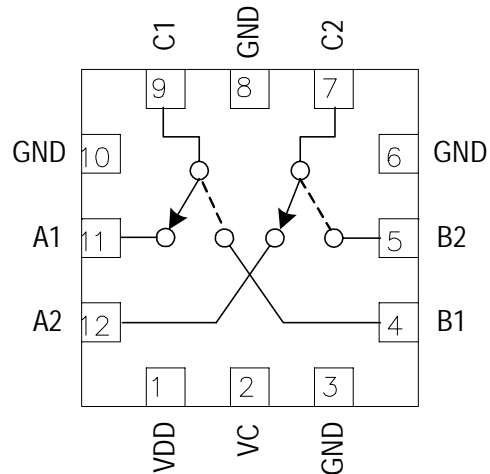


Features

- **Low Insertion Loss:** 0.4 dB @ 1.0 GHz
- **High Isolation:** 26 dB @ 2.0 GHz
- **Single low control voltage:** 1.3 to 3.3 V
- **No external DC blocking capacitors required**
- **Small UQFN12L (2x2x0.4mm) package**
Using Lead (Pb) free materials with RoHS compliant

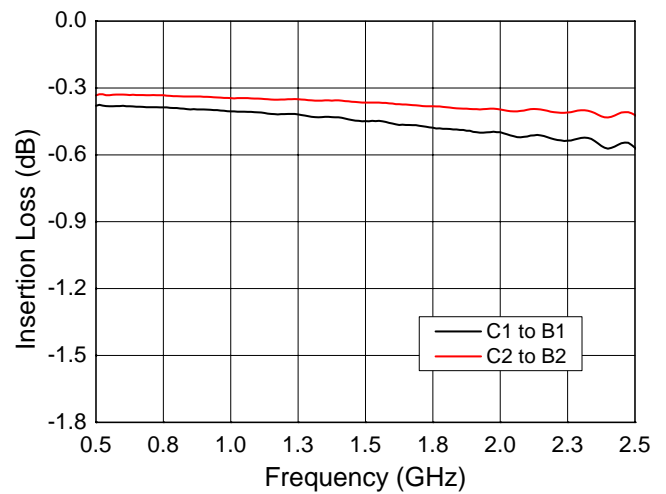
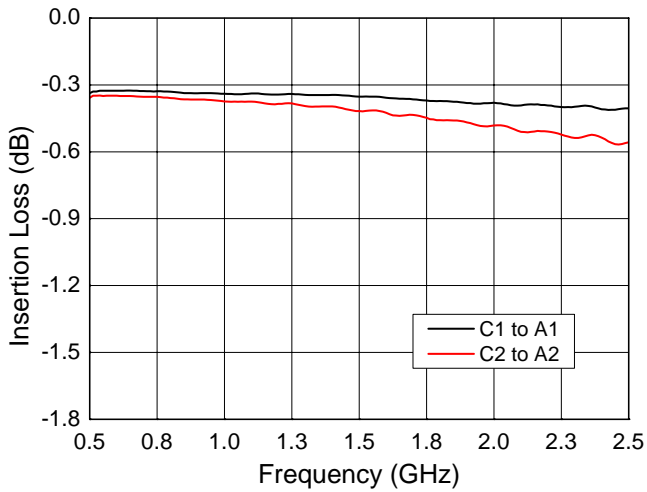
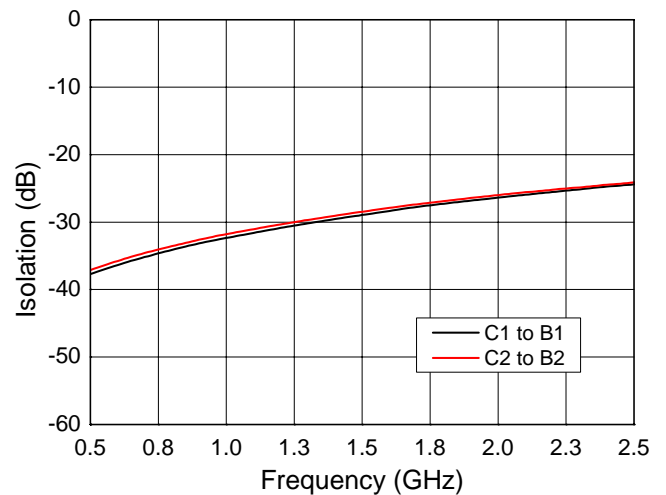
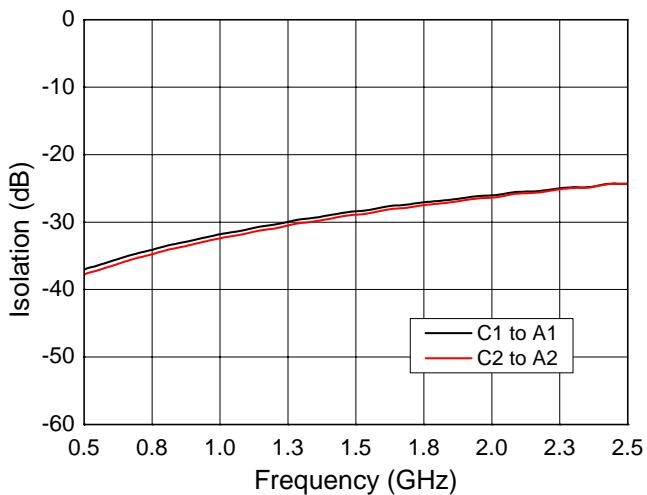
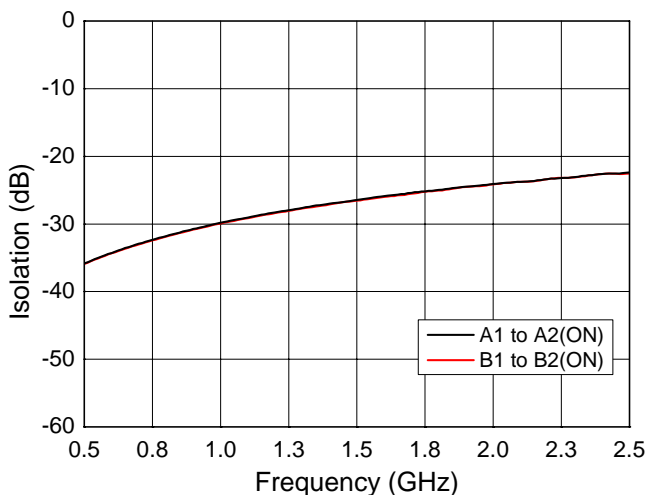
Description

