DFLS160

1.0A SURFACE MOUNT SCHOTTKY BARRIER RECTIFIER

PowerDI®123

Please click here to visit our online spice models database.

Features

- Guard Ring Die Construction for Transient Protection
- Low Power Loss, High Efficiency
- Patented Interlocking Clip Design for High Surge Current Capacity
- **Qualified to AEC-Q101 Standards for High Reliability**
- **Lead Free Finish, RoHS Compliant (Note 4)**
- **Green Molding Compound (No Br, Sb)**

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-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°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	60	V
RMS Reverse Voltage	$V_{R(RMS)}$	42	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}	50	A

Thermal Characteristics

Characteristic	Symbol	Typ	Max	Unit
Thermal Resistance Junction to Soldering Point (Note 2)	$R_{\theta JS}$	—	6	°C/W
Thermal Resistance Junction to Ambient (Note 1)	$R_{\theta JA}$	125	—	°C/W
Operating and Storage Temperature Range	T_J, 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 3)	$V_{(BR)R}$	60	—	—	V	I_R = 0.2mA
Forward Voltage	V_F	—	—	0.50	V	I_F = 1.0A
Leakage Current (Note 3)	I_R	—	—	0.1	mA	V_R = 60V, T_A = 25°C
Total Capacitance	C_T	—	67	—	pF	V_R = 10V, f = 1.0MHz

Notes:
1. 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.
2. Theoretical $R_{\theta JS}$ calculated from the top center of the die straight down to the PCB/cathode tab solder junction.
3. Short duration pulse test to minimize self-heating effect.
4. EU Directive **2002/95/EC** (RoHS). All applicable RoHS exemptions applied, see *EU Directive **2002/95/EC** Annex Notes.*

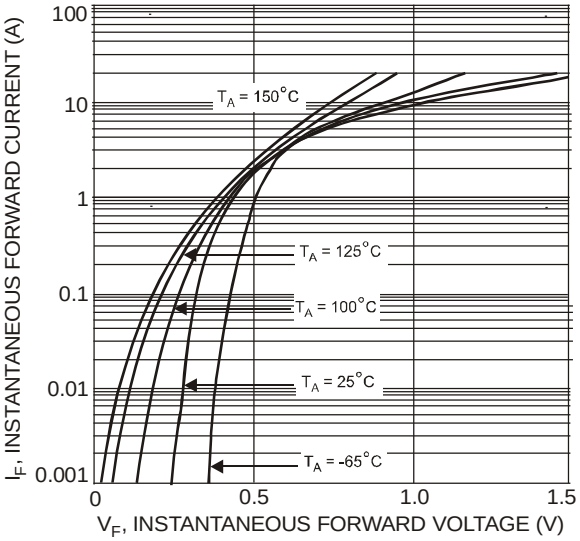


Fig. 1 Typical Forward Characteristics

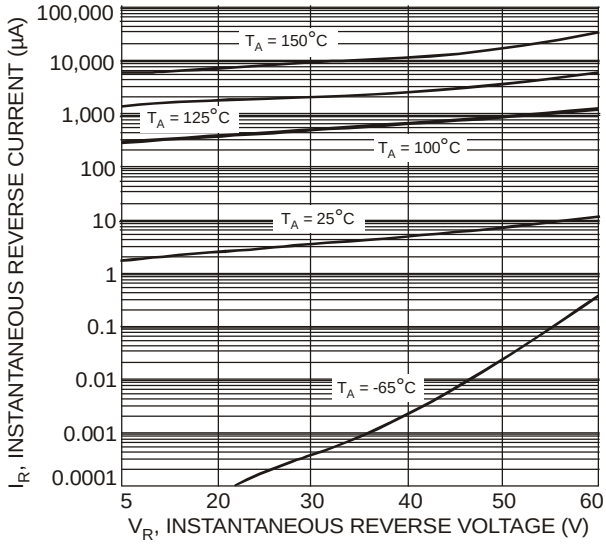


Fig. 2 Typical Reverse Characteristics

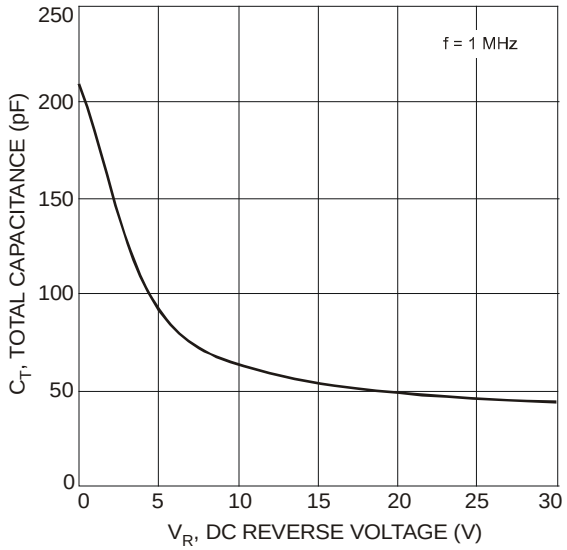


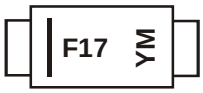
Fig. 3 Total Capacitance vs. Reverse Voltage

Ordering Information (Note 5)

Part Number	Case	Packaging
DFLS160-7	PowerDI®123	3000/Tape & Reel

Notes: 5. For packaging details, go to our website at http://www.diodes.com/datasheets/ap02007.pdf.

Marking Information



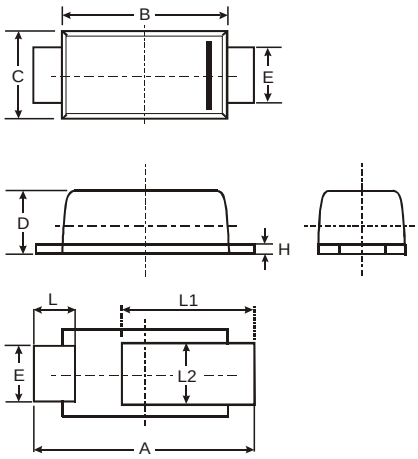
F17 = Product Type Marking Code
YM = Date Code Marking
Y = Year (ex: R = 2004)
M = Month (ex: 9 = September)

Date Code Key

Year	2004	2005	2006	2007	2008	2009	2010	2011	2012
Code	R	S	T	U	V	W	X	Y	Z

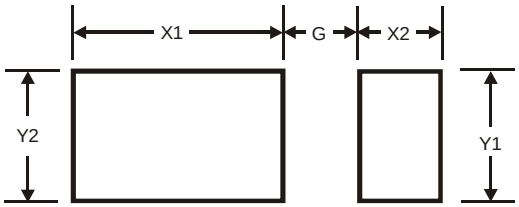
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Code	1	2	3	4	5	6	7	8	9	O	N	D

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



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