



DESCRIPTION

The MDL6050 is available in SOD-323 Package

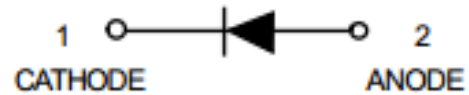
FEATURES

- RoHS Compliant
- Available in SOD-323 Package

ORDERING INFORMATION

Package Type	Part Number
SOD-323	MDL6050
Note	3,000pcs/Reel
AiT provides all RoHS Compliant Products	

PIN DESCRIPTION





ABSOLUTE MAXIMUM RATINGS

V_R , Reverse Voltage	70Vdc
I_F , Forward Current	200mAdc
$I_{FM(surge)}$, Peak Forward Surge Current	500mAdc

Stresses above may cause permanent damage to the device. These are stress ratings only and functional operation of the device at these or any other conditions beyond those indicated in the Electrical Characteristics are not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

THERMAL CHARACTERISTICS

Parameter	Symbol	Max.	Unit
Total Device Dissipation FR-5 Board ^{NOTE1} @ $T_A = 25^\circ\text{C}$ Derate above 25°C	P_D	200 1.57	mW mW/ $^\circ\text{C}$
Thermal Resistance Junction to Ambient	$R_{\theta JA}$	635	$^\circ\text{C}/\text{W}$
Junction and Storage Temperature	T_J, T_{STG}	150	$^\circ\text{C}$

NOTE1: FR-4 Minimum Pad

ELECTRICAL CHARACTERISTICS

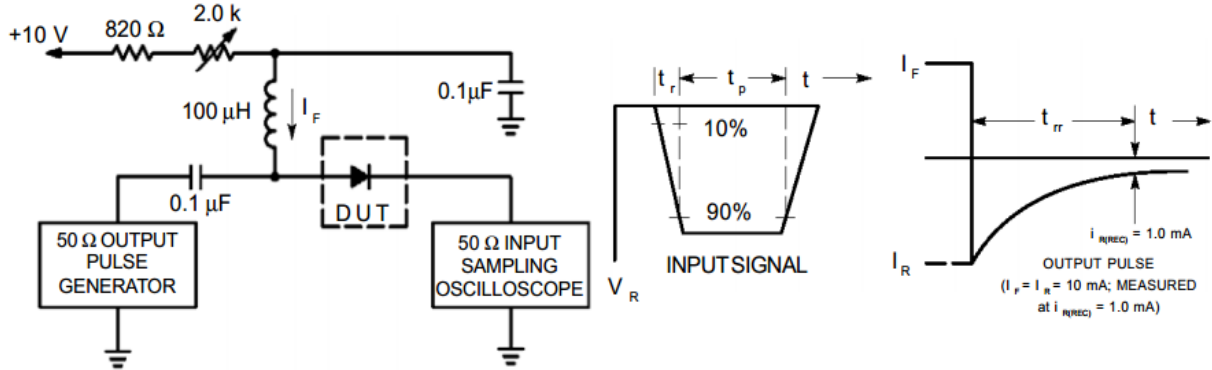
$T_A=25^\circ\text{C}$, unless otherwise noted

Parameter	Symbol	Conditions	Min	Tye	Max	Unit
OFF CHARACTERISTICS						
Reverse Breakdown Voltage	$V_{(BR)}$	$I_{BR}=100\mu\text{Adc}$	70			Vdc
Reverse Voltage Leakage Current	I_R	$V_R=50\text{Vdc}$			1.0	μAdc
Forward Voltage	V_F	$I_F=1.0\text{mAdc}$		0.55	0.7	Vdc
		$I_F=100\text{mAdc}$		0.85	1.1	
Reverse Recovery Time	t_{rr}	$I_F=I_R=10\text{mAdc}$, $I_{R(REC)}=1.0\text{mAdc}$ (Figure1)			4.0	ns
Capacitance	C	$V_R=0\text{V}$			2.5	pF



TEST CIRCUIT

Figure 1. Recovery Time Equivalent Test Circuit



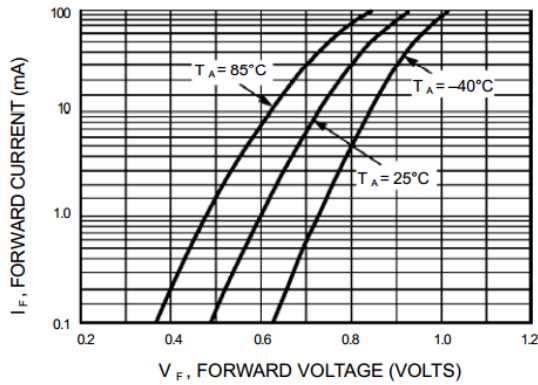
NOTE1: A 2.0kΩ variable resistor adjusted for a Forward Current (I_F) of 10mA.

