

PIN Diode

Dual series PIN Diode for VHF, UHF and AGC

NSVP249SDSF3

This PIN diode is designed to realize compact and efficient designs. Two PIN diodes are incorporated in one SC-70 package. The use of dual PIN diodes can reduce both system cost and board space. This PIN diode is AEC-Q101 qualified and PPAP capable for automotive applications.

Features

- Series connection of 2 elements in a small-size package
- Small Interterminal Capacitance ($C = 0.23 \text{ pF typ}$)
- Small Forward Series Resistance ($r_s = 4.5 \text{ } \Omega \text{ max}$)
- AEC-Q101 qualified and PPAP capable
- Pb-Free, Halogen Free and RoHS Compliance

Typical Applications

- Auto Gain Control for Radio

SPECIFICATIONS ABSOLUTE MAXIMUM RATINGS at $T_A = 25^\circ\text{C}$

| Symbol | Parameter | Value | Unit |
|----------------|--|-------------|------------------|
| V_R | Reverse Voltage | 50 | V |
| I_F | Forward Current | 50 | mA |
| P | Allowable Power Dissipation | 100 | mW |
| T_J, T_{stg} | Operating Junction and Storage Temperature | -55 to +125 | $^\circ\text{C}$ |

Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

ELECTRICAL CHARACTERISTICS at $T_A = 25^\circ\text{C}$ (Note 1)

| Symbol | Parameter | Conditions | Min | Typ | Max | Unit |
|--------|---------------------------|--|-----|------|-----|---------------|
| V_R | Reverse Voltage | $I_R = 10 \text{ } \mu\text{A}$ | 50 | - | - | V |
| I_R | Reverse Current | $V_R = 50 \text{ V}$ | - | - | 0.1 | μA |
| V_F | Forward Voltage | $I_F = 50 \text{ mA}$ | - | 0.92 | - | V |
| C | Interterminal Capacitance | $V_R = 50 \text{ V}, f = 1 \text{ MHz}$ | - | 0.23 | - | pF |
| r_s | Series Resistance | $I_F = 10 \text{ mA}, f = 100 \text{ MHz}$ | - | - | 4.5 | Ω |

Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

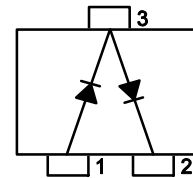
1. The specifications shown above are for each individual diode.



MCP3
CASE 419AJ

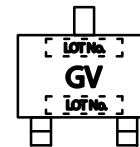
50 V, 50 mA
 $r_s = 4.5 \text{ } \Omega \text{ max}$
PIN Diode

