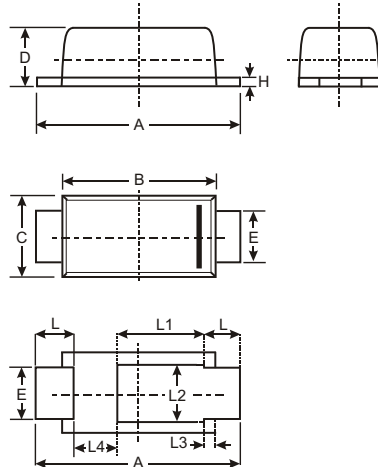


Features

- Guard Ring Die Construction for Transient Protection
- Low Power Loss, High Efficiency
- High Surge Capability
- Lead Free Finish, RoHS Compliant (Note 4)**
- "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 (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 @ $T_A = 25^\circ\text{C}$ unless otherwise specified

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

Characteristic	Symbol	Value	Unit
Peak Repetitive Reverse Voltage	V_{RRM}	200	V
Working Peak Reverse Voltage	V_{RWM}		
DC Blocking Voltage	V_R		
RMS Reverse Voltage	$V_{R(RMS)}$	141	V
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}	40	A
Operating Temperature Range	T_J	-65 to +175	°C
Storage Temperature Range	T_{STG}	-65 to +175	°C

Thermal Characteristics @ $T_A = 25^\circ\text{C}$ unless otherwise specified

Characteristic	Symbol	Typ	Max	Unit
Thermal Resistance Junction to Ambient (Note 1)	R_{JA}	132		C/W
Thermal Resistance Junction to Soldering Point (Note 2)	R_{JS}		7	C/W

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

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 3)	$V_{(BR)R}$	200			V	$I_R = 8\text{ A}$
Forward Voltage	V_F			0.85	V	$I_F = 1.0\text{A}$
Leakage Current (Note 3)	I_R			2	A	$V_R = 200\text{V}, T_A = 25^\circ\text{C}$
Total Capacitance	C_T		23		pF	$V_R = 5\text{VDC}, f = 1\text{MHz}$

- Notes:
- Part mounted on FR-4 board with 2 oz., minimum recommended copper pad layout, which can be found on our website at <http://www.diodes.com/datasheets/ap02001.pdf>.
 - Theoretical R_{JS} calculated from the top center of the die straight down to the PCB/cathode tab solder junction.
 - Short duration pulse test to minimize self-heating effect.
 - RoHS revision 13.2.2003. Glass and High Temperature Solder Exemptions Applied, see *EU Directive Annex Notes 5 and 7*.