NOTE2: Input pulse is adjusted so $I_{R(\text{peak})}$ is equal to 10mA.

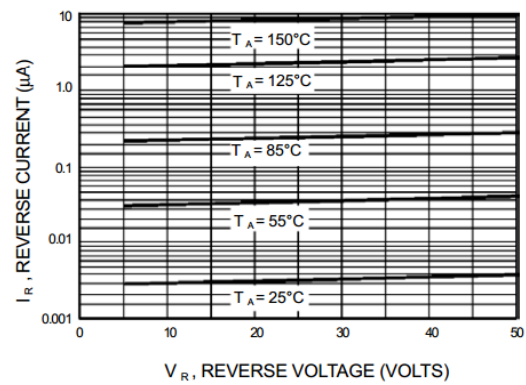
NOTE3: $t_p \gg t_{rr}$

TYPICAL CHARACTERISTICS

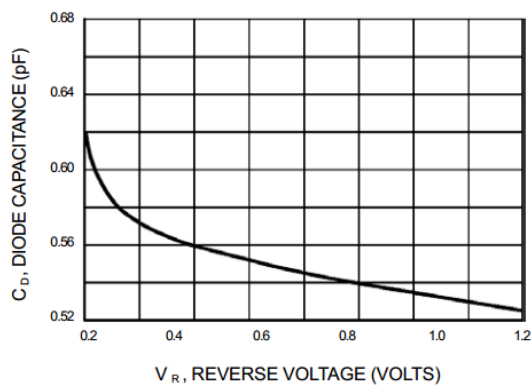
1. Forward Voltage



2. Leakage Current



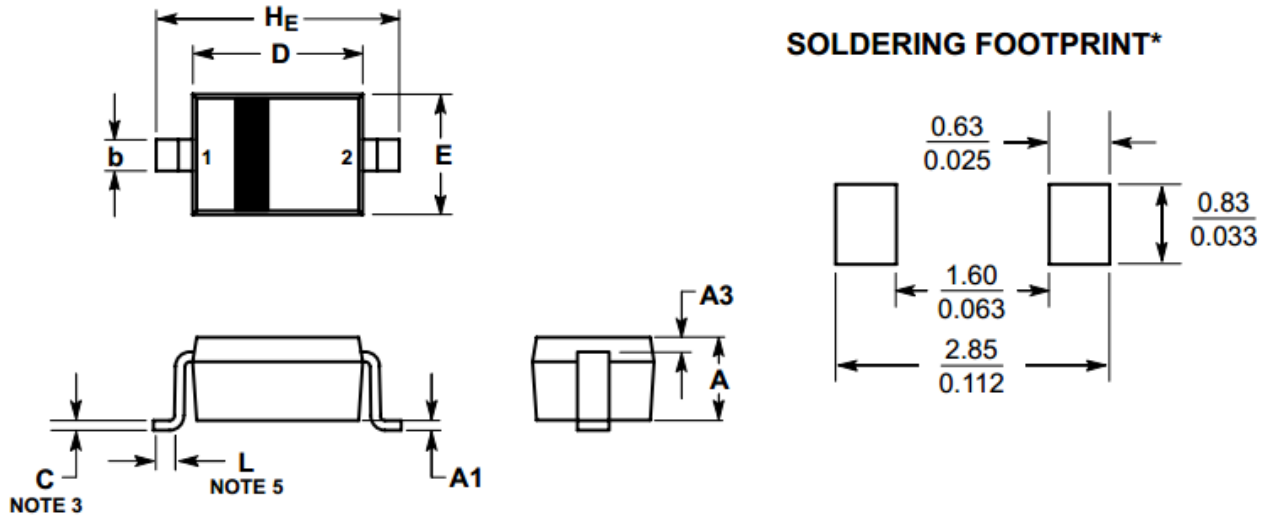
3. Capacitance





PACKAGE INFORMATION

Dimension in SOD-323 Package (Unit: mm)



DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	0.80	1.00	0.031	0.040
A1	0.00	0.10	0.000	0.004
A3	0.15 REF		0.006 REF	
b	0.25	0.40	0.010	0.016
C	0.089	0.177	0.003	0.007
D	1.60	1.80	0.062	0.070
E	1.15	1.35	0.045	0.053
L	0.08		0.003	
HE	2.30	2.70	0.090	0.105



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