



1.0A HIGH VOLTAGE SCHOTTKY BARRIER RECTIFIER

PowerDI123

Product Summary

V _R (V)	I _F (A)	V _{F MAX} (V) @ +25°C	I _{R мах} (mA) @ +25°С
200	1.0	0.85	0.1

Description and Applications

This Schottky Barrier Rectifier is designed to meet the stringent requirements of Automotive Applications. It is ideally suited to use as:

- Polarity Protection Diode
- Re-circulating Diode
- Switching Diode

Features and Benefits

- Guard Ring Die Construction for Transient Protection
- Low Power Loss, High Efficiency
- Patented Interlocking Clip Design for High Surge Current Capacity
- Lead-Free Finish; RoHS Compliant (Notes 1 & 2)
- Halogen and Antimony Free. "Green" Device (Note 3)
- Qualified to AEC-Q101 Standards for High Reliability
- PPAP Capable (Note 4)

Mechanical Data

- Case: PowerDl[®]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 5)

Part Number	Compliance	Case	Packaging
DFLS1200Q-7	Automotive	PowerDI [®] 123	3,000/Tape & Reel

1. EU Directive 2002/95/EC (RoHS) & 2011/65/EU (RoHS 2) compliant. All applicable RoHS exemptions applied.

2. See http://www.diodes.com/quality/lead_free.html for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.

3. Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.

4. Automotive products are AEC-Q101 qualified and are PPAP capable. Refer to http://www.diodes.com/quality/product_compliance_definitions/.

5. For packaging details, go to our website at http://www.diodes.com/products/packages.html.

Marking Information



F08 = Product Type Marking Code YM = Date Code Marking Y = Year (ex: B = 2014) M = Month (ex: 9 = September)

Date	Code	Key
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Notes:

Year	2014	20	015	2016	2017	20	18	2019	2020	20	21	2022
Code	В		С	D	E		=	G	Н			J
Month	Jan	Feb	Mar	Apr	Мау	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Code	1	2	3	4	5	6	7	8	9	0	N	D

PowerDI is a registered trademark of Diodes Incorporated DFLS1200Q Document number: DS37057 Rev. 2 - 2



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} Vr	200	V
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	А

Thermal Characteristics

Characteristic	Symbol	Тур	Мах	Unit
Thermal Resistance Junction to Ambient (Note 6)	R _{0JA}	132		°C/W
Thermal Resistance Junction to Soldering Point (Note 7)	R _{0JS}		7	°C/W
Operating and Storage Temperature Range	T _J , T _{STG}	-55 to	+150	°C

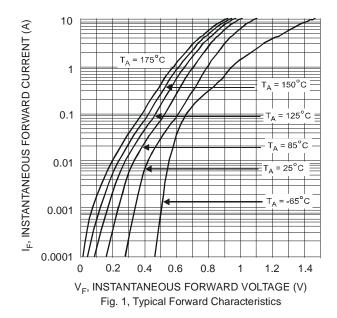
Electrical Characteristics (@T_A = +25°C, unless otherwise specified.)

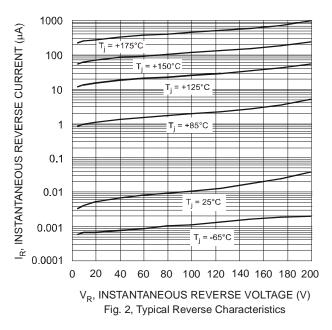
Characteristic	Symbol	Min	Тур	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 8)	V _{(BR)R}	200			V	$I_R = 8\mu A$
Forward Voltage	VF	_	_	0.85	V	I _F = 1.0A
Leakage Current (Note 8)	I _R	_	_	2	μA	V _R = 200V, T _A = +25°C
Total Capacitance	CT	_	23	_	pF	$V_R = 5VDC, f = 1MHz$

Notes: 6. 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. T_A = +25°C.

7. Theoretical R_{BJS} calculated from the top center of the die straight down to the PCB/cathode tab solder junction.

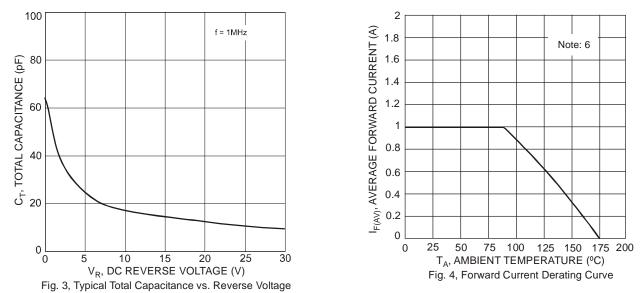
8. Short duration pulse test used to minimize self-heating effect.





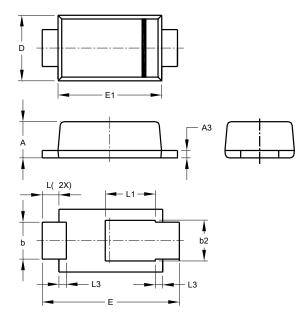


DFLS1200Q



Package Outline Dimensions

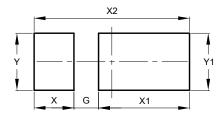
Please see AP02001 at http://www.diodes.com/_files/datasheets/ap02001.pdf for the latest version.



POWERDI [®] 123					
Dim	Min	Max	Тур		
Α	0.93	1.00	0.98		
A3	0.15	0.25	0.20		
b	0.85	1.25	1.00		
b2	1.025	1.125	1.10		
D	1.63	1.93	1.78		
E	3.50	3.90	3.70		
E1	2.60	3.00	2.80		
L	0.40	0.50	0.45		
L1	1.25	1.40	1.35		
L3	0.125	0.275	0.20		
All	Dimensi	ions in r	nm		

Suggested Pad Layout

Please see AP02001 at http://www.diodes.com/_files/datasheets/ap02001.pdf for the latest version.



Dimensions	Value
Dimensions	(in mm)
G	0.65
Х	1.05
X1	2.40
X2	4.10
Y	1.50
Y1	1.50



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