

DPDT up to 40 GHz

SMA – SMA 2.9 – QMA – DIN 1.6/5.6



Radiall's DPDT switches offer excellent reliability, high performance and operating frequencies from DC to 40 GHz. Radiall's RAMSES concept guarantees a life span of 2.5 million cycles and provides a full array of options to respond to the needs of our customers.

These relays are well suited for applications across all markets including: Defense, Instrumentation, and Telecom.

Example of P/N:

R577F63105 is a DPDT SMA 26.5 GHz latching with Indicators, Self Cut-Off, 28 Vdc, TTL driver, D-Sub connector.

PART NUMBER SELECTION

R 577

RF Connectors:

- 3: SMA up to 3 GHz
- E: QMA up to 6 GHz
- 4: SMA up to 18 GHz
- F: SMA up to 26.5 GHz
- 8: SMA 2.9 up to 40 GHz [5]
- 9: DIN 1.6/5.6 up to 2.5 Ghz

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

Actuator Terminals and fixing:

- 0: Solder pins with bracket
- 2: Solder pins without bracket
- 5: D-Sub connector with bracket
- 7: D-Sub connector without bracket

Options:

- 1: Without option
- 2: Positive common [2] [3]
- 3: With suppression diodes [1]
- 4: With suppression diodes and positive common [2] [3]

TTL Option:

- 0: Without TTL Driver
- 1: With TTL Driver (high level) [1] [2]

I.C.: Indicator contact - S.C.O.: Self Cut-Off

- 1: Suppression diodes are already included in self cut-off & 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]: The QLF trademark (Quick Lock Formula®) standard applies to QMA and QN series and guaranties the full intermateability between suppliers using this trademark. Using QLF certified connectors also guarantees the specified level of RF performance.

[5]: Connector SMA2.9 is equivalent to "K connector®", registered trademark of Anritsu

DPDT up to 40 GHz

SMA – SMA 2.9 – QMA – DIN 1.6/5.6

GENERAL SPECIFICATIONS

Operating mode		Fail-safe		Latching	
Nominal operating voltage (across operating temperature)	Vdc	12 (10.2 / 13)	28 (24 / 30)	12 (10.2 / 13)	28 (24 / 30)
Coil resistance (+/-10%)	Ω	35	200	38	225
Nominal operating current at 23°C	mA	340	140	320	125
Average power		See Power Rating Chart page 1-13			
TTL input	High Level	2.2 to 5.5 Volts		800µA max 5.5 Volts	
	Low Level	0 to 0.8 Volts		20µA max 0.8 Volts	
Switching time (Max)	ms	15			
Life		2.5 million cycles			
Connectors		SMA - SMA 2.9 - QMA - DIN 1.6/5.6			
Actuator terminals		Solder pins or male 9 pin D-Sub connector			
Operating temperature range	DIN 1.6/5.6	-25°C to +70°C			
	SMA - SMA 2.9 - QMA	-40°C to +85°C			
Storage temperature range	DIN 1.6/5.6	-40°C to +85°C			
	SMA - SMA 2.9 - QMA	-55°C to +85°C			
Vibration (MIL STD 202, Method 204D, Cond. C)		10-2000 Hz, 10g		operating	
Shock (MIL STD 202, Method 213B, Cond. G)		50g / 11 ms, ½ sine		operating	

RF PERFORMANCES

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 - 25	1.30	0.30	70	
QMA	DC - 6	DC - 3	1.20	0.20	80	50
		3 - 6	1.20	0.30	70	
SMA	DC - 3 DC - 18 DC - 26.5	DC - 3	1.20	0.20	80	50
		3 - 8	1.30	0.30	70	
		8 - 12.4	1.40	0.40	65	
		12.4 - 18	1.50	0.50	60	
SMA 2.9	DC - 40	18 - 26.5	1.70	0.70	50	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	

