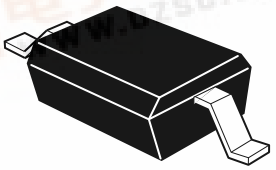
ZLLS410
10V Low leakage Schottky diode in SOD323

Summary

V_R > 10V; I_F = 570mA; I_R typ. 2µA



Description

This compact SOD323 packaged 10 volt Schottky diode offers users an excellent performance combination, comprising high current operation, extremely low leakage and low forward voltage ensuring suitability for low voltage applications requiring efficient operation at higher temperatures above 85°C - see safe operating area charts on page 5.

Features

- Extremely low leakage
- High current capability
- Low V_F, fast switching Schottky
- SOD323 package
- Package thermally rated to 150°C

Applications

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

Ordering information

Device	Reel size (inches)	Tape width (mm)	Quantity per reel
ZLLS410TA	7	8	3000

Device marking

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Absolute maximum ratings

Parameter	Symbol	Limit	Unit
Continuous reverse voltage	V_R	10	V
Forward current	I_F	570	mA
Peak repetitive forward current Rectangular pulse duty cycle 50%, Pulse width = 100µs	I_{FPK}	1.25	A
Non repetitive forward current $t \leq 100\mu s$ $t \leq 10ms$	I_{FSM}	17 4	A
Power dissipation at T_{amb} = 25ºC Continuous $t \leq 5$ secs	P_D	 330 390	 mW mW
Operating and storage temperature range	T_j, T_{stg}	-55 to 150	°C

Thermal resistance

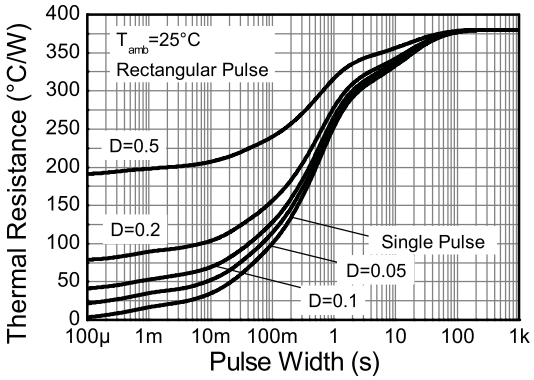
Parameter	Symbol	Limit	Unit
Junction to ambient[a]	$R_{\Theta JA}$	379	°C/W
Junction to ambient[b]	$R_{\Theta JA}$	317	°C/W

NOTES:

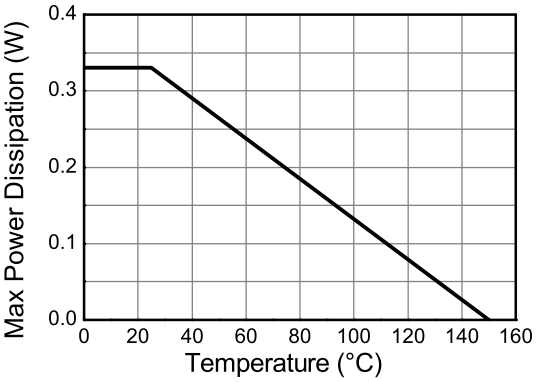
(a) For a device surface mounted on 25mm x 25mm x 1.6mm FR4 PCB with high coverage of single sided 1oz copper, in still air conditions.

(b) For a device surface mounted on FR4 PCB measured at t < 5 secs.

Thermal characteristics



Transient Thermal Impedance



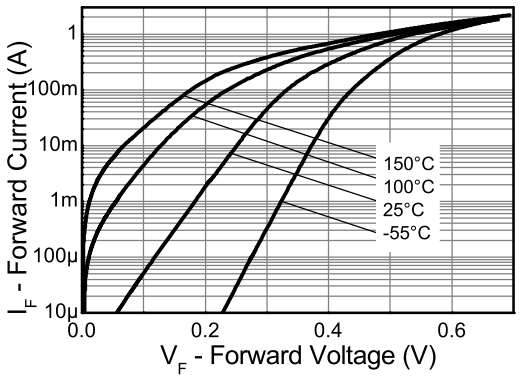
Derating Curve

Electrical characteristics (at T_{amb} = 25°C unless otherwise stated)

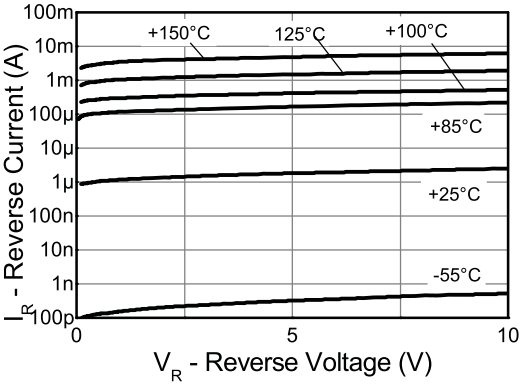
Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Reverse breakdown voltage	$BV_{(BR)R}$	10			V	I_R = 200μA
Forward voltage	V_F		250	290	mV	I_F = 10mA (*)
			330	380	mV	I_F = 100mA(*)
			535	580	mV	I_F = 1A(*)
Reverse current	I_R		1.8	4	μA	V_R = 5V
			2.2	5	μA	V_R = 8V
			2.5	6	μA	V_R = 10V
				300	μA	V_R = 8V, T_A = 85°C
Diode capacitance	C_D		26		pF	f = 1MHz, V_R = 10V
Reverse recovery time	t_{rr}		3		ns	Switched from I_F = 500mA to V_R = 5.5V measured @ I_R 50mA di/dt = 500mA/ns R_{source} = 6Ω< R_{load}= 10Ω
Reverse recovery charge	Q_{rr}		210		pC	

NOTES:
(*) Measured under pulsed conditions. Pulse width ≤300μs; duty cycle ≤2%.

