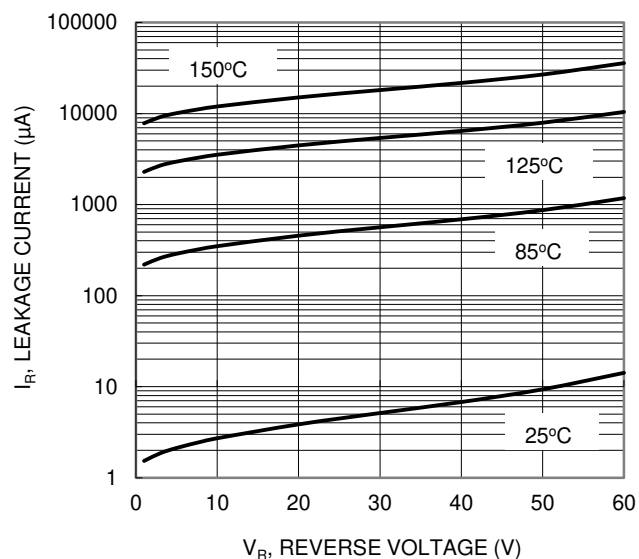


Figure 2. Typical Reverse Characteristics

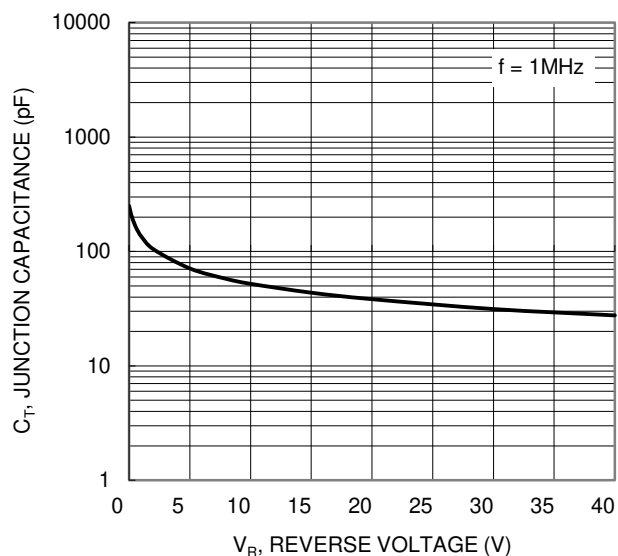


Figure 3. Typical Junction Capacitance

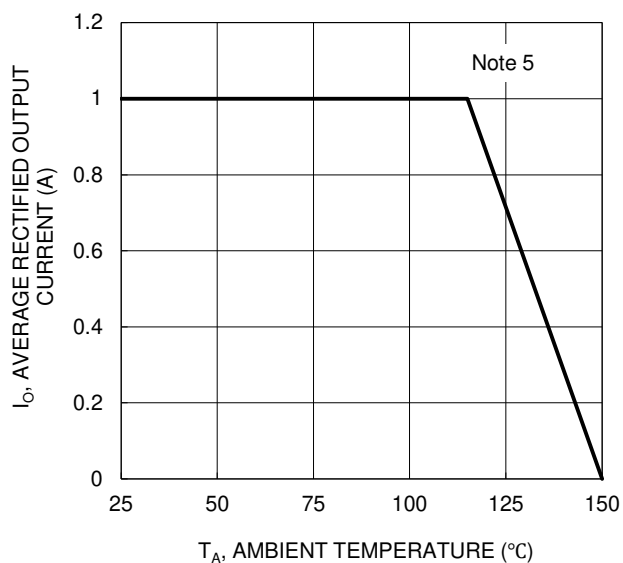
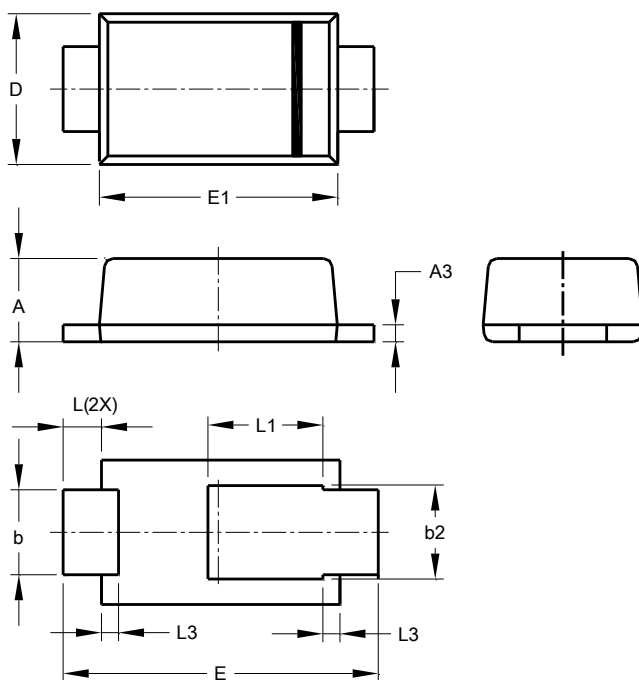


Figure 4. DC Forward Current Derating

Package Outline Dimensions

Please see <http://www.diodes.com/package-outlines.html> for the latest version.

PowerDI123

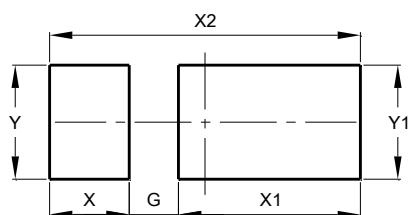


| PowerDI123 | | | |
|----------------------|-------|-------|------|
| Dim | Min | Max | Typ |
| A | 0.93 | 1.00 | 0.98 |
| A3 | 0.15 | 0.25 | 0.20 |
| b | 0.85 | 1.25 | 1.00 |
| b2 | 1.025 | 1.125 | 1.10 |
| D | 1.63 | 1.93 | 1.78 |
| E | 3.50 | 3.90 | 3.70 |
| E1 | 2.60 | 3.00 | 2.80 |
| L | 0.40 | 0.50 | 0.45 |
| L1 | 1.25 | 1.40 | 1.35 |
| L3 | 0.125 | 0.275 | 0.20 |
| All Dimensions in mm | | | |

Suggested Pad Layout

Please see <http://www.diodes.com/package-outlines.html> for the latest version.

PowerDI123



| Dimensions | Value (in mm) |
|------------|---------------|
| G | 0.65 |
| X | 1.05 |
| X1 | 2.40 |
| X2 | 4.10 |
| Y | 1.50 |
| Y1 | 1.50 |

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