

Features

- AEC-Q101 Qualified
- Industry Standard Surface Mount Package
- Low Loss, High Isolation Switching
- Low Distortion Attenuator applications
- Lead-Free SC-79 (ODS-1279)
- RoHS* Compliant
- Tape & Reel Packaging

Applications

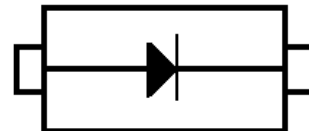
- Automotive

Description

The MADP-011165-Q1279T is a general purpose PIN diode useful as either a switch or an attenuator in automotive compensator, telematic control and smart antenna systems.

This device is a silicon PIN diode in a standard, surface mount plastic package SC-79 (case style 1279). This diode is offered with 100% matte Sn plating. This package is supplied on tape and reel for automatic pick and place assembly.

Packaging & Configuration



Single SC-79
 $L_S = 0.6 \text{ nH}$, $C_P = 0.10 \text{ pF}$

Ordering Information²

Part Number	Package
MADP-011165-Q1279T	Tape & Reel

2. Reference Application Note M513 for reel size information.

Electrical Specifications: $T_A = +25^\circ\text{C}$

Parameter	Test Conditions	Units	Min.	Typ.	Max.
Reverse Voltage ¹	—	V	100	—	—
Total Capacitance	1 MHz, 50 V	pF	—	—	0.35
Series Resistance	100 MHz, 10 mA	Ω	—	—	3
Nominal Carrier Lifetime	$I_F = 10 \text{ mA}$, $I_R = 6 \text{ mA}$, 90% recovery	μs	—	1	—
Nominal I-Region Thickness	—	mils	—	2	—

1. The reverse current will not exceed 10 μA at the reverse voltage rating.

* Restrictions on Hazardous Substances, compliant to current RoHS EU directive.

MACOM Technology Solutions Inc. (MACOM) and its affiliates reserve the right to make changes to the product(s) or information contained herein without notice. Visit www.macom.com for additional data sheets and product information.

For further information and support please visit:
<https://www.macom.com/support>

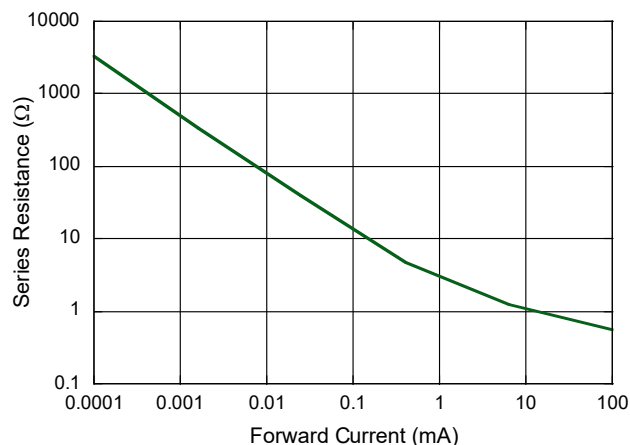
Absolute Maximum Ratings @ +25°C^{3,4}

Parameter	Absolute Maximum
RF CW Incident Power:(q die = 35°C/W), RF & DC Incident De-rating Coefficient = -13.3 mW/°C	30 dBm
Total (RF & DC) Power Dissipation: RF & DC Dissipated De-rating Coefficient = -26.7 mW/°C	200 mW
Reverse Voltage	Voltage Rating
Forward Current	150 mA DC
Junction Temperature	+175°C
Operating Temperature	-65°C to +125°C
Storage Temperature	-65°C to +150°C

3. Exceeding any one or combination of these limits may cause permanent damage to this device.

4. MACOM does not recommend sustained operation near these survivability limits.

Series Resistance vs. Forward Current @ 100 MHz



Handling Procedures

Please observe the following precautions to avoid damage:

Static Sensitivity

These electronic devices are sensitive to electrostatic discharge (ESD) and can be damaged by static electricity. Proper ESD control techniques should be used when handling these devices.

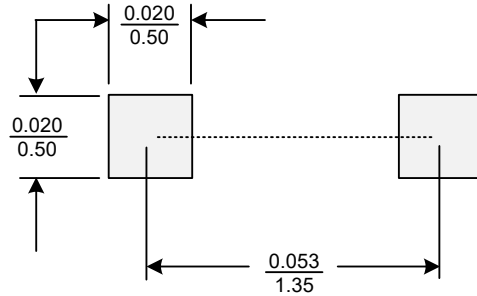
Mounting Information

The illustration indicates the recommended mounting pad configuration for the SC-79 package. Solder paste containing flux should be screened onto the pads to a thickness of 0.005 - 0.007 inches. The plastic package is placed in position, firmly adhering to the solder paste.

Permanent attachment is performed by a reflow soldering procedure during which the tab temperature does not exceed +275°C and the body temperature does not exceed +250°C, for standard models and +260°C for the RoHS compliant devices.

