

Xtra Long Life SP4T Switch

50Ω DC to 18 GHz 24 Volt

Maximum Ratings

Operating Temperature	-15°C to +45°C
Storage Temperature	-15°C to +45°C
RF Power	2W
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.
- 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 7,843,289

Applications

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

MSP4TA-18+

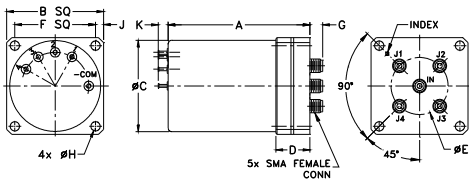


front view back view
CASE STYLE: HJ1768
Connectors Model
SMA MSP4TA-18+

+RoHS Compliant

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

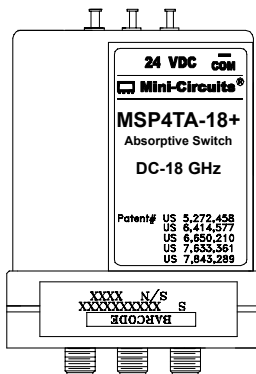
Outline Drawing



Outline Dimensions (inch)

A	B	C	D	E	F
2.63	1.80	1.70	.63	1.06	1.500
66.80	45.72	43.18	16.00	26.92	38.10
G	H	J	K	wt	
.24	.172	.15	.19	grams	
6.10	4.37	3.81	4.83	160	

Marking Drawing



Electrical Specifications

Parameter	Condition	Min.	Typ.	Max.	Unit
Frequency Range		DC	—	18	GHz
Insertion Loss	DC - 1 GHz	—	0.10	0.20	dB
	1 - 8	—	0.15	0.30	
	8 - 12	—	0.25	0.40	
	12 - 18	—	0.50	0.80	
Isolation	DC - 1 GHz	85	105	—	dB
	1 - 8	80	100	—	
	8 - 12	75	95	—	
	12 - 18	60	80	—	
VSWR (Note 1,2)	DC - 1 GHz	—	1.05	1.10	:1
	1 - 8	—	1.20	1.40	
	8 - 12	—	1.20	1.40	
	12 - 18	—	1.30	1.60	
Control Signal (Note 3)	24V	—	85	125	mA
Switching Lifetime (Note 4)	0.1W	—	100 million	—	cycles
	1.0W	—	10 million	—	

Notes

1. For ports J1, J2, J3 and J4 all states.
2. For port IN in Energized state only.
3. +24 Volt applied to energized port, all other ports negative or ground. COM is negative.
4. Since these are mechanical devices, a lubrication may be required to meet the expected lifetimes shown in the specifications. Please see Mini-Circuits Warranty Policy regarding these devices.

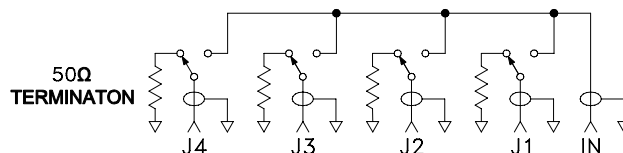
Additional Specifications

Operating Voltage Range	24V (nom) ±1V
Switching Time (Typ.)	20ms

Patents

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Switching Position (Non-Energized)



Notes

- A. Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
- B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
- C. The parts covered by this specification document are subject to Mini-Circuits 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-Circuits' website at www.minicircuits.com/MCLStore/terms.jsp

