DPDT Low PIM up to 18 GHz

To meet growing market demands created by the deployment of 4G/LTE networks, Radiall has introduced a new range of Low PIM switches.RAMSES DPDT Low PIM switches are perfectly suited for RF test systems and test benches requiring excellent passive intermodulation performance up to 18 GHz, with a guarantee PIM performance of -160 dBc @ +43 dBm over a life span of 2 million switching cycles.

These products are specific to instrumentation and telecommunication applications.

Example of P/N:
R577163105 is a DPDT N 12.4 GHz latching with Indicators, Self Cut-Off, 28 Vdc, TTL driver, D-Sub connector.

PART NUMBER SELECTION

R 577 LP

Frequency Range:
1: N up to 12.4 GHz
4: SMA up to 18 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: 12Vdc
3: 28Vdc

Actuator Terminals:
0: Solder pins
5: D-Sub connector

Options:
0: Without option
1: Positive common (2)
3: With suppression diodes
4: With suppression diodes and positive common (2)

TTL Option:
0: Without TTL driver
1: With TTL driver (high level) (1) (3)

I.C.: Indicator contact - S.C.O.: Self Cut-Off
(1): Suppression diodes are already included in Self Cut-OFF & TTL option
(2): Positive common shall be specified only with type 2, 3, 5 & 6 because failsafe models can be used with both polarities
(3): Polarity is not relevant to application for switches with TTL driver

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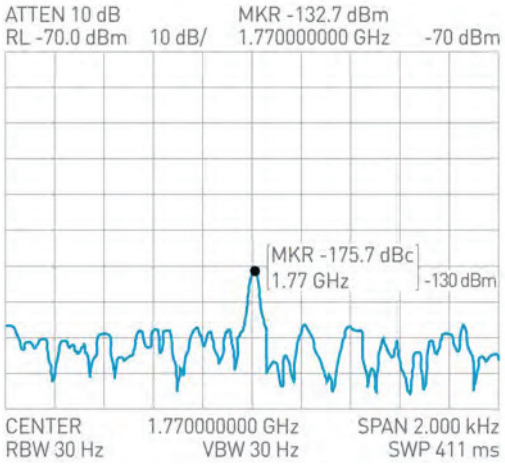
GENERAL SPECIFICATIONS

Operating mode		Normally open		Latching	
Nominal operating voltage (across operating temperature)	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	35	200	38	225
Nominal operating current at 23°C	mA	340	140	320	125
Average power		See Power Rating Chart on 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 max0.8 Volts			
Switching time (Max)	ms	15			
Life (Min)		2 million cycles			
Connectors		SMA - N			
Actuator terminals		Solder pins or male 9 pin D-Sub connector			
Operating temperature range		-40°C to +85°C			
Storage temperature range		-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	Third order intermodulation
N	DC - 3 DC - 12.4	DC - 1	1.15	0.15	85	50	-160 dBc @ +43 dBm (2 carriers 20W)
		1 - 2	1.20	0.20	80		
		2 - 3	1.25	0.25	75		
		3 - 8	1.35	0.35	70		
		8 - 12.4	1.50	0.50	60		
SMA	DC - 3 DC - 18	DC - 3	1.20	0.20	80		
		3 - 8	1.30	0.30	70		
		8 - 12.4	1.40	0.40	65		
		12.4 - 18	1.50	0.50	60		

OUTSTANDING PIM PERFORMANCE



Passive Intermodulation

Tone 1	1810 MHz, approximately 43 dBm
Tone 2	1850 MHz, approximately 43 dBm
3rd order PIM	160 dBc at 1770 MHz

Depending on application, carrier powers and frequencies, PIM measurements can vary. PIM testing is not measured during product acceptance test.

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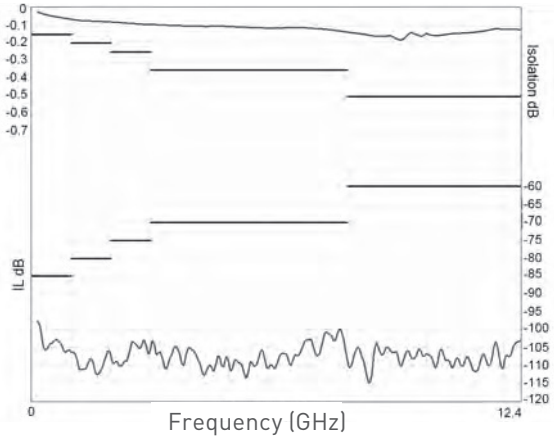
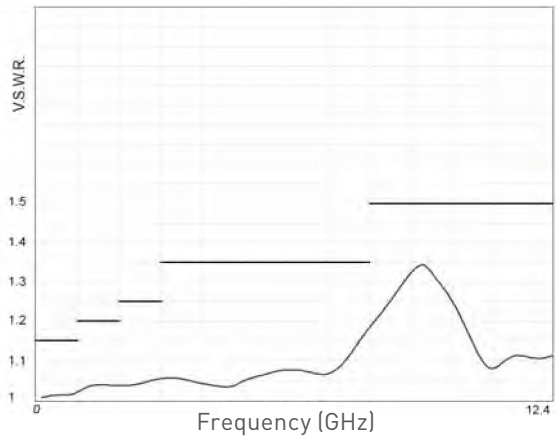
TYPICAL RF PERFORMANCES

Example: DPDT N up to 12.4 GHz

Insertion Loss and Isolation

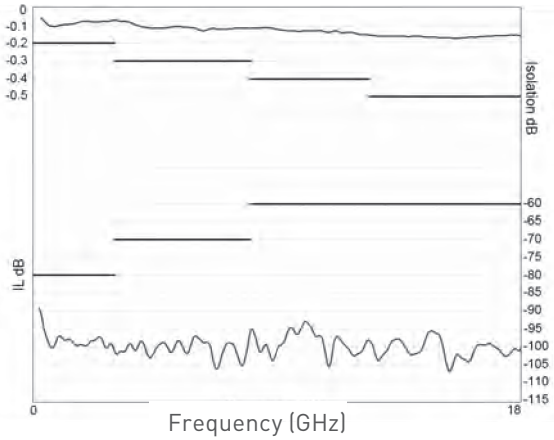


V.S.W.R.

