Xtra Long Life

SPDT Switch

MSP2TA-18-12+

50Ω DC to 18 GHz 12 Volt

CASE STYLE: FP914

Connectors	Model	Price	Qty.
SMA	MSP2TA-18-12+	$189.95	(1-9)

+RoHS Compliant

The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications

Maximum Ratings

Operating Temperature	-15°C to +45°C
Storage Temperature	-15°C to +45°C
RF Power (at IN port)	10W
RF Power (at J1 and J2)	1W
Control Voltage	13VDC

Permanent damage may occur if any of these limits are exceeded.

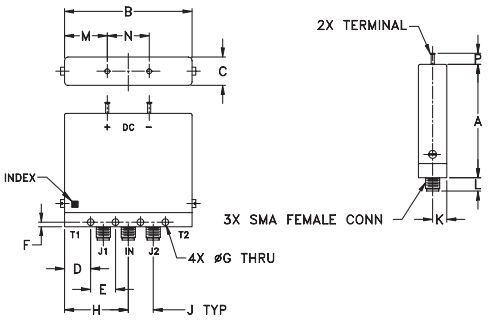
Features

- low voltage operation, 12V
- low insertion loss, 0.25 dB typ.
- high isolation, 80 dB typ.
- high power handling, 10W
- ultra reliable
- break-before-make configuration
- absorptive failsafe switch
- protected by US Patents 5,272,458; 6,414,577; 6,650,210; 7,633,361; 7,843,289

Applications

- Automatic Test Equipment (ATE)
- reliable "sleeptime" switching
- redundancy switching for microwave radio

Outline Drawing

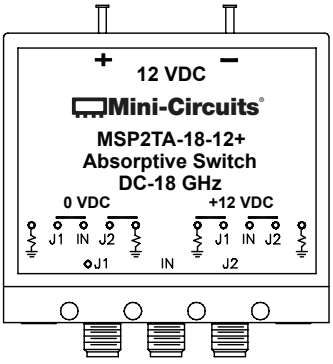


Outline Dimensions (inch / mm)

A	B	C	D	E	F	G
2.00	2.25	.50	.460	.440	.080	.120
50.80	57.15	12.70	11.68	11.18	2.03	3.05

H	J	K	L	M	N	P	wt
1.125	.440	.25	.24	.755	.740	.19	grams
28.58	11.18	6.35	6.10	19.18	18.80	4.83	70

Marking Drawing



Electrical Specifications

Parameter		Condition (GHz)	Min.	Typ.	Max.	Unit
Frequency Range			DC	—	18	GHz
Insertion Loss		DC - 1	—	0.10	0.15	dB
		1 - 8	—	0.15	0.30	
		8 - 12	—	0.25	0.40	
		12 - 18	—	0.30	0.50	
Isolation		DC - 1	85	100	—	dB
		1 - 8	75	90	—	
		8 - 12	70	80	—	
		12 - 18	60	66	—	
VSWR		DC - 1	—	1.05	1.10	:1
		1 - 8	—	1.20	1.30	
		8 - 12	—	1.20	1.35	
		12 - 18	—	1.15	1.40	
DC Current @ +12V		DC - 18	—	350	430	mA
RF Power Cold Switching[4]		DC - 18	—	—	10	W
RF Power Hot Switching	Note 1	DC - 18	—	—	0.1	W
	Note 2		—	—	1.0	

Additional Specifications

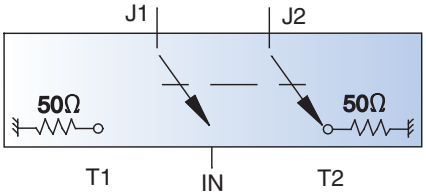
Operating Voltage Range	12V (nom) ±0.5V
Switching Time (Typ.)	20ms
Life[3] (Min.)	1year/10 million cycles

Notes

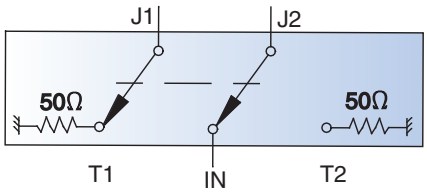
1. To achieve specified life, hot switching RF power must not exceed this level.
2. Degradation in life (min.) to typically 3 million switch cycles for hot switch at this RF power level.
3. Tested at 0 dBm RF power.
4. Power handling is specified with RF applied to the IN port and output load connected to either J1 or J2.

