

DFLR1200 / DFLR1400 / DFLR1600



1.0A SURFACE MOUNT GLASS PASSIVATED RECTIFIER
PowerDI™ 123

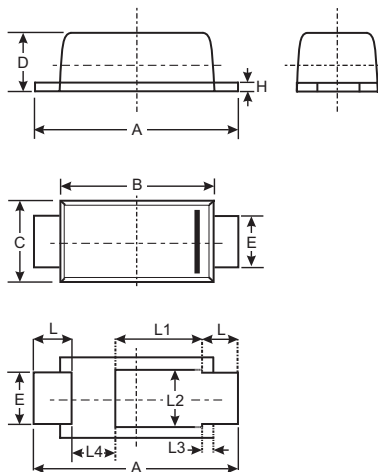
NEW PRODUCT

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)

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 (E3)
- Marking & Type Code Information: See Last Page
- Ordering Information: See Last Page
- Weight: 0.01 grams (approx.)



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			

Maximum Ratings and Electrical Characteristics $T_A = 25^\circ\text{C}$ unless otherwise specified

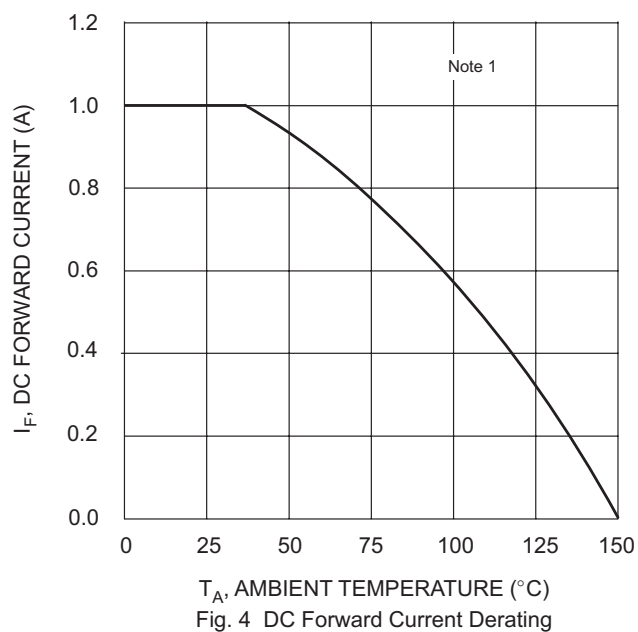
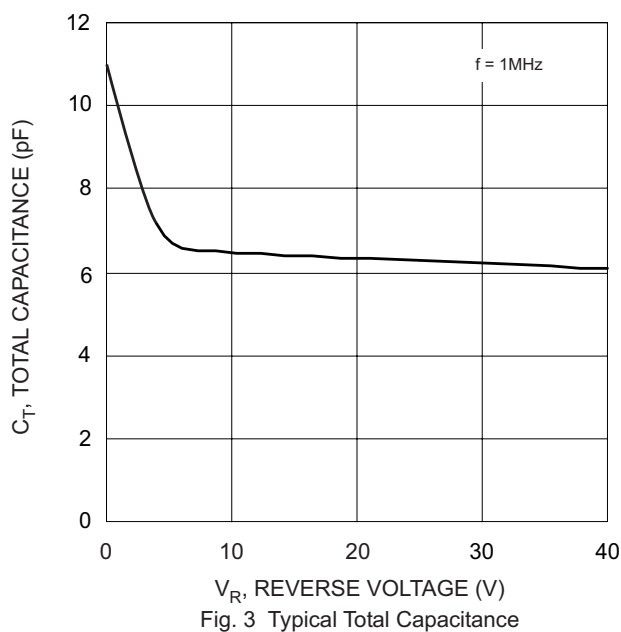
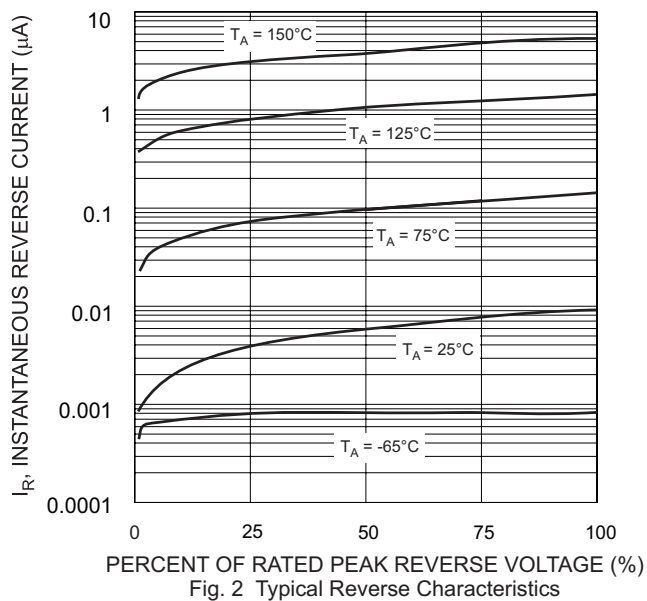
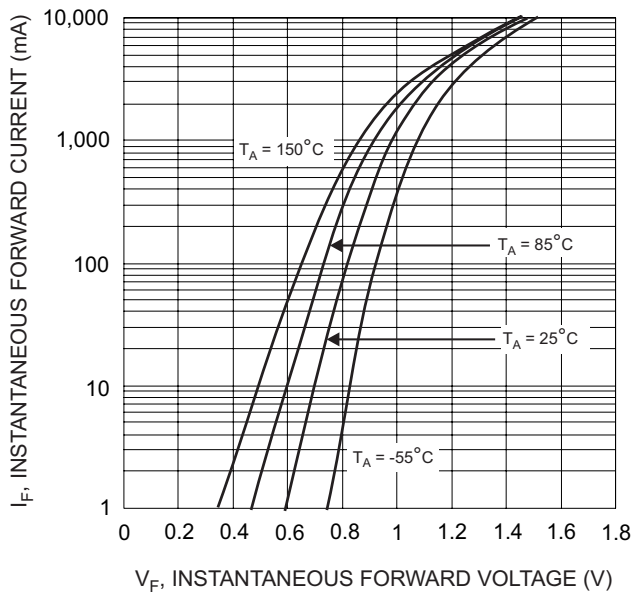
Single phase, half wave, 60Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

