

Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from Europe, America and south Asia, supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts, Customers Priority, Honest Operation, and Considerate Service", our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip, ALPS, ROHM, Xilinx, Pulse, ON, Everlight and Freescale. Main products comprise IC, Modules, Potentiometer, IC Socket, Relay, Connector. Our parts cover such applications as commercial, industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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Features

- Guard Ring Die Construction for Transient Protection
- Low Power Loss, High Efficiency
- Patented Interlocking Clip Design for High Surge Current Capacity
- High Current Capability and Low Forward Voltage Drop
- Lead Free Finish, RoHS Compliant (Note 5)**
- "Green" Molding Compound (No Br, Sb)**

Mechanical Data

- Case: PowerDI®123
- Plastic Material: Molded Plastic, "Green" Molding Compound. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020D
- Terminal Connections: Cathode Band
- Terminals: Finish – Matte Tin Annealed Over Copper leadframe. Solderable per MIL-STD-202, Method 208 (e3)
- Marking Information: See Page 2
- Ordering Information: See Page 2
- Weight: 0.01 grams (approximate)



Top View

Maximum Ratings @ $T_A = 25^\circ\text{C}$ 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	V_{RRM}		
Working Peak Reverse Voltage	V_{RWM}	20	V
DC Blocking Voltage	V_R		
RMS Reverse Voltage	$V_R(\text{RMS})$	14	V
Average Forward Current	$I_{F(\text{AV})}$	2.0	A
Non-Repetitive Peak Forward Surge Current 8.3ms	I_{FSM}	40	A
Single Half Sine-Wave Superimposed on Rated Load			

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 1)	P_D	1.67	W
Power Dissipation (Note 2)	P_D	556	mW
Thermal Resistance Junction to Ambient (Note 1)	$R_{\theta JA}$	60	°C/W
Thermal Resistance Junction to Ambient (Note 2)	$R_{\theta JA}$	180	°C/W
Thermal Resistance Junction to Soldering (Note 3)	$R_{\theta JS}$	10	°C/W
Operating Temperature Range	T_J	-55 to +125	°C
Storage Temperature Range	T_{STG}	-55 to +150	°C

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

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 4)	$V_{(BR)R}$	20	—	—	V	$I_R = 1.0\text{mA}$
Forward Voltage	V_F	—	0.32 0.375	0.36 0.42	V	$I_F = 1.0\text{A}$ $I_F = 2.0\text{A}$
Leakage Current (Note 4)	I_R	—	0.26	—	mA	$V_R = 5\text{V}, T_A = 25^\circ\text{C}$ $V_R = 20\text{V}, T_A = 25^\circ\text{C}$
Total Capacitance	C_T	—	75	—	pF	$V_R = 10\text{V}, f = 1.0\text{MHz}$

Notes:

- Part mounted on 50.8mm X 50.8mm GETEK board with 25.4mm X 25.4mm copper pad, 25% anode, 75% cathode. $T_A = 25^\circ\text{C}$.
- Part mounted on FR-4 board with 1.8mm X 2.5mm cathode and 1.8mm X 1.2mm anode, 1 oz. copper pads. $T_A = 25^\circ\text{C}$.
- Theoretical $R_{\theta JS}$ calculated from the top center of the die straight down to the PCB/cathode tab solder junction.
- Short duration pulse test used to minimize self-heating effect.
- EU Directive 2002/95/EC (RoHS). All applicable RoHS exemptions applied, see EU Directive 2002/95/EC Annex Notes.

