NEW PRODUCT

DFLR1800

1.0A SURFACE MOUNT GLASS PASSIVATED RECTIFIER
PowerDI®123

Features

- Ideally Suited for Automated Assembly
- **Green Molding Compound (No Br, Sb)**
- **Lead Free Finish, RoHS Compliant (Note 1)**
- **Qualified to AEC-Q101 Standards for High Reliability**

Mechanical Data

- Case: PowerDI®123
- Case Material: Molded Plastic, "Green" Molding Compound. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminal Connections: Cathode Band
- Terminals: Finish – Matte Tin annealed over Copper leadframe. Solderable per MIL-STD-202, Method 208 e3
- Weight: 0.01 grams (approximate)

Top View

Ordering Information (Note 2)

Part Number	Marking Code	Case	Packaging
DFLR1800-7	F18 or F18	PowerDI®123	3000/Tape & Reel

Notes: 1. EU Directive 2002/95/EC (RoHS). All applicable RoHS exemptions applied, see *EU Directive 2002/95/EC Annex Notes.*
2. For packaging details, go to our website at http://www.diodes.com.

Marking Information

Fxx = Product Type Marking Code
F18 or F18 = DFLR1800
YM = Date Code Marking
Y = Year (ex: X = 2010)
M = Month (ex: 9 = September)

Date Code Key

Year	2010	2011	2012	2013	2014	2015	2016
Code	X	Y	Z	A	B	C	D

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

NEW PRODUCT

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 Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	800	V
Average Rectified Output Current (see figure 4)	I_O	1.0	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I_{FSM}	25	A

Thermal Characteristics

Characteristic	Symbol	Typ	Max	Unit
Thermal Resistance, Junction to Ambient Air (Note 3)	$R_{\theta JA}$	134	—	°C/W
Thermal Resistance, Junction to Soldering Point (Note 4)	$R_{\theta JS}$	—	6	°C/W
Operating and Storage Temperature Range	T_J, T_{STG}	—	-65 to +150	°C

Electrical Characteristics @T_A = 25°C unless otherwise specified

Characteristic	Symbol	Value	Unit
Forward Voltage @ I_F = 1.0A	V_{FM}	1.1	V
Peak Reverse Leakage Current @ T_A = 25°C at Rated DC Blocking Voltage @ T_A = 125°C	I_{RM}	10 150	μA
Typical Total Capacitance (f = 1MHz, V_R = 4.0VDC)	C_T	10	pF

Notes: 3. Device mounted on 1" x 1", FR-4 PCB; 2 oz. Cu pad layout as shown on Diodes Inc. suggested pad layout document AP02001.pdf. T_A = 25°C
4. Theoretical $R_{\theta JS}$ calculated from the top center of the die straight down to the PCB/cathode tab solder junction.

