

**Low Power Coaxial DPDT Switch**



**LOW-POWER LATCHING COAXIAL DPDT SWITCH according to Radiall specification RAD-DET-DPDT-006**

- DC to 22 GHz with SMA connectors
- Up to 31 GHz with SMA 2.9 connectors
- Telemetry circuit
- Suppression diodes
- D-Sub or solder pins
- Lay Down or Stand up
- 57 grams and up

**GENERAL SPECIFICATIONS**

	Unit	Min	Typical	Max
Actuation Voltage	V	+22	+26	+29
Pick-Up Voltage	V			+20.5
Actuation Current	mA			
@+29V, +25°C			129	139
@+29V, -30°C			164	176
@+29V, +85°C			105	113
Switching Time	ms			25
Pulse Duration	ms	20		1000
Coil Resistance (at +25°C)	Ω	210	225	
RF Contact Resistance	mΩ			100
TLM Indicator Circuit				
Contact Closed	mΩ			1000
Contact Open	MΩ	10		
Contact Current	mA			100
Coil Isolation at 500 VDC	MΩ	10		
Dielectric Withstanding at 50 or 60Hz	Vrms	500		
Mass	grams			80
Variant 001-005: C-Switch Stand up D-Sub				57
Variant 002-004: C-Switch Lay Down Pins				60
Variant 003-006: C-Switch Stand up Pins				

**RF PERFORMANCES**

**DC to 22 GHz SMA**

Frequency	GHz	DC - 4.2	4.2 - 8.4	8.4 - 14.5	14.5 - 18	18- 20	20- 22
Insertion Loss (max)	dB	0.15	0.25	0.30	0.40	0.50	0.50
VSWR (max)	(dB)	1.20:1	1.25:1	1.25:1	1.33:1	1.33:1	1.40:1
Return Loss (min)		(21)	(19)	(19)	(17)	(17)	(15:6)
Isolation (min)	dB	70			65		
E-Field Shielding Effectiveness (min)	dBi	75	70	68	65	60	60

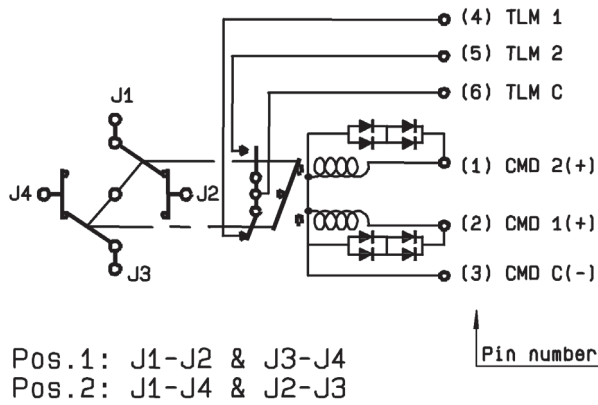
**KA – BAND SMA2.9**

Frequency	GHz	17.5-21.5	27.5 - 31
Insertion Loss (max)	dB	0.50	0.65
VSWR (max)	(dB)	1.33:1	1.40:1
Return Loss (min)		(17.7)	(15.6)
Isolation (min)	dB	65	60
E-Field Shielding Effectiveness (min)	dBi	60	60
Power Handling (max)	W	10	5

## Low Power Coaxial DPDT Switch

### SCHEMATICS & DRAWINGS

C-Switch, SMA ,Lay Down pins:



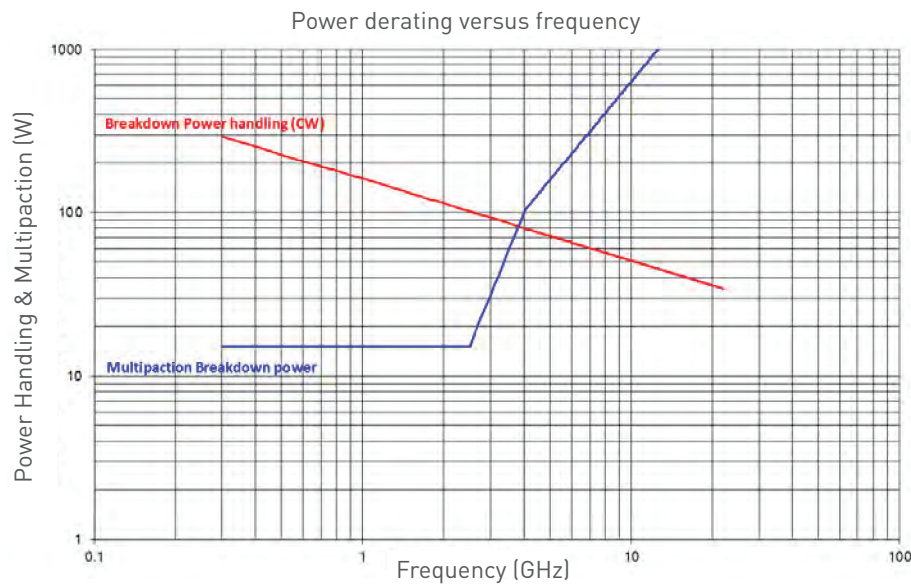
C-Switch, SMA, Stand Up, pins



C-Switch, SMA, Stand Up, D-Sub

### POWER DERATING GRAPH

Variant 001 to 003: DC to 22 GHz SMA



Frequency (GHz)	Breakdown Power Handling (W)	Breakdown Multipaction Power (W)
0.3	292.1	15.2
2.3	105.5	15.2
2.4	103.3	15.2
2.5	101.2	15.2
2.6	99.2	17.8
2.7	97.4	20.7
2.8	95.6	23.9
2.9	94.0	27.5
3.0	92.4	31.5
4.0	80.0	101.6
5.0	71.6	158.8
6.0	65.3	228.6
7.0	60.5	311.2
8.0	56.6	406.4
9.0	53.3	514.4
10.0	50.6	635.0
12.0	46.2	914.5
14.0	42.8	1244.7
16.0	40.0	1625.7
18.0	37.7	2057.5
20.0	35.8	2540.2
22.0	34.1	3073.6