SPICE MODELS: DFLR1200 DFLR1400

DIODES
INCORPORATED

DFLR1200 / DFLR1400

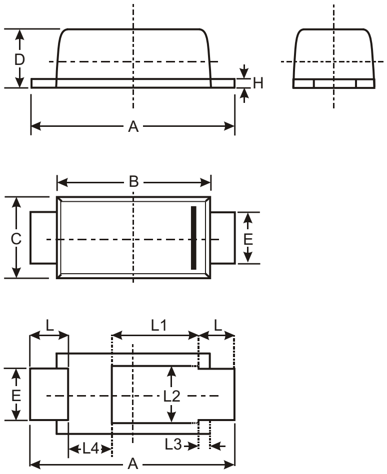
1.0A SURFACE MOUNT GLASS PASSIVATED RECTIFIER

PowerDI 123

NEW PRODUCT

Features

- **Qualified to AEC-Q101 Standards for High Reliability**
- Ideally Suited for Automated Assembly
- **Green Molding Compound (No Br, Sb)**
- **Lead Free Finish, RoHS Compliant (Note 2)**



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	0.45	0.85	0.65
L1	—	—	1.35
L2	—	—	1.10
L3	—	—	0.20
L4	0.90	1.30	1.05
All Dimensions in mm			

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-020C
- Terminal Connections: Cathode Band
- Terminals: Finish – Matte Tin annealed over Copper leadframe. Solderable per MIL-STD-202, Method 208 ⓔ3
- Marking & Type Code Information: See Last Page
- Ordering Information: See Last Page
- Weight: 0.01 grams (approx.)

Maximum Ratings and Electrical Characteristics

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	DFLR1200	DFLR1400	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	200	400	V
RMS Reverse Voltage	$V_{R(RMS)}$	140	280	V
Average Rectified Output Current	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
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}	3.0 100		A
Typical Total Capacitance (f = 1MHz, V_R = 4.0VDC)	C_T	10		pF
Operating and Storage Temperature Range	T_j, T_{STG}	-65 to +150		C

Thermal Characteristics

@ T_A = 25 C unless otherwise specified

Characteristic	Symbol	Typ	Max	Unit
Thermal Resistance, Junction to Ambient Air (Note 1)	R_{JA}	134		°C/W
Thermal Resistance, Junction to Soldering Point (Note 3)	R_{JS}		6	°C/W

Notes:
1. 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.
2. RoHS revision 13.2.2003. Glass and High Temperature Solder Exemptions Applied, see *EU Directive Annex Notes 5 and 7*.
3. Theoretical R_{JS} calculated from the top center of the die straight down to the PCB/cathode tab solder junction.