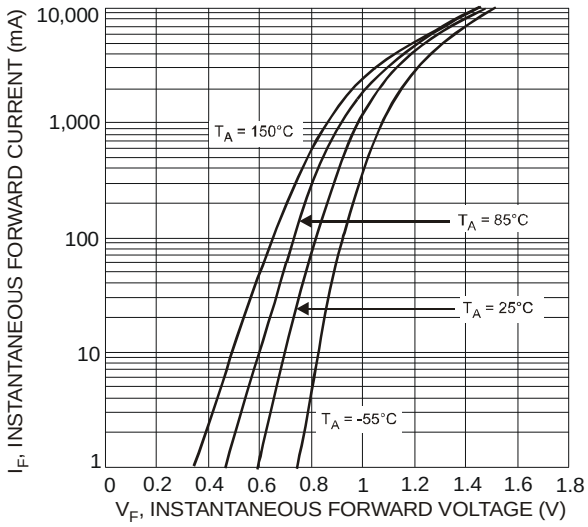


Fig. 1 Typical Forward Characteristics

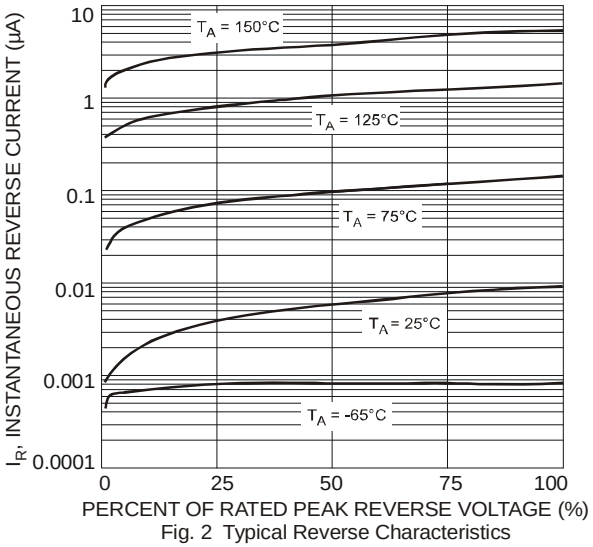


Fig. 2 Typical Reverse Characteristics

NEW PRODUCT

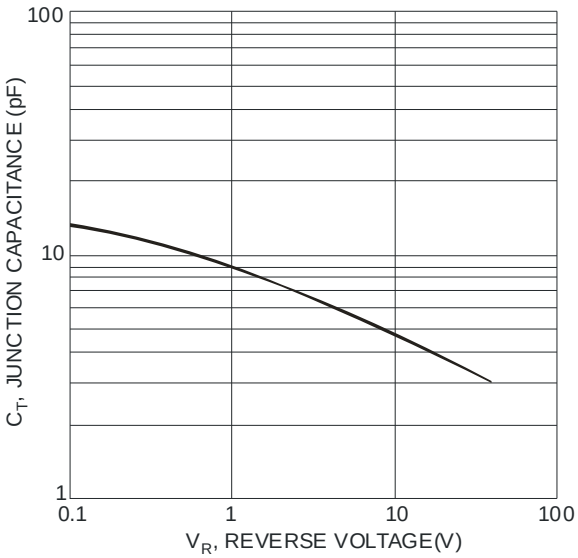


Fig 3. Typical Junction Capacitance

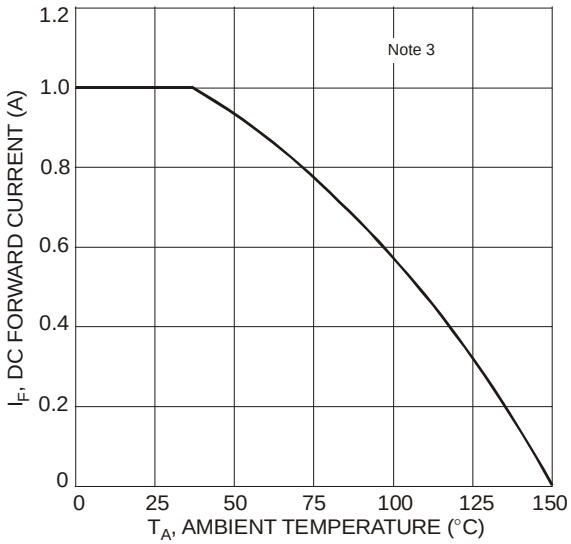


Fig. 4 DC Forward Current Derating

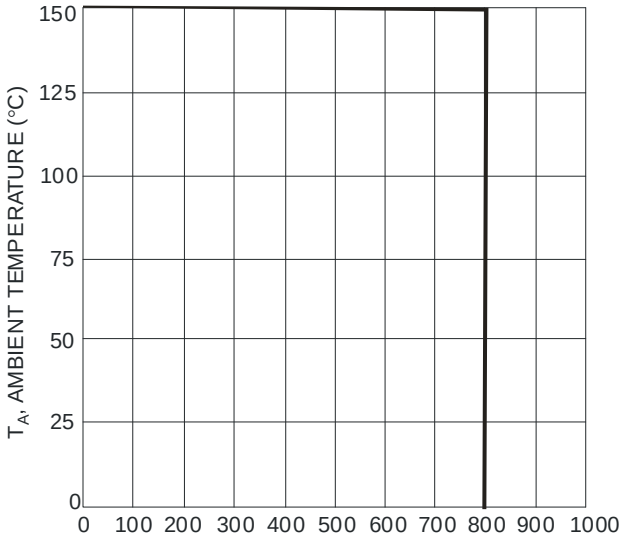


Fig. 5 V_R vs. T_A

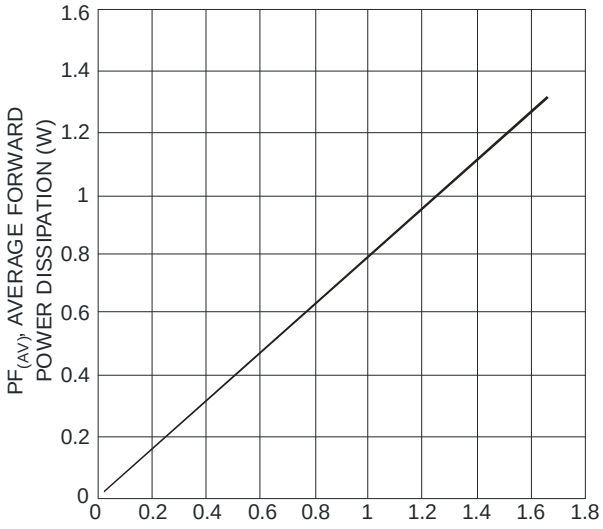
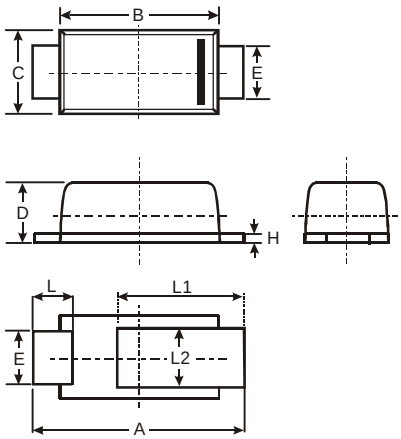


Fig 6. Forward Power Dissipation

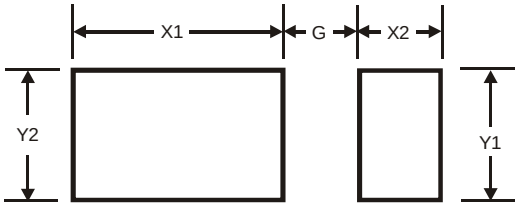
Package Outline Dimensions



PowerDI®123			
Dim	**Min**	**Max**	**Typ**
A	3.50	3.90	3.70
B	2.60	3.00	2.80
C	1.63	1.93	1.78
D	0.93	1.00	0.98
E	0.85	1.25	1.00
H	0.15	0.25	0.20
L	0.55	0.75	0.65
L1	1.80	2.20	2.00
L2	0.95	1.25	1.10
All Dimensions in mm			

NEW PRODUCT

Suggested Pad Layout



Dimensions	Value (in mm)
G	1.0
X1	2.2
X2	0.9
Y1	1.4
Y2	1.4

PowerDI is a registered trademark of Diodes Incorporated.