

# MODEL NUMBER DSW25151

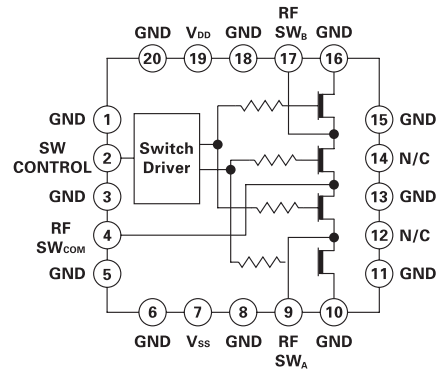
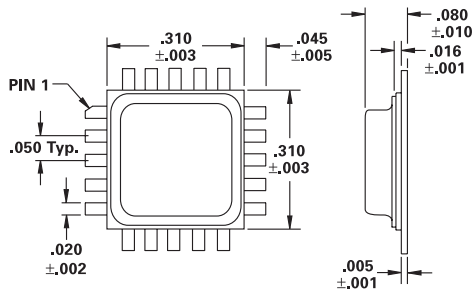
# Reflective Switch with Driver

## FEATURES

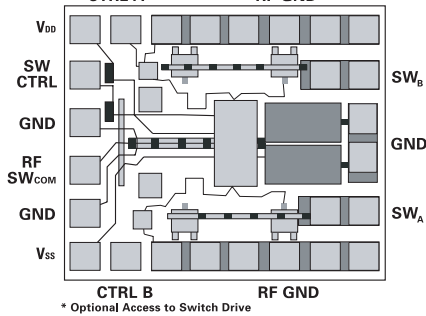
- DC- 10 GHz Broad Bandwidth
- Internal Switch Driver
- Insertion Loss 1.5 dB
- Isolation 45 dB
- Available as die, part # DSW24071D, also available in plastic, part # DSW25251P

SP2T

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DIE DIAGRAM (53 X 43 MILS, 7 MILS THICK)



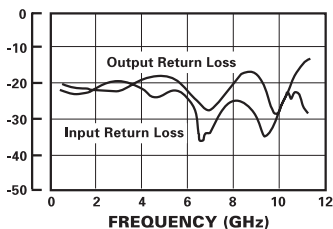
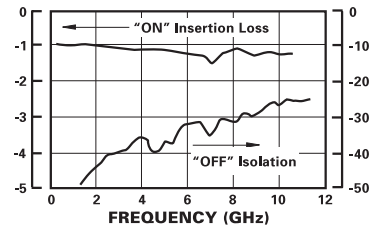
\* Optional Access to Switch Drive

### PIN FUNCTION

| Pin Name             | Pin# | Description   |
|----------------------|------|---|
| SW Control (TTL)     | 2    | Switch Control: TTL logic input                                     |
| RF SW <sub>COM</sub> | 4    | Common RF input; DC-coupled   |
| V <sub>SS</sub>      | 7    | V <sub>SS</sub> ; Negative supply voltage                           |
| RF SW <sub>A</sub>   | 9    | RF input A; DC-coupled, "ON" for a logic LOW applied to SW Control  |
| N/C                  | 12   | No Connect  |
| N/C                  | 14   | No Connect  |
| RF SW <sub>B</sub>   | 17   | RF input B; DC-coupled, "ON" for a logic HIGH applied to SW Control |
| V <sub>DD</sub>      | 19   | V <sub>DD</sub> ; Positive supply voltage                           |
| GND                  | (1)  | Ground  |

Note: (1) GND Pins are 1, 3, 5, 6, 8, 10, 11, 13, 15, 16, 18, 20  
AC Coupling may be required for your application

## TYPICAL PERFORMANCE at 25°C



### ABSOLUTE MAXIMUM RATINGS

| Parameter             | Min | Typ | Max  | Units |
|-----------------------|-----|-----|------|-------|
| DC Power Supply       |     |     | ±7   | V     |
| Operating Temperature | -55 |     | +85  | °C    |
| Storage Temperature   | -55 |     | +150 | °C    |
| Power Dissipation     |     |     | 1.0  | W     |

### SWITCH LOGIC

| SW CTRL | RF SW <sub>A</sub> | RF SW <sub>B</sub> |
|---------|--------------------|--------------------|
| Low     | On                 | Off                |
| High    | Off                | On                 |

### ELECTRICAL SPECIFICATIONS

T<sub>A</sub> = 25°C, V<sub>DD</sub> = +5V, V<sub>SS</sub> = -5V

| Parameter                                    | Min <sup>(1)</sup> | Typ | Max <sup>(1)</sup> | Units |
|--|--------------------|-----|--------------------|-------|
| Frequency of Operation                       |                    | DC  | 10                 | GHz   |
| Insertion Loss                               |                    | 1.5 | 3.0                | dB    |
| Isolation - 1 GHz                            | 40                 | 45  |                    | dB    |
| Isolation - 10 GHz                           | 18                 | 25  |                    | dB    |
| Input Third - Order Intercept <sup>(2)</sup> |                    | +35 |                    | dBm   |
| Input / Output VSWR                          |                    | 2:1 |                    |       |
| DC Supply Current @ ±5V                      |                    | 15  | 20                 | mA    |
| Positive Supply                              | 4.5                | 5   | 5.5                | V     |
| Negative Supply                              | -4.5               | -5  | -5.5               | V     |
| Input Logic Low                              |                    | 1.0 |                    | V     |
| Input Logic High                             |                    | 3.0 |                    | V     |

Note: 1. Min / Max Values Listed are Production Tested  
2. IP3 Decreases Below 1 GHz



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310.507.3242 • FAX 310.507.5701 • www.daico.com  
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