

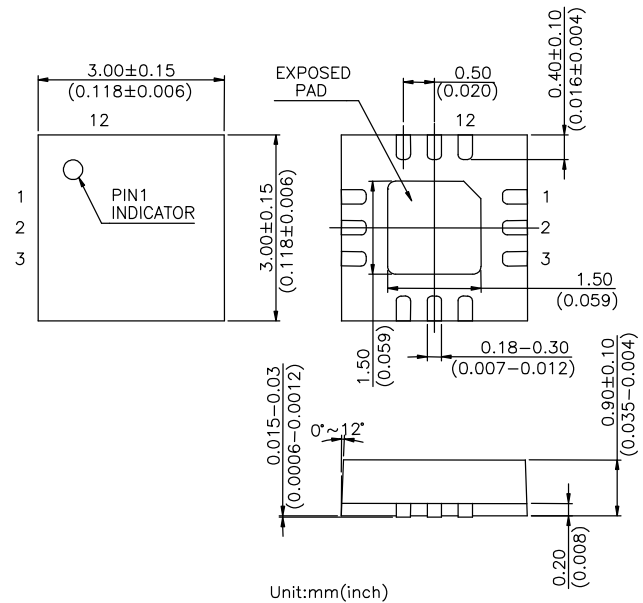
Features

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- **High Isolation:** 55 dB @ 870 MHz
- **50 or 75 Ohm Systems**
- **Low DC Power Consumption**
- **Miniature QFN12L (3x3 mm) Plastic Package**

Description

The HWS400 is a GaAs MMIC SPDT terminated (non-reflective) switch in a low cost QFN12L (3x3 mm) plastic package and can be used in both 50 ohm and 75 ohm systems. The HWS400 features low insertion loss and high isolation with very low DC power consumption. Typical applications include CATV and basestation systems for either SPDT or SPST functions.

