

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.

Feature

- Small body outline dimensions
- Very low forward voltage
- Forward current: 0.5A
- MLS: Lever 1 – unlimited

Application

- Ultra high-speed switching
- Voltage clamping
- Protection circuits
- Low voltage rectification
- High efficiency DC-to-DC conversion
- Low power consumption applications

Typical Applications

General purpose use in ac-to-dc bridge full wave rectification for Switching Power Supply, Home Appliances, Office Equipment, Industrial Automation applications

Maximum Ratings and Electrical Characteristics

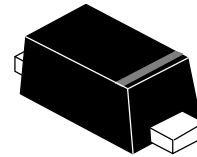
Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbols	Conditions	Min	Max	Units
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	°C
Operating ambient temperature	I_{amb}		-65	+150	°C
Storage temperature	T_{stg}		-65	+150	°C

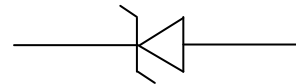
Notes: For Schottky barrier diodes thermal run-away has to be considered, as in some applications the reverse power losses PR are a significant part of the total power losses. Nomograms for determining the reverse power losses PR and IF(AV) rating will be available on request.

S2005ELD

Reverse Voltage 20 Volts
Forward Current 0.5 Amperes



SOD-923



Schematic Diagram

Characteristics

T_{amb}=25°C unless otherwise specified

Parameter	Symbols	Conditions	Typ	Max	Units
Continuous forward voltage	V _F	I _F =0.1mA	125	180	mV
		I _F =1mA	185	240	mV
		I _F =10mA	250	290	mV
		I _F =100mA	325	380	mV
		I _F =500mA	450	500	mV
Continuous reverse current	I _R	V _R =10V	4	30	μA
Diode capacitance	C _d	V _R =1V;f=1MHz	24	30	pF