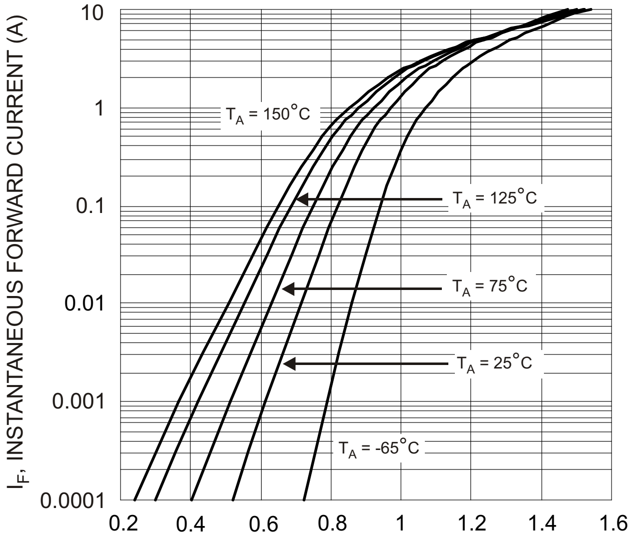


Fig. 1 Typical Forward Characteristics

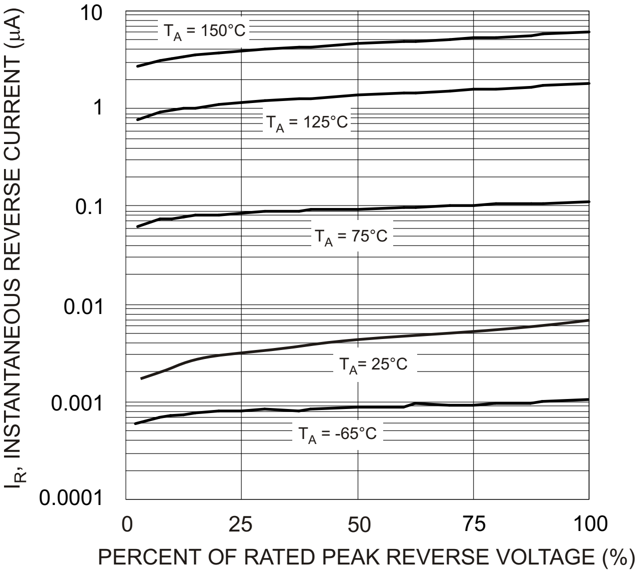


Fig. 2 Typical Reverse Characteristics

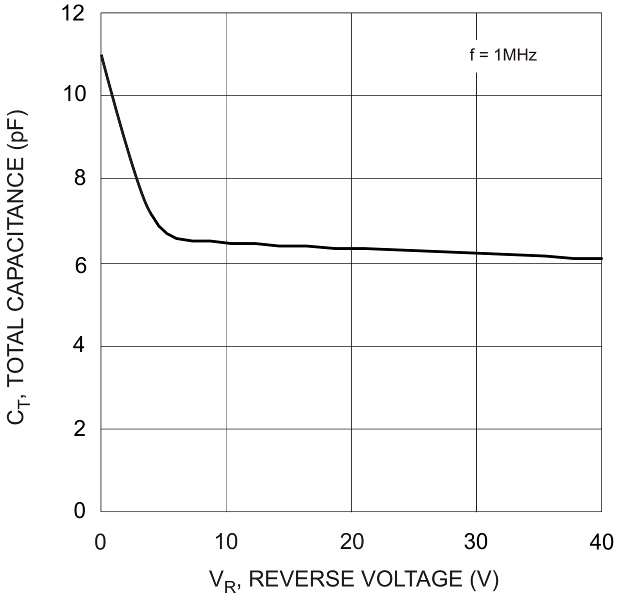


Fig. 3 Typical Total Capacitance

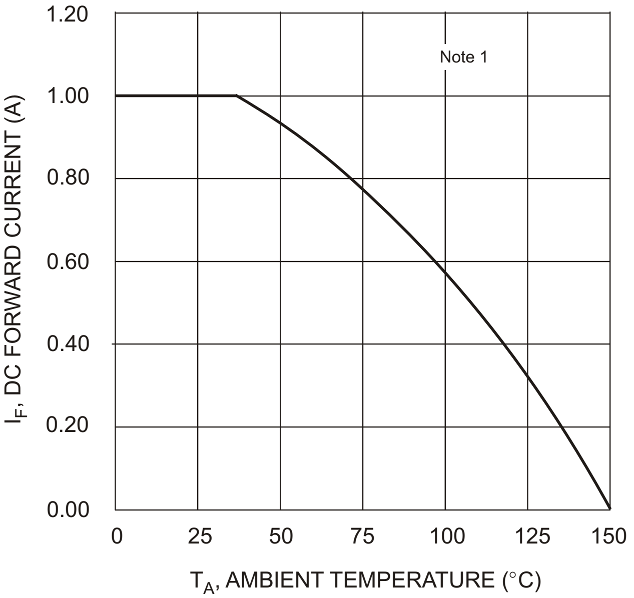


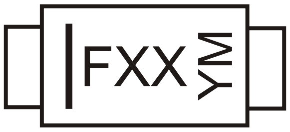
Fig. 4 DC Forward Current Derating

Ordering Information (Note 4)

Device	Marking Code	Packaging	Shipping
DFLR1200-7	F12	PowerDI 123	3000/Tape & Reel
DFLR1400-7	F14	PowerDI 123	3000/Tape & Reel

Notes: 4. For Packaging Details, go to our website at http://www.diodes.com/datasheets/ap02007.pdf.

Marking Information



FXX = Product Type Marking Code (See Table Above)
YM = Date Code Marking
Y = Year (ex: S = 2005)
M = Month (ex: 9 = September)

Date Code Key

Year	2005	2006	2007	2008	2009
Code	S	T	U	V	W

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