

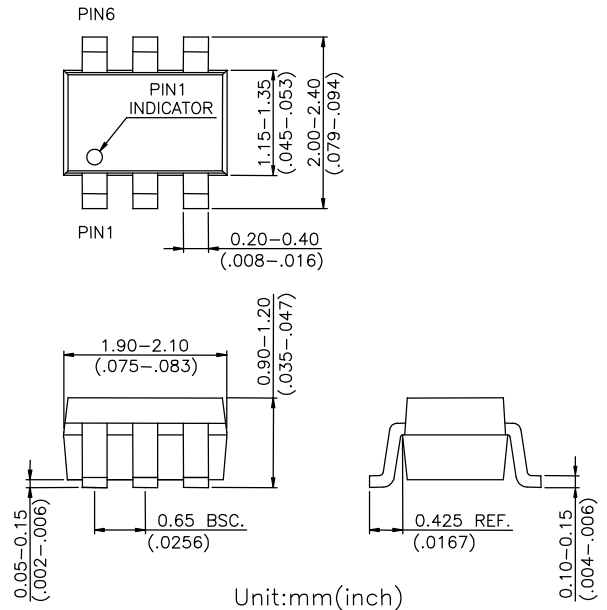
Features

- **Low Insertion Loss:** 0.4 dB @ 2.5 GHz
0.8 dB @ 5.8 GHz
- **Isolation:** 26 dB @ 2.5 GHz
16 dB @ 5.8 GHz
- **Low DC Power Consumption**
- **Low Cost SOT-363 Plastic Package**

Description

The HWS398 is a GaAs SPDT switch operating at DC-6 GHz in a low cost SOT-363 plastic package. The HWS398 features low insertion loss with very low DC power consumption. This switch can be used in IEEE 802.11a/b/g WLAN systems for combination of transmit/receive and antenna diversity functions.

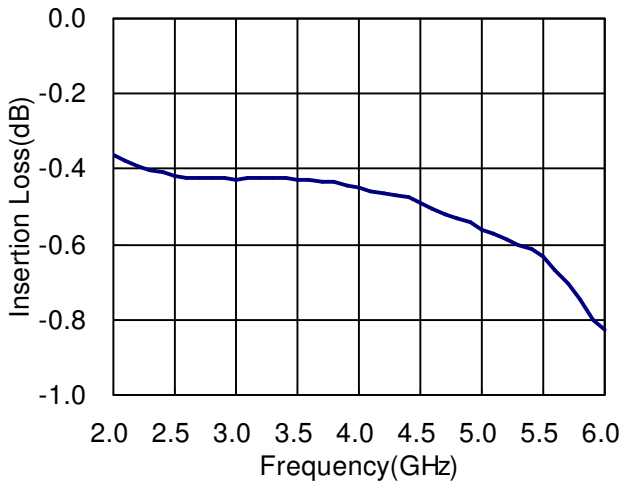
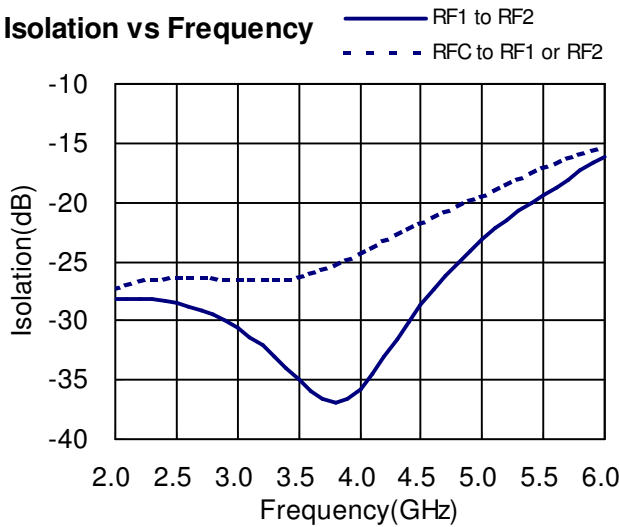
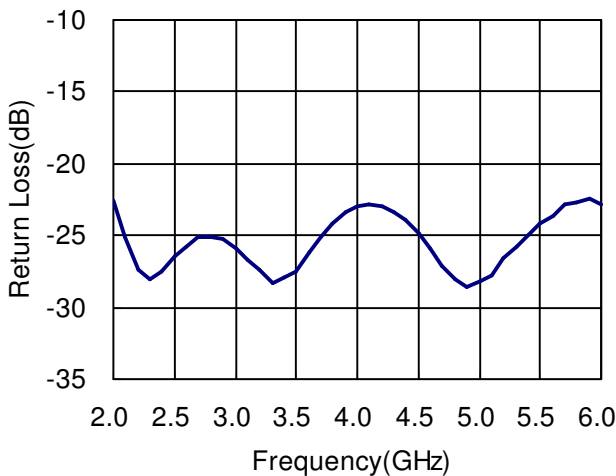
SOT-363



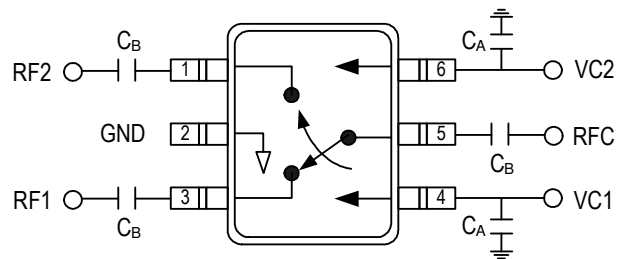
Electrical Specifications at 25 °C with 0, +3V Control Voltages

| Parameter | Test Conditions | Min. | Typ. | Max. | Unit |
|------------------------------------|-----------------|------|------|------|------|
| Insertion Loss | 0.1-6.0 GHz | | 0.8 | | dB |
| | 2.4-2.5 GHz | | 0.4 | | dB |
| | 4.9-5.8 GHz | | 0.8 | 1.1 | dB |
| Isolation 1 (RF1-RF2) | 0.1-6.0 GHz | | 16 | | dB |
| | 2.4-2.5 GHz | | 28 | | dB |
| | 4.9-5.8 GHz | 14 | 17 | | dB |
| Isolation 2 (RFC-RF1, RFC-RF2) | 0.1-6.0 GHz | | 15 | | dB |
| | 2.4-2.5 GHz | | 26 | | dB |
| | 4.9-5.8 GHz | 13 | 16 | | dB |
| Return Loss | 0.1-6.0 GHz | | 20 | | dB |
| Input Power for One dB Compression | 2.0-6.0 GHz | | 30 | | dBm |
| Control Current | | | 5 | 100 | 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 | +34 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 $C_B = 8\text{pF}$ and by-pass capacitors $C_A = 8\text{pF}$ are required on all RF ports and control lines.

Logic Table for Switch On-Path

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

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