

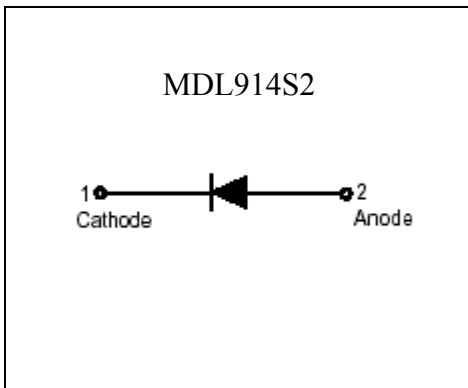
High –speed switching diode

MDL914S2

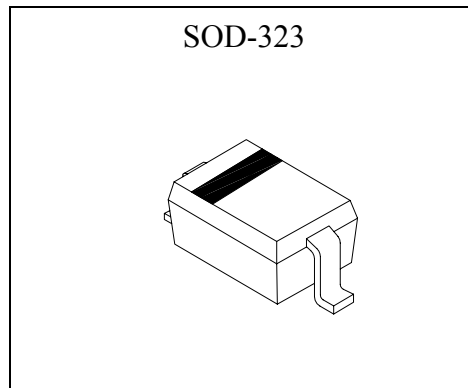
Description

The MDL914S2 is a high-speed switching diode fabricated in planar technology, and encapsulated in the small SOD-323 plastic SMD package.

Symbol



Outline



Features

- Small plastic SMD package
- High switching speed: max. 4ns
- Reverse voltage: max. 100V
- Peak forward surge current: max. 500mA.

Applications

- High-speed switching in thick and thin-film circuits.

Absolute Maximum Ratings @ $T_A=25^{\circ}C$

Parameters	Symbol	Min	Max	Unit
Reverse voltage	V_R	-	100	V
Forward current	I_F	-	200	mA
Peak forward surge current	I_{FSM}		500	mA
Junction Temperature	T_j	-	150	$^{\circ}C$
Storage Temperature	T_{stg}	-65	+150	$^{\circ}C$



Electrical Characteristics @ $T_A=25^{\circ}\text{C}$ unless otherwise specified

Parameters	Symbol	Conditions	Min	Typ.	Max	Unit
Reverse breakdown voltage	V_R	$I_R=100\mu\text{A}$				
Forward voltage	V_F	$I_F=10\text{mA}$	-	-	1	V
Reverse leakage current	I_R	$V_R=20\text{V}$ $V_R=75\text{V}$	-	-	25 5	nA μA
Diode capacitance	C_D	$V_R=0\text{V}$, $f=1\text{MHz}$	-	-	4	pF
Reverse recovery time	t_{rr}	when switched from $I_F=10\text{mA}$ to $I_R=10\text{mA}$, $R_L=100\Omega$, measured at $I_R=1\text{mA}$	-	-	4	ns

Thermal Characteristics

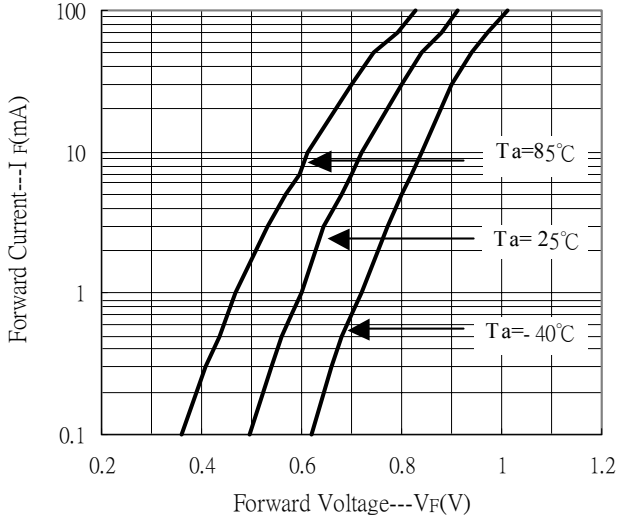
Symbol	Parameter	Conditions	Max	Unit
P_{tot} , $T_a=25^{\circ}\text{C}$ Derate above 25°C	Total device dissipation on FR-4 board	Note 1	200 1.57	mW $\text{mW}/^{\circ}\text{C}$
$R_{th, j-a}$	Thermal resistance from junction to ambient	Note 1	635	$^{\circ}\text{C}/\text{W}$

Note 1: Device mounted on an FR-4 PCB.