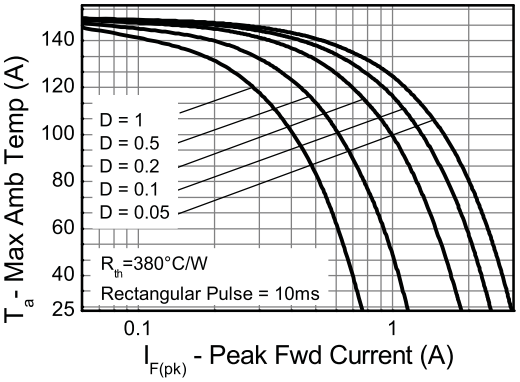
Typical characteristics



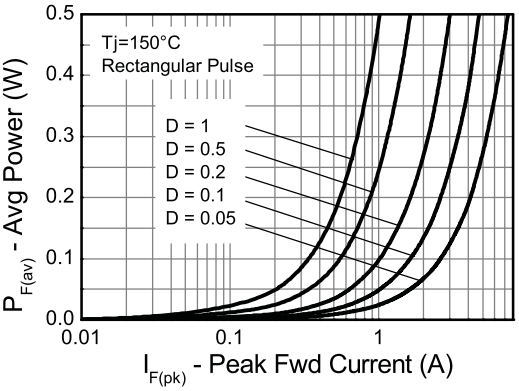
Typical Forward Characteristics



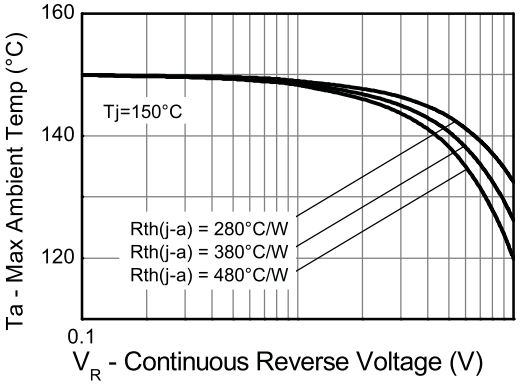
Typical Reverse Characteristics



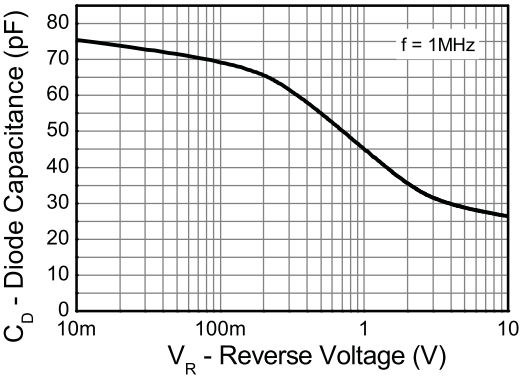
Typical Forward Safe Operating Area



Forward Power vs Peak Current



Typical Reverse Safe Operating Area



Capacitance vs Reverse Voltage

Note:

1. Both forward and reverse dissipation contributes to junction temperature rise. Forward and reverse junction temperature rise are determined and added together to give total junction temperature rise.

2. The safe operating curves are typical examples. Thermal resistance, pulse width and duty cycles are dependant on application.

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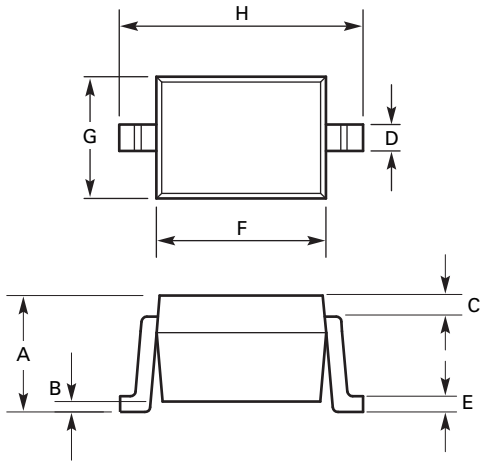
Package outline - SOD323



Top mark

Cathode terminal is to RIGHT HAND side of part mark
Part marking text displayed is for example only

Dim.	Millimeters		Dim.	Millimeters	
	Min.	Max.		Min.	Max.
A	0.91	1.16	E	0.127	0.200
B	0.00	0.10	F	1.52	1.77
C	-	-	G	1.11	1.37
D	0.33	0.40	H	2.46	2.71

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"Obsolete"	Production has been discontinued

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