

ZLLS400

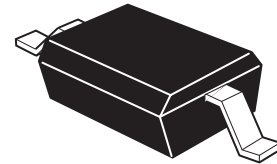
40V SILICON HIGH CURRENT LOW LEAKAGE SCHOTTKY DIODE

SUMMARY

Schottky Diode $V_R = 40V$; $I_F = 0.52A$; $I_R = 10\mu A$

DESCRIPTION

This compact SOD323 packaged Schottky diode offers users an excellent performance combination comprising high current operation, extremely low leakage and low forward voltage ensuring suitability for applications requiring efficient operation at higher temperatures (above 85°C) see Operational efficiency chart on page 4.



SOD323

key benefits:

- Performance capability equivalent to much larger packages
- Improved circuit efficiency and power levels
- PCB area savings

FEATURES

- Low equivalent on resistance
- Extremely low leakage ($10\mu A$ @30V)
- High current capability ($I_F = 0.52A$)
- Low VF, fast switching Schottky
- SOD323 package
- ZLLS400 complements low temperature equivalent ZHCS400
- Package thermally rated to 150°C

APPLICATIONS

- DC - DC converters
- Cellular / mobile phones
- Charging circuits
- Motor control

Cathode



Anode

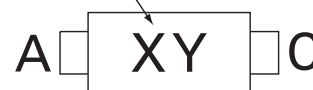
ORDERING INFORMATION

DEVICE	REEL (inches)	TAPE WIDTH (mm)	QUANTITY PER REEL
ZLLS400TA	7	8mm embossed	3000 units
ZLLS400TC	13	8mm embossed	10,000 units

DEVICE MARKING

40

Text for example only



TOP VIEW

ZLS400

ABSOLUTE MAXIMUM RATINGS

PARAMETER	SYMBOL	VALUE	UNIT
Schottky diode			
Continuous reverse voltage	V _R	40	V
Forward current	I _F	0.52	A
Peak repetitive forward current Rectangular pulse duty cycle	I _{FPK}	0.85	A
Non repetitive forward current t≤100μs 			

THERMAL RESISTANCE

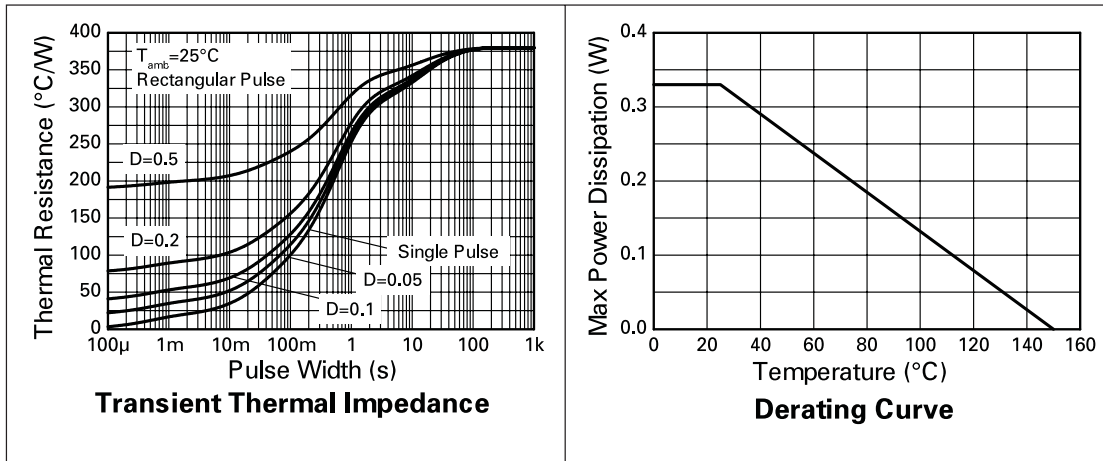
PARAMETER	SYMBOL	VALUE	UNIT
Junction to ambient ^(a)	R _{θJA}	379	°C/W
Junction to ambient ^(b)	R _{θJA}	317	°C/W

Notes

- (a) For a device surface mounted on 25mm x 25mm 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.

