NEW PRODUCT

DFLS240L

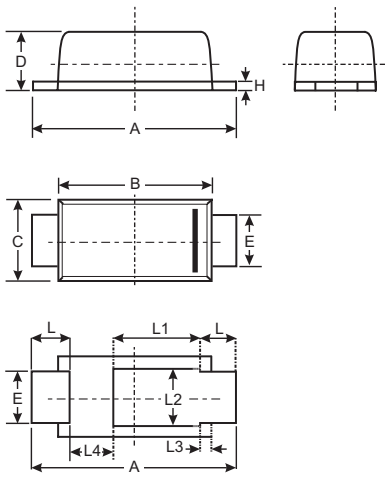
2.0A LOW VF SCHOTTKY BARRIER RECTIFIER
PowerDI™123

Features

- Guard Ring Die Construction for Transient Protection
- Low Power Loss, High Efficiency
- High Surge Capability
- High Current Capability and Low Forward Voltage Drop
- **Lead Free Finish, RoHS Compliant (Note 5)**
- **"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
- Weight: 0.01 grams (approx.)
- Ordering Information: See Last Page



PowerDI™123			
Dim	**Min**	**Max**	**Typ**
A	3.65	3.75	3.70
B	2.775	2.825	2.80
C	1.750	1.800	1.775
D	0.955	1.000	0.98
E	0.95	1.05	1.00
H	0.15	0.25	0.20
L	0.60	0.70	0.65
L1	—	—	1.36
L2	—	—	1.10
L3	—	—	0.20
L4	0.95	1.25	1.05
All Dimensions in mm			

Maximum Ratings @ 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	Value	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	40	V
RMS Reverse Voltage	$V_{R(RMS)}$	28	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}	50	A

Thermal Characteristics

Characteristic	Symbol	Typ	Max	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)	$R_{\theta JS}$	—	5	°C/W
Operating Temperature Range (See figure 4)	T_j	-55 to +125		°C
Storage Temperature Range	T_{STG}	-55 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)	$V_{(BR)R}$	40	—	—	V	I_R = 500μA
Forward Voltage	V_F	— — —	0.4 0.45 0.50	0.45 0.50 0.65	V	I_F = 1.0A I_F = 2.0A I_F = 3.0A
Leakage Current (Note 4)	I_R	— — — —	— — — —	0.5 25 0.15 18	mA	V_R = 40V V_R = 40V, T_J = 85°C V_R = 20V V_R = 20V, T_J = 85°C
Total Capacitance	C_T	—	55	—	pF	V_R = 10V, f = 1.0MHz

Notes:
1. Part mounted on 50.8mm X 50.8mm GETEK board with 25.4mm X 25.4mm copper pad, 25% anode, 75% cathode.
2. Part mounted on FR-4 board with 1.8mm X 2.5mm cathode and 1.8mm X 1.2mm anode, 1 oz. copper pads.
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 to minimize self-heating effect.
5. RoHS revision 13.2.2003. Glass and High Temperature Solder Exemptions Applied, see *EU Directive Annex Notes 5 and 7.*

