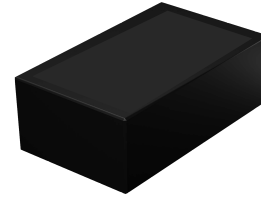


## Features

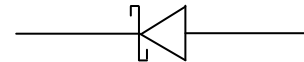
- Low profile, small footprint
- Low forward voltage
- Forward current: 0.5A ■ Reverse voltage: 20V ■ MSL: Level 1

## Applications

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



Package: DFN1006-2L



Schematic Diagram

## Typical Applications

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

## Description

Planar Maximum Efficiency General Application (MEGA) schottky barrier diode with an integrated guard ring for stress protection encapsulated in a DFN1006-2 small package.

## Absolute Maximum Ratings

( $T_A=25^{\circ}\text{C}$  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	$^{\circ}\text{C}$
Operating Ambient Temperature	$T_{AMB}$		-65	+150	$^{\circ}\text{C}$
Storage Temperature	$T_{STG}$		-65	+150	$^{\circ}\text{C}$

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  $I_{F(AV)}$  rating will be available on request.

## Electrical Characteristics

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

Parameter	Symbols	Conditions	Typ	Max	Units
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	$I_R$	$V_R=10\text{V}$	4	30	$\mu\text{A}$
		$V_R=20\text{V}$	10	100	$\mu\text{A}$
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 Performance Curves

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

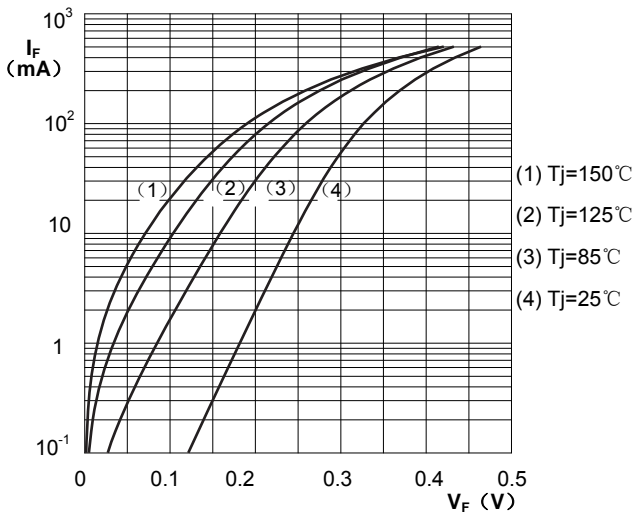


Fig.2 Reverse current as a function of reverse voltage; typical values

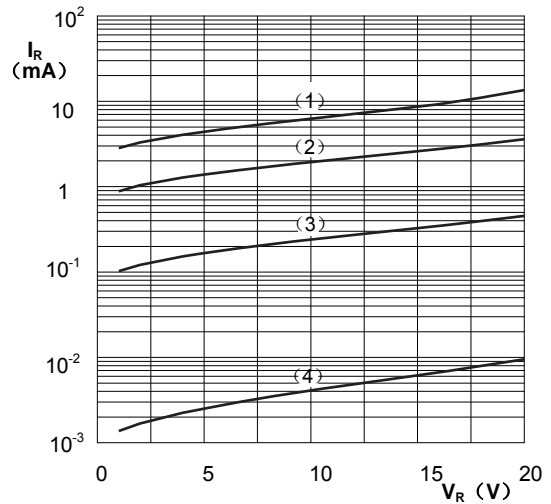
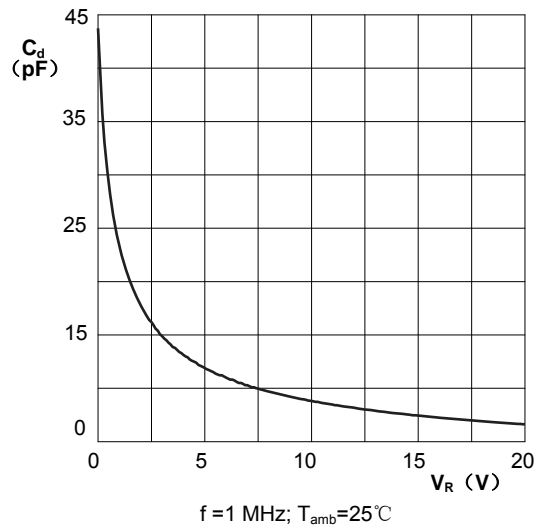
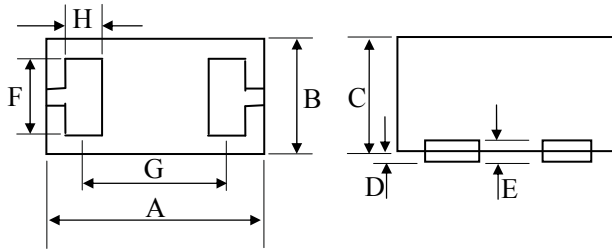


Fig.3 Diode capacitance as a function of reverse Voltage; typical values

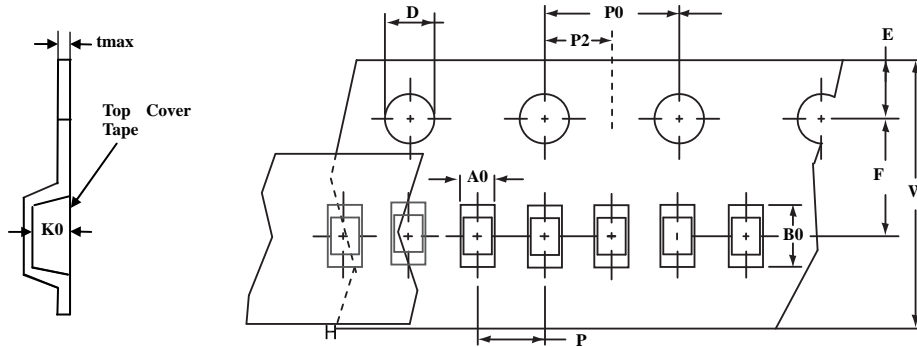


### Package Outline Dimension



Dim	millimeters	
	min	max
A	0.95	1.05
B	0.55	0.65
C	0.45	0.55
D	0.00	0.05
E	0.125REF	
F	0.45	0.55
G	0.60BSC	
H	0.20	0.30

### Taping Information



A0	B0	K0	D	E	F	W	P0	P2	P	tmax
0.7±0.05	1.1± 0.05	0.42±0.05	1.55±0.05	1.75±0.1	3.5±0.05	8.0± 0.2	4.0± 0.1	2.0± 0.05	2.0±0.05	0.25

### Marking



### Order Information

Device	Package	Net Weight	Carrier	Quantity	HSF Status
SP2005EL	DFN1006-2	0.001g	Tape & Reel	8000pcs/Reel	RoHS compliant