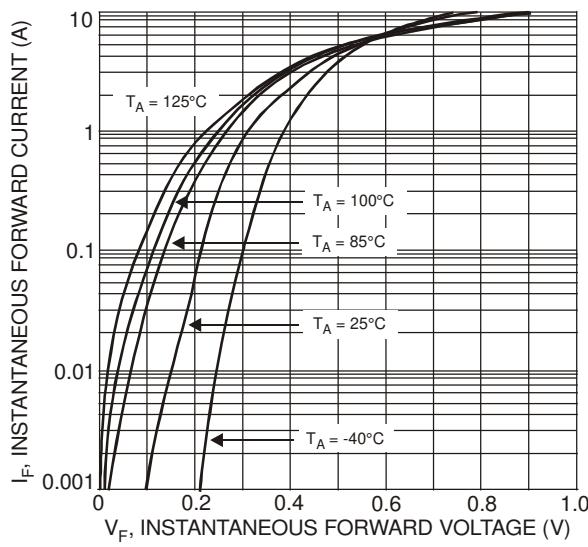


Fig. 1 Typical Forward Characteristics

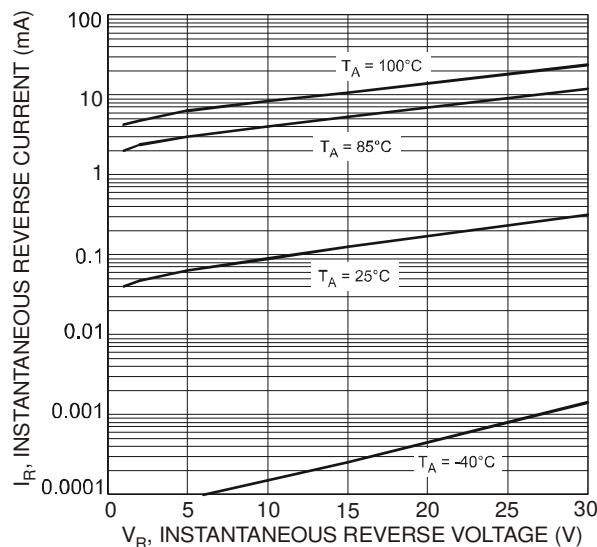


Fig. 2 Typical Reverse Characteristics

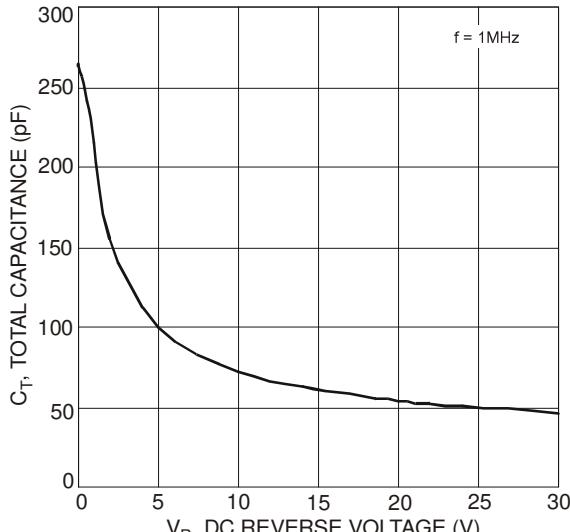


Fig. 3 Total Capacitance vs. Reverse Voltage

Ordering Information (Note 6)

Part Number	Case	Packaging
DFLS220L-7	PowerDI®123	3000/Tape & Reel

Notes: 6. For packaging details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

Marking Information



F02A = Product Type Marking Code
 YM = Date Code Marking
 Y = Year (ex: T = 2006)
 M = Month (ex: 9 = September)

Date Code Key

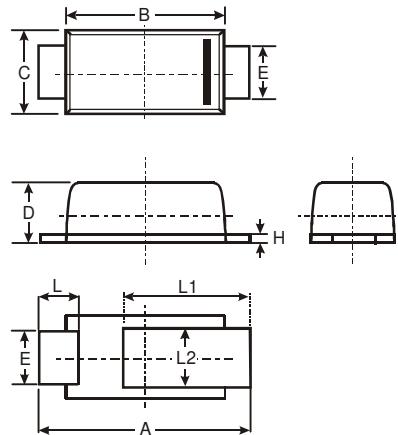
Year	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Code	R	S	T	U	V	W	X	Y	Z	A	B	C
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Code	1	2	3	4	5	6	7	8	9	O	N	D

PowerDI is a registered trademark of Diodes Incorporated.

DFLS220L

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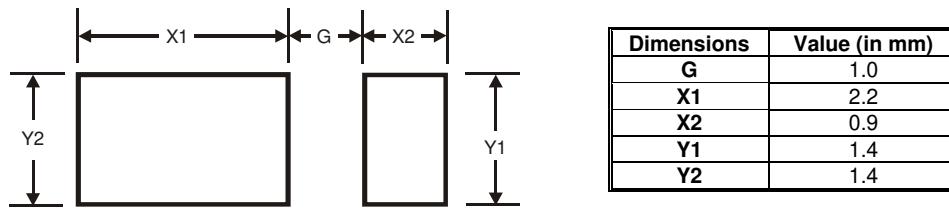
Package Outline Dimensions



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

Suggested Pad Layout



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