DFLS230LH

2.0A HIGH EFFICIENCY SCHOTTKY BARRIER RECTIFIER

POWERDI®123

Features

- Guard Ring Die Construction for Transient Protection
- Low Power Loss, High Efficiency
- Low V_F and Low Leakage Current
- Patented Interlocking Clip Design for High Surge Current Capacity
- **Lead Free Finish, RoHS Compliant (Note 1)**
- **"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-020
- Terminal Connections: Cathode Band
- Terminals: Finish – Matte Tin annealed over Copper Leadframe. Solderable per MIL-STD-202, Method 208 e3
- Weight: 0.01 grams (approximate)

Top View

Ordering Information (Note 2)

Part Number	Case	Packaging
DFLS230LH-7	POWERDI®123	3000/Tape & Reel

Notes: 1. EU Directive 2002/95/EC (RoHS). All applicable RoHS exemptions applied, see EU Directive 2002/95/EC Annex Notes
2. For packaging details, go to our website at http://www.diodes.com.

Marking Information

F03H = Product Type Marking Code
YM = Date Code Marking
Y = Year (ex: T = 2006)
M = Month (ex: 9 = September)

Date Code Key

Year	2005	2006	2007	2008	2009	2010	2011	2012
Code	S	T	U	V	W	X	Y	Z

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

Maximum Ratings @T_A = 25°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 Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	30	V
RMS Reverse Voltage	$V_{R(RMS)}$	21	V
Average Forward Current	$I_{F(AV)}$	2.0	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I_{FSM}	75	A

Thermal Characteristics

Characteristic	Symbol	Typ	Max	Unit
Thermal Resistance Junction to Soldering Point (Note 3)	$R_{\theta JS}$	—	6	°C/W
Operating Temperature Range	T_J	-65 to +150		°C
Storage Temperature Range	T_{STG}	-65 to +150		°C

Electrical Characteristics @T_A = 25°C unless otherwise specified

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 4)	$V_{(BR)R}$	30	—	—	V	I_R = 200μA
Forward Voltage	V_F	— —	— —	0.45 0.375	V	I_F = 2A, T_J = 25°C I_F = 2A, T_J = 125°C
Leakage Current (Note 4)	I_R	— —	— 6	0.200 15	mA	V_R = 30V, T_J = 25°C V_R = 30V, T_J = 100°C
Total Capacitance	C_T	—	85	—	pF	V_R = 10V, f = 1.0MHz

Notes: 3. Theoretical $R_{\theta JS}$ calculated from the top center of the die straight down to the PCB/cathode tab solder junction.
4. Short duration pulse test used to minimize self-heating effect.
5. 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.
T_A = 25°C

