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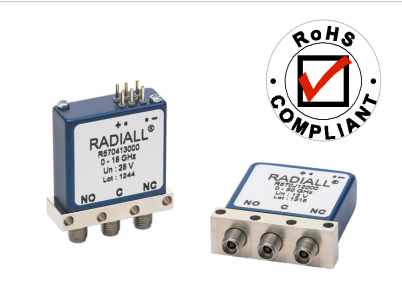
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RAMSES Series

SPDT UP TO 50 GHz

PC BOARD - SMA - SMA 2.9 - 2.4 MM - QMA - DIN 1.6/5.6



Radiall's RAMSES SPDT switches offer excellent reliability, high performance and operating frequencies from DC to 50 GHz. Radiall's RAMSES concept (which provides for a life span of 10 million cycles) offers a variety of options to meet customer needs.

These switches are dedicated to all market applications including: military, instrumentation and telecommunications.

Example of P/N: R570413100 is a SPDT SMA 18 GHz, failsafe, 28 Vdc, with TTL driver, without option, solder pins.

PART NUMBER SELECTION

R570 ____ ____ ____ ____ ____

SERIES PREFIX

FREQUENCY RANGE
3: SMA up to 3 GHz
E: QMA up to 6 GHz [5]
4: SMA up to 18 GHz
F: SMA up to 26.5 GHz
8: SMA 2.9 up to 40 GHz [6]
J: 2.4 mm up to 50 GHz
9: DIN 1.6/5.6 up to 2.5 GHz
A: PC board mount up to 3 GHz [4]

TYPE
1: Failsafe
2: Failsafe + I.C.
3: Latching
4: Latching + I.C.
5: Latching + S.C.O. [1]
6: Latching + S.C.O. + I.C. [1]

ACTUATOR VOLTAGE
2: 12 Vdc
3: 28 Vdc

TTL OPTION
0: Without TTL driver
1: With TTL driver [1 & 2]

OPTIONS
0: Without option
1: Positive common [2 & 3]
3: With suppression diodes [1]
4: With suppression diodes and positive common [1, 2 & 3]

ACTUATOR TERMINALS
0: Solder pins

Notes:
I.C.: Indicator contact - S.C.O.: Self Cut-Off.
1. Suppression diodes are already included in Self Cut-Off and TTL option.
2. Polarity is not relevant to application for switches with TTL driver.
3. Positive common shall be specified only with type 3, 4, 5, and 6 because failsafe switches can be used with both polarities.
4. Available only upon request.
5. The QLF tradermark (Quick Lock Formula®) standard applies to QMA and QN series and guaranties the full intermateability between suppliers using this tradermark. Using QLF certified connectors also guarantees the specified level of RF performance.
6. Connector SMA 2.9 is equivalent to "K connector®", registered trademark of Anritsu.

GENERAL SPECIFICATIONS

OPERATING MODE			FAILSAFE		LATCHING	
Nominal operating voltage (across temperature range)		Vdc	12 (10.2 to 13)	28 (24 to 30)	12 (10.2 to 13)	28 (24 to 30)
Coil resistance at 23 °C (+/-10%)		Ω	47.5	275	58	350
Operating current at 23 °C		mA	250	102	210	80
Average power			See Power Rating Chart page 1-13			
TTL Input		High level	2.2 to 5.5 Volts		800 µA max 5.5 Volts	
		Low level	0 to 0.8 Volts		20 µA max 0.8 Volts	
Indicator rating			1 W / 30 V / 100 mA			
Switching time		ms	10			
Life	SMA - SMA 2.9 - QMA		10 million cycles			
	DIN 1.6/5.6 - PC Board		5 million cycles			
	2.4 mm		2 million cycles			
Connectors			SMA - SMA 2.9 - QMA - DIN 1.6/5.6 - PC Board - 2.4 mm			
Operating temperature range	DIN 1.6/5.6 - 2.4 mm		-25 °C to +70 °C			
	SMA - SMA 2.9 - QMA - PC Board		-40 °C to +85 °C			
Storage temperature range	DIN 1.6/5.6 - 2.4 mm		-40 °C to +85 °C			
	SMA - SMA 2.9 - QMA - PC Board		-55 °C to +85 °C			
Vibration (MIL STD 202, Method 204D, cond.D)			10-2,000 Hz, 20 g		Operating	
Shock (MIL STD 202, Method 213B, cond.C)			100 g / 6 ms, ½ sine		Operating	