Pulse test:tp≤300μs; δ≤0.02

Typical Performance Curves

Fig.1 Forward current as a function of forward Voltage;typical values

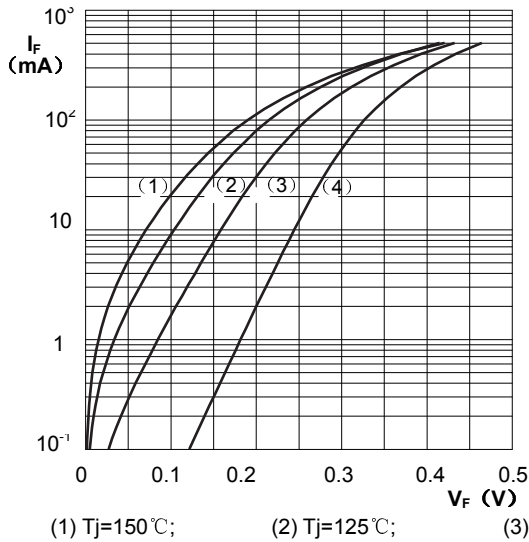


Fig.2 Reverse current as a function of reverse voltage;typical values

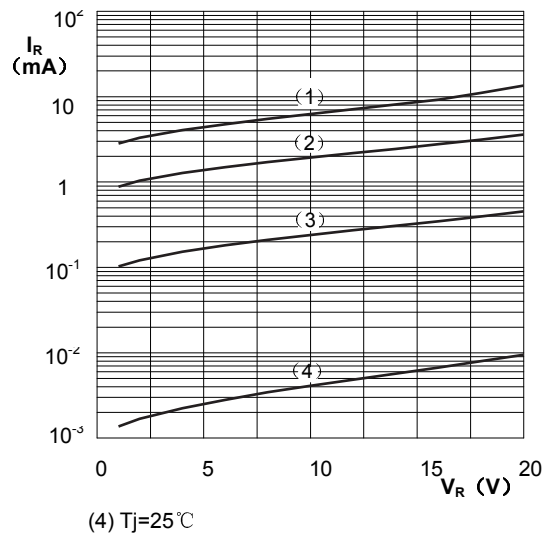
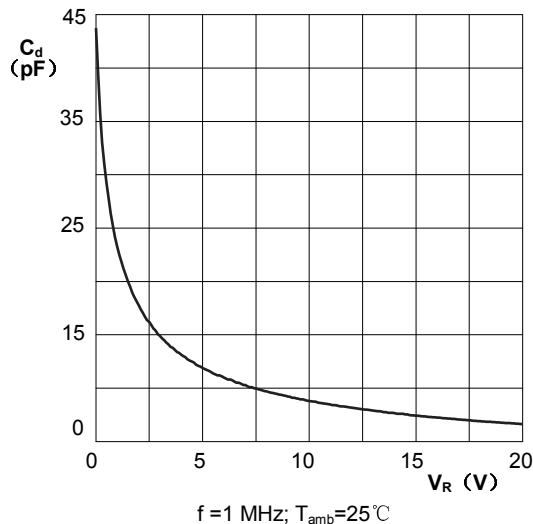
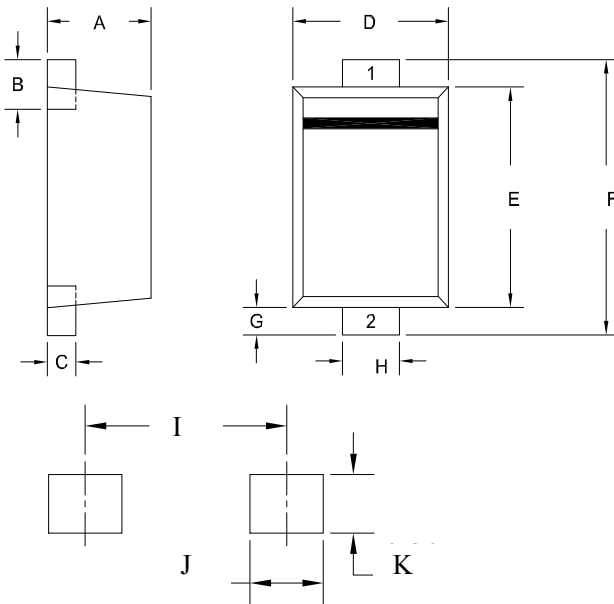


Fig.3 Diode capacitance as a function of reverse Voltage;typical values

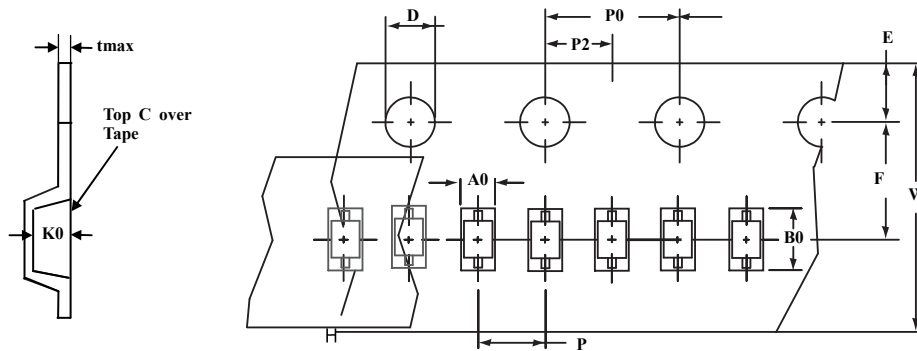


Product Dimension



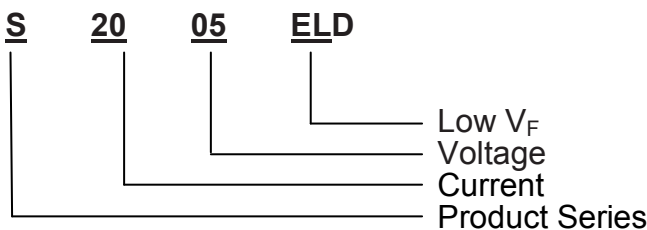
Dim	millimeters	
	min	max
A	0.39	0.41
B	0.10	0.26
C	0.08	0.14
D	0.55	0.65
E	0.75	0.85
F	0.90	1.10
G	0.05	0.15
H	0.17	0.27
I	0.90	
J	0.40	
K	0.30	

Package Informations

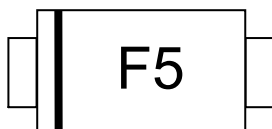


A0	B0	K0	D	E	F	W	P0	P2	P	tmax
0.70 ± 0.05	1.12 ± 0.05	0.48 ± 0.05	1.50 ± 0.10	1.75 ± 0.10	3.50 ± 0.05	8.00 ± 0.20	4.00 ± 0.10	2.00 ± 0.05	2.00 ± 0.05	0.25

Part Number System



Marking



Schottky Barrier Diode

Order Information

Device	Package	Net Weight	Carrier	Quantity	HSF Status
S2005ELD	SOD-923	0.0006g	Tape & Reel	5000pcs	RoHS compliant

Revision history

Date	Revision	Description of changes
13-September-2011	A	First issue

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