ELECTRICAL CONNECTION



1 : Anode
2 : Cathode
3 : Cathode / Anode

MARKING DIAGRAM



ORDERING INFORMATION

See detailed ordering and shipping information on page 3 of this data sheet

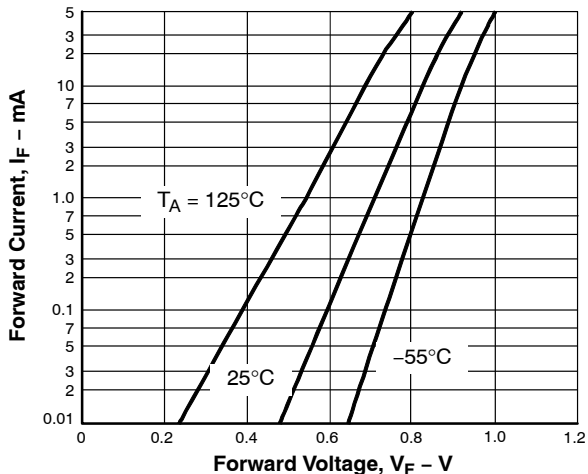


Figure 1. $I_F - V_F$

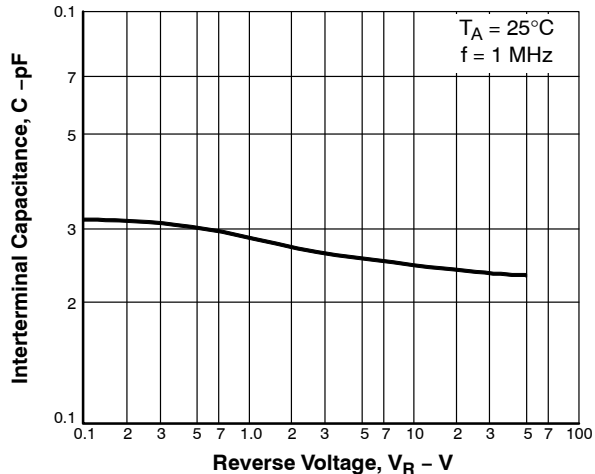


Figure 2. $C - V_R$

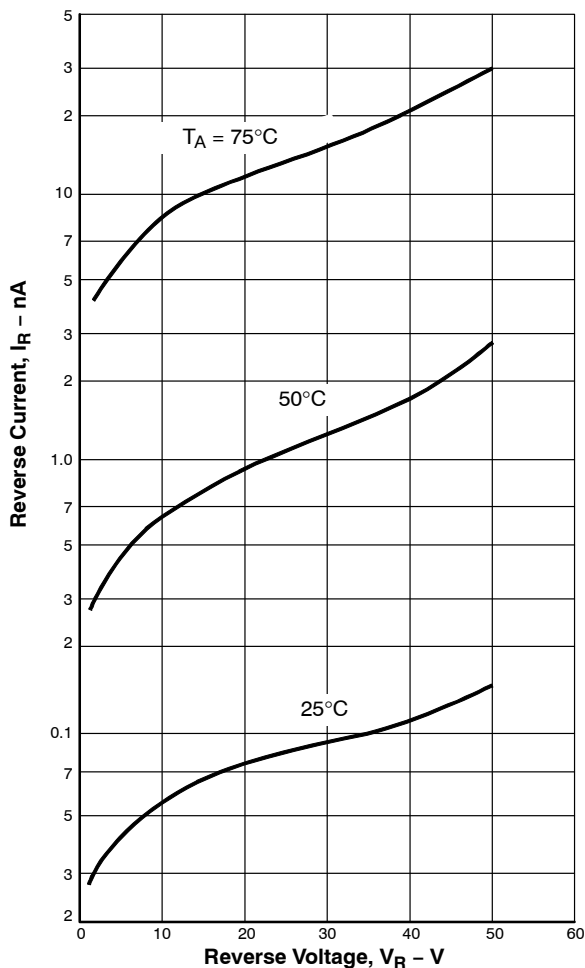


Figure 3. $I_R - V_R$

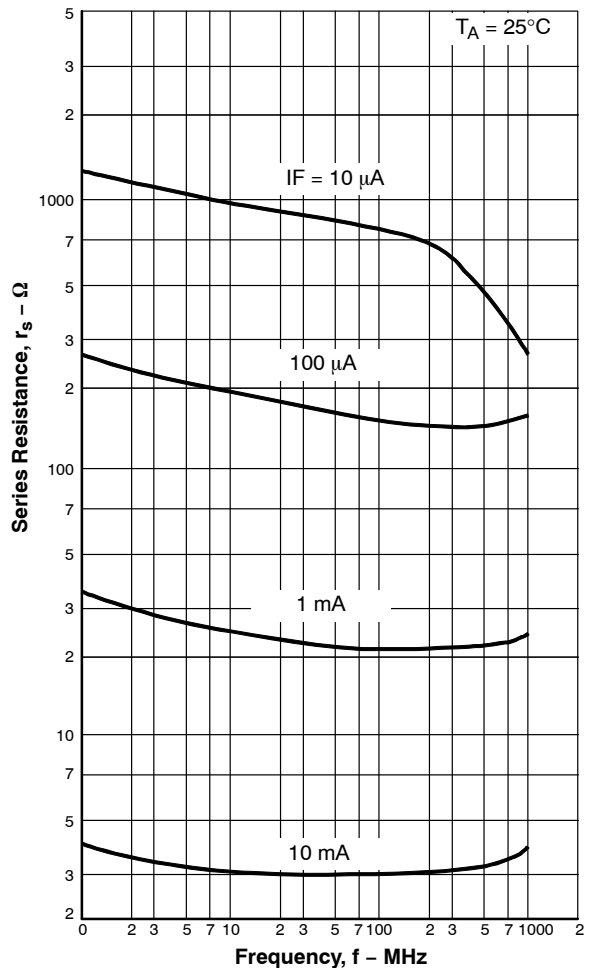


Figure 4. $r_s - f$

NSVP249SDSF3

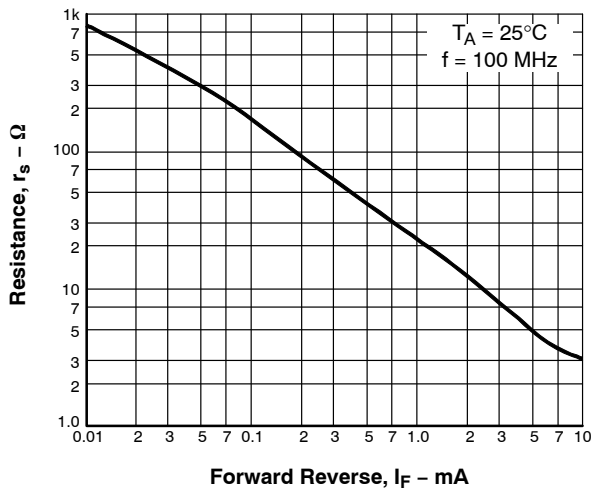


Figure 5. r_s - I_F

ORDERING INFORMATION

