

RI 2583 SP8T Solid state switch DC-6 GHz

High performance solid state switch module

Features:

- Switch mode: SP8T I²C controlled, terminated
- 8 I²C-bus addresses selectable via DIP switch
- 0 - 400 kHz I²C clock
- DC - 6 GHz RF frequency range
- 63 dBm IP3
- +30 dBm maximum input power
- Insertion loss < 3.1 dB up to 3 GHz
- 10 us max switching time after data transfer¹⁾
- Flexible supply voltage: 4-30 VDC
- High repeatability and Ultra-long lifetime

¹⁾ 50 us max switch settling time after data transfer

Overview

The Ranatec RI 2583 is a high performance solid state switch module with 1 pole and 8 throws.

It is very well suited for high volume testing where long lifetime is required without sacrificing RF performance. RI 2583 offers very good linearity, power handling and speed.

Control interface

RI 2583, Molex 502584-0570	Function
PIN 1	GND
PIN 2	SDA
PIN 3	VCC*
PIN 4	SCL
PIN 5	GND

* 4-30 VDC

Applications

The RI 2583 Solid state switch module is designed for applications such as:

- Production testing of mobile handsets
- Production testing of mobile basestations
- Built-In-Test (BITE) applications
- MIMO applications

Electrical specifications:

- Switch mode: SP8T I²C ctrl, terminated
- Supply voltage: 4 - 30 VDC
- Supply current max: < 8 mA
- I²C-bus LOW-level: 0.99 V
- I²C-bus HIGH-level: 2.31 V
- I²C-bus MAX-level: 5.5 V
- Operating frequency: DC - 6 GHz
- Impedance: 50 Ohm
- Max DC at RF inputs: 0 VDC



Ranatec RI 2583 is a high performance SP8T solid state switch module suitable for high volume switching applications.

- VSWR (max): 1.55:1 @ 0.01 - 0.7 GHz
RFC→RFx
1.45:1 @ 0.7 - 3 GHz
1.60:1 @ 3 - 6 GHz
- VSWR (max): 1.50:1 @ 0.01 - 0.7 GHz
RFx→RFC
1.35:1 @ 0.7 - 3 GHz
1.40:1 @ 3 - 6 GHz
- VSWR RFx (max): 1.45:1 @ 0.01 - 0.7 GHz
(terminated)
1.35:1 @ 0.7 - 3 GHz
1.50:1 @ 3 - 6 GHz
- Insertion loss (max): 2.5 dB @ 0.01 - 0.7 GHz
3.1 dB @ 0.7 - 3 GHz
4.3 dB @ 3 - 6 GHz
- Isolation (min): 55 dB @ 0.01 - 0.7 GHz
RFC - RFx
40 dB @ 0.7 - 3 GHz
35 dB @ 3 - 6 GHz
- Isolation (min): 55 dB @ 0.01 - 0.7 GHz
RFx - RFy
40 dB @ 0.7 - 3 GHz
30 dB @ 3 - 6 GHz
- Input power (max): 30 dBm @ 0.01 - 6 GHz
(thru path)
- Input power (max): 20 dBm @ 0.01 - 6 GHz
(hot switching & into termination)
- Input IP3 (typ): 63 dBm @ 0.01 - 6 GHz

Environmental specification:

- Operating temp: 0°C to +50°C
- Storage temp: -20°C to +70°C
- Relative humidity: 95% at +40°C

Mechanical specifications:

- Dimensions: 50x56x22 mm
- Weight: 44 g
- Connectors: SMA(F)

Ordering

- | | |
|------------|--------------------------------|
| RI 2583 | SP8T solid state switch module |
| RI 2583-02 | Optional 90° mounting bracket |
| RI 2583-03 | Optional cable |