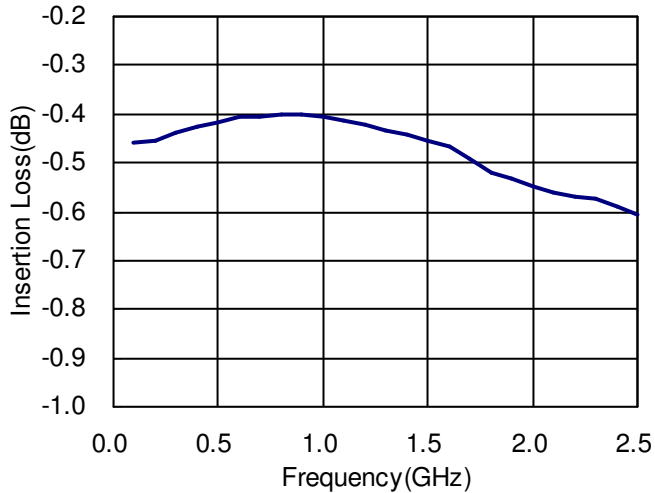
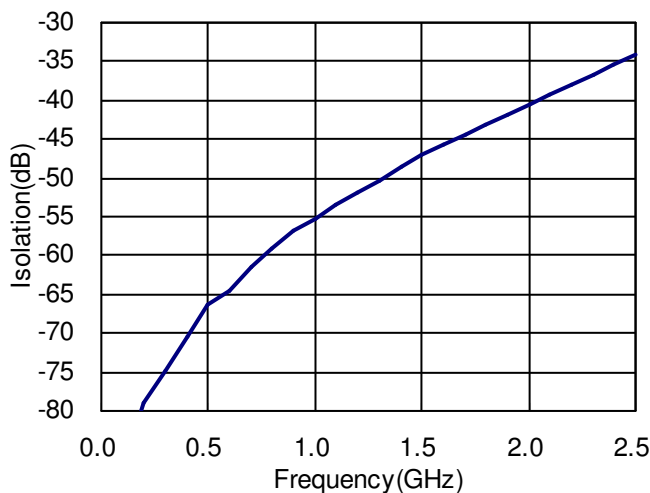
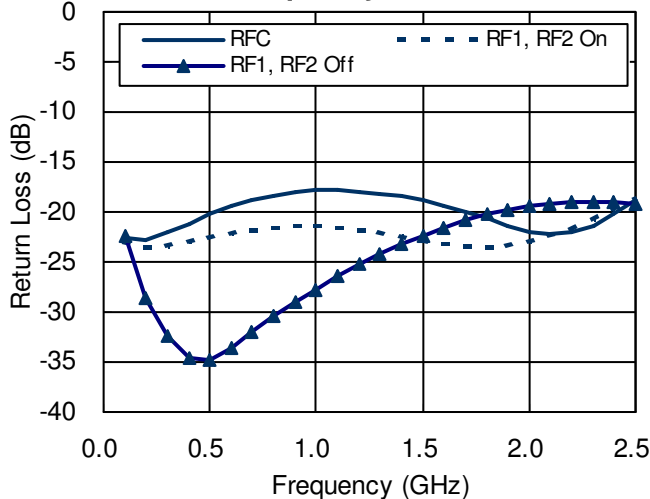
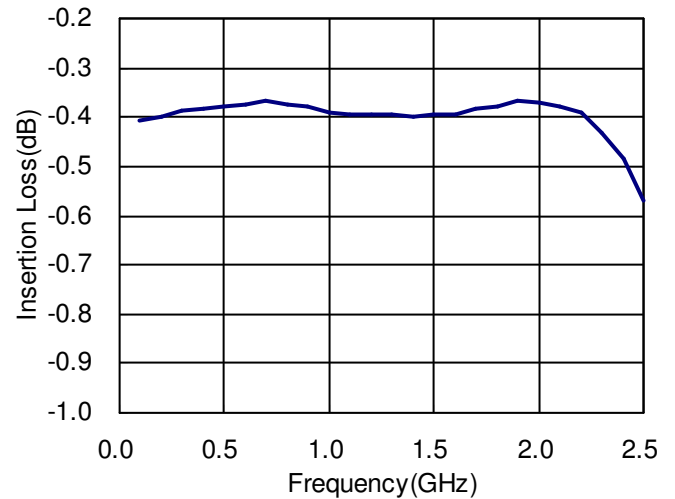
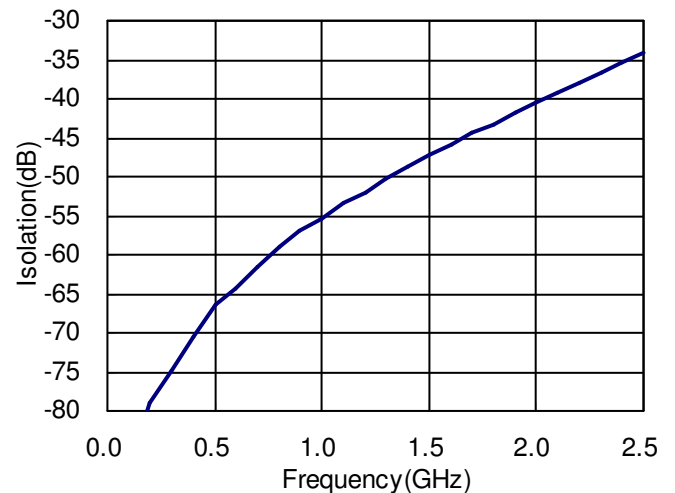
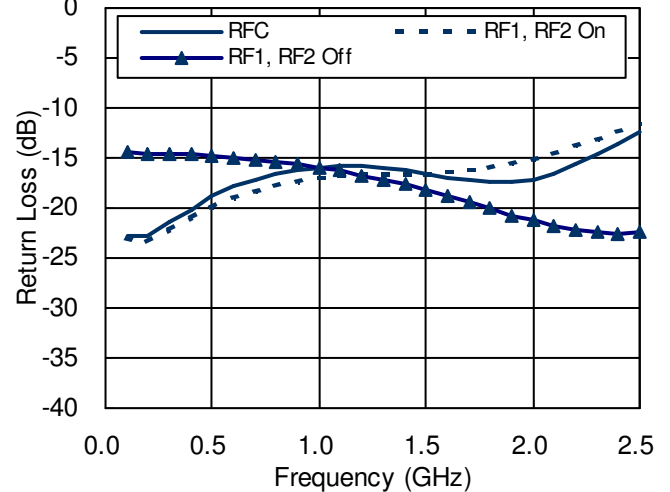
QFN12L (3 x 3 mm)