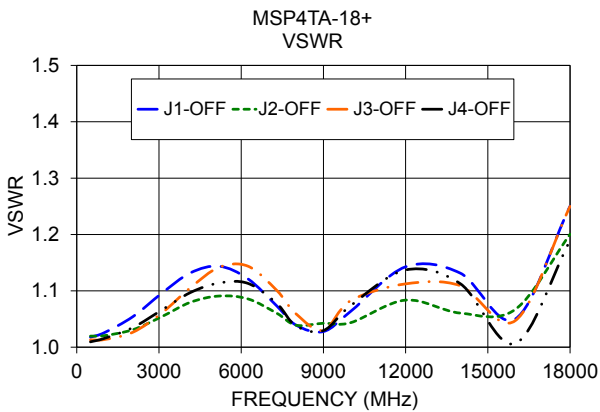
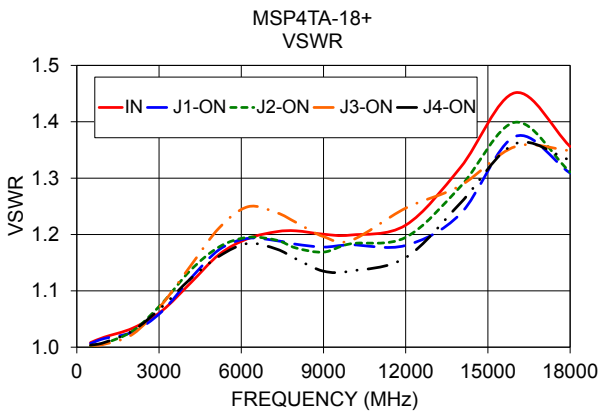
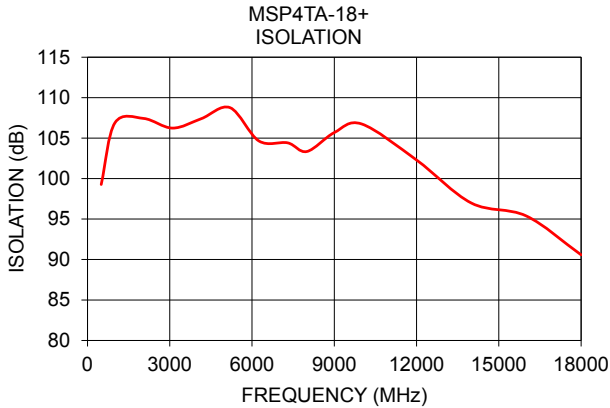
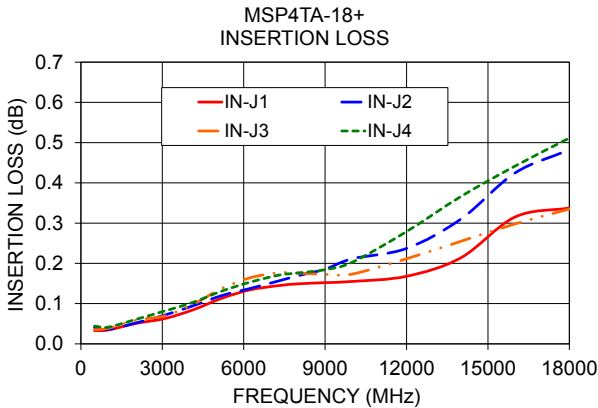


www.minicircuits.com P.O. Box 350166, Brooklyn, NY 11235-0003 (718) 934-4500 sales@minicircuits.com



Typical Performance Data

FREQ. (MHz)	ON INSERTION LOSS (dB)				ISOLATION (dB)	VSWR								
	IN-J1	IN-J2	IN-J3	IN-J4		IN	J1-ON	J2-ON	J3-ON	J4-ON	J1-OFF	J2-OFF	J3-OFF	J4-OFF
500	0.03	0.04	0.03	0.04	99.27	1.01	1.01	1.00	1.00	1.00	1.02	1.02	1.01	1.01
1000	0.03	0.04	0.04	0.04	106.89	1.02	1.02	1.01	1.01	1.01	1.03	1.02	1.01	1.02
2050	0.05	0.05	0.06	0.06	107.43	1.03	1.03	1.03	1.02	1.03	1.05	1.03	1.03	1.03
3100	0.06	0.07	0.07	0.08	106.24	1.06	1.06	1.08	1.08	1.07	1.10	1.05	1.06	1.07
4150	0.08	0.10	0.10	0.10	107.40	1.11	1.12	1.14	1.14	1.12	1.13	1.08	1.11	1.10
5200	0.11	0.12	0.14	0.13	108.76	1.16	1.17	1.18	1.21	1.16	1.14	1.09	1.14	1.11
6250	0.13	0.14	0.16	0.15	104.65	1.19	1.19	1.20	1.25	1.18	1.12	1.09	1.14	1.11
7300	0.14	0.16	0.18	0.17	104.41	1.21	1.19	1.19	1.24	1.17	1.07	1.06	1.10	1.08
8000	0.15	0.17	0.18	0.18	103.35	1.21	1.18	1.18	1.22	1.16	1.04	1.04	1.06	1.04
9000	0.15	0.19	0.17	0.18	105.69	1.20	1.18	1.17	1.20	1.13	1.03	1.04	1.03	1.03
10000	0.16	0.21	0.17	0.20	106.75	1.20	1.18	1.18	1.19	1.14	1.06	1.04	1.08	1.07
12000	0.17	0.24	0.21	0.28	102.29	1.22	1.18	1.19	1.25	1.16	1.14	1.08	1.11	1.14
14000	0.21	0.31	0.25	0.37	96.97	1.32	1.24	1.29	1.29	1.26	1.13	1.06	1.11	1.11
16000	0.32	0.42	0.30	0.44	95.38	1.45	1.37	1.40	1.36	1.36	1.05	1.07	1.05	1.01
18000	0.34	0.48	0.33	0.51	90.58	1.36	1.31	1.31	1.35	1.33	1.25	1.20	1.25	1.19



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