

DFLU1200

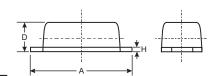
1.0A SURFACE MOUNT SUPER-FAST RECTIFIER PowerDI™ 123

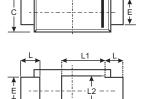
Features

- Glass Passivated Die Construction
- Super-Fast Recovery Time for High Efficiency
- Low Forward Voltage Drop and High Current Capability
- Lead Free Finish, RoHS Compliant (Note 2)
- Green Molding Compound (No Br, Sb)
- 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-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 (approximate)





	PowerDI [™] 123								
Dim	Min	Max	Тур						
Α	3.50	3.90	3.70						
В	2.60	3.00	2.80						
С	1.63	1.93	1.78						
D	0.93	1.00	0.98						
Е	0.85	1.25	1.00						
Н	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	All Dimensions in mm								

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	DFLU1200	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V _{RRM} V _{RWM} V _R	200	V
RMS Reverse Voltage	V _{R(RMS)}	140	V
Average Rectified Output Current	lo	1.0	Α
Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave Superimposed on Rated Load	I _{FSM}	30	Α
Forward Voltage Drop (Note 5) $@ I_F = 0.6A$ $@ I_F = 1.0A$	V _{FM}	0.90 0.98	V
	I _{RM}	5.0 200	μА
Reverse Recovery Time (Note 4)	t _{rr}	25	ns
Typical Total Capacitance (f = 1MHz, V _R = 4VDC)	Ст	27	pF
Operating and Storage Temperature Range	T _j , T _{STG}	-65 to +150	°C

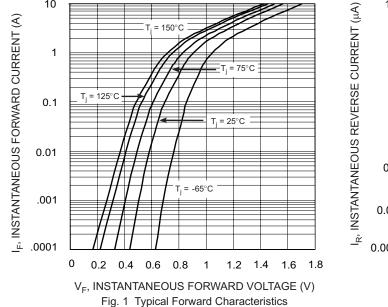
Thermal Characteristics @ TA = 25°C unless otherwise specified

Characteristic	Symbol	Тур	Max	Unit
Power Dissipation (Note 1)	P _D	_	1.0	W
Thermal Resistance Junction to Ambient (Note 1)	R _θ JA	116	_	°C/W
Thermal Resistance Junction to Soldering (Note 3)	R ₀ JS	_	6	°C/W

Notes: 1. Device mounted on 1" x 1", Polymide 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.
- 4. Measured with I_F = 0.5A, I_R = 1.0A, I_{rr} = 0.25A. See figure 5.
- $5. \ \ Short \ duration \ pulse \ test \ to \ minimize \ self-heating \ effect.$





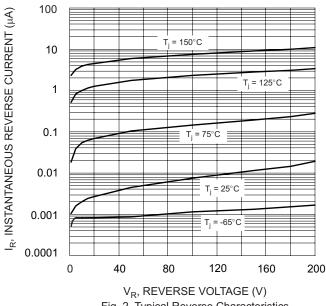
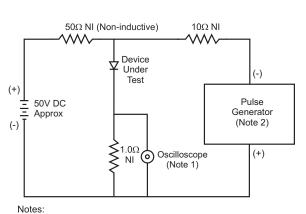
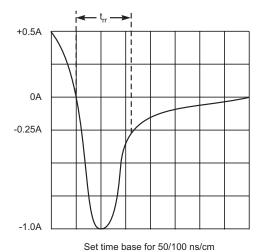


Fig. 2 Typical Reverse Characteristics





- 1. Rise Time = 7.0ns max. Input Impedance = $1.0M\Omega$, 22pF.
- 2. Rise Time = 10ns max. Input Impedance = 50Ω .

Fig. 3 Reverse Recovery Time Characteristic and Test Circuit



Ordering Information (Note 6)

Device	Marking Code	Packaging	Shipping
DFLU1200-7	F15	PowerDI [™] 123	3000/Tape & Reel

Notes: 6. For Packaging Details, go to our website at http://www.diodes.com/datasheets/ap02007.pdf.

Marking Information



F15 = 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	0	N	D

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