RF PERFORMANCE

CONNECTORS	FREQUENCY RANGE GHz		V.S.W.R. (MAX)	INSERTION LOSS (MAX) dB	ISOLATION (MIN) dB	IMPEDANCE Ω
DIN 1.6/5.6	DC - 2.5	DC - 1	1.20	0.20	80	75
		1 - 2.5	1.30	0.30	70	
QMA	DC - 6	DC - 3	1.20	0.20	80	50
		3 - 6	1.30	0.30	70	
SMA	DC - 3 DC - 18 DC - 26.5	DC - 3	1.10	0.15	80	
		3 - 8	1.20	0.20	75	
		8 - 12.4	1.20	0.25	65	
		12.4 - 18	1.40	0.35	60	
		18 - 26.5	1.50	0.50	55	
SMA 2.9	DC - 40	DC - 6	1.30	0.30	70	
		6 - 12.4	1.40	0.40	60	
		12.4 - 18	1.50	0.50	60	
		18 - 26.5	1.70	0.70	55	
		26.5 - 40	1.90	0.80	50	
PC Board	DC - 3	DC - 3	1.20	0.20	80	
2.4 mm	DC - 50	DC - 6	1.30	0.30	70	
		6 - 12.4	1.40	0.40	60	
		12.4 - 18	1.50	0.50	60	
		18 - 26.5	1.70	0.70	55	
		26.5 - 40	1.90	0.80	50	
		40 - 50	1.90	1.10	50	

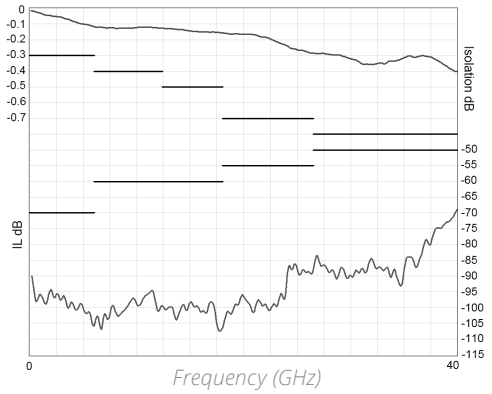
Notes

See page 2-12 and 2-13 for typical RF performance.