Electrical Specifications at 25 °C with 0, +5V Control Voltages, 50 Ohm system

Parameter	Test Conditions	Min.	Typ.	Max.	Unit
Insertion Loss	DC-870 MHz		0.5		dB
	870-1000 MHz		0.6		dB
	1000-2000 MHz		0.6	0.9	dB
Isolation	DC-870 MHz		55		dB
	870-1000 MHz		53		dB
	1000-2000 MHz	36	39		dB
Return Loss	DC-2000 MHz		18		dB
Input Power for One dB Compression	500-2000 MHz		28		dBm
Input Third Order Intermodulation Intercept Point	500-2000 MHz		48		dBm
Switching Time			50		ns
Control Current			30	300	uA

Note: All measurements made in a 50 ohm system with 0/+5V control voltages, unless otherwise specified.

Typical Performance Data, 50 Ohm System @ +25 °C
Insertion Loss vs Frequency

Isolation vs Frequency

Return Loss vs Frequency

Typical Performance Data, 75 Ohm System @ +25 °C
Insertion Loss vs Frequency

Isolation vs Frequency

Return Loss vs Frequency


Absolute Maximum Ratings

Parameter	Absolute Maximum
RF Input Power	+32 dBm @ +5V
Control Voltage	+6V
Operating Temperature	-40°C to +85°C
Storage Temperature	-65°C to +150°C

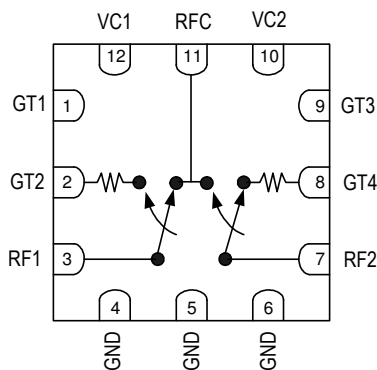
Logic Table for Switch On-Path

VC1	VC2	RFC-RF1	RFC-RF2
0	1	Insertion Loss	Isolation
1	0	Isolation	Insertion Loss

'1' = +3V to +5V

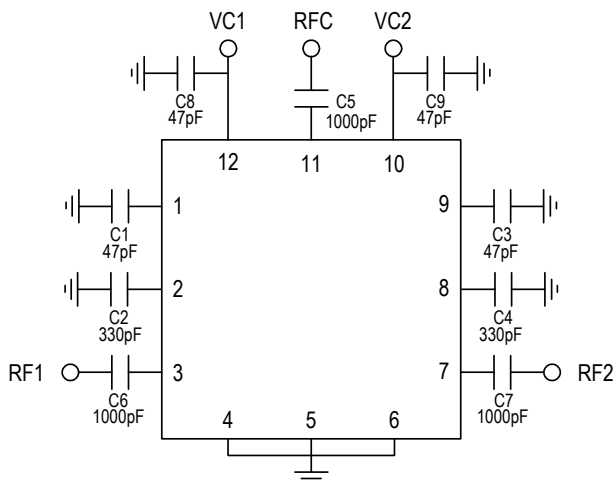
'0' = 0V to +0.2V

Pin Out (Top View)



Exposed pad in the bottom must be connected to ground by via holes.

Application Circuit



Note:

- 0402 size components are recommended.
- Capacitance values for C1, C2, C3, and C4 are critical for isolation performance.