Characteristic	Symbol	DFLR1200	DFLR1400	DFLR1600	Unit
Peak Repetitive Reverse Voltage	V_{RRM}	200	400	600	V
Working Peak Reverse Voltage	V_{RWM}				
DC Blocking Voltage	V_R				
RMS Reverse Voltage	$V_{R(RMS)}$	140	280	420	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
Forward Voltage @ $I_F = 1.0\text{A}$	V_{FM}	1.1			V
Peak Reverse Leakage Current @ $T_A = 25^\circ\text{C}$ at Rated DC Blocking Voltage @ $T_A = 125^\circ\text{C}$	I_{RM}	3.0 100			μA
Typical Total Capacitance ($f = 1\text{MHz}$, $V_R = 4.0\text{VDC}$)	C_T	10			pF
Operating and Storage Temperature Range	T_j, T_{STG}	-65 to +150			$^\circ\text{C}$

Thermal Characteristics

Characteristic	Symbol	Typ	Max	Unit
Thermal Resistance, Junction to Ambient Air (Note 1)	$R_{\theta JA}$	134	—	$^\circ\text{C/W}$
Thermal Resistance, Junction to Soldering Point (Note 3)	$R_{\theta JS}$	—	6	$^\circ\text{C/W}$

- 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 $R_{\theta JS}$ calculated from the top center of the die straight down to the PCB/cathode tab solder junction.

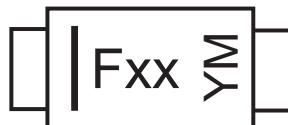


Ordering Information (Note 4)

Device	Marking Code	Packaging	Shipping
DFLR1200-7	F12	PowerDI™123	3000/Tape & Reel
DFLR1400-7	F14	PowerDI™123	3000/Tape & Reel
DFLR1600-7	F18	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

IMPORTANT NOTICE

Diodes, Inc. and its subsidiaries reserve the right to make changes without further notice to any product herein to make corrections, modifications, enhancements, improvements, or other changes. Diodes, Inc. does not assume any liability arising out of the application or use of any product described herein; neither does it convey any license under its patent rights, nor the rights of others. The user of products in such applications shall assume all risks of such use and will agree to hold Diodes Incorporated and all the companies whose products are represented on our website, harmless against all damages.

LIFE SUPPORT

The products located on our website at www.diodes.com are not recommended for use in life support systems where a failure or malfunction of the component may directly threaten life or cause injury without the expressed written approval of Diodes Incorporated.