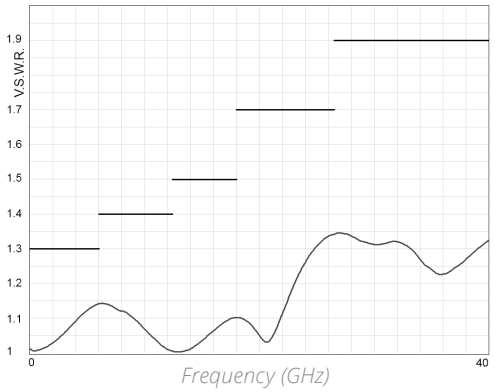
R570 TYPICAL RF PERFORMANCE

Example: SPDT SMA 2.9 up to 40 GHz

INSERTION LOSS & ISOLATION

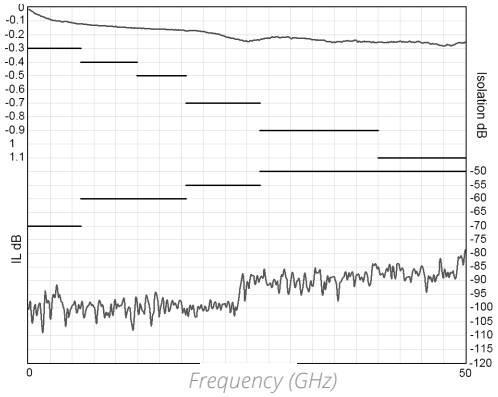


V.S.W.R

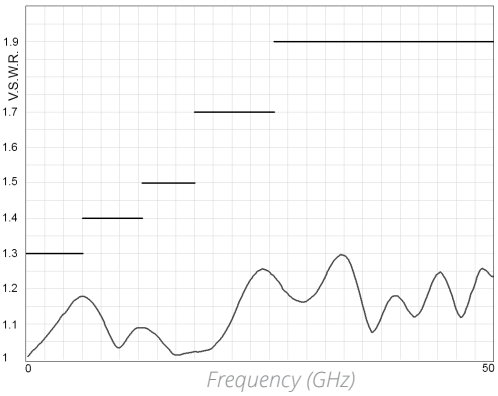


Example: SPDT 2.4 mm up to 50 GHz

INSERTION LOSS & ISOLATION

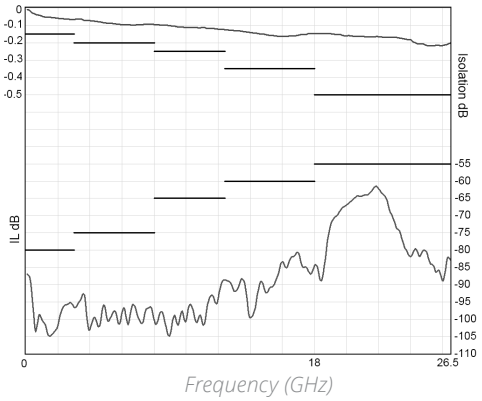


V.S.W.R

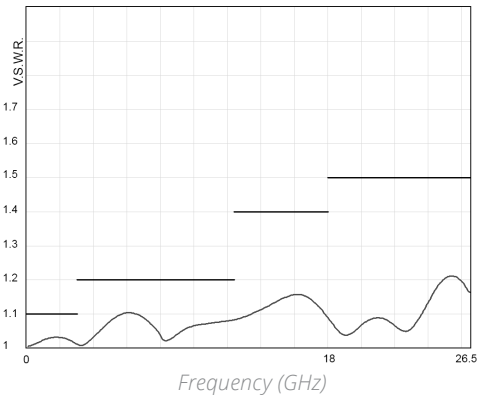


Example: SPDT SMA up to 26.5 GHz

INSERTION LOSS & ISOLATION



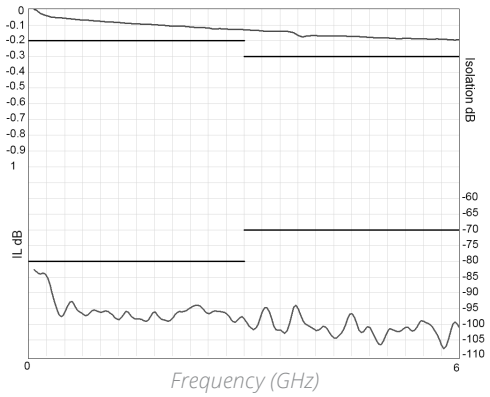
V.S.W.R



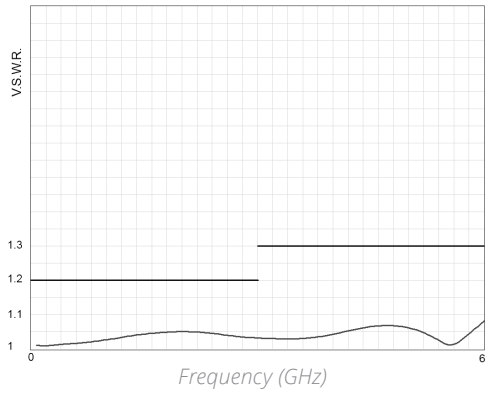
R570 TYPICAL RF PERFORMANCE (CONTINUED)

