



**THE DATASHEET OF
SDM1U60P1-7**



Product Summary

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

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)**

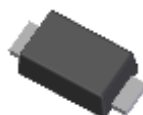
Applications

- Bridge Diodes
- Blocking Diodes
- Reverse Protection Diodes

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



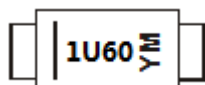
Top View

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
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.

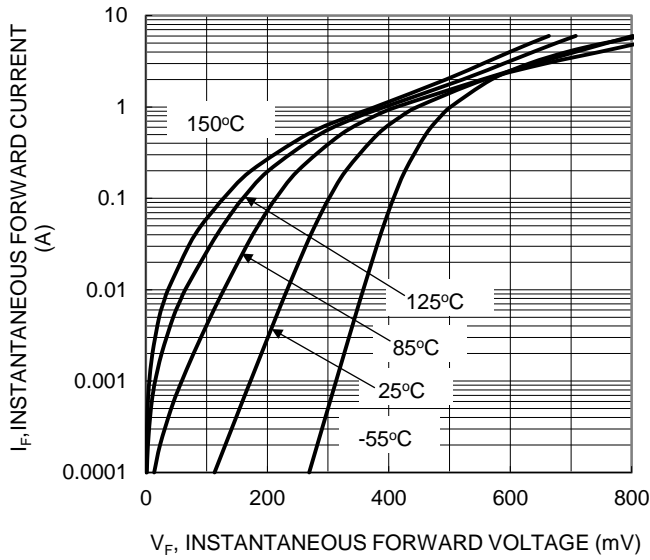


Figure 1. Typical Forward Characteristics

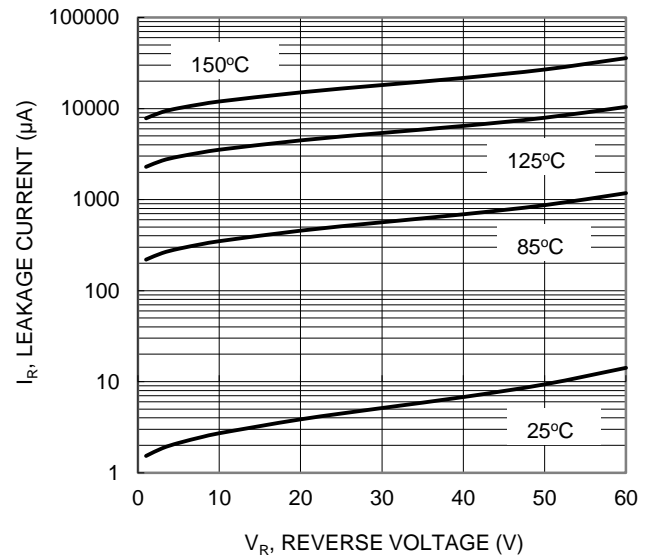


Figure 2. Typical Reverse Characteristics

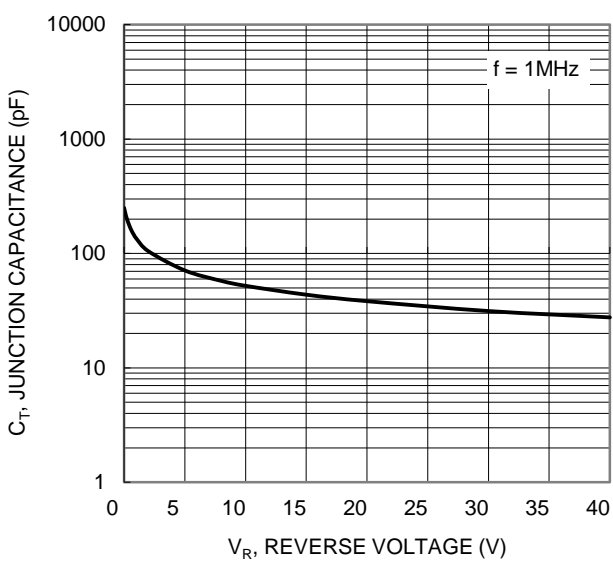


Figure 3. Typical Junction Capacitance

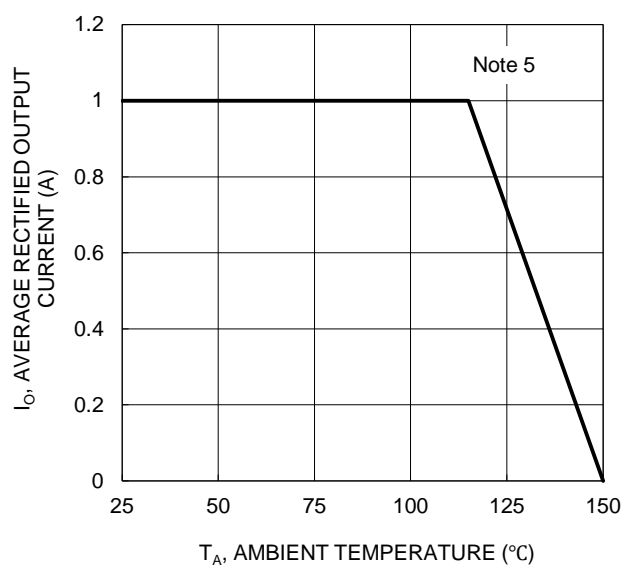
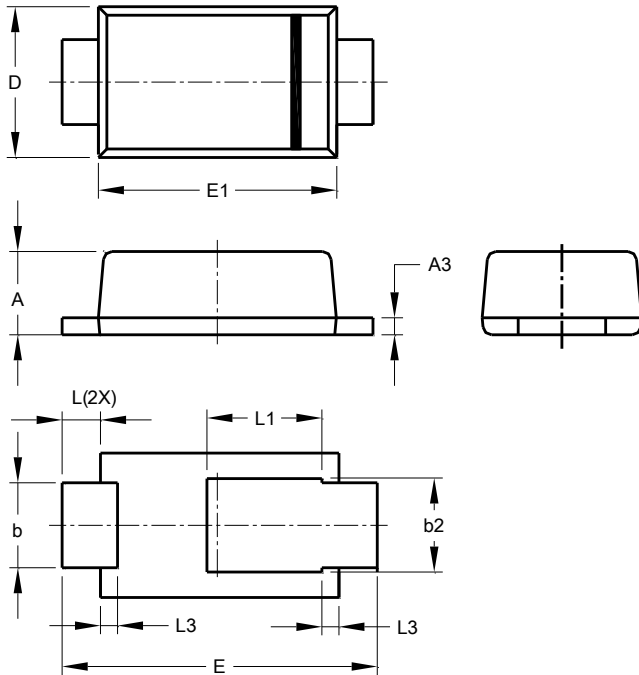


Figure 4. DC Forward Current Derating

Package Outline Dimensions

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

PowerDI123

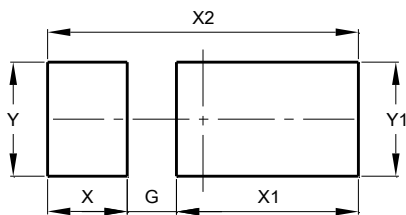


PowerDI123			
Dim	Min	Max	Typ
A	0.93	1.00	0.98
A3	0.15	0.25	0.20
b	0.85	1.25	1.00
b2	1.025	1.125	1.10
D	1.63	1.93	1.78
E	3.50	3.90	3.70
E1	2.60	3.00	2.80
L	0.40	0.50	0.45
L1	1.25	1.40	1.35
L3	0.125	0.275	0.20
All Dimensions in mm			

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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