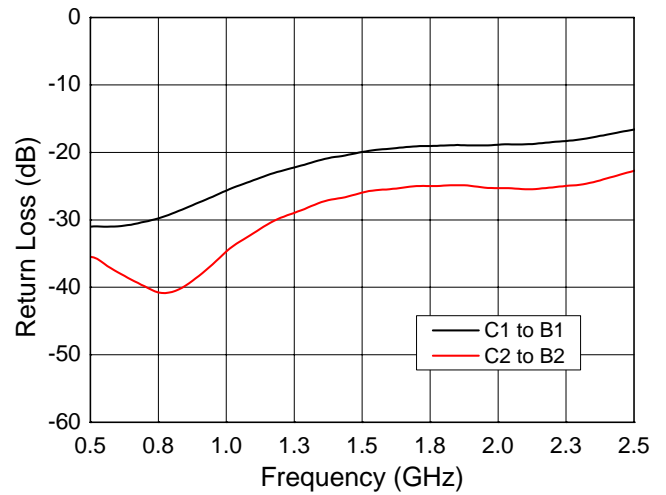
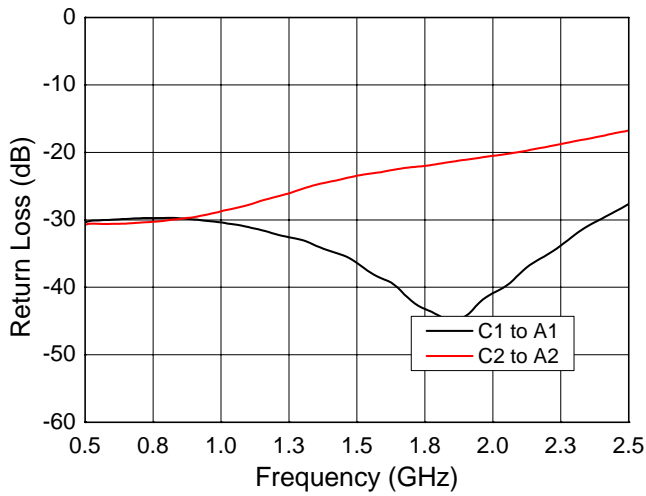
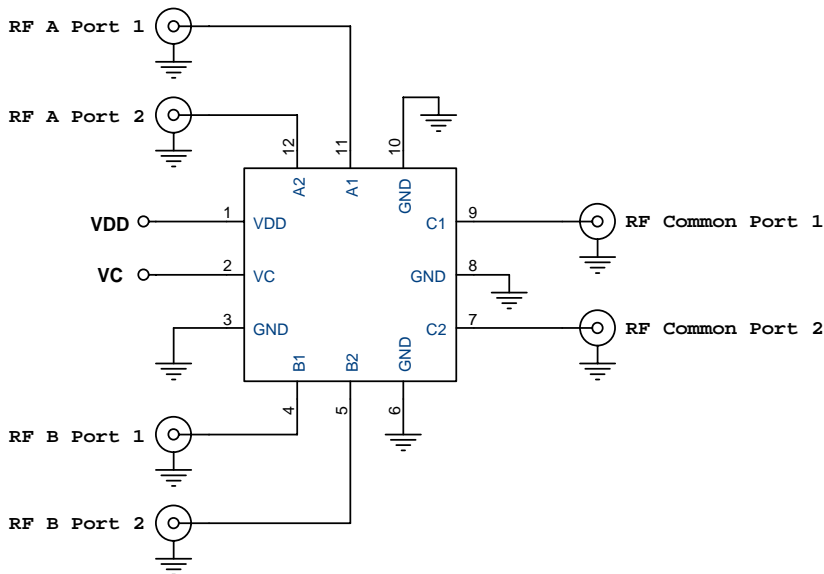
The HWS532 is a GaAs X-Crossed SPDT switch operating at 0.5-2.5 GHz in a UQFN12L (2x2x0.4mm) package. The HWS532 features low insertion loss with very low DC power consumption. This switch can be used in wireless mobile systems for transmit/receive or antenna diversity functions.