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TYPICAL CHARACTERISTICS



ZLLS400

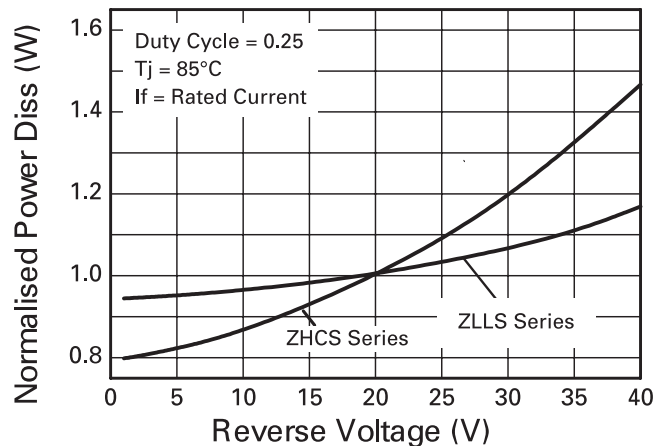
ELECTRICAL CHARACTERISTICS (at Tamb = 25°C unless otherwise stated)

SCHOTTKY DIODE CHARACTERISTICS						
PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS
Reverse breakdown voltage	$V_{(BR)R}$	40			V	$I_R=200\mu A$
Forward voltage	V_F		305	360	mV	$I_F=50mA^*$
			335	390	mV	$I_F=100mA^*$
			395	450	mV	$I_F=250mA^*$
			445	500	mV	$I_F=400mA^*$
			550	630	mV	$I_F=750mA^*$
			620	710	mV	$I_F=1A^*$
			710	800	mV	$I_F=1.5A^*$
			405		mV	$I_F=400mA^*, T_a = 100^\circ C$
Reverse current	I_R		6	10	μA	$V_R=30V$
			370		μA	$V_R=30V, T_a = 85^\circ C$
Diode capacitance	C_D		15		pF	$f=1MHz, V_R=30V$
Reverse recovery time	t_{rr}		3		ns	Switched from $I_F = 500mA$ to $V_R = 5.5V$
Reverse recovery charge	Q_{rr}		210		pC	Measured @ $I_R 50mA$ $di/dt = 500mA/ns$ $R_{source} = 6\Omega; R_{load} = 10\Omega$

*Measured under pulsed conditions. Pulse width = 300 μ S. Duty cycle \leq 2%.

