

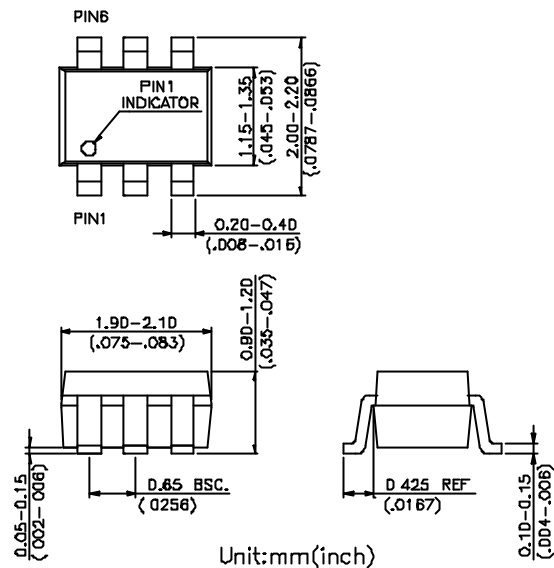
## Features

- **Low Insertion Loss:** 0.35 dB @ 2 GHz
- **Isolation:** 26 dB @ 2 GHz
- **P1dB:** +25 dBm Typical @ +3V
- **IP3:** 43 dBm
- **Low DC Power Consumption**
- **Low Cost SOT-363 Using Lead (Pb) free materials with RoHS compliant**

## Description

The HWS418 is a GaAs SPDT switch operating at DC-2.5 GHz in a low cost SOT-363 plastic lead (Pb) free package. The HWS418 features low insertion loss with very low DC power consumption. This general purpose switch can be used in analog and digital wireless communication systems.

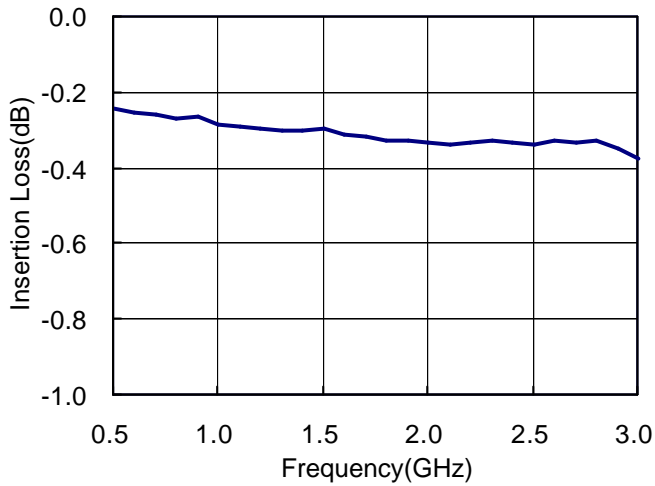
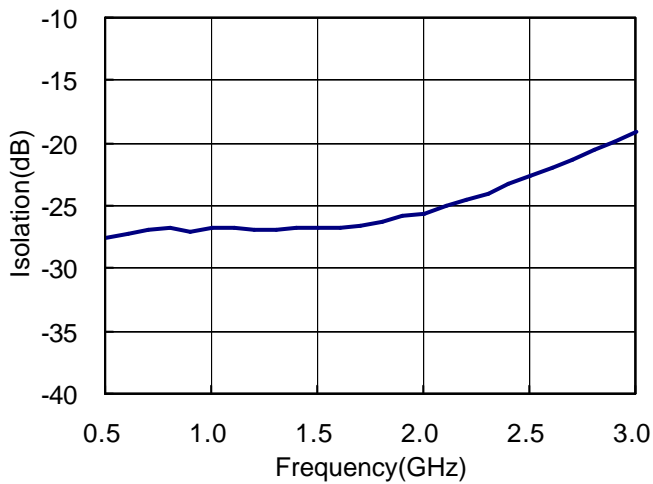
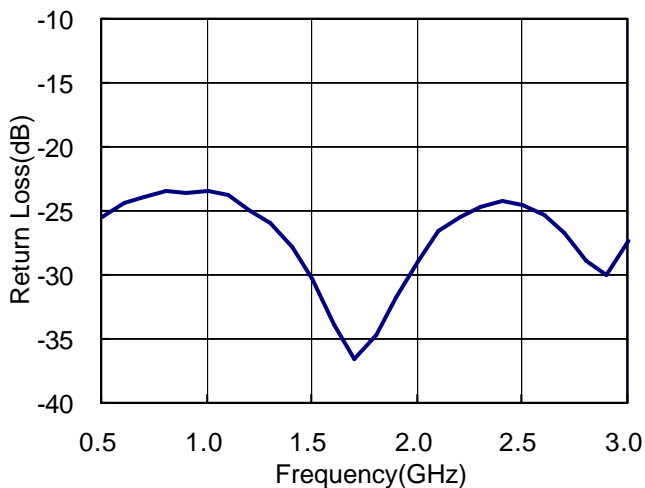
## SOT-363



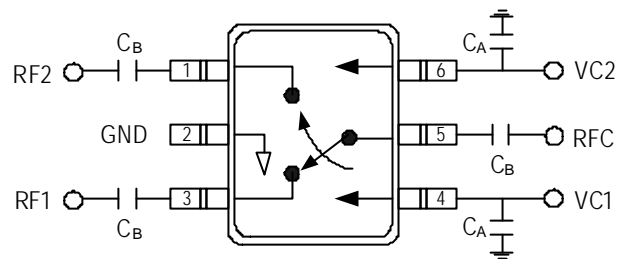
## Electrical Specifications at 25° C with 0, +3V Control Voltages

Parameter	Test Conditions	Min.	Typ.	Max.	Unit
Insertion Loss	DC-2.0 GHz		0.35	0.55	dB
	DC-2.5 GHz		0.40	0.60	dB
Isolation	DC-1.0 GHz	25	28		dB
	DC-2.0 GHz	22	25		dB
	DC-2.5 GHz	21	23		dB
Return Loss	DC-2.5 GHz		20		dB
Input Power for One dB Compression	0.5-2.5 GHz @ 0/+3V		25		dBm
	@ 0/+5V		30		dBm
Input Third Order Intermodulation Intercept Point	+5 dBm Per Tone @ 0.5-2.5 GHz @ 0/+3V @ 0/+5V		43 48		dBm dBm
Switching Time			50		ns
Control Current			5	50	uA

Note: All measurements made in a 50 ohm system with 0/+3V control voltages, unless otherwise specified.

**Typical Performance Data @ +25°C**
**Insertion Loss vs Frequency**

**Isolation vs Frequency**

**Return Loss vs Frequency**

**Absolute Maximum Ratings**

Parameter	Absolute Maximum
RF Input Power 0.5-2.5 GHz	+30 dBm
Control Voltage	+6V
Operating Temperature	-40°C to +85°C
Storage Temperature	-65°C to +150°C

**Pin Out (Top View)**


DC blocking capacitors  $C_B$  are required on all RF ports.  
 $C_B=C_A=51\text{pF}$  for operating frequency > 500MHz.

**Logic Table for Switch On-Path**

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

'1' = +3V to +5V  
 '0' = 0V to +0.2V