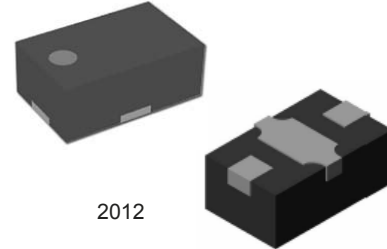


### Features

- Low Distortion Harmonics, -85 dBc
- Broadband Performance, >10 GHz
- Low Insertion Loss
- High Attenuation, 27 dB
- RoHS\* Compliant

### Description

MSAT-N25 is a broadband, high linearity, medium power shunt NIP attenuator packaged in a 1.9 x 1.1 mm DFN package. This device is designed for wireless telecommunication infrastructure and test instrument applications and it is also suited for other applications in 0.1 ~ 10 GHz range.



2012

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

Parameter	Test Conditions	Units	Min.	Typ.	Max.
Breakdown Voltage ( $V_{BR}$ )	$I_R = 10 \mu\text{A}$	V	200	—	—
Lifetime ( $L_T$ )	$I_F = 10 \text{ mA}$ , $I_R = 6 \text{ mA}$ , 10% / 90%	ns	2000	3000	5000
Minimum Series Resistance ( $R_S$ )	$I = 100 \text{ mA}$ , 500 MHz	$\Omega$	—	1.5	2.5
High Series Resistance ( $R_S$ )	$I = 10 \mu\text{A}$ , 500 MHz	$\Omega$	2000	3000	4000
Low Series Resistance ( $R_S$ )	$I = 1 \text{ mA}$ , 500 MHz	$\Omega$	30	40	50
Attenuation	$I = 100 \text{ mA}$ , $\leq 10 \text{ GHz}$	dB	20	25	—

### Absolute Maximum Ratings

Parameter	Absolute Maximum
Forward Current ( $I_F$ )	200 mA
Reverse Voltage ( $V_R$ )	200 V
Thermal Resistance ( $\theta_{JC}$ )	+20°C/W
Junction Temperature ( $T_J$ )	+175°C
Storage Temperature ( $T_{STG}$ )	-65°C to +125°C
Assembly Temperature ( $T_{SOLDER}$ )	+260°C

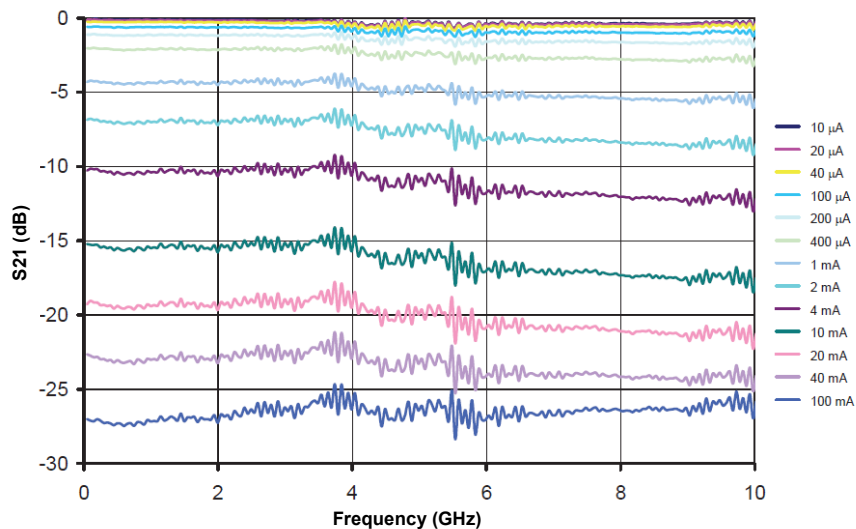
\* Restrictions on Hazardous Substances, compliant to current RoHS EU directive.

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](http://www.macom.com) for additional data sheets and product information.

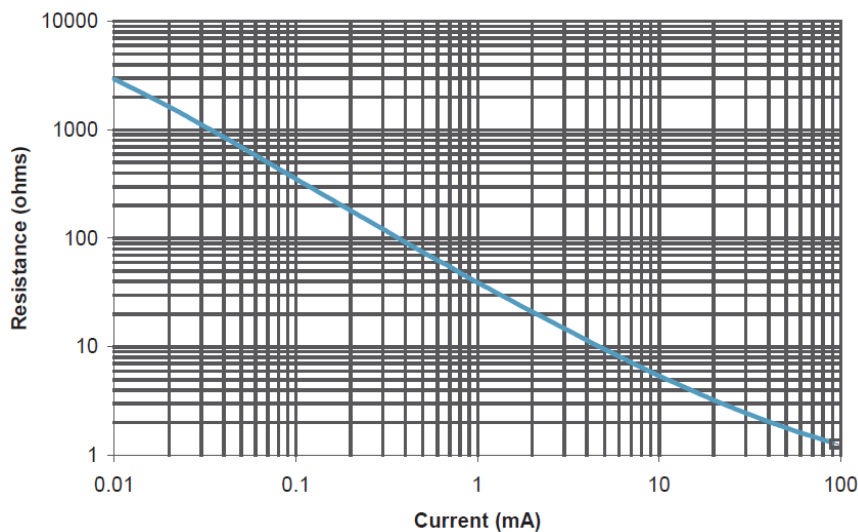
For further information and support please visit:  
<https://www.macom.com/support>