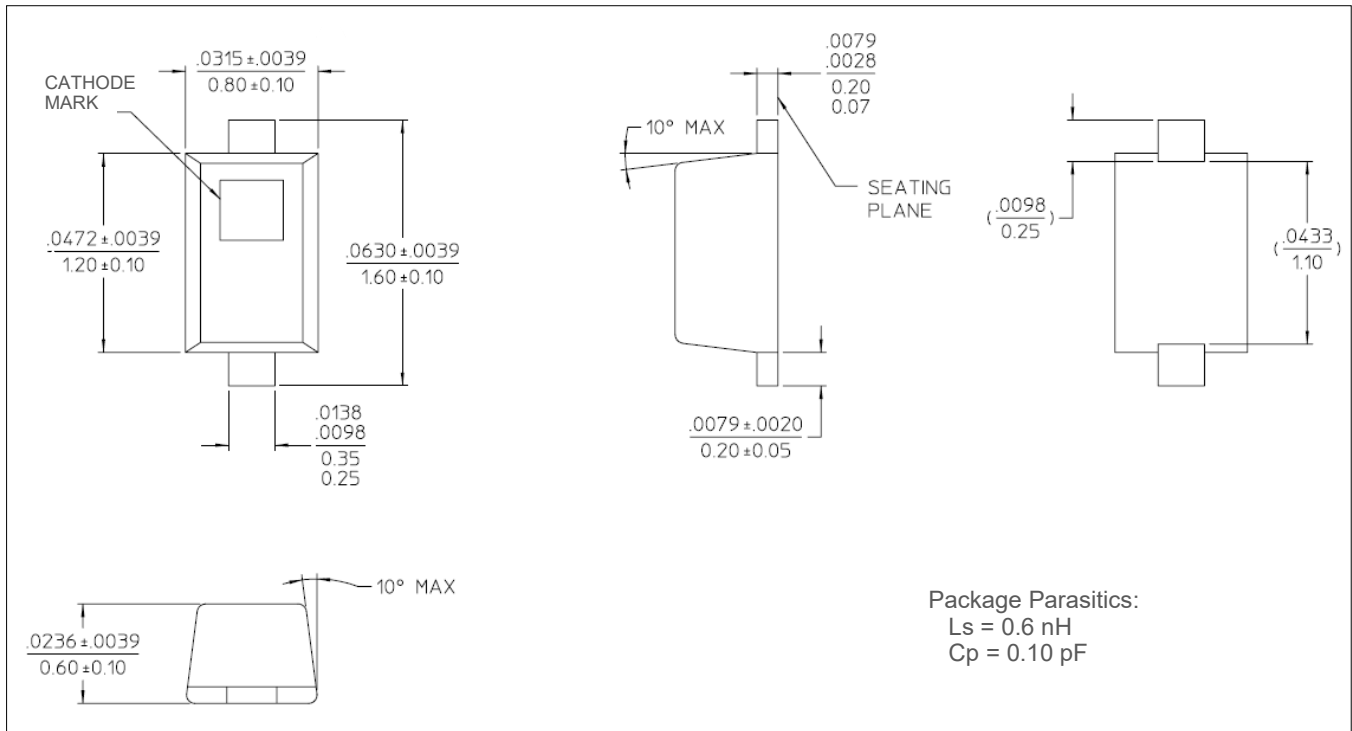
Please refer to Application Note M538 for surface mounting instructions.

Footprint: SC-79 (ODS-1279)



Dimensions: $\frac{\text{inches}}{\text{mm}}$

Case Style: SC-79 (ODS-1279)



Package Parasitics:
 $L_s = 0.6 \text{ nH}$
 $C_p = 0.10 \text{ pF}$

MACOM Technology Solutions Inc. ("MACOM"). All rights reserved.

These materials are provided in connection with MACOM's products as a service to its customers and may be used for informational purposes only. Except as provided in its Terms and Conditions of Sale or any separate agreement, MACOM assumes no liability or responsibility whatsoever, including for (i) errors or omissions in these materials; (ii) failure to update these materials; or (iii) conflicts or incompatibilities arising from future changes to specifications and product descriptions, which MACOM may make at any time, without notice. These materials grant no license, express or implied, to any intellectual property rights.

THESE MATERIALS ARE PROVIDED "AS IS" WITH NO WARRANTY OR LIABILITY, EXPRESS OR IMPLIED, RELATING TO SALE AND/OR USE OF MACOM PRODUCTS INCLUDING FITNESS FOR A PARTICULAR PURPOSE, MERCHANTABILITY, INFRINGEMENT OF INTELLECTUAL PROPERTY RIGHT, ACCURACY OR COMPLETENESS, OR SPECIAL, INDIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES WHICH MAY RESULT FROM USE OF THESE MATERIALS.

MACOM products are not intended for use in medical, lifesaving or life sustaining applications. MACOM customers using or selling MACOM products for use in such applications do so at their own risk and agree to fully indemnify MACOM for any damages resulting from such improper use or sale.