Lead-free Green

ZLLS410

10V LOW LEAKAGE SCHOTTKY DIODE IN SOD323

Features

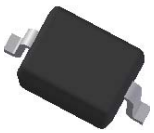
- V_R > 10V
- I_F = 750mA
- I_R typ = 1µA
- Extremely low leakage
- High current capability
- Low V_F, fast switching Schottky
- SOD323 package
- Package thermally rated to 150°C
- **Lead, Halogen, and Antimony Free/RoHS Compliant (Note 1)**
- **"Green" Device (Note 2)**

Mechanical Data

- Case: SOD323
- Case material: Molded Plastic. "Green" Molding Compound.
- UL Flammability Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Matte Tin Finish
- Weight: 0.0049 grams (Approximate)

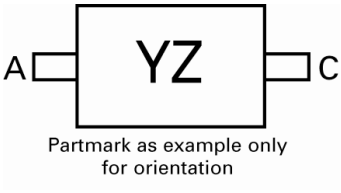
Applications

- Low power DC-DC conversion
- Level shifting
- Reverse blocking



SOD323

Device symbol



Top View
Pin Configuration

Ordering Information

Product	Marking	Reel size (inches)	Tape width (mm)	Quantity per reel
ZLLS410TA	41	7	8mm	3000 units

Notes: 1. No purposefully added lead. Halogen and Antimony Free.
2. Diodes Inc's "Green" Policy can be found on our website at http://www.diodes.com

Marking Information

41 = Product Type Marking Code

Maximum Ratings @T_A = 25°C unless otherwise specified

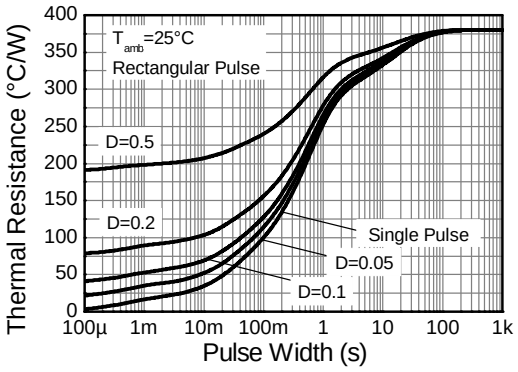
Characteristic	Symbol	Value	Unit
Continuous Reverse Voltage	V_R	10	V
Forward Current	I_F	750	mA
Peak Repetitive Forward Current Rectangular Pulse Duty Cycle 50% 100µs Pulse Width	I_{FPK}	1.35	A
Non Repetitive Forward Current t ≤ 100µs t ≤ 10ms	I_{FSM}	17 4	A A

Thermal Characteristics

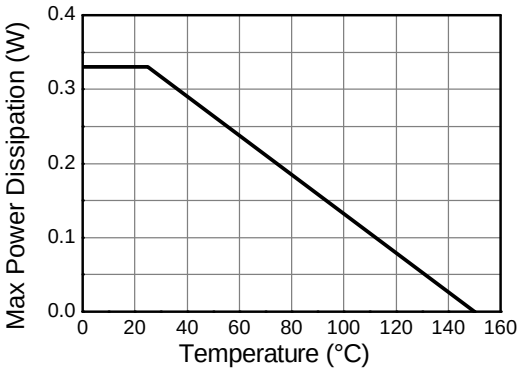
Characteristic	Symbol	Value	Unit
Power Dissipation at T_A = 25°C Single Die Continuous (Note 3) Single Die Measured at t < 5 secs (Note 4)	P_D	 0.33 0.39	 W W
Storage Temperature Range	T_J, T_{stg}	-55 to +150	°C
Junction to Ambient (Note 3)	$R_{\theta JA}$	379	°C/W
Junction to Ambient (Note 4)	$R_{\theta JA}$	317	°C/W

Notes: 3. For a device surface mounted on 25mm x 25mm x 1.6mm FR4 PCB with high coverage of single sided 1oz copper, in still air conditions.
4. For a device surface mounted on FRB PCB measured at t < 5secs.

