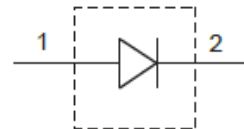
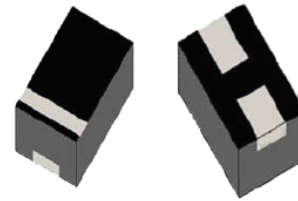


Features

- Small Size (50 x 30 mils)
- Broadband Performance up to 1 GHz
- Supports up to 20 W Power
- Low Insertion Loss, 0.05 dB up to 1 GHz
- Cost effective choice for switch applications
- RoHS* Compliant



0503 (Molded Plastic DFN Package)

Applications

- ISM

Description

The MSWSE-020-05 is a SPST PIN diode switch element designed for medium incident power applications, up to 20 W CW. It has low insertion loss and medium isolation below 0.5 GHz.

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

Parameter	Test Conditions	Min.	Typ.	Max.	Units
Breakdown Voltage	$I_R = 10 \mu\text{A}$	250	—	—	V
Forward Voltage	$I_F = 50 \text{ mA}$	—	850	950	mV
Junction Capacitance	$V_R = -50 \text{ V}, 1 \text{ MHz}$	—	0.53	0.65	pF
Total Capacitance	$V_R = -50 \text{ V}, 1 \text{ MHz}$	—	0.55	—	pF
Series Resistance	$I_F = 10 \text{ mA}, 500 \text{ MHz}$ $I_F = 100 \text{ mA}, 500 \text{ MHz}$	—	0.3 0.1	0.5 0.3	Ω
Lifetime	$I_F = 10 \text{ mA}, I_R = 6 \text{ mA}, 50\%$	—	600	1000	ns
I-Region	I-Layer	—	15	—	μm
Insertion Loss	$I_F = 50 \text{ mA}, 1 \text{ GHz}$	—	15.00 0.05	— 0.15	dB
Return Loss	$I_F = 50 \text{ mA}, 0.5 \text{ GHz}$ $I_F = 50 \text{ mA}, 1.0 \text{ GHz}$	35 —	40 38	—	dB
Isolation	$V_R = 50 \text{ V}, 0.5 \text{ GHz}$ $V_R = 50 \text{ V}, 1.0 \text{ GHz}$	11 —	14 8	—	dB

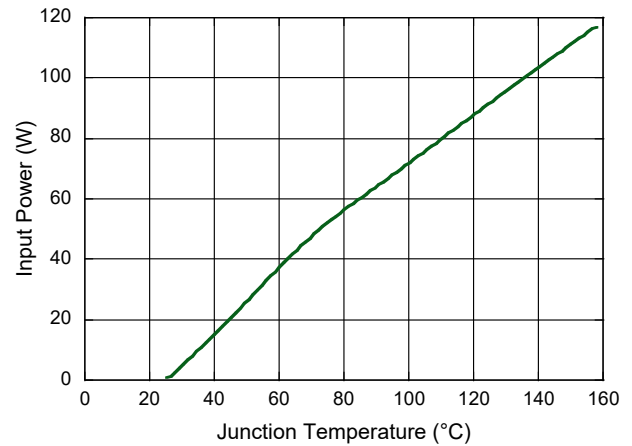
* Restrictions on Hazardous Substances, compliant to current RoHS EU directive.

Absolute Maximum Ratings^{1,2}

Parameter	Absolute Maximum
Breakdown Voltage	250 V
Forward Current	500 mA
Thermal Resistance	15°C/W
Junction Temperature	+175°C
Storage Temperature	-55°C to +150°C
Solder Temperature	+260°C per JEDEC STD-J-20C

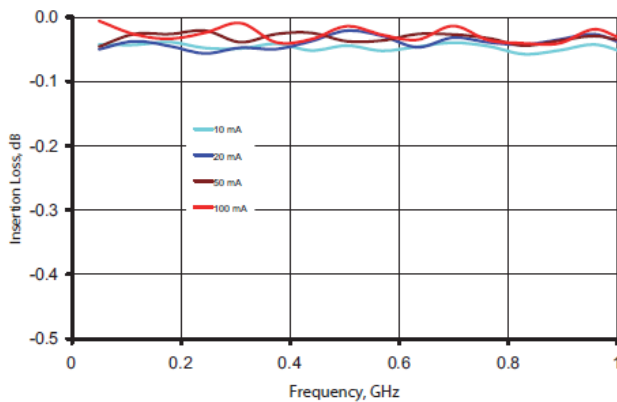
1. Exceeding any one or combination of these limits may cause permanent damage to this device.
2. MACOM does not recommend sustained operation near these survivability limits.

