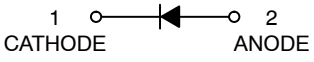
MMDL914T1G, SMMDL914T1G, MMDL914T3G

High-Speed Switching Diode

ON Semiconductor®

http://onsemi.com

SOD−323
CASE 477
STYLE 1



Features

- AEC−Q101 Qualified and PPAP Capable
- S Prefix for Automotive and Other Applications Requiring Unique Site and Control Change Requirements
- These Devices are Pb−Free, Halogen Free/BFR Free and are RoHS Compliant*

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Reverse Voltage	V_R	100	V
Forward Current	I_F	200	mA
Peak Forward Surge Current	$I_{FM(surge)}$	500	mA
Non−Repetitive Peak Forward Current t = 1.0 μs t = 1.0 s	I_{FM}	 4.0 2.0	A

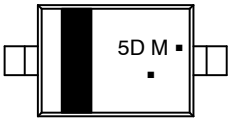
THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Total Device Dissipation FR-5 Board T_A = 25°C (Note 1) 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}	−55 to 150	°C

Stresses exceeding Maximum Ratings may damage the device. Maximum Ratings are stress ratings only. Functional operation above the Recommended Operating Conditions is not implied. Extended exposure to stresses above the Recommended Operating Conditions may affect device reliability.

1. FR-4 Minimum Pad.

MARKING DIAGRAM



5D = Specific Device Code
M = Date Code
▪ = Pb−Free Package

(Note: Microdot may be in either location)

ORDERING INFORMATION

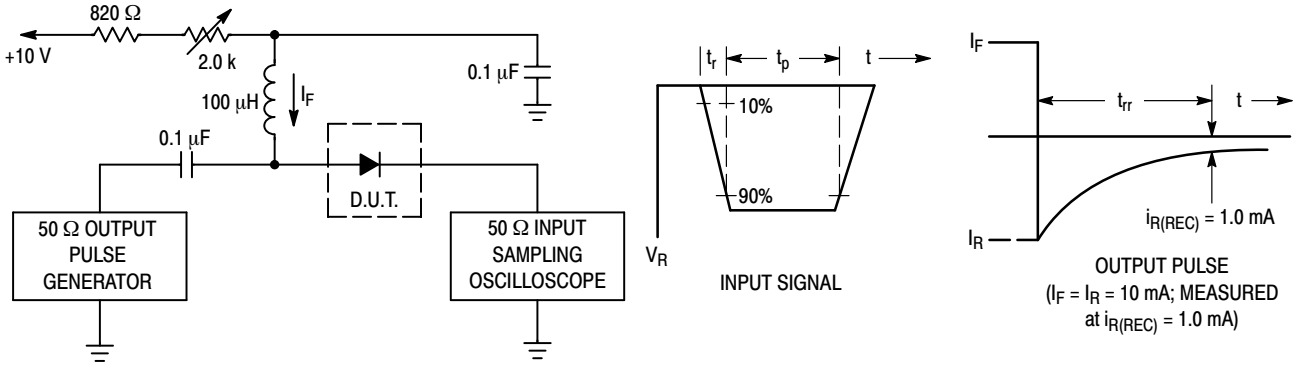
Device	Package	Shipping†
MMDL914T1G	SOD−323 (Pb−Free)	3,000 / Tape & Reel
SMMDL914T1G	SOD−323 (Pb−Free)	3,000 / Tape & Reel
MMDL914T3G	SOD−323 (Pb−Free)	10,000 / Tape & Reel

†For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specifications Brochure, BRD8011/D.

*For additional information on our Pb−Free strategy and soldering details, please download the ON Semiconductor Soldering and Mounting Techniques Reference Manual, SOLDERRM/D.

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 V, 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