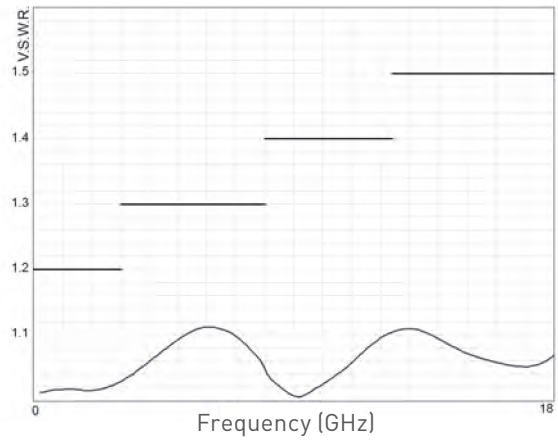


Example: DPDT N up to 18 GHz

Insertion Loss and Isolation



V.S.W.R.



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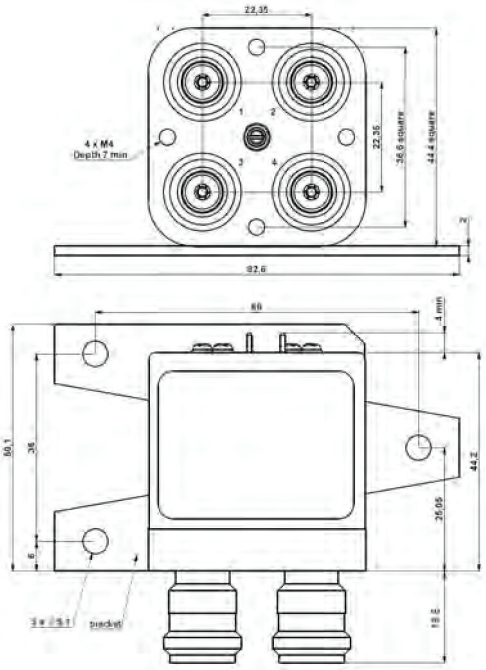
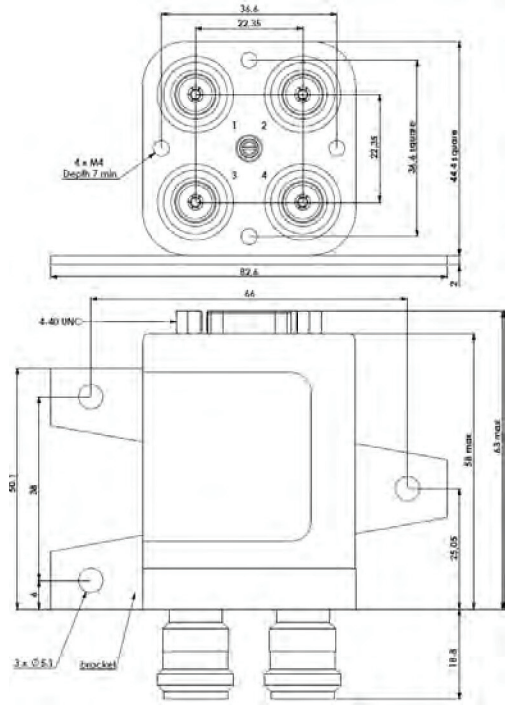
TYPICAL OUTLINE DRAWING

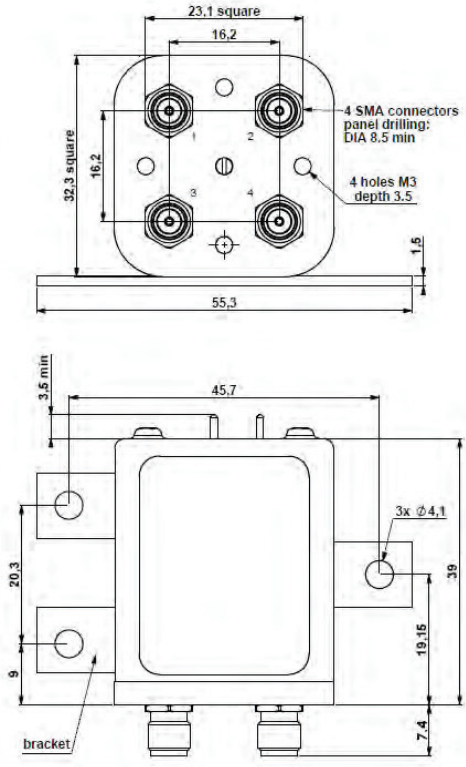
Example: DPDT N up to 12.4 GHz with pins



Example: DPDT N up to 12.4 GHz with D-sub



Example: DPDT SMA up to 18 GHz with pins



Example: DPDT SMA up to 18 GHz with pins