Example: SPDT QMA up to 6 GHz

INSERTION LOSS & ISOLATION

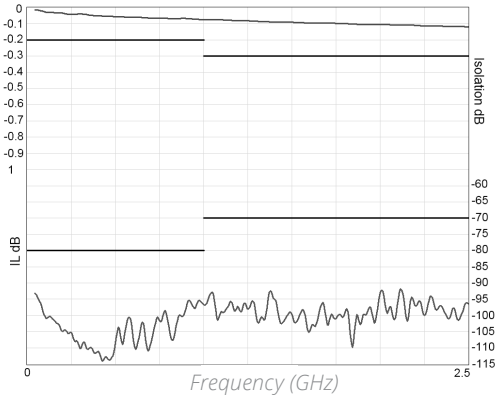


V.S.W.R

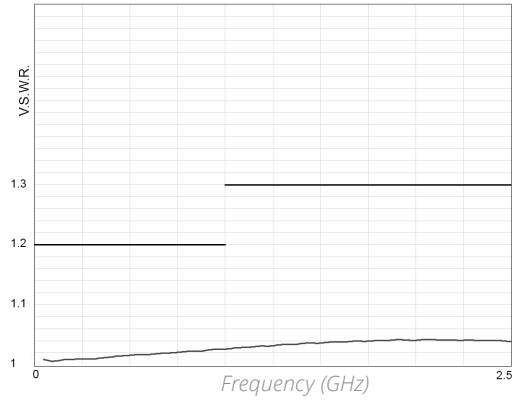


Example: SPDT DIN 1.6/5.6 up to 2.5 GHz

INSERTION LOSS & ISOLATION

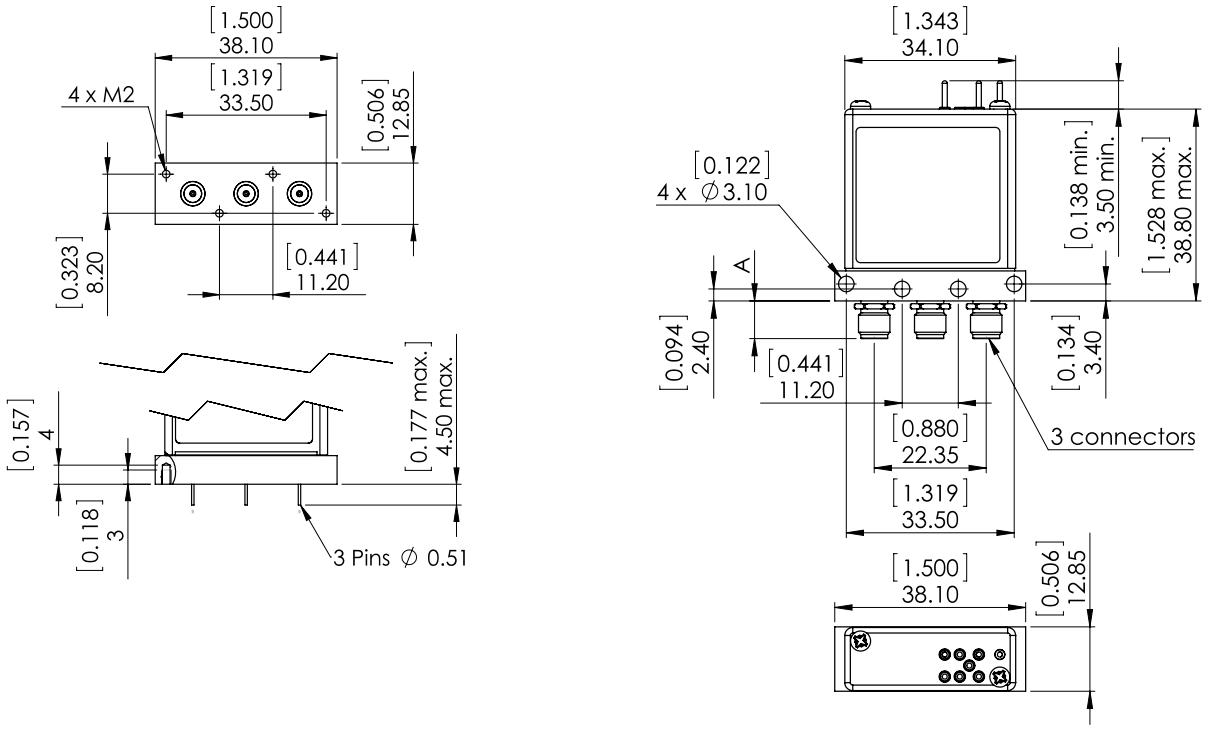


V.S.W.R



TYPICAL OUTLINE DRAWING

CONNECTORS	A MAX (MM [INCHES])
SMA	7.7 [0.303]
SMA 2.9 and 2.4 mm	6.7 [0.264]
QMA	10.8 [0.394]
DIN 1.6/5.6	11.5 [0.433]
PC Board	4.5 [0.157]

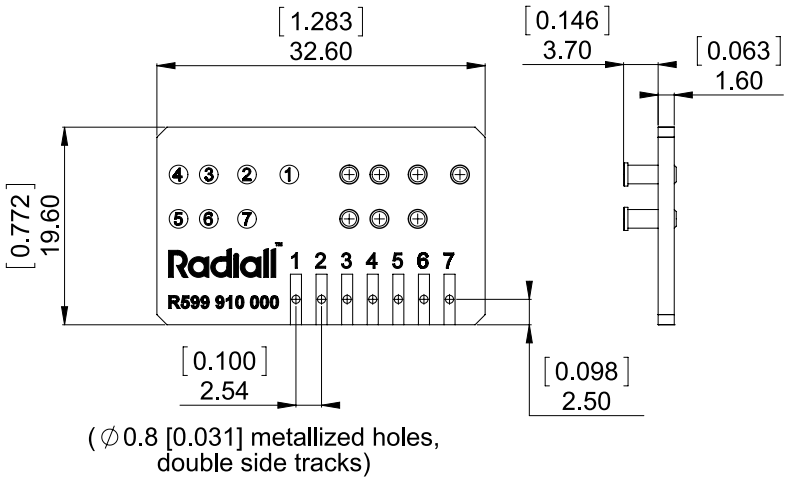


Notes

See page 2-23 for pin identification.
All dimensions are in millimeters [inches].

ACCESSORIES

A printed circuit board interface connector (ordered separately) has been designed for easy mounting on terminals.
For SPDT model R570 series = Radiall part number: R599 910 000.





Notes

All dimensions are in millimeters [inches].
The PCB accessory pin number assignment is independant from the pin identification table of the switch.

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