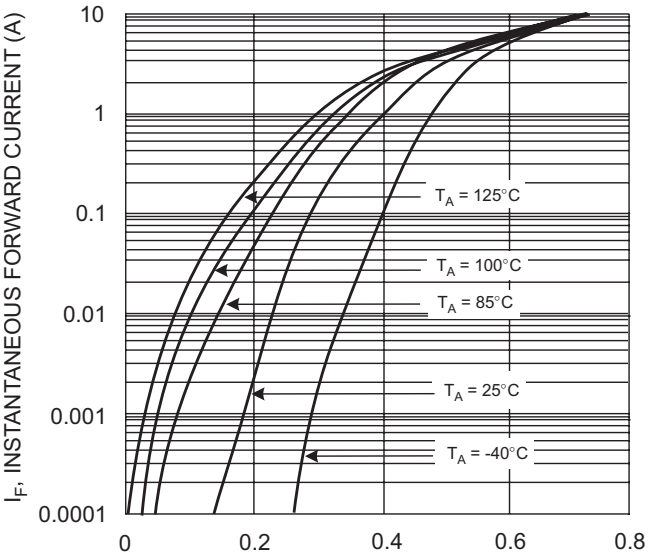


Fig. 1 Typical Forward Characteristics

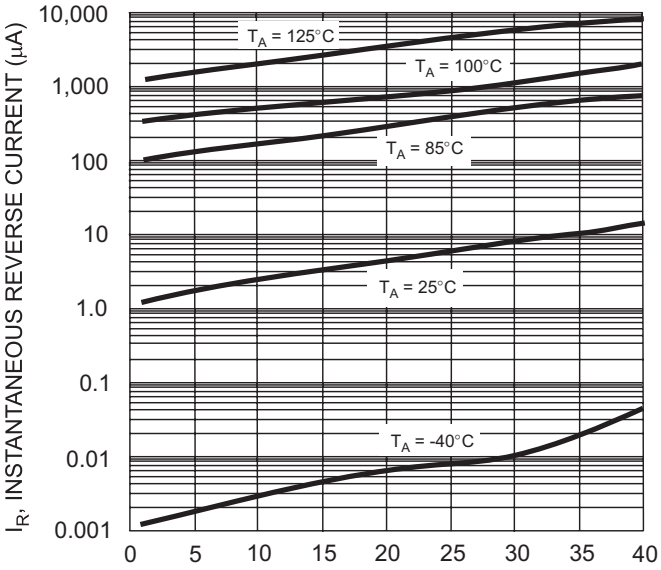


Fig. 2 Typical Pulsed Reverse Characteristics

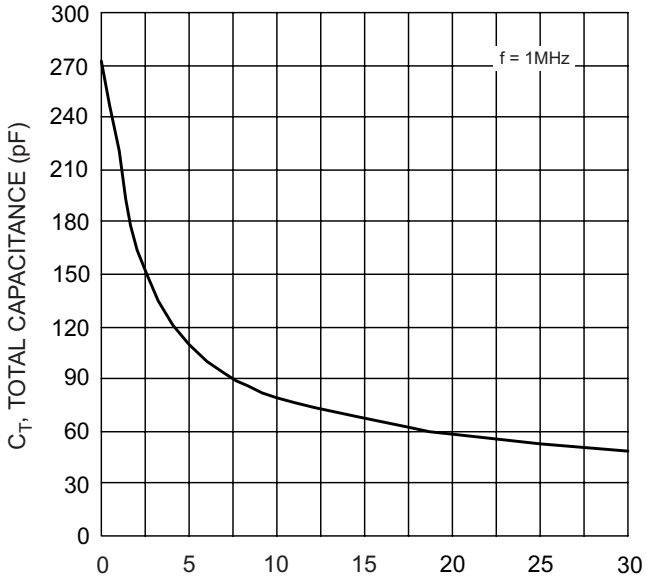


Fig. 3 Typical Total Capacitance vs Reverse Voltage

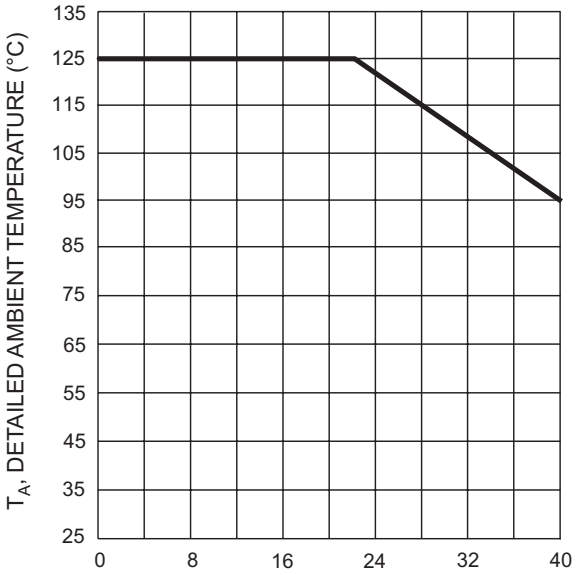


Fig. 4 Operating Temperature Derating

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Ordering Information (Note 6)

Device	Packaging	Shipping
DFLS240L-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

F06A = 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