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

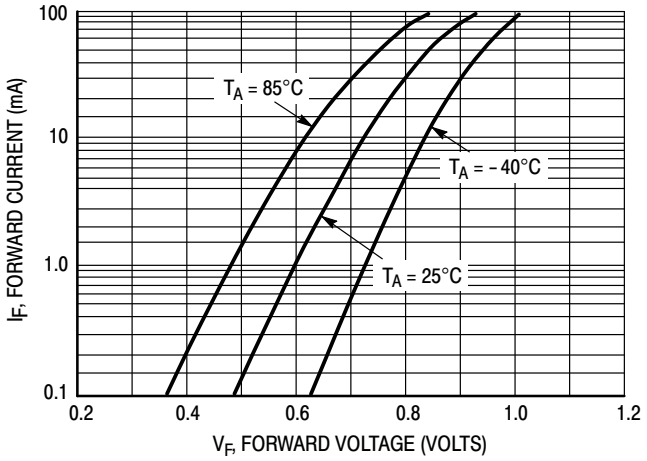


Figure 2. Forward Voltage

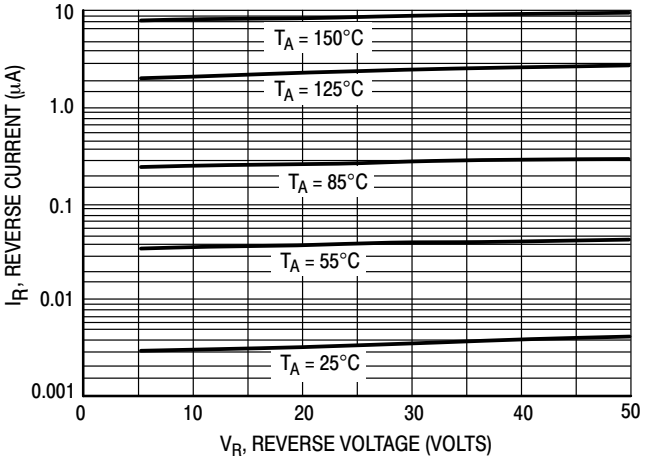


Figure 3. Leakage Current

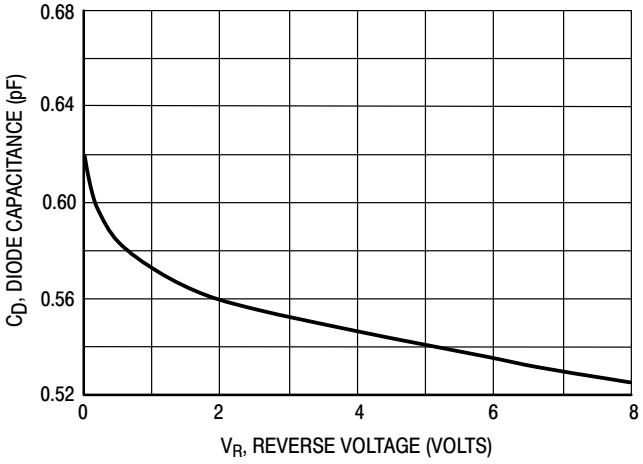
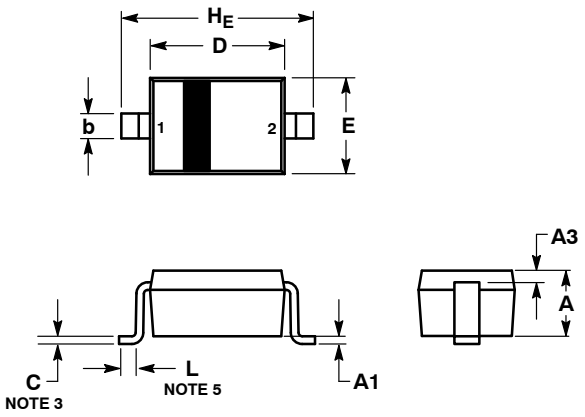


Figure 4. Capacitance

PACKAGE DIMENSIONS

SOD−323
CASE 477−02
ISSUE H

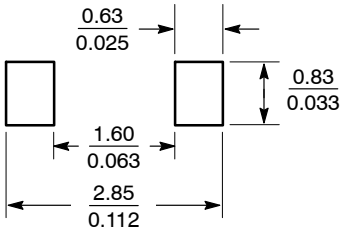


NOTES:
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: MILLIMETERS.
3. LEAD THICKNESS SPECIFIED PER L/F DRAWING WITH SOLDER PLATING.
4. DIMENSIONS A AND B DO NOT INCLUDE MOLD FLASH, PROTRUSIONS OR GATE BURRS.
5. DIMENSION L IS MEASURED FROM END OF RADIUS.

	MILLIMETERS			INCHES		
DIM	MIN	NOM	MAX	MIN	NOM	MAX
A	0.80	0.90	1.00	0.031	0.035	0.040
A1	0.00	0.05	0.10	0.000	0.002	0.004
A3		0.15 REF			0.006 REF	
b	0.25	0.32	0.4	0.010	0.012	0.016
C	0.089	0.12	0.177	0.003	0.005	0.007
D	1.60	1.70	1.80	0.062	0.066	0.070
E	1.15	1.25	1.35	0.045	0.049	0.053
L	0.08			0.003		
H_E	2.30	2.50	2.70	0.090	0.098	0.105

STYLE 1:
PIN 1. CATHODE (POLARITY BAND)
2. ANODE

SOLDERING FOOTPRINT*



*For additional information on our Pb−Free strategy and soldering details, please download the ON Semiconductor Soldering and Mounting Techniques Reference Manual, SOLDERRM/D.

PUBLICATION ORDERING INFORMATION

LITERATURE FULFILLMENT:
Literature Distribution Center for ON Semiconductor
P.O. Box 5163, Denver, Colorado 80217 USA
Phone: 303−675−2175 or 800−344−3860 Toll Free USA/Canada
Fax: 303−675−2176 or 800−344−3867 Toll Free USA/Canada
Email: orderlit@onsemi.com

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For additional information, please contact your local Sales Representative

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