Junction Temperature vs. Input Power T_A = 25°C, 1.3 GHz, mounted on heatsink

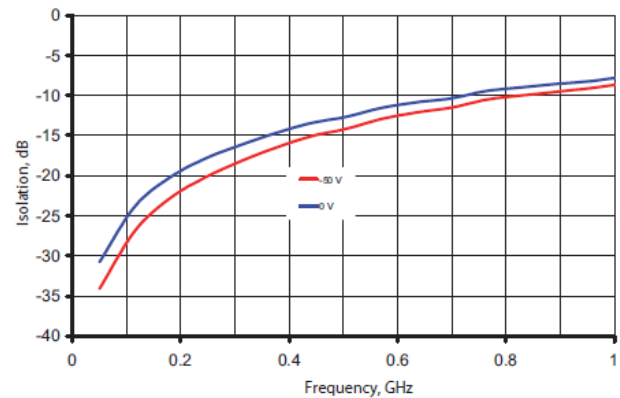


Typical RF Performance Curves @ +25°C

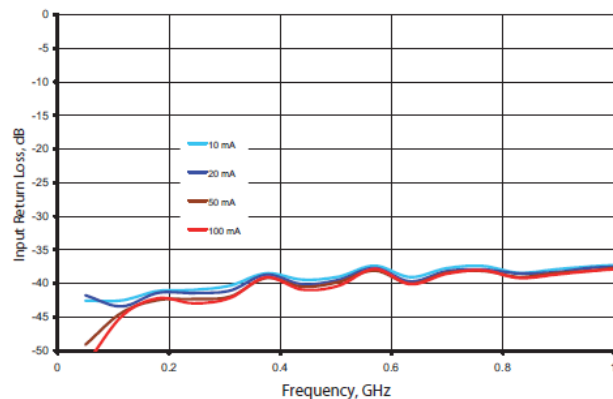
Insertion Loss



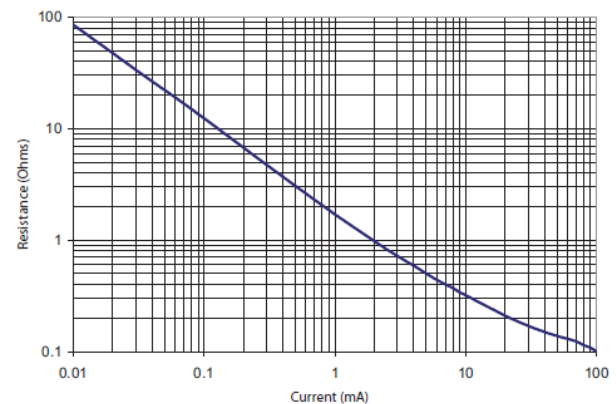
Isolation



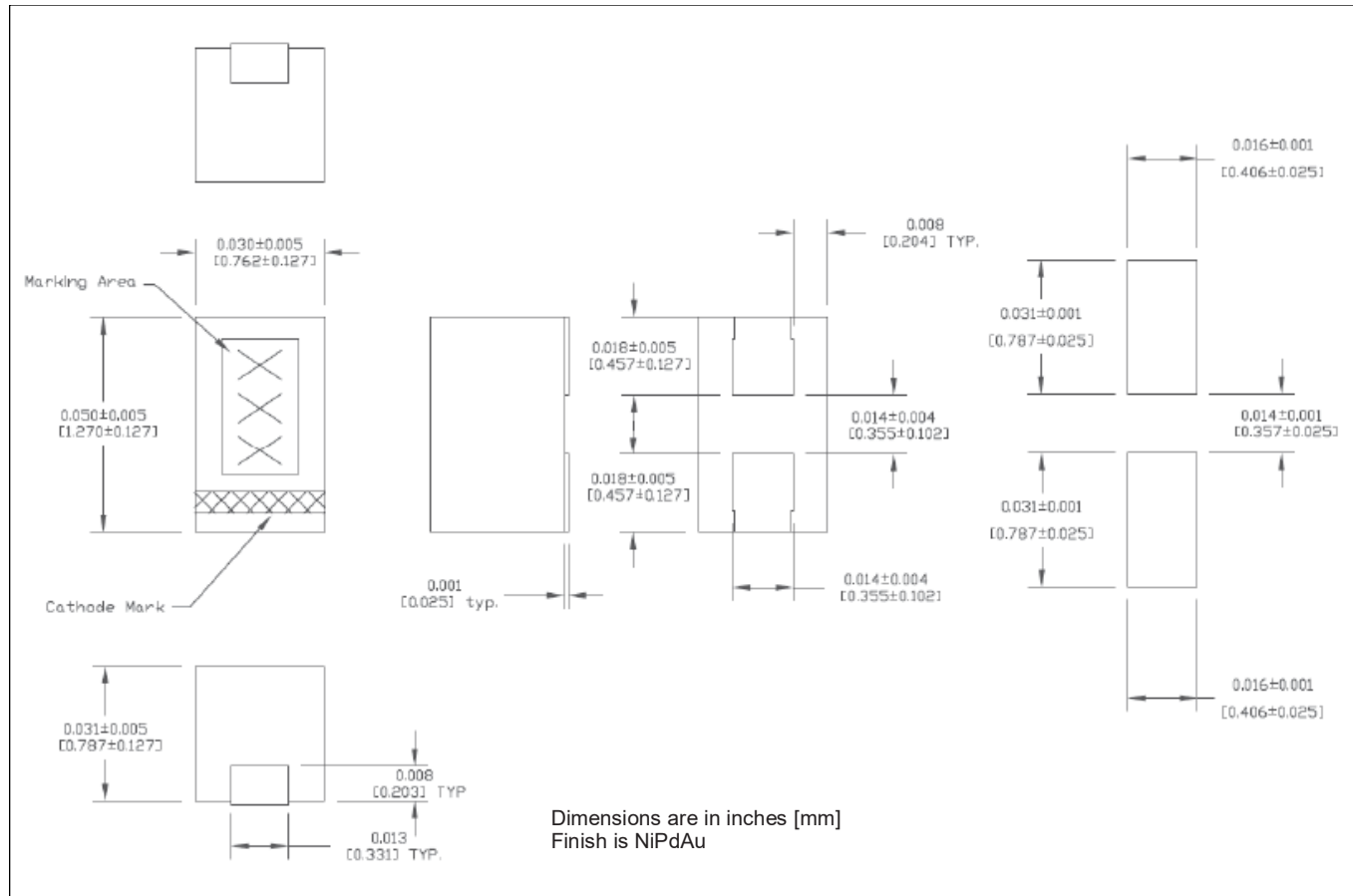
Input Return Loss



Series Resistance vs. Current



Package Outline (0503) & PCB Layout



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.

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for [PIN Diodes](#) category:

Click to view products by [MACOM](#) manufacturer:

Other Similar products are found below :

[MA45471](#) [APD1520-000](#) [APD2220-000](#) [BAR 63-02L E6327](#) [BAR 64-02EL E6327](#) [BAR 90-02ELS E6327](#) [APD0810-000](#) [MA4L032-186](#)
