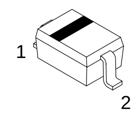
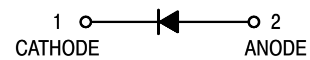
High-Speed Switching Diode

MMDL914T1

ON Semiconductor Preferred Device



CASE 477–02, STYLE 1
SOD–323



MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Reverse Voltage	V_R	100	Vdc
Forward Current	I_F	200	mAdc
Peak Forward Surge Current	$I_{FM(surge)}$	500	mAdc

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Total Device Dissipation FR-5 Board,* T_A = 25°C Derate above 25°C	P_D	200 1.57	mW mW/°C
Thermal Resistance Junction to Ambient	$R_{\theta JA}$	635	°C/W
Junction and Storage Temperature	T_J, T_{stg}	150	°C

*FR-4 Minimum Pad

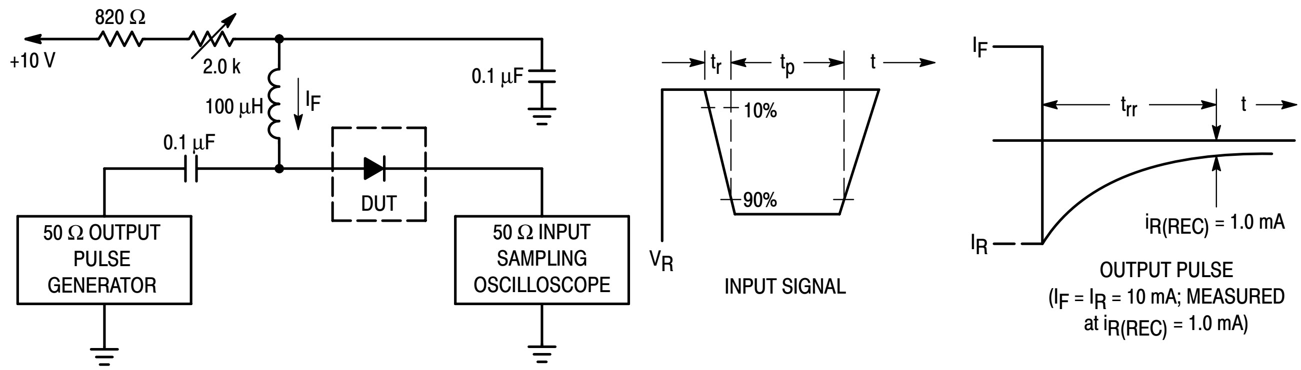
DEVICE MARKING

MMDL914T1 = 5D

ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise noted)

Characteristic	Symbol	Min	Max	Unit
OFF CHARACTERISTICS				
Reverse Breakdown Voltage (I_R = 100 μAdc)	$V_{(BR)}$	100	–	Vdc
Reverse Voltage Leakage Current (V_R = 20 Vdc) (V_R = 75 Vdc)	I_R	 – –	 25 5.0	 nAdc μAdc
Diode Capacitance (V_R = 0, f = 1.0 MHz)	C_T	–	4.0	pF
Forward Voltage (I_F = 10 mAdc)	V_F	–	1.0	Vdc
Reverse Recovery Time (I_F = I_R = 10 mAdc) (Figure 1)	t_{rr}	–	4.0	ns

Preferred devices are ON Semiconductor recommended choices for future use and best overall value.



Notes: 1. A 2.0 kΩ variable resistor adjusted for a Forward Current (I_F) of 10 mA.
2. Input pulse is adjusted so $I_{R(peak)}$ is equal to 10 mA.
3. $t_p \gg t_{rr}$