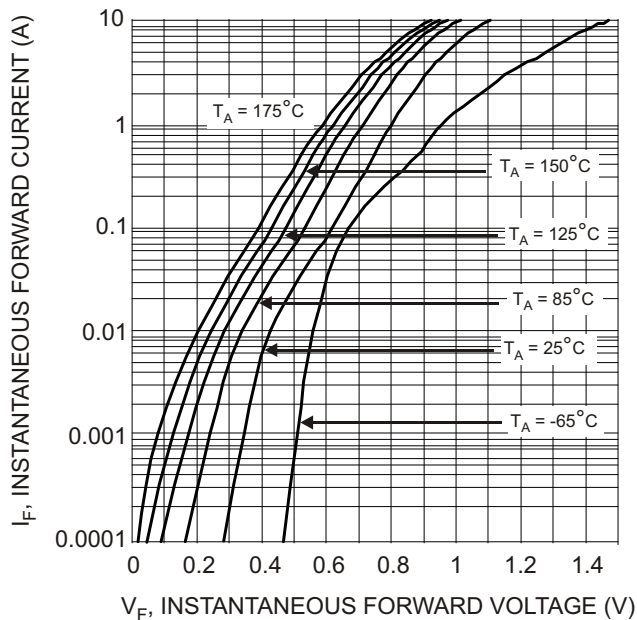


Fig. 1, Typical Forward Characteristics

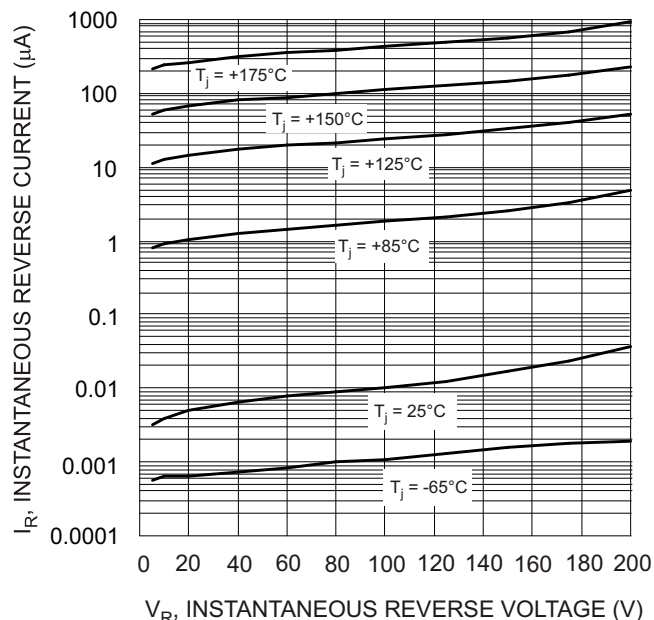


Fig. 2, Typical Reverse Characteristics

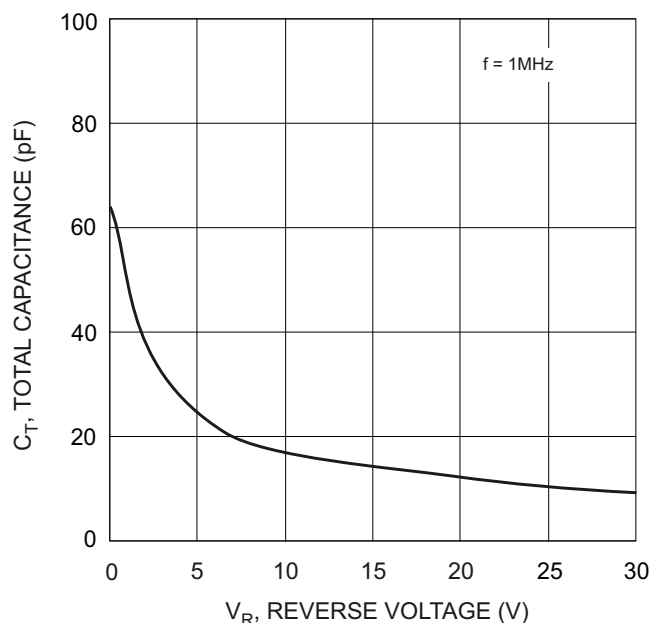


Fig. 3, Typical Total Capacitance vs. Reverse Voltage

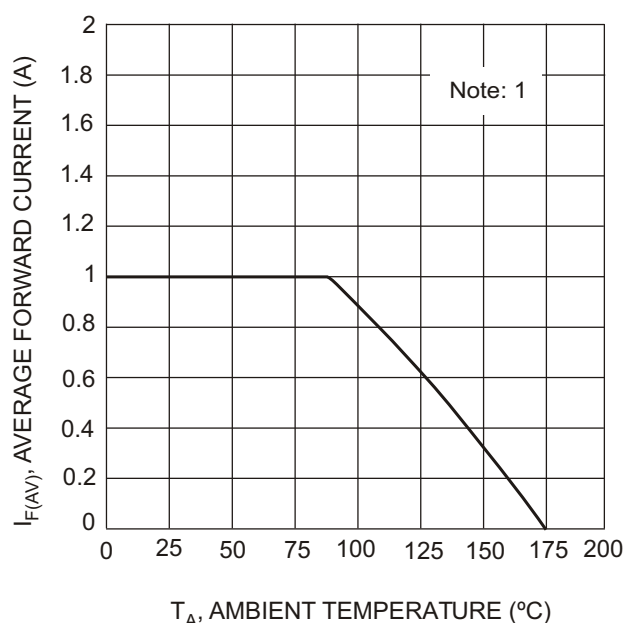


Fig. 4, Forward Current Derating Curve

Ordering Information (Note 5)

Device	Packaging	Shipping
DFLS1200-7	PowerDI 123	3000/Tape & Reel

Notes: 5. For Packaging Details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

Marking Information



F08 = Product Type Marking Code
YM = Date Code Marking
Y = Year (ex: R = 2004)
M = Month (ex: 9 = September)

Date Code Key

Year	2004	2005	2006	2007	2008	2009
Code	R	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