Top View

Electrical Specifications at 25°C with 0, VDD=+2.8V

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
RF Specification						
Insertion Loss	IL	C1 to A1/B1 C2 to A2/B2 0.5-1.0 GHz 1.0-2.0 GHz		0.4 0.5	0.5 0.6	dB
Isolation	ISO	C1 to A1/B1 C2 to A2/B2 0.5-1.0 GHz 1.0-2.0 GHz 2.0-2.5 GHz	19	31 26 22		dB
Return Loss	RL	0.5-2.5 GHz	15	20		dB
Input Power for 0.2dB Compression	P0.2dB	2.0 GHz		30		dBm
2 nd and 3 rd Harmonics		Pin=+20dBm		-70		dBc
DC Specification						
Supply Voltage	V _{DD}		1.8	2.8	3.3	V
Supply Current	I _{DD}	V _{DD} =2.8V		85		uA
Control Voltage High	V _c		1.3		V _{DD}	V
Control Voltage Low			0		0.3	
Control Current	I _c			0.5	2	uA
Switching Specification						
Switching Time		50% V _c to 90/10% RF 10% RF to 90% RF		500 100		ns
Startup Time		Shutdown to RF State			100	us

Note: All measurements made in a 50 ohm system with VDD=+2.8V supply voltages, unless otherwise specified.

Typical Performance Data @+25°C with VDD=+2.8V
Insertion Loss vs. Frequency

Isolation Loss vs. Frequency

Isolation Loss vs. Frequency (A1 to A2/B1 to B2, on state)


Return Loss vs. Frequency

Pin Configuration


Note: No DC block capacitors are required on the RF ports if DC levels of all RF ports are 0V or open

Pin #.	Name	Description	Pin #.	Name	Description
1	VDD	DC power supply	6,8,10	GND	Ground
2	VC	DC control voltage	7	C2	RF common port (Antenna)
3	GND	Ground	9	C1	RF common port (Antenna)
4	B1	RF port	11	A1	RF port
5	B2	RF port	12	A2	RF port

Logic Table for Switch On-Path

VC	On Path
H	C1-A1, C2-A2
L	C1-B1, C2-B2

'H' = +1.3V to V_{DD}

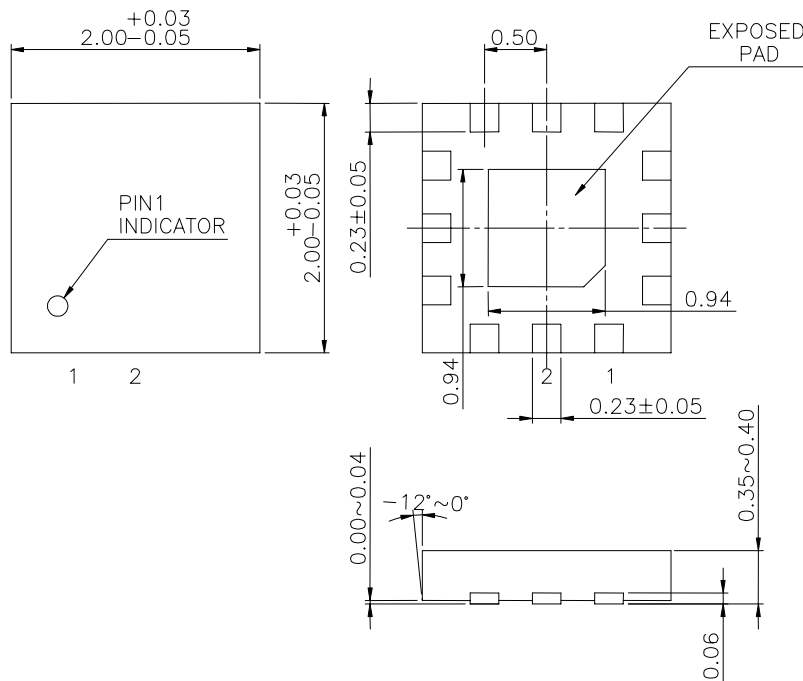
'L' = 0V to +0.3V

Absolute Maximum Ratings

Parameter	Absolute Maximum
RF Input Power 0.5-2.5 GHz	+31 dBm
Supply Voltage	+4V
Operating Temperature	-40°C to +85°C
Storage Temperature	-65°C to +150°C

Package Outline

Unit: mm



Unit:mm