SKYWORKS®

Product Brief

Applications

- Collision avoidance
- Garage door openers
- Infotainment
- Navigation
- Radar
- Remote keyless entry
- Telematics / cellular
- Toll tag transponders
- Vehicle tracking

Features

- AEC-Q101 qualified[1]
- Broad frequency range: 10 MHz to 100 GHz
- Small form factor packages

PIN, Schottky, Varactor Diodes for Automotive Applications

The connected car has become one of the latest platforms to provide consumers greater connectivity and enhanced safety. Skyworks is pleased to offer solutions supporting a wide variety of automotive and transportation infrastructure systems. Skyworks' diode portfolio includes AEC-Q101 qualified[1] products ideal for infotainment, remote keyless entry, telematics / cellular, garage door opener, toll tag transponder, vehicle tracking, navigation, collision avoidance and radar applications.

PIN Diodes

PIN diodes are ideal building blocks for many forms of RF switching – from single-pole, single-throw to multi-throw switches. Our offering includes:

- Very low capacitance diodes, ideal for high isolation switches commonly used in the classic series-shunt transmit-receive switch topology.
- High power, low-series-resistance PIN diodes used in a shunt configuration for application of up to 100 watts.

PIN diodes are also commonly used in pi and tee configurations for low distortion attenuator applications.

Schottky Diodes

Schottky diodes are optimal for use in detector and mixer functions performing at frequencies from below 10 MHz to 100 GHz. Our offering includes:

- High, medium, low and zero-biased-detector, barrier-height Schottky junctions with low capacitance and low resistance.
- Mixer diodes are available in a series of ring quad and bridge quad configurations.

Varactor Diodes

Varactor diodes are used as electrical tuning elements in voltage controlled oscillators (VCOs), voltage-variable analog phase shifters and voltage tuned filters (VTFs). Our offering includes:

- Abrupt junction tuning varactors, useful for low loss, narrow band circuits.
- Hyperabrupt junction varactors, useful for wide bandwidth VCOs and VTFs and wide phase range variable phase shifters.

1. Not all stresses listed within AEC-Q101 have been performed. Qualification report available upon request. Contact your sales representative for more information. For the full details of Skyworks Quality and Reliability on our products that can be designed into automotive applications, please view the "Skyworks Quality Standards for Automotive Customers" on our website.

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Diodes for Automotive Applications

Part Number	Function	Features
PIN Diodes for Switching and Attenuation		
SMPA1302-079LF	Attenuation	Low distortion, low drive current
SMPA1304-011LF	Attenuation	Low distortion
SMPA1320-079LF	Switching	Moderate power switching
SMPA1345-040LF	Switching	Very low capacitance for high isolation
Schottky Diodes for Mixing and Detection		
SMSA3923-011LF	Detection / Mixing	Higher input power
SMSA7621-060	Detection / Mixing	0201 high sensitivity detector – performs up to 100 GHz
SMSA7630-061	Detection / Mixing	0201 high sensitivity detector – performs up to 100 GHz
Varactor Diodes for Tuning		
SMVA1248-079LF	Tuning	High capacitance ratio, low series resistance
SMVA1253-079LF	Tuning	High capacitance ratio, low series resistance
SMVA1470-004LF	Tuning	High capacitance, low series resistance
SMVA1705-004LF	Tuning	Low series resistance

Skyworks Green™ products are compliant to all applicable materials legislation and are halogen-free. For additional information, please refer to Skyworks Definition of Green™, document number SQ04-0074.

As an industry leader, Skyworks has demonstrated its quality leadership and strengthened its commitment to customer satisfaction through formal, third-party registration of ISO 9001, ISO 14001-2004 and ANSI/ESD S.20.20.

For the latest information, please visit our website at www.skyworksinc.com