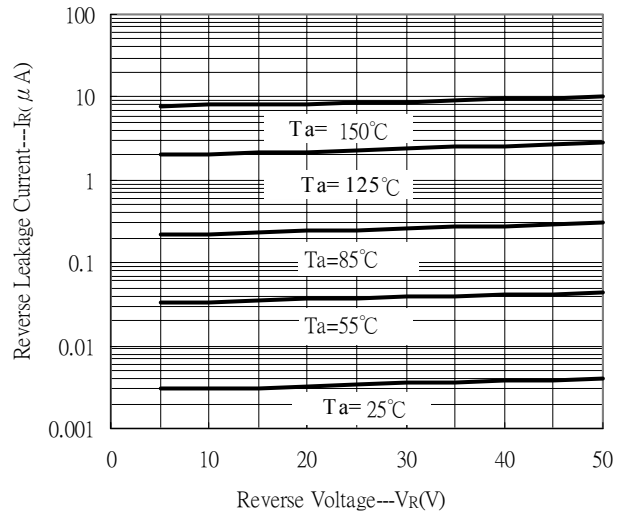


Characteristic Curves

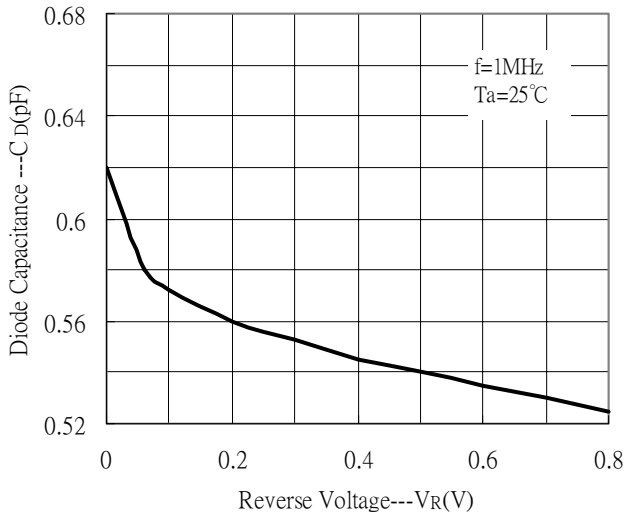
Forward Current vs Forward Voltage



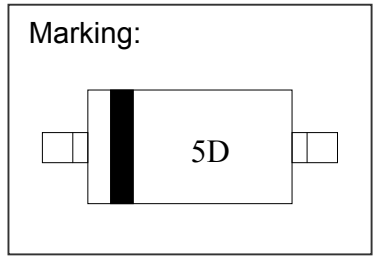
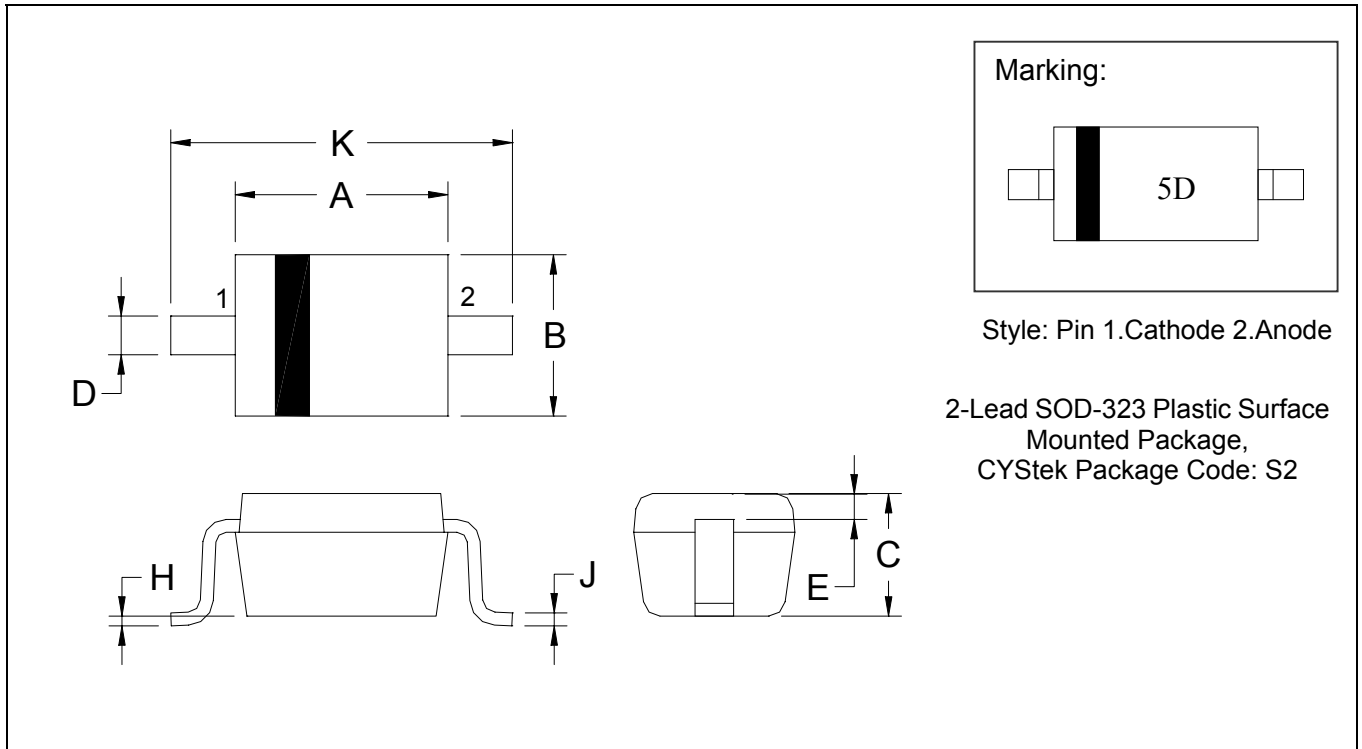
Reverse Leakage Current vs Reverse Voltage



Capacitance vs Reverse Voltage



SOD-323 Dimension



Style: Pin 1.Cathode 2.Anode

2-Lead SOD-323 Plastic Surface Mounted Package,
 CYStek Package Code: S2

*: Typical

DIM	Inches		Millimeters		DIM	Inches		Millimeters	
	Min.	Max.	Min.	Max.		Min.	Max.	Min.	Max.
A	0.0630	0.0709	1.60	1.80	E	0.0060 REF		0.15 REF	
B	0.0453	0.0531	1.15	1.35	H	0.0000	0.0040	0.00	0.10
C	0.0315	0.0394	0.80	1.00	J	0.0035	0.0070	0.089	0.177
D	0.0098	0.0157	0.25	0.40	K	0.0906	0.1063	2.30	2.70

Notes: 1.Controlling dimension : millimeters.
 2.Lead thickness specified per L/F drawing with solder plating.
 3.If there is any question with packing specification or packing method, please contact your local CYStek sales office.

Material:

- Lead: 42 Alloy ; solder plating
- Mold Compound: Epoxy resin family, flammability solid burning class: UL94V-0

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