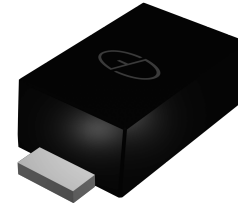


Features

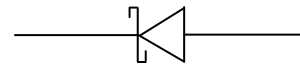
- Low Forward Voltage
- Forward Current: 0.5A
- Reverse Voltage 20V
- MSL: Level 1

Applications

- Ultra High-speed Switching
- Voltage Clamping
- Protection Circuits
- Low Voltage Rectification
- High Efficiency DC-to-DC Conversion
- Low Power Consumption Applications



SOD-923



Schematic Diagram

Description

Planar Maximum Efficiency General Application (MEGA) schottky barrier diode with an integrated guard ring for stress protection encapsulated in a SOD-923 small package.

Absolute Maximum Ratings

($T_A=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Condition	Min	Max	Unit
Continuous Reverse Voltage	V_{RRM}			20	V
Repetitive Peak Forward Current	I_{FRM}	$t_p \leq 1\text{ms}, \delta \leq 0.25$		2.5	A
Continuous Forward Current	I_F			0.5	A
Non-repetitive Peak Forward Current	I_{FSM}	$t=8\text{ms, square wave}$		3.0	A
Junction Temperature	T_J		-	150	$^{\circ}\text{C}$
Operating Ambient Temperature	$T_{AMB}^{(1)}$		-65	+150	$^{\circ}\text{C}$
Storage Temperature	$T_{STG}^{(1)}$		-65	+150	$^{\circ}\text{C}$

Notes:

1. For Schottky barrier diodes thermal run-away has to be considered, as in some applications the reverse power losses PR are a significant part of the total power losses. Nomograms for determining the reverse power losses PR and $I_F(AV)$ rating will be available on request.

Electrical Characteristics

($T_A=25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Condition	Typ	Max	Unit
Continuous Forward Voltage	V_F	$I_F=0.1\text{mA}$	125	190	mV
		$I_F=1\text{mA}$	185	240	mV
		$I_F=10\text{mA}$	250	310	mV
		$I_F=100\text{mA}$	325	420	mV
		$I_F=500\text{mA}$	450	650	mV
Continuous Reverse Current	I_R	$V_R=5\text{V}$	1.0	1.8	μA
		$V_R=10\text{V}$	4	30	μA
		$V_R=20\text{V}$	10	100	μA
Diode Capacitance	C_d	$V_R=1\text{V}; f=1\text{MHz}$	24		pF

Pulse test: $t_p \leq 300\mu\text{s}$; $\delta \leq 0.02$

Typical Characteristic Curves

Fig.1 Forward current as a function of forward voltage (typical values)

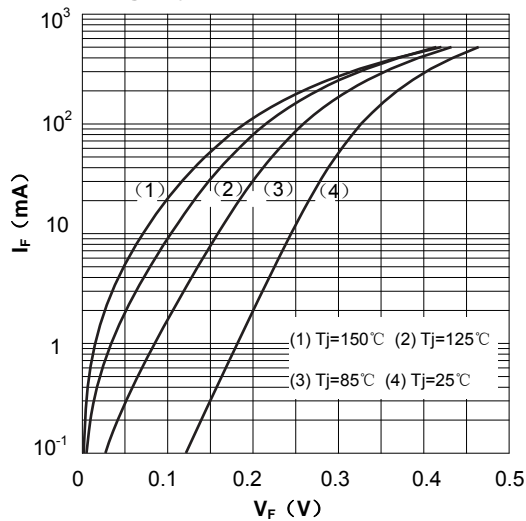


Fig.2 Reverse current as a function of reverse voltage (typical values)

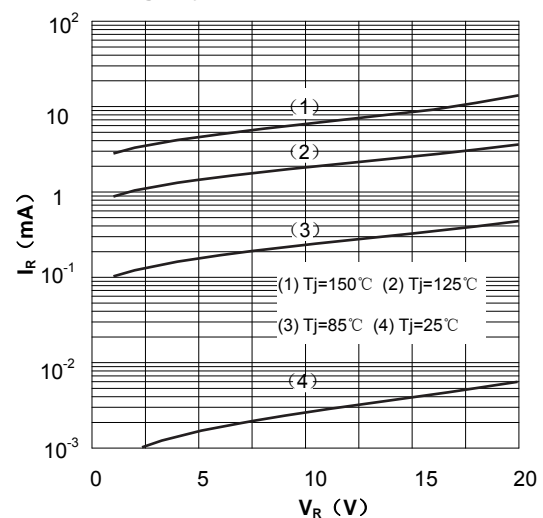
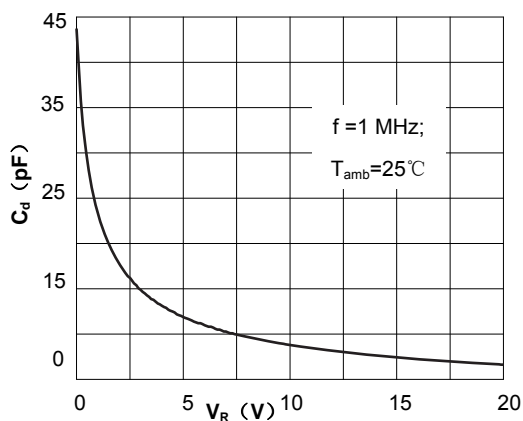
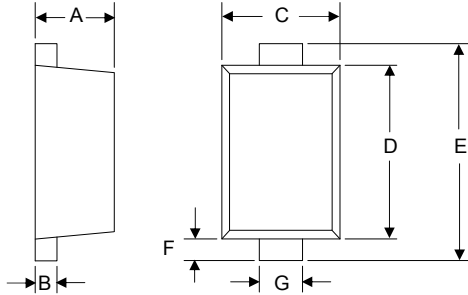


Fig.3 Diode capacitance as a function of reverse Voltage; typical values



Package Outline Dimension

SOD-923



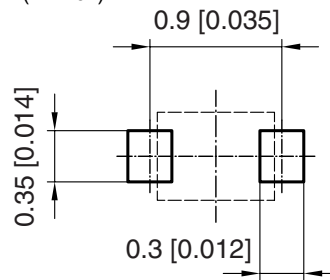
Dim	millimeters	
	min	max
A	0.36	0.43
B	0.07	0.17
C	0.55	0.65
D	0.75	0.85
E	0.95	1.05
F	0.05	0.15
G	0.15	0.25

Marking



Recommended Mounting Pad

in mm(in inch)



Order Information

Device	Package	Net Weight	Carrier	Quantity	HSF Status
SP2005ELD	SOD-923	0.0006g	Tape & Reel	8,000pcs	RoHS Compliant