Figure 1. Recovery Time Equivalent Test Circuit

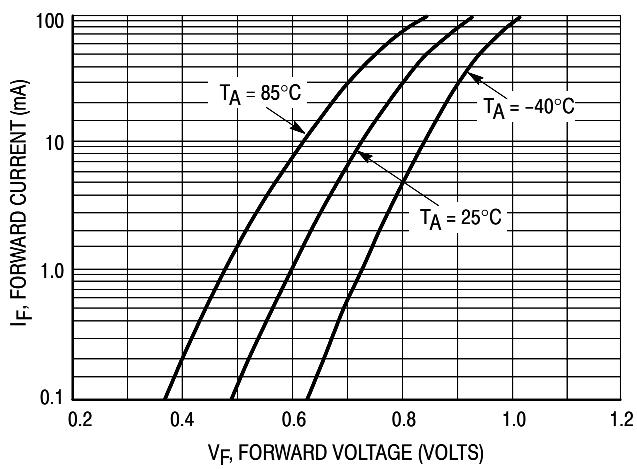


Figure 2. Forward Voltage

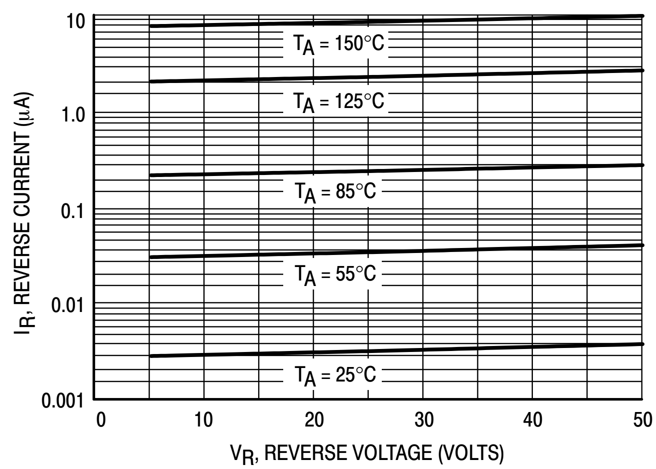


Figure 3. Leakage Current

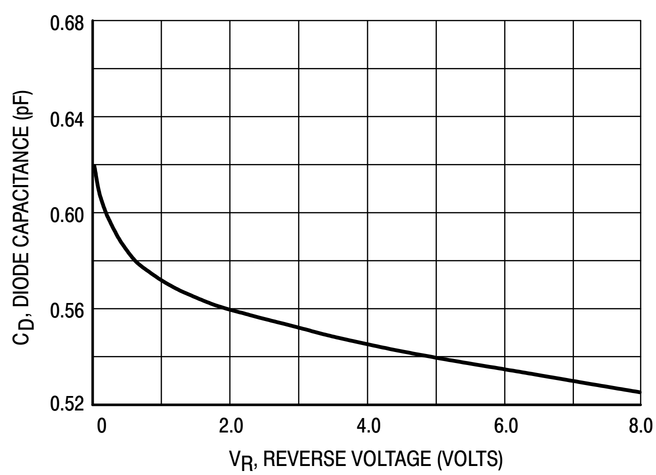


Figure 4. Capacitance

PACKAGE DIMENSIONS

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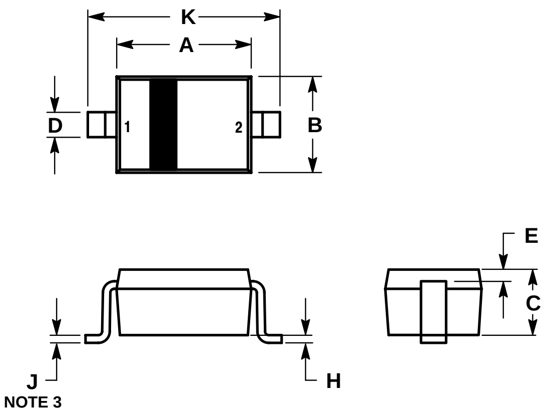
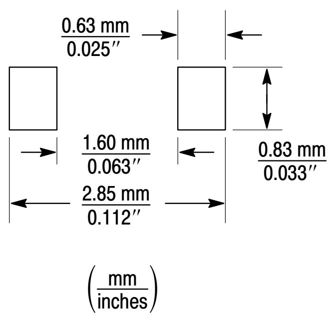
CASE 477–02
ISSUE B



NOTES:
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: MILLIMETERS.
3. LEAD THICKNESS SPECIFIED PER L/F DRAWING WITH SOLDER PLATING.

	MILLIMETERS		INCHES	
DIM	MIN	MAX	MIN	MAX
A	1.60	1.80	0.063	0.071
B	1.15	1.35	0.045	0.053
C	0.80	1.00	0.031	0.039
D	0.25	0.40	0.010	0.016
E	0.15 REF		0.006 REF	
H	0.00	0.10	0.000	0.004
J	0.089	0.177	0.0035	0.0070
K	2.30	2.70	0.091	0.106

STYLE 1:
PIN 1. CATHODE
2. ANODE



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Soldering Footprint

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