S2005ELD

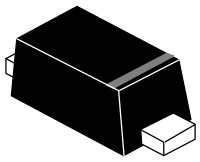
Reverse Voltage 20 Volts
Forward Current 0.5 Ampers

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

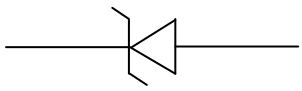
- Small body outline dimensions
- Very low forward voltage
- Forward current: 0.5A
- MLS: Lever 1 – unlimited



SOD-923

Application

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



Schematic Diagram

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℃ ambient temperature unless otherwise specified.

Parameter	Symbols	Conditions	Min	Max	Units
Continuous reverse voltage	V_{RRM}			20	V
Repetitive peak forward current	I_{FRM}	$t_p \leq 1ms;$ $\delta \leq 0.25$		2.5	A
Continuous forward current	I_F			0.5	A
Non-repetitive peak forward current	I_{FSM}	t=8ms square wave		3.0	A
Junction temperature	T_j			150	℃
Operating ambient temperature	I_{amb}		-65	+150	℃
Storage temperature	T_{stg}		-65	+150	℃

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.

Characteristics

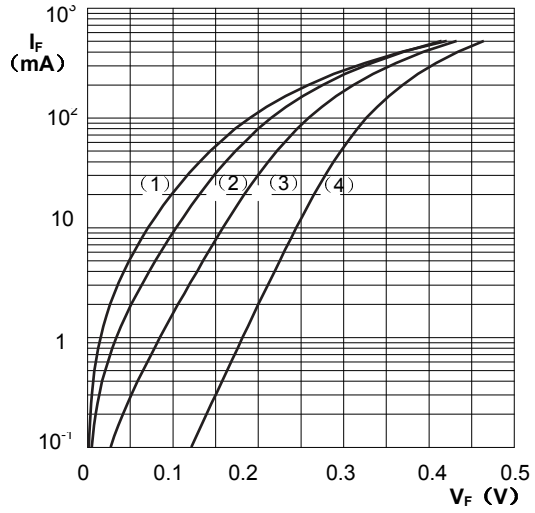
T_{amb}=25℃ unless otherwise specified

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



(1) Tj=150℃; (2) Tj=125℃; (3) Tj=85℃; (4) Tj=25℃

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

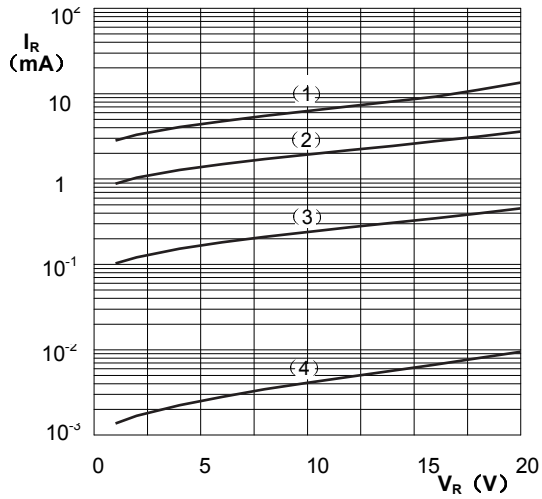
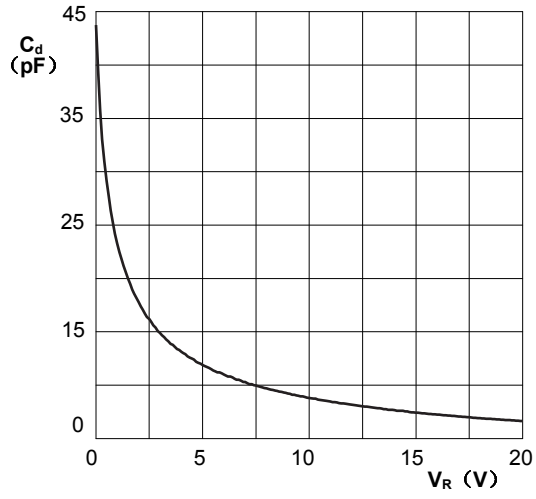
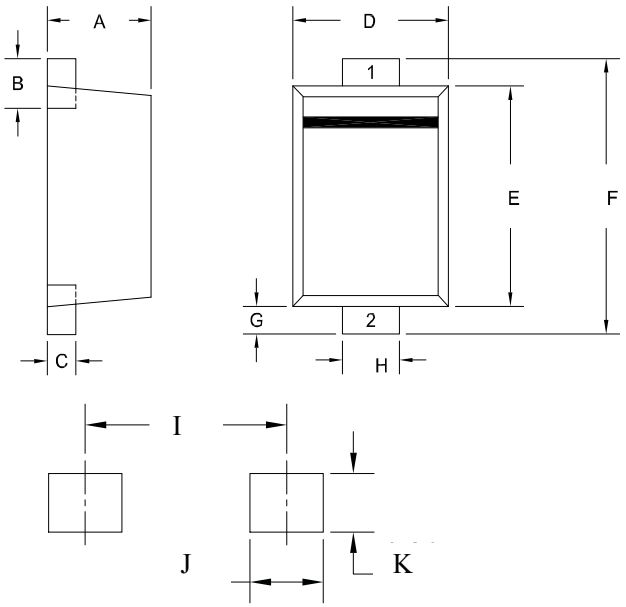