See page 4-4 for typical RF performance

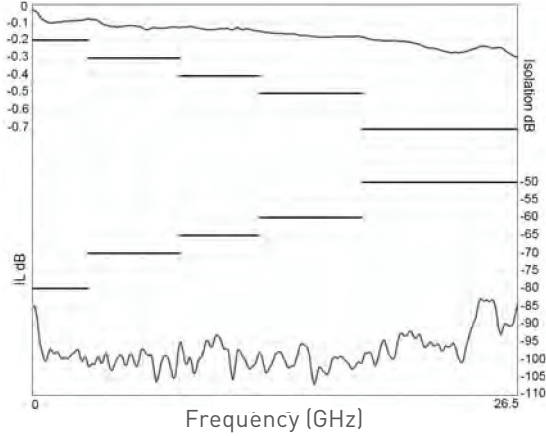
DPDT up to 40 GHz

SMA – SMA 2.9 – QMA – DIN 1.6/5.6

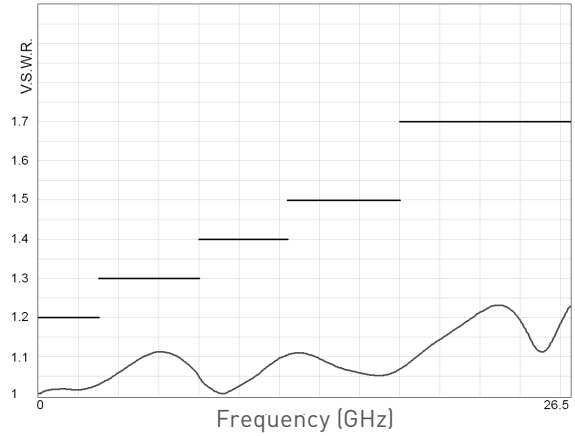
R577 TYPICAL RF PERFORMANCES

Example: DPDT SMA up to 26.5 GHz

Insertion Loss and Isolation

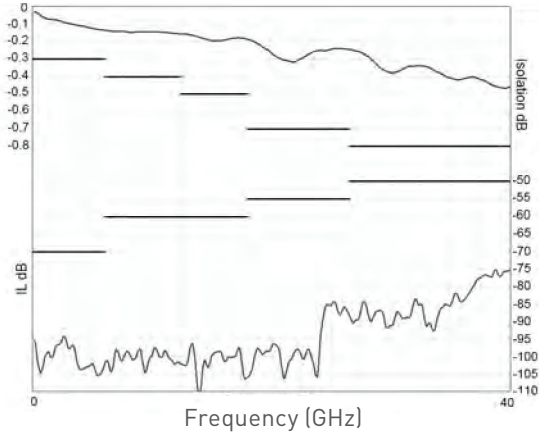


V.S.W.R.

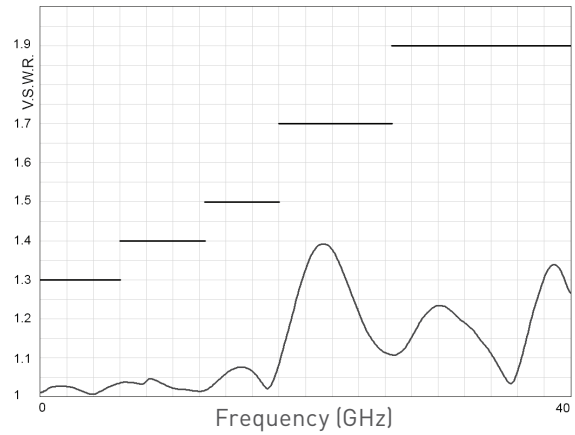


Example: DPDT SMA 2.9 up to 40 GHz

Insertion Loss and Isolation



V.S.W.R.

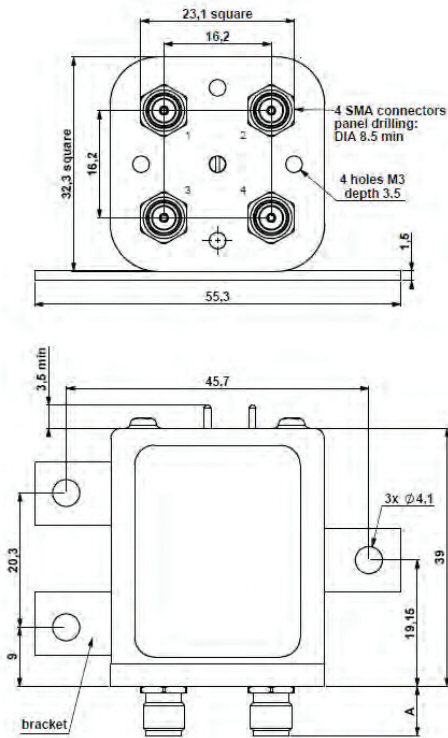


DPDT up to 40 GHz

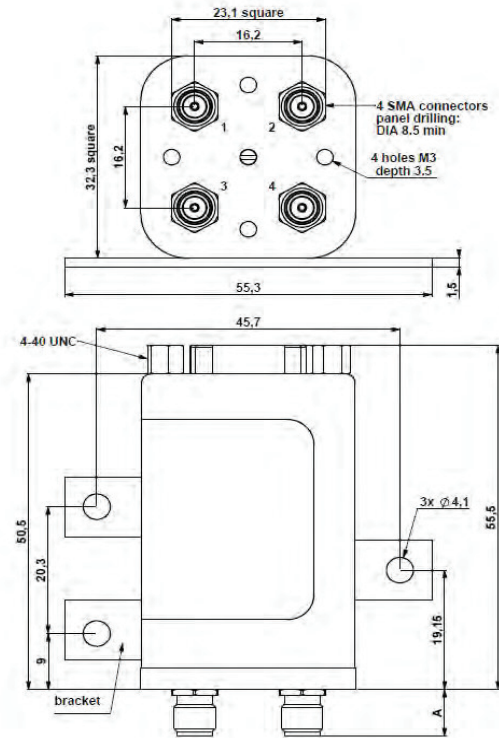
SMA – SMA 2.9 – QMA – DIN 1.6/5.6

TYPICAL OUTLINE DRAWING

With solder pins and bracket



With D-Sub connector and bracket



See page 4-13 for pin allocation

Connectors	SMA	SMA 2.9	QMA	DIN 1.6/5.6
A max (mm)	7.4	6.3	10.8	11.5

ACCESSORIES

A printed circuit board interface connector (ordered separately) has been designed for easy mounting on terminals.

For DPDT model R577 series => Radiall part number: **R599 910 000**