Switching States

DE-ENERGIZED DC=0V



ENERGIZED DC=12V



Notes

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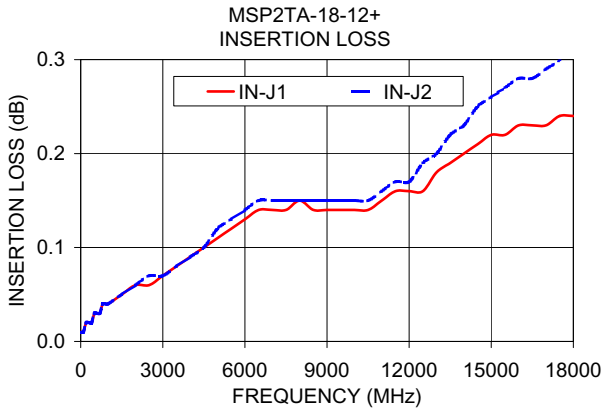
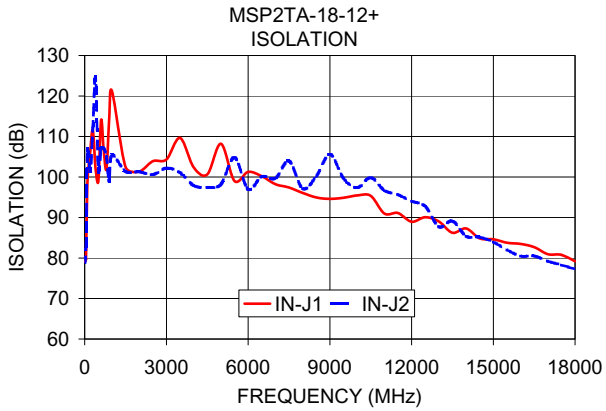
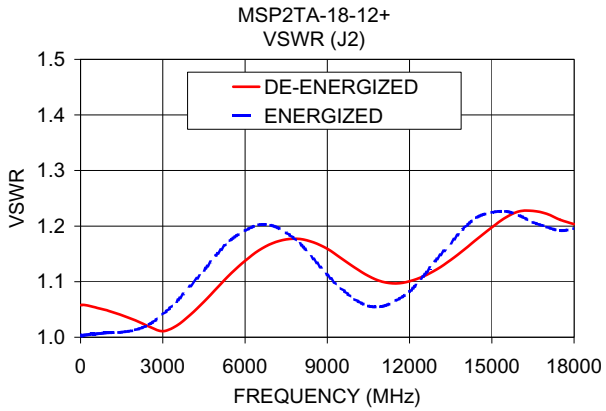
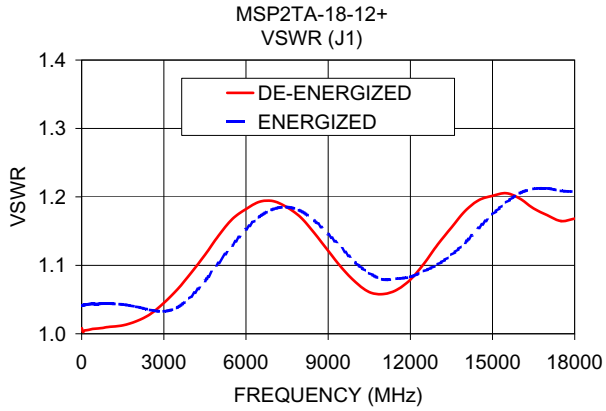
Typical Performance Data

FREQ. (MHz)	ON INSERTION LOSS (dB)		OFF ISOLATION (dB)		VSWR, IN (:1)		VSWR (J2) (:1)		VSWR (J1) (:1)	
	IN-J2	IN-J2	IN-J1	IN-J2	De-Energized	Energized	De-Energized	Energized	De-Energized	Energized
10.0	0.01	0.01	79.15	78.83	1.00	1.01	1.06	1.00	1.01	1.04
100.0	0.01	0.01	98.51	106.49	1.00	1.00	1.06	1.00	1.00	1.04
1000.0	0.04	0.04	121.18	105.44	1.01	1.01	1.05	1.01	1.01	1.04
2000.0	0.06	0.06	101.35	101.29	1.01	1.02	1.03	1.01	1.02	1.04
3000.0	0.07	0.07	104.33	102.22	1.04	1.05	1.01	1.04	1.04	1.03
4000.0	0.09	0.09	102.39	97.90	1.09	1.09	1.04	1.09	1.09	1.05
5000.0	0.11	0.12	108.21	98.20	1.15	1.14	1.09	1.15	1.14	1.10
6000.0	0.13	0.14	101.25	96.96	1.20	1.18	1.14	1.19	1.18	1.15
7000.0	0.14	0.15	98.22	99.67	1.20	1.19	1.17	1.20	1.19	1.18
8000.0	0.15	0.15	96.08	97.15	1.17	1.16	1.18	1.17	1.17	1.18
9000.0	0.14	0.15	94.61	105.59	1.11	1.12	1.16	1.11	1.12	1.15
10000.0	0.14	0.15	95.45	97.35	1.07	1.07	1.13	1.07	1.08	1.10
11000.0	0.15	0.16	90.97	96.67	1.05	1.06	1.10	1.06	1.06	1.08
12000.0	0.16	0.17	88.97	94.03	1.08	1.08	1.10	1.08	1.08	1.08
13000.0	0.18	0.20	89.02	87.71	1.15	1.13	1.12	1.14	1.13	1.10
14000.0	0.20	0.23	87.29	85.40	1.21	1.18	1.16	1.20	1.18	1.13
15000.0	0.22	0.26	84.63	83.93	1.23	1.20	1.20	1.22	1.20	1.17
16000.0	0.23	0.28	83.48	80.49	1.21	1.20	1.23	1.22	1.20	1.21
17000.0	0.23	0.29	80.95	79.21	1.16	1.17	1.22	1.20	1.17	1.21
18000.0	0.24	0.32	79.20	77.24	1.16	1.17	1.20	1.20	1.17	1.21









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