Xtra Long Life

SP4T Switch

MSP4TA-18+

50Ω DC to 18 GHz 24 Volt

CASE STYLE: HJ1768

Connectors	Model	Price	Qty.
SMA	MSP4TA-18+	$395.00	(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	2W
Control Voltage	26VDC

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

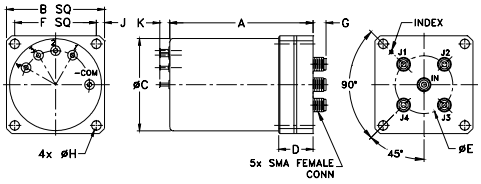
Features

- 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

Outline Drawing



Outline Dimensions (inch / mm)

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

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 energized state.
2. For port IN in Energized state only.
3. +24 Volt applied to energized port, all othe 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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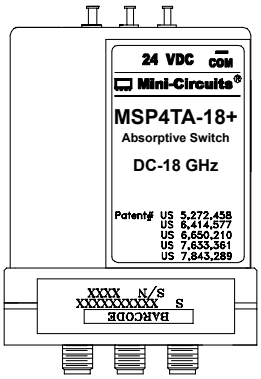