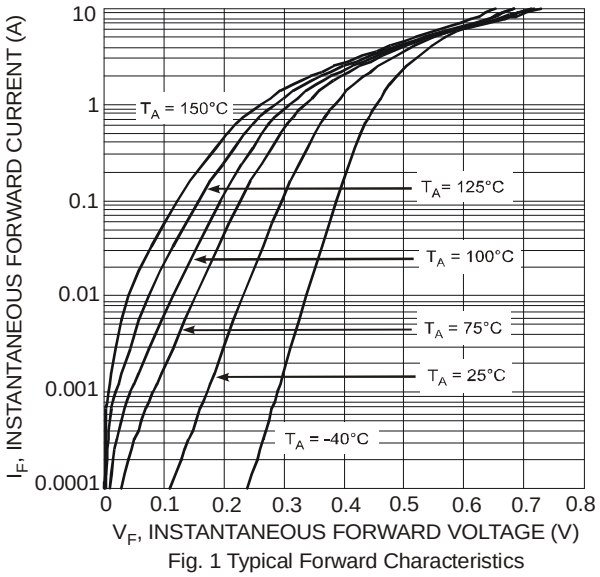

Fig. 1 Typical Forward Characteristics

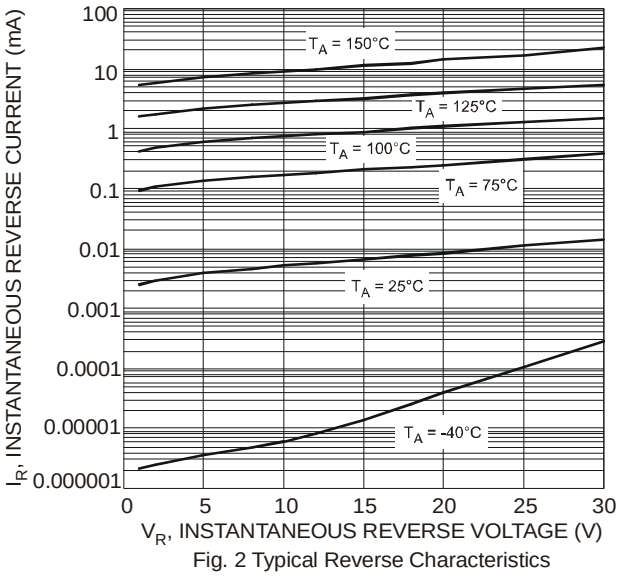

Fig. 2 Typical Reverse Characteristics

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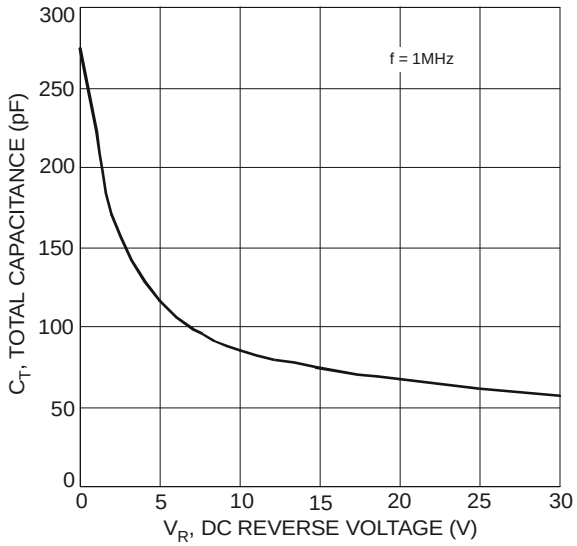


Fig. 3 Total Capacitance vs. Reverse Voltage

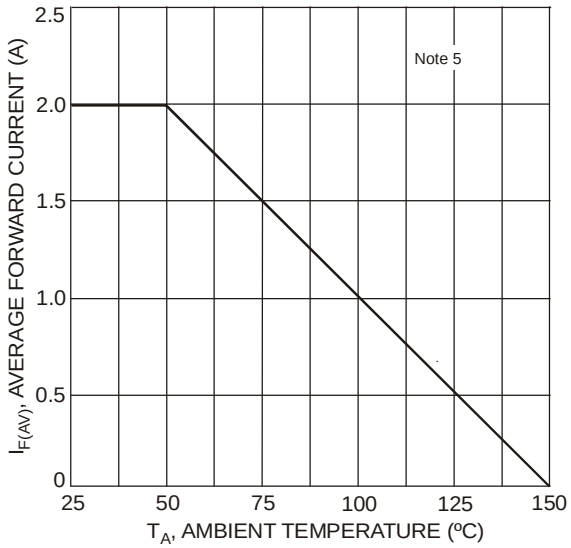
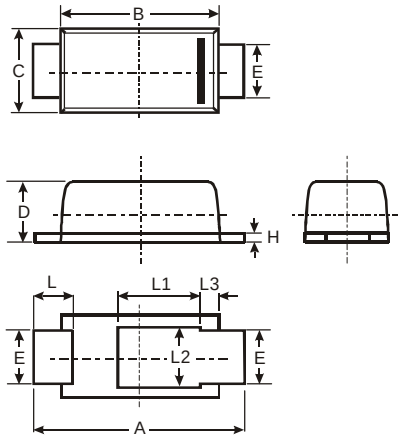


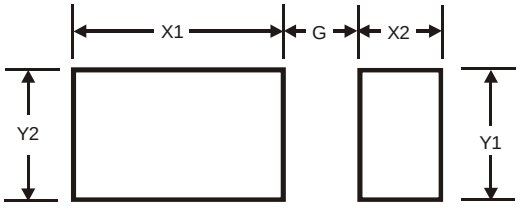
Fig. 4 Forward Current Derating Curve

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	0.40	0.50	0.45
L1	-	-	1.35
L2	-	-	1.10
L3	-	-	0.20
All Dimensions in mm			

Suggested Pad Layout



Dimensions	Value (in mm)
G	1.0
X1	2.2
X2	0.9
Y1	1.4
Y2	1.4

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