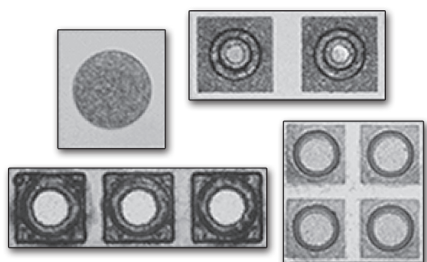


MPN7300 Series Mesa PIN Diodes



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. Ω	τ Typ. ns	Nominal I-Region Width μm	Nominal Contact Diameter mils	Ojc Max. $^\circ\text{C/W}$	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°C Derate linearly to zero @ $+175^\circ\text{C}$
Operation Temperature	-65°C to $+175^\circ\text{C}$
Storage Temperature	-65°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

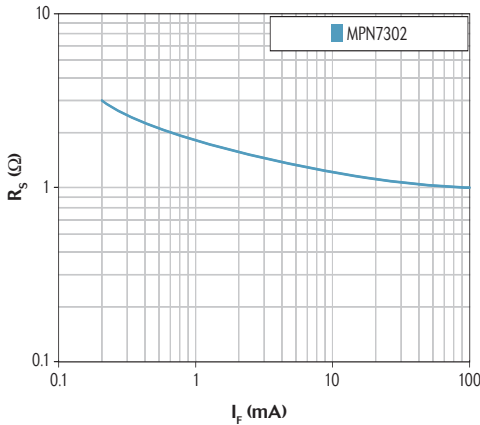


Figure 2.

Series Resistance vs. Forward Current

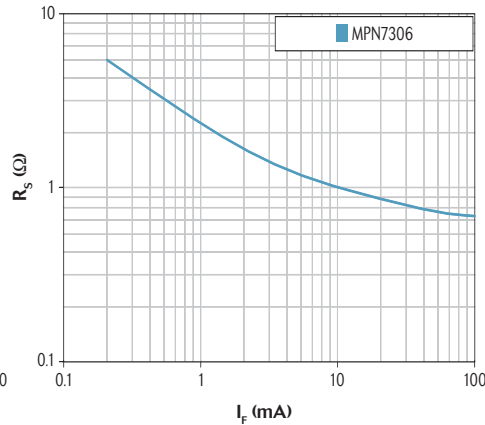


Figure 3.

Series Resistance vs. Forward Current

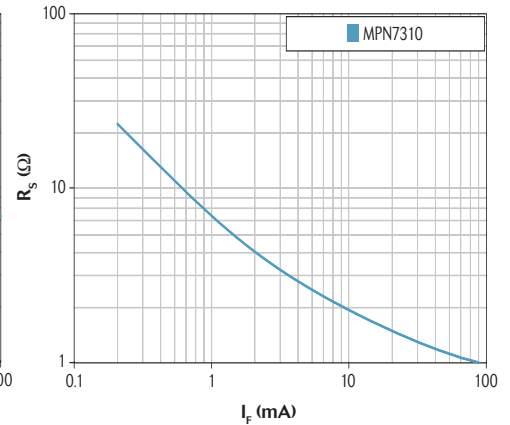


Figure 4.

Series Resistance vs. Forward Current

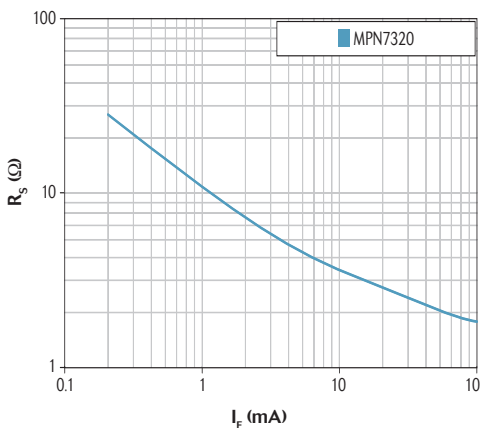
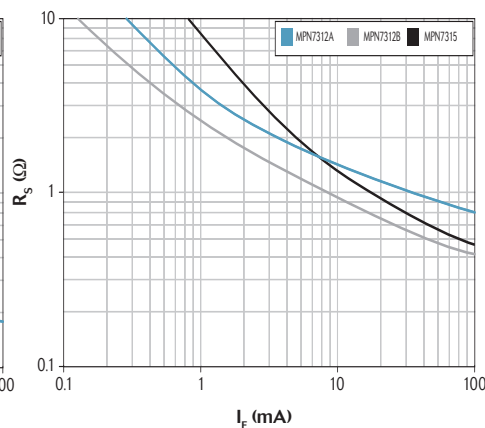


Figure 5.

Series Resistance vs. Forward Current



Aeroflex / Metelics Inc.

Aeroflex Microelectronic Solutions
975 Stewart Drive
Sunnyvale, CA 94085
TEL: 408-737-8181

Sales

888-641-SEMI (7364)
metelics-sales@aeroflex.com

www.aeroflex.com/Microwave www.aeroflex.com/Metelics

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Our passion for performance is defined by three attributes represented by these three icons: solution-minded, performance-driven and customer-focused.