Operational efficiency chart

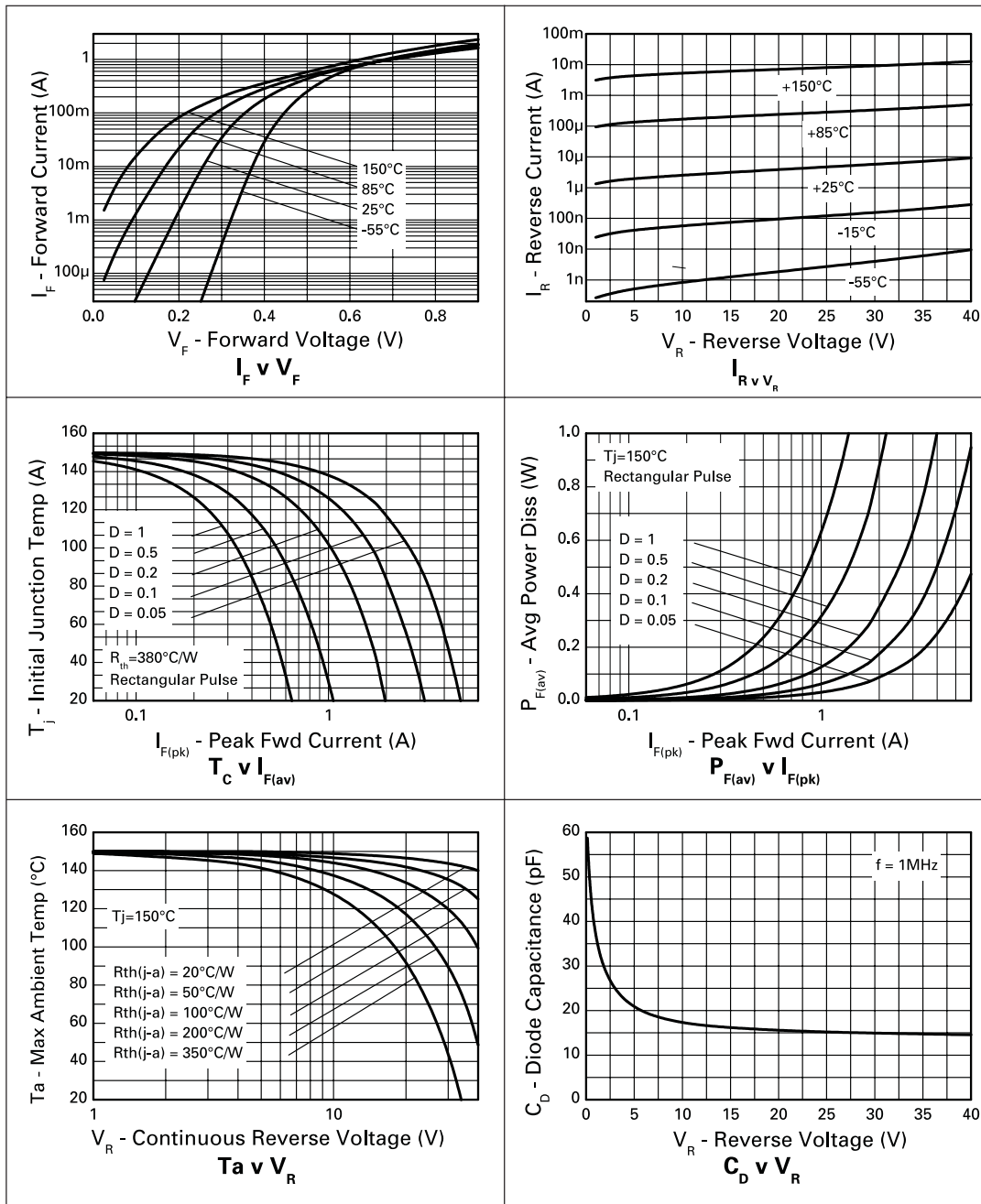
The operational efficiency chart indicates the beneficial use of the ZLLS series diodes in applications requiring higher voltage, higher temperature operation. Circuits requiring low voltage low temperature operation will benefit from using Zetex low V_F ZHCS series diodes.



Operational Efficiency Example

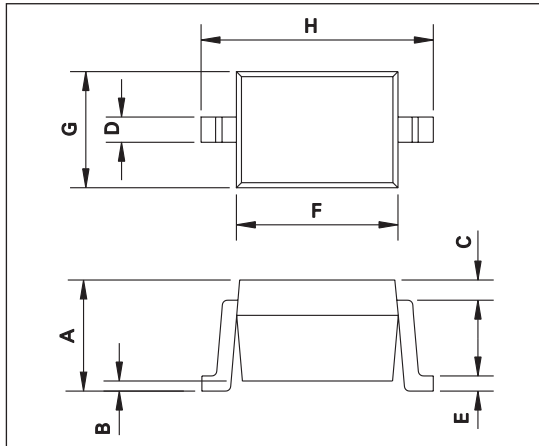
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TYPICAL CHARACTERISTICS

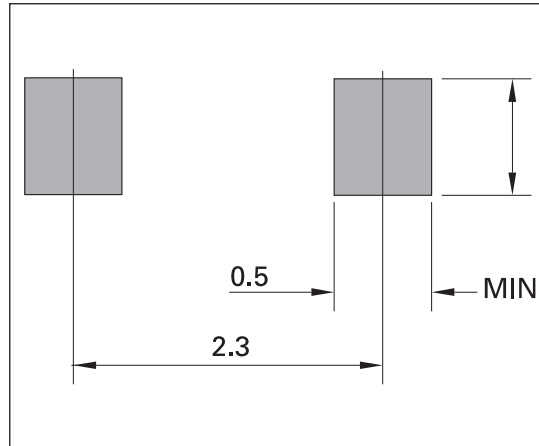


ZLLS400

Package Outline



Pad Layout



Package Dimensions

DIM	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	0.91	1.16	0.036	0.046
B	0.0	0.1	0.0	0.004
D	0.33	0.4	0.013	0.016
E	0.127	0.2	0.005	0.008
F	1.52	1.77	0.060	0.070
G	1.11	1.37	0.044	0.054
H	2.46	2.71	0.097	0.107

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