

Step Recovery Diodes

SemiGen's SSR series of Step Recovery Diodes are epitaxial silicon varactors which provide high output power and efficiencies in harmonic generator applications. Using custom epitaxial wafers, our process ensures high reproducibility. The silicon dioxide passivation process assures greater stability and low leakage currents over temperature. Uniform capacitance ensures repeatability from device to device. These diodes are available in chip or packaged form.

Features:

- Wide Selection of Tightend Capacitance Ranges
- Low Transition Times
- High Efficiencies

Applications:

For use in waveguide, coaxial and stripline applications.

Packages:

Chip, Glass, Ceramic



Junction Capacitance C_j @ -6V, 1MHz (pF)	Maximum Breakdown Voltage V_b @ 10 μ A (V)	Minimum Carrier Lifetime T_1 I_f = 6 mA I_f = 10 mA (nS)	Maximum Transition Time T_t (pS)	Maximum Series Resistance R_s I_f = 25 mA R_s (Ohms)	Maximum Thermal Resistance ³ θ_{Cj} °C/W	Part Number
0.2 - 0.4	15	8	60	1.20	125	SSR700
0.4 - 0.6	15	8	60	1.00	100	SSR701
0.6 - 0.8	15	8	60	0.70	100	SSR702
0.8 - 1.0	15	8	60	0.50	75	SSR703
1.0 - 1.4	15	8	60	0.40	75	SSR704
1.4 - 2.0	15	8	60	0.30	60	SSR705
2.0 - 3.0	15	8	60	0.25	60	SSR706
0.2 - 0.4	20	11	70	1.00	100	SSR710
0.4 - 0.6	20	11	70	0.70	75	SSR711
0.6 - 0.8	20	11	70	0.60	75	SSR712
0.8 - 1.0	20	11	70	0.50	75	SSR713
1.0 - 1.4	20	11	70	0.40	75	SSR714
1.4 - 2.0	20	11	70	0.30	60	SSR715
2.0 - 3.0	20	11	70	0.25	60	SSR716
0.2 - 0.4	30	17	100	0.80	75	SSR720
0.4 - 0.6	30	17	100	0.60	60	SSR721
0.6 - 0.8	30	17	100	0.50	60	SSR722
0.8 - 1.0	30	17	100	0.40	60	SSR723
1.0 - 1.4	30	17	100	0.30	60	SSR724
1.4 - 2.0	30	17	100	0.25	50	SSR725
2.0 - 3.0	30	17	100	0.20	50	SSR726
0.2 - 0.4	40	21	150	0.80	50	SSR730
0.4 - 0.6	40	21	150	0.60	50	SSR731
0.6 - 0.8	40	21	150	0.50	50	SSR732
0.8 - 1.0	40	21	150	0.40	50	SSR733
1.0 - 1.4	40	21	150	0.30	50	SSR734
1.4 - 2.0	40	21	150	0.25	40	SSR735
2.0 - 3.0	40	21	150	0.20	40	SSR736

Maximum Ratings		
Operating Temperature	Storage Temperature	Minimum Voltage Breakdown
-55° C to +150° C	-65° C to +200° C	15, 20, 30, and 40 V @ 10 μ A

1. Junction Capacitance is measured at 1 MHz.

2. Series Resistance is measured using a Hewlett Packard model 4191A impedance analyzer.

3. Thermal Resistance is measured using pulsed conditions while measuring forward voltage drop across the diode mounted in an infinite heat sink.

4. All specifications are measured in case style PK37