

# Xtra Long Life SPDT Switch

50Ω DC to 18 GHz

## MSP2TA-18XL



CASE STYLE: FP914

Connectors	Model	Price	Qty.
SMA	MSP2TA-18XL	\$169.95	(1-9)

### Maximum Ratings

Operating Temperature	-15°C to +45°C
Storage Temperature	-15°C to +45°C
RF Power (any single port)	10W
Control Voltage	26VDC

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

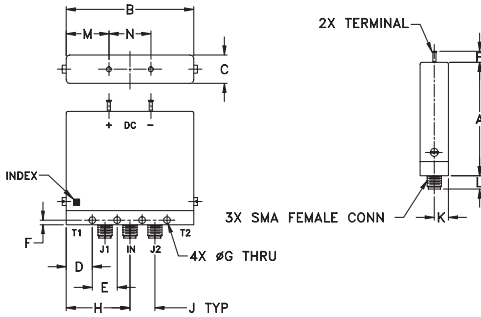
### Features

- low insertion loss, 0.2 dB typ.
- high isolation, 85 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 and additional patents pending

### Applications

- (ATE) automatic test equipment
- reliable "sleeptime" switching
- redundancy switching for microwave radio

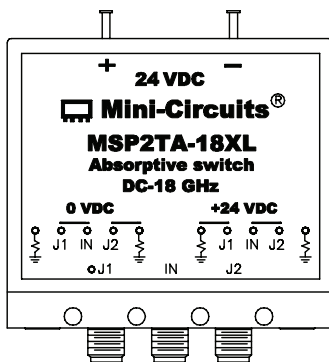
### Outline Drawing



### 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

FREQUENCY (GHz)	INSERTION LOSS (dB)		ISOLATION (dB)		VSWR (:1)		DC CURRENT @+24V (mA)		RF POWER COLD SWITCHING (W)	RF POWER HOT SWITCHING (W)	
	Typ.	Max.	Typ.	Min.	Typ.	Max.	Typ.	Max.	Max.	Note 1	Note 2
DC - 1	0.10	0.15	100	85	1.05	1.10					
1 - 8	0.15	0.30	90	75	1.20	1.30				0.1	1.0
8 - 12	0.25	0.40	80	70	1.20	1.35	175	215	10		
12 - 18	0.30	0.50	66	60	1.25	1.40					

### Additional Specifications

Operating Voltage Range	24V (nom) ±1V
Switching Time (Typ.)	20ms
Life <sup>3</sup> (Min.)	1 year/10 million switch cycles

#### Notes

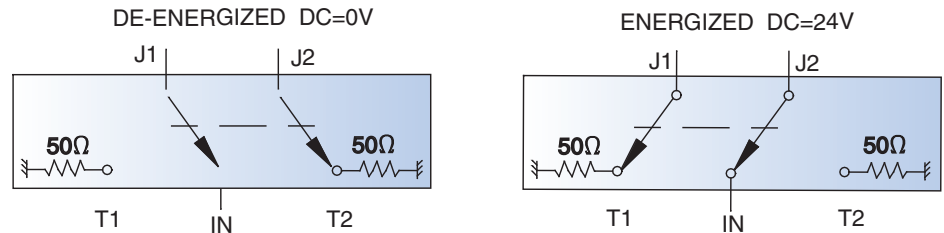
1. To achieve specified life, hot switching RF power must not exceed this level.
2. Degradation in life (min.) to typically 3 million switch cycles for hot switch at this RF power level.
3. Tested at 0 dBm RF power.

**10 YEAR EXTENDED WARRANTY**

10 Yr. 100 Million Cycles\*  
\$19.95/yr.  
for a total of  
\$199.50

\*10 year agreement required  
See website for details

### Switching States



**Mini-Circuits®**  
ISO 9001 ISO 14001 AS 9100 CERTIFIED

IF/RF MICROWAVE COMPONENTS

For detailed performance specs & shopping online see web site

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Notes: 1. Performance and quality attributes and conditions not expressly stated in this specification sheet are intended to be excluded and do not form a part of this specification sheet. 2. Electrical specifications and performance data contained herein are based on Mini-Circuit's applicable established test performance criteria and measurement instructions. 3. The parts covered by this specification sheet are subject to Mini-Circuit's standard limited warranty and terms and conditions (collectively, "Standard Terms"); Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the Standard Terms and the exclusive rights and remedies thereunder, please visit Mini-Circuit's website at [www.minicircuits.com/MCLStore/terms.jsp](http://www.minicircuits.com/MCLStore/terms.jsp).

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MSP2TA-18XL  
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## Typical Performance Data

FREQ. (MHz)	ON INSERTION LOSS (dB)		OFF ISOLATION (dB)		VSWR, IN (:1)		VSWR energized (:1)		VSWR de-energized (:1)	
	IN-J2	IN-J1	IN-J1	IN-J2	ON	OFF	T1	J2	J1	T2
10.00	0.00	0.00	86.92	90.23	1.00	1.00	1.00	1.00	1.00	1.01
100.00	0.01	0.01	101.44	104.72	1.00	1.01	1.00	1.00	1.00	1.01
1000.00	0.04	0.04	102.68	97.93	1.01	1.01	1.01	1.01	1.01	1.02
2000.00	0.06	0.06	100.29	89.71	1.02	1.03	1.02	1.02	1.03	1.05
3000.00	0.08	0.07	99.44	94.36	1.06	1.06	1.06	1.06	1.06	1.08
4000.00	0.09	0.08	93.35	96.55	1.09	1.09	1.09	1.10	1.09	1.11
5000.00	0.11	0.10	92.98	90.42	1.12	1.13	1.12	1.12	1.12	1.13
6000.00	0.13	0.11	98.44	94.76	1.16	1.18	1.18	1.18	1.18	1.14
7000.00	0.15	0.14	104.93	92.46	1.18	1.21	1.19	1.20	1.21	1.12
8000.00	0.14	0.14	105.64	91.48	1.14	1.17	1.15	1.14	1.17	1.09
9000.00	0.14	0.13	100.36	91.51	1.09	1.09	1.10	1.08	1.09	1.06
10000.00	0.14	0.13	92.35	89.45	1.04	1.04	1.05	1.04	1.04	1.06
11000.00	0.16	0.14	91.02	91.97	1.04	1.04	1.05	1.06	1.04	1.07
12000.00	0.17	0.16	98.57	78.50	1.10	1.08	1.10	1.09	1.08	1.12
13000.00	0.20	0.19	82.82	89.80	1.19	1.17	1.17	1.17	1.18	1.20
14000.00	0.25	0.22	84.16	89.36	1.27	1.26	1.27	1.26	1.27	1.30
15000.00	0.30	0.25	84.72	83.73	1.32	1.32	1.31	1.29	1.32	1.37
16000.00	0.32	0.25	80.73	79.61	1.31	1.32	1.32	1.28	1.31	1.37
17000.00	0.30	0.25	77.82	81.23	1.30	1.23	1.27	1.21	1.21	1.33
18000.00	0.31	0.26	76.06	78.10	1.27	1.17	1.26	1.19	1.15	1.29

