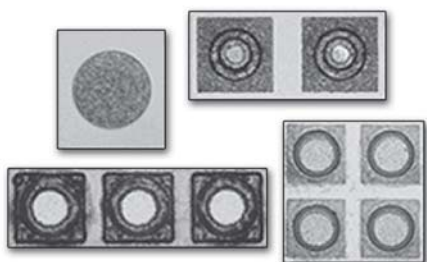


# MPN7300 Series Mesa PIN Diodes



## Description

Metelics's silicon mesa PIN diodes provide low capacitance and fast switching for switches, phase shifters, modulators and high speed attenuators.

## Features

- Low Capacitance / Fast Switching
- Passivated Mesa Junctions
- Wide Selection of  $R_s$  and  $C_j$

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

Part Number	$V_{BR}$ @ 10uA Min. V	$C_j$ @ 10 V Max. pF	$R_s$ @ 10mA Max. $\Omega$	$\tau$ Typ. ns	Nominal I-Region Width $\mu\text{m}$	Nominal Contact Diameter mils	Ojc Max. $^\circ\text{C}/\text{W}$	Nominal Chip Size mils
MPN7302	20	0.12	1.5	8	2	1.5	60	15 x 15
MPN7306	60	0.10	1.2	50	6	2	60	15 x 15
MPN7310	100	0.07	2.0	100	10	2	50	15 x 15
MPN7312	120	0.10	1.5	150	12	2	45	15 x 15
MPN7315	150	0.12	1.5	180	15	2	40	15 x 15
MPN7320	150	0.03	4.0	120	20	1.5	60	10 x 10
Test Conditions	$I_R = 10 \mu\text{A}$	$V_R = 10 \text{ V}$	$I_F = 10\text{mA}$ $f = 1 \text{ GHz}$	$I_F = 10 \text{ mA}$ $I_R = 6 \text{ mA}$ 50% Recovery				

- NOTES:
1. All devices available in a variety of packages – see outline drawings
  2. Consult factory for special version, high reliability screening or custom designs

## Absolute Maximum Ratings

Parameters	Limit
Total Power Dissipation	0.5 Watts @ $25^\circ\text{C}$ Derate linearly to zero @ $+175^\circ\text{C}$
Operation Temperature	$-65^\circ\text{C}$ to $+175^\circ\text{C}$
Storage Temperature	$-65^\circ\text{C}$ to $+200^\circ\text{C}$
Voltage	$V_{BR}$ Rating



## Typical Performance, $T_A = 25^\circ\text{C}$

Figure 1.

Series Resistance vs. Forward Current

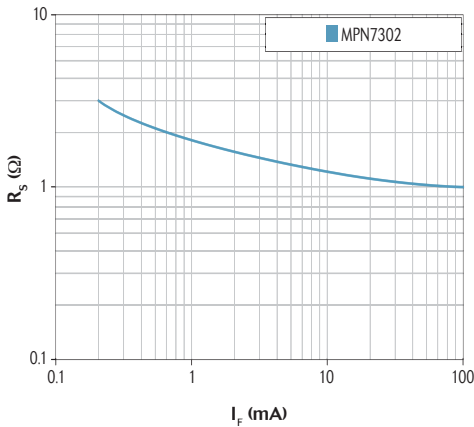


Figure 2.

Series Resistance vs. Forward Current

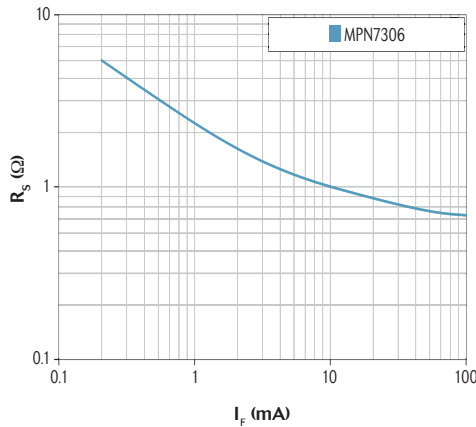


Figure 3.

Series Resistance vs. Forward Current

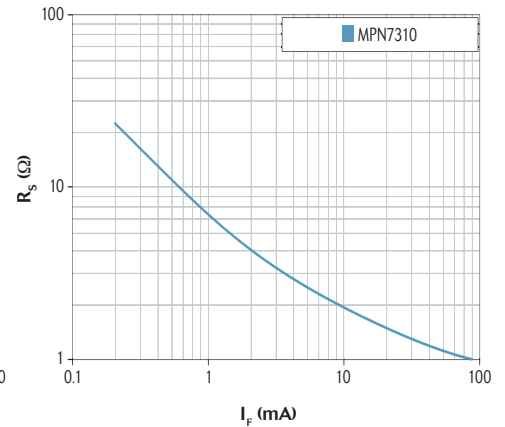


Figure 4.

Series Resistance vs. Forward Current

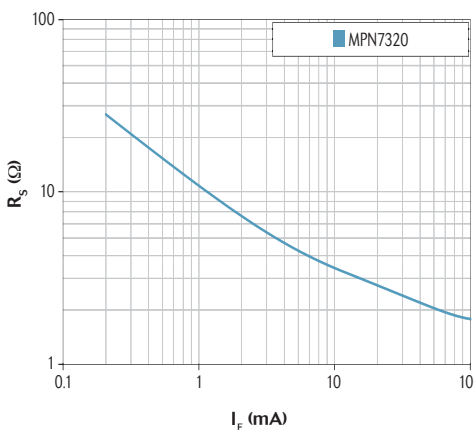
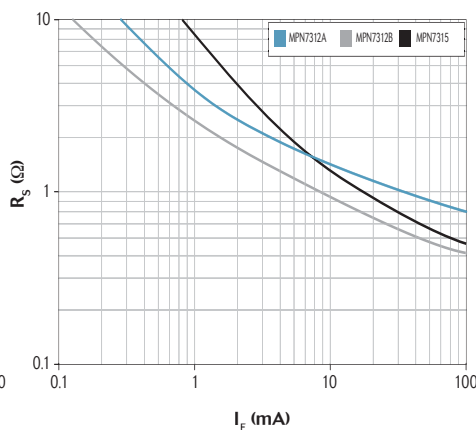


Figure 5.

Series Resistance vs. Forward Current



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