| Device | Marking | Package | Shipping [†] |
|-----------------|---------|--|-----------------------|
| NSVP249SDSF3T1G | GV | SC-70 / MCP3 (Pb-Free / Halogen Free) | 3,000 / 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](#).

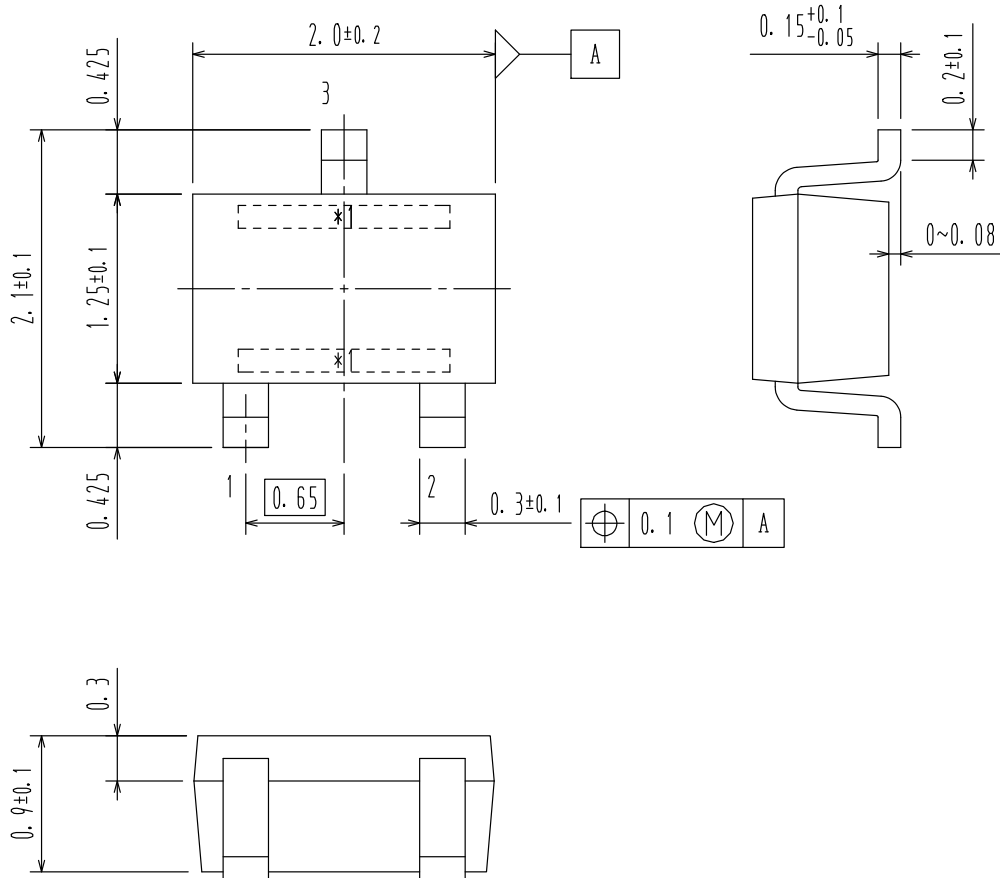
MECHANICAL CASE OUTLINE
PACKAGE DIMENSIONS

ON Semiconductor®



SC-70 / MCP3
CASE 419AJ
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DATE 30 NOV 2011



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| DESCRIPTION: | SC-70 / MCP3 | PAGE 1 OF 1 |

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