Thermal Characteristics and Derating information



Transient Thermal Impedance

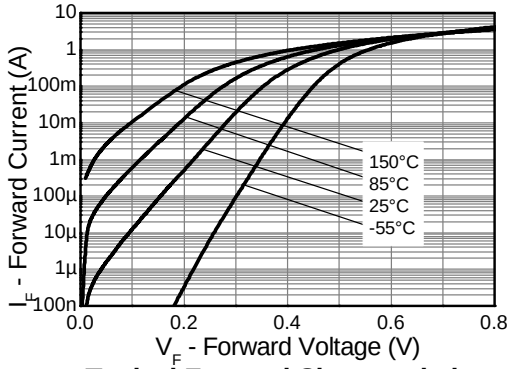


Derating Curve

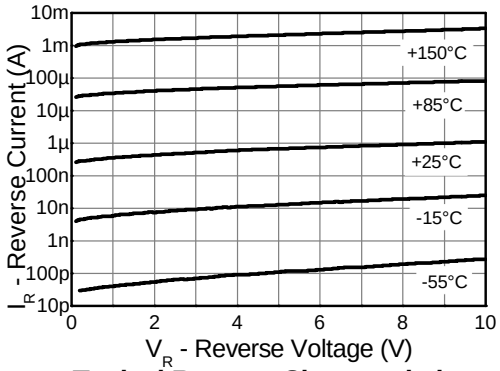
Electrical Characteristics @T_A = 25°C unless otherwise specified

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Breakdown Voltage	$V_{(BR)R}$	10	–	–	V	I_R = 200µA
Forward Voltage (Note 5)	V_F	– – –	285 350 500	300 380 580	mV mV mV	I_F = 10mA I_F = 100mA I_F = 1A
Reverse Current	I_R	– – – –	0.5 0.7 1 –	4 5 6 200	µA µA µA µA	V_R = 5V V_R = 8V V_R = 10V V_R = 8V, T_A = 85°C
Diode Capacitance	C_D	–	37	–	pF	f = 1MHz, V_R = 10V
Reverse Recovery Time Reverse Recovery Charge	t_{rr} Q_{rr}	– –	3 210	– –	ns pC	Switched from I_F = 500mA to V_R = 5.5V Measured @ I_R = 50mA. di/dt = 500mA/ns, R_{source} = 6Ω; R_{load} = 10Ω

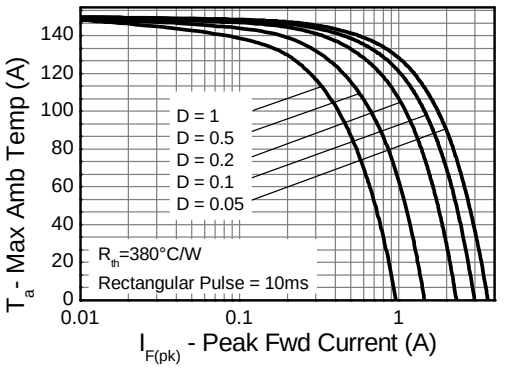
Notes: 5. Measured under pulsed conditions. Pulse width ≤ 300µs. Duty cycle < 2%