### Performance Curves

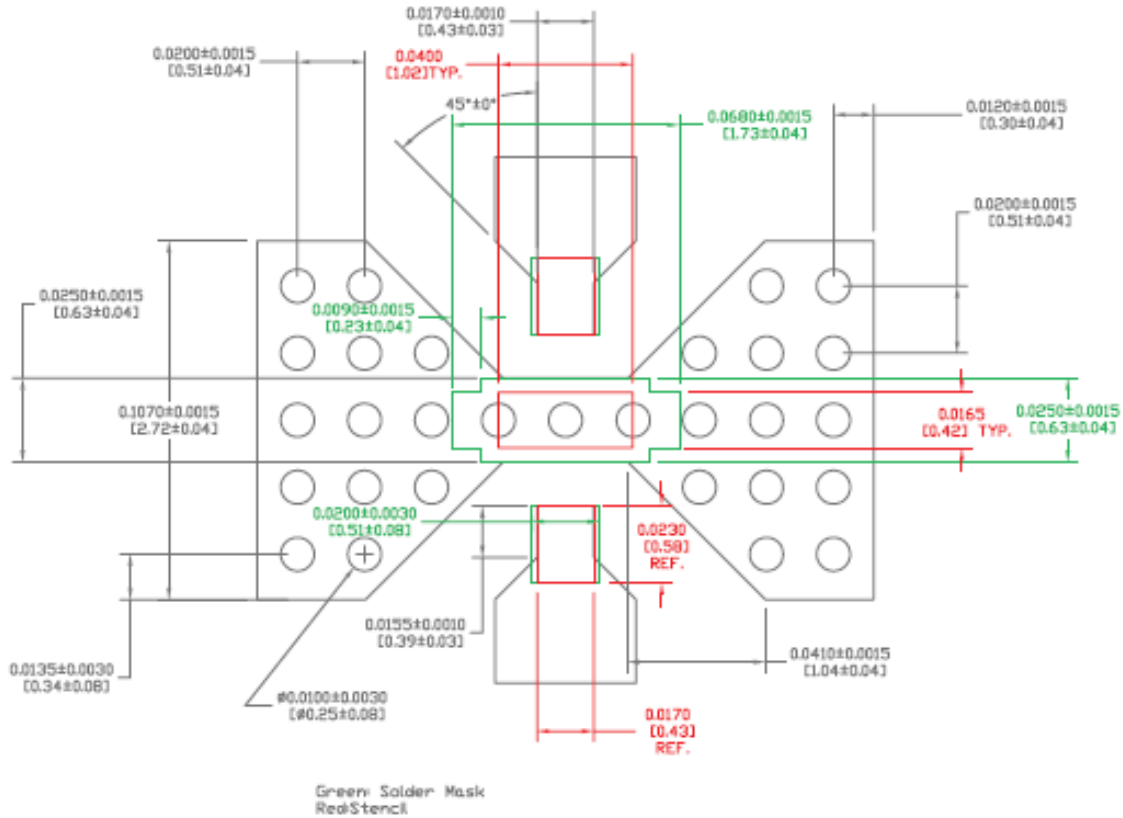
**Attenuation vs. Current**



**Resistance vs. Current**

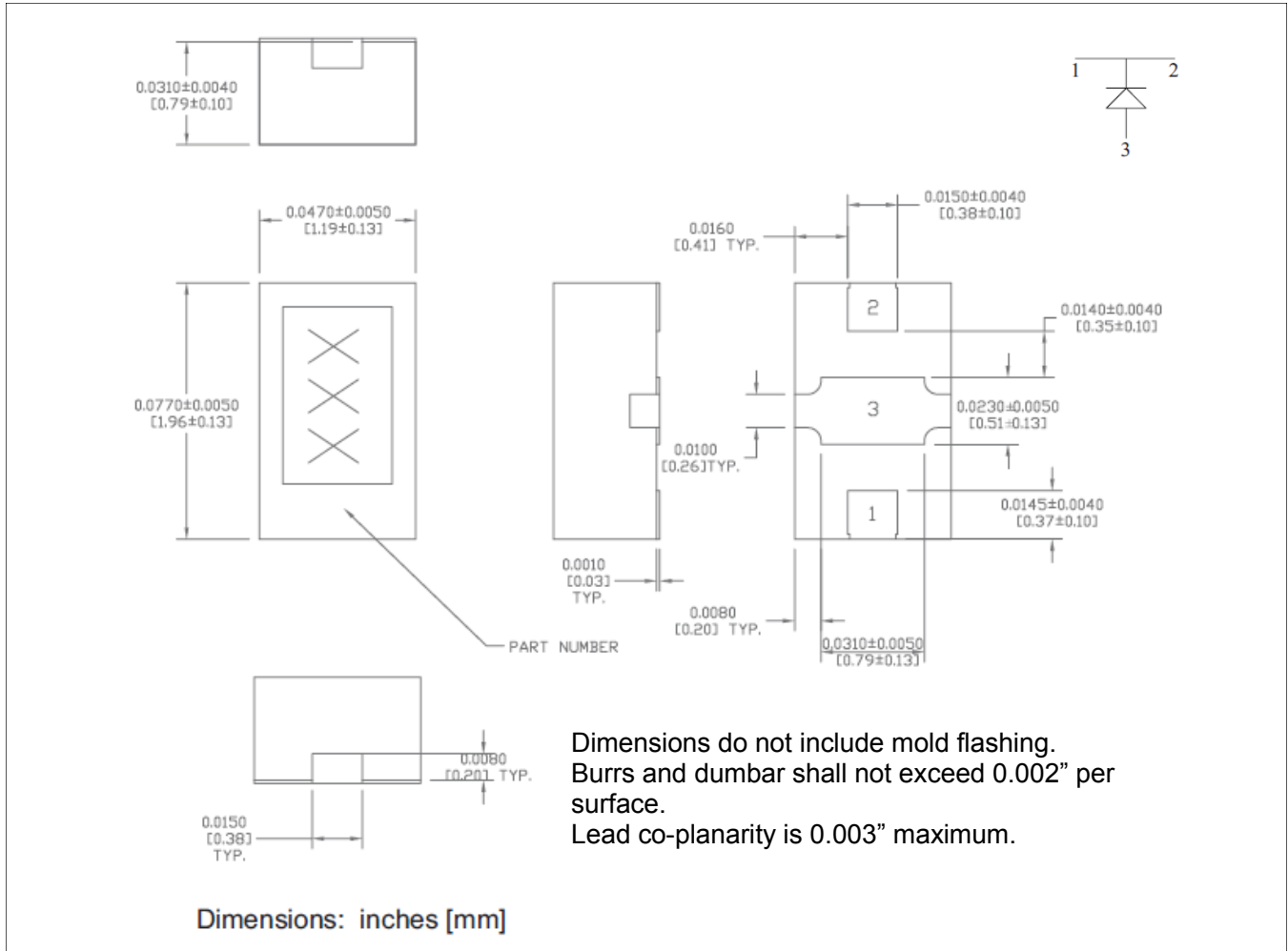


### Recommended PCB Layout<sup>1,2</sup>



1. If possible, use copper filled vias underneath pin 3 for better thermal performance; otherwise, use vias that are plated through, filled and plated over.
2. Solder mask should provide a 60 µm clearance between copper pad and solder mask. Rounded package pads should have matching rounded solder mask openings.

### Outline (2012)



MACOM Technology Solutions Inc. All rights reserved.

Information in this document is provided in connection with MACOM Technology Solutions Inc ("MACOM") products. These materials are provided by MACOM as a service to its customers and may be used for informational purposes only. Except as provided in MACOM's Terms and Conditions of Sale for such products or in any separate agreement related to this document, MACOM assumes no liability whatsoever. MACOM assumes no responsibility for errors or omissions in these materials. MACOM may make changes to specifications and product descriptions at any time, without notice. MACOM makes no commitment to update the information and shall have no responsibility whatsoever for conflicts or incompatibilities arising from future changes to its specifications and product descriptions. No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document.

THESE MATERIALS ARE PROVIDED "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, RELATING TO SALE AND/OR USE OF MACOM PRODUCTS INCLUDING LIABILITY OR WARRANTIES RELATING TO FITNESS FOR A PARTICULAR PURPOSE, CONSEQUENTIAL OR INCIDENTAL DAMAGES, MERCHANTABILITY, OR INFRINGEMENT OF ANY PATENT, COPYRIGHT OR OTHER INTELLECTUAL PROPERTY RIGHT. MACOM FURTHER DOES NOT WARRANT THE ACCURACY OR COMPLETENESS OF THE INFORMATION, TEXT, GRAPHICS OR OTHER ITEMS CONTAINED WITHIN THESE MATERIALS. MACOM SHALL NOT BE LIABLE FOR ANY SPECIAL, INDIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, INCLUDING WITHOUT LIMITATION, LOST REVENUES OR LOST PROFITS, WHICH MAY RESULT FROM THE 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](#)