[MA4P606-258](#) [MA4P7435NM-1091T](#) [MA4PK2000](#) [MA4PK2001](#) [MA4PK2002](#) [MA4PK2003](#) [MA4PK2004](#) [MADP-030025-13140P](#) [BAR](#)
[65-02V H6327](#) [MA4PBL027](#) [MA4P404-30](#) [MA4AGFCP910](#) [MA4P7101F-1072T](#) [MA4L022-30](#) [MA47047-54](#) [CLA4610-000](#) [UM9301SM](#)
[5082-3077](#) [MADP-000502-12700P](#) [MA4P7493-134](#) [MA4L011-1088](#) [SMP1321-000](#) [UM4010SM](#) [UM7006B](#) [MADP-000015-000030](#)
[MPP4203-206](#) [MPS2R10-606](#) [MPP4205-206](#) [GC40605-15](#) [MA4L021-1056](#) [MSWSE-050-17](#) [MADP-007455-0287DT](#) [MADP-007448-](#)
[1146DT](#) [MA4P929-401](#) [MA4P7455-287T](#) [LM200802-M-A-300-T](#) [MADP-010633-13920T](#) [MADP-007436-0287DT](#)
[BAR6503WE6327HTSA1](#) [MADP-007433-0287HT](#) [MPL4702-406/TR](#) [MPL4703-406/TR](#)