Fig.3Diode capacitance as a function of reverse Voltage;typical values



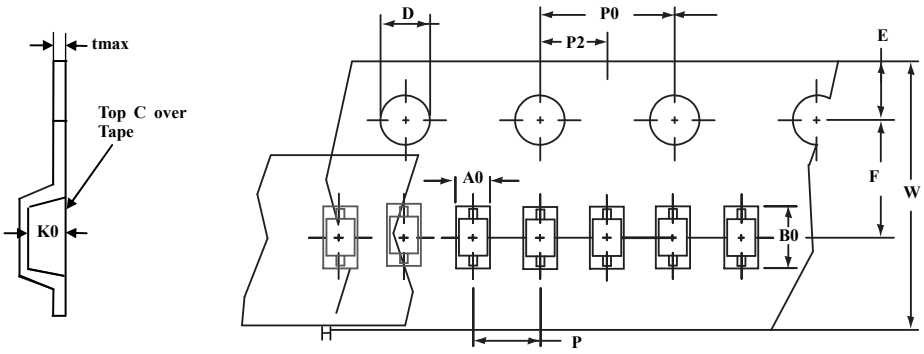
f =1 MHz; T_{amb}=25℃

Product Dimension



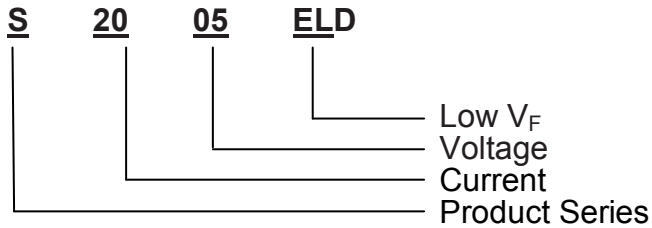
Dim	millmeters	
	min	max
A	0.39	0.41
B	0.10	0.26
C	0.08	0.14
D	0.55	0.65
E	0.75	0.85
F	0.90	1.10
G	0.05	0.15
H	0.17	0.27
I	0.90	
J	0.40	
K	0.30	

Package Informations

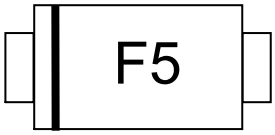


A0	B0	K0	D	E	F	W	P0	P2	P	tmax
0.70 ± 0.05	1.12 ± 0.05	0.48 ± 0.05	1.50 ± 0.10	1.75 ± 0.10	3.50 ± 0.05	8.00 ± 0.20	4.00 ± 0.10	2.00 ± 0.05	2.00 ± 0.05	0.25

Part Number System



Marking



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**