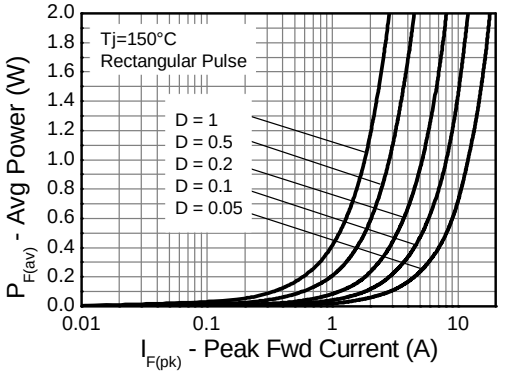
Typical Forward Characteristics



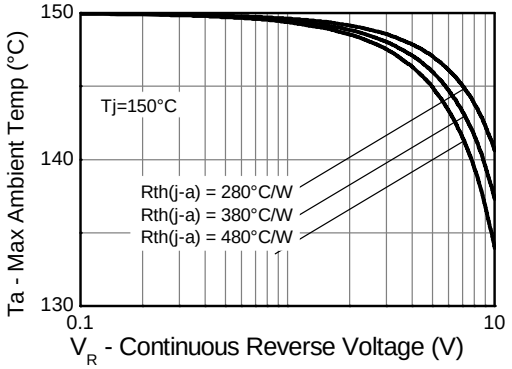
Typical Reverse Characteristics



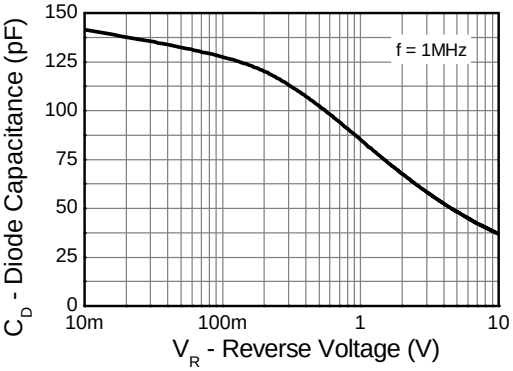
Typical Forward Safe Operating Area



Forward Power vs Peak Current

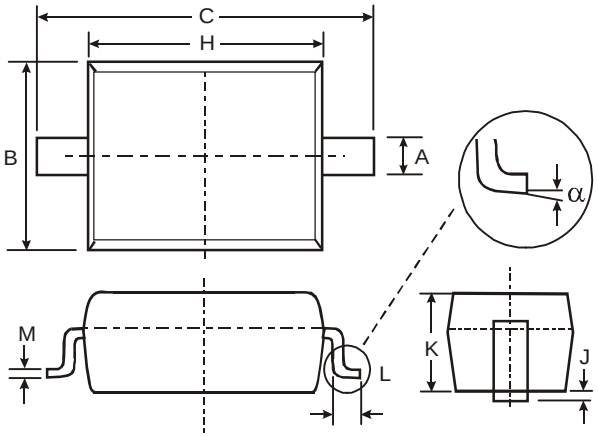


Typical Reverse Safe Operating Area



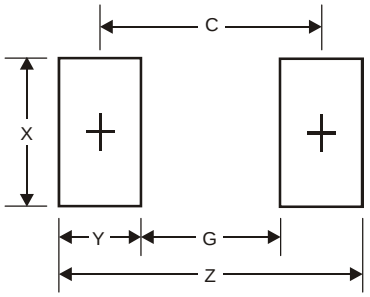
Capacitance vs Reverse Voltage

Package Outline Dimensions



SOD-323		
Dim	**Min**	**Max**
A	0.25	0.35
B	1.20	1.40
C	2.30	2.70
H	1.60	1.80
J	0.00	0.10
K	1.0	1.1
L	0.20	0.40
M	0.10	0.15
α	0°	8°
All Dimensions in mm		

Suggested Pad Layout



Dimensions	Value (in mm)
Z	3.75
G	1.05
X	0.65
Y	1.35
C	2.40

IMPORTANT NOTICE

DIODES INCORPORATED MAKES NO WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, WITH REGARDS TO THIS DOCUMENT, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE (AND THEIR EQUIVALENTS UNDER THE LAWS OF ANY JURISDICTION).

Diodes Incorporated and its subsidiaries reserve the right to make modifications, enhancements, improvements, corrections or other changes without further notice to this document and any product described herein. Diodes Incorporated does not assume any liability arising out of the application or use of this document or any product described herein; neither does Diodes Incorporated convey any license under its patent or trademark rights, nor the rights of others. Any Customer or user of this document or products described herein in such applications shall assume all risks of such use and will agree to hold Diodes Incorporated and all the companies whose products are represented on Diodes Incorporated website, harmless against all damages.

Diodes Incorporated does not warrant or accept any liability whatsoever in respect of any products purchased through unauthorized sales channel. Should Customers purchase or use Diodes Incorporated products for any unintended or unauthorized application, Customers shall indemnify and hold Diodes Incorporated and its representatives harmless against all claims, damages, expenses, and attorney fees arising out of, directly or indirectly, any claim of personal injury or death associated with such unintended or unauthorized application.

Products described herein may be covered by one or more United States, international or foreign patents pending. Product names and markings noted herein may also be covered by one or more United States, international or foreign trademarks.

LIFE SUPPORT

Diodes Incorporated products are specifically not authorized for use as critical components in life support devices or systems without the express written approval of the Chief Executive Officer of Diodes Incorporated. As used herein:

A. Life support devices or systems are devices or systems which:

1. are intended to implant into the body, or

2. support or sustain life and whose failure to perform when properly used in accordance with instructions for use provided in the labeling can be reasonably expected to result in significant injury to the user.

B. A critical component is any component in a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or to affect its safety or effectiveness.

Customers represent that they have all necessary expertise in the safety and regulatory ramifications of their life support devices or systems, and acknowledge and agree that they are solely responsible for all legal, regulatory and safety-related requirements concerning their products and any use of Diodes Incorporated products in such safety-critical, life support devices or systems, notwithstanding any devices- or systems-related information or support that may be provided by Diodes Incorporated. Further, Customers must fully indemnify Diodes Incorporated and its representatives against any damages arising out of the use of Diodes Incorporated products in such safety-critical, life support devices or systems.

www.diodes.com