

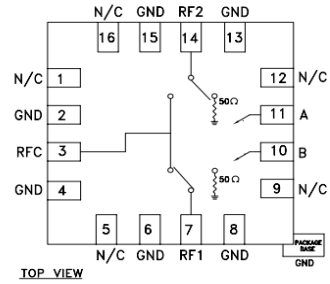
Performance features

- Frequency range : DC-20GHz
- Insertion loss : 1.7dB@20GHz
- Insertion isolation : 42dB@20GHz
- Open-state return loss : 17dB
- Off-state return loss : 13dB
- Package size : 3×3mm

Overview

The CW347SP3 is a matched single blade double-throw switch chip that provides less than 1.7dB insertion loss and greater than 42dB isolation in the DC-20GHz frequency range.

Functional Diagram



Electrical parameters (TA=+ 25°C)

| Indicators | Minimum value | Typical values | Maximum value | Unit |
|---------------------|---------------|----------------|---------------|------|
| Frequency range | DC-20 | | | GHz |
| Insertion loss | 1.2 | - | 1.7 | dB |
| Degree of isolation | 42 | 55 | - | dB |
| Return loss (ON) | 17 | - | - | dB |
| Return loss (OFF) | 13 | - | - | dB |
| Input P-1 | - | 18 | - | dBm |

Use of limiting parameters (exceeding any of the above maximum limits may result in permanent damage)

| | |
|-----------------------|-------------|
| Maximum input power | 30dm |
| Storage temperature | -65°C-150°C |
| Operating temperature | -55°C-125°C |

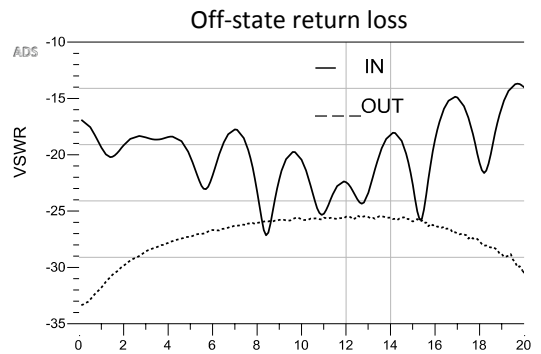
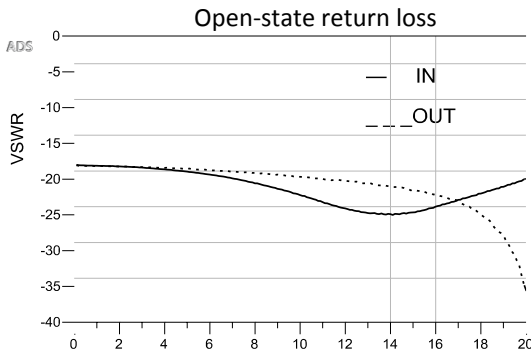
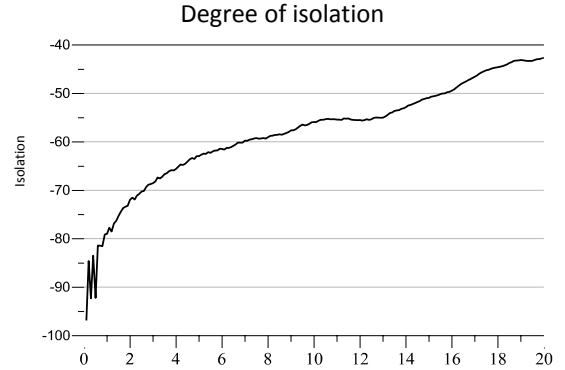
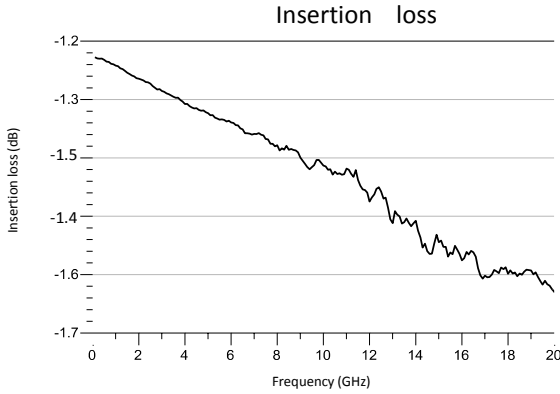
Truth table

| Control voltage (V) | | On and off status | |
|---------------------|----|-------------------|---------|
| 1 | 2 | IN-OUT1 | IN-OUT2 |
| 0 | -5 | ON | OFF |
| -5 | 0 | OFF | ON |

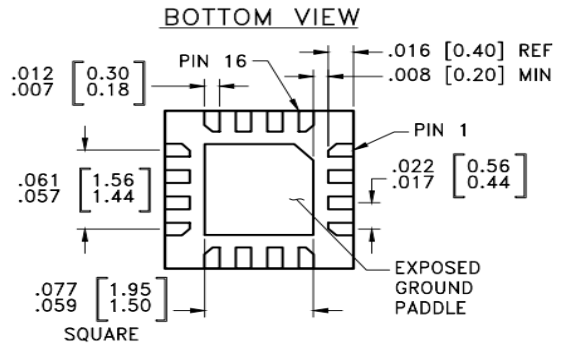
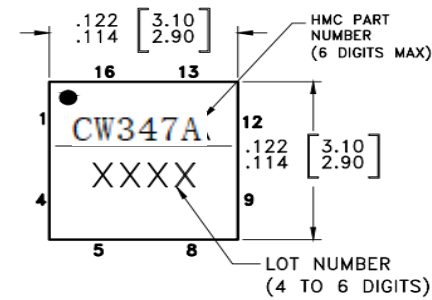
Typical curves

CW

Switch




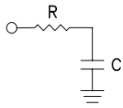
Dimensional drawing (unit : mm)



NOTES:

- PACKAGE BODY MATERIAL: LOW STRESS INJECTION MOLDED PLASTIC SILICA AND SILICON IMPREGNATED
- LEAD AND GROUND PADDLE MATERIAL: COPPER ALLOY
- LEAD AND GROUND PADDLE PLATING: 100% MATTE TIN
- DIMENSIONS ARE IN INCHES [MILLIMETERS]
- LEAD SPACING TOLERANCE IS NON-CUMULATIVE
- PAD BURR LENGTH SHALL BE 0.15mm MAX/PAD BURR HEIGHT SHALL BE 0.05mm MAX
- PACKAGE WARP SHALL NOT EXCEED 0.05mm
- ALL GROUND LEADS AND GROUND PADDLE MUST BE SOLDERED TO PCB RF GROUND
- UNDERLINE THE LOT NUMBER TO DESIGNATE 2000A FIRST LAYER NITRIDE DIE FAB OPTION AS SPECIFIED BY THE PO

Pin Descriptions

| Pin Number | Function | Description | Interface Schematic |
|--------------------|---------------|---|---|
| 1, 5, 9, 12, 16 | N/C | This pin should be connected to PCB RF ground to maximize isolation | |
| 2, 4, 6, 8, 13, 15 | GND | Package bottom has exposed metal paddle that must also be connected to PCB RF ground. |  |
| 3, 7, 14 | RFC, RF1, RF2 | This pin is DC coupled and matched to 50 Ohm. Blocking capacitors are required if RF line potential is not equal to 0V. | |
| 10 | CTLB | See truth table and control voltage table. |  |
| 11 | CTLA | See truth table and control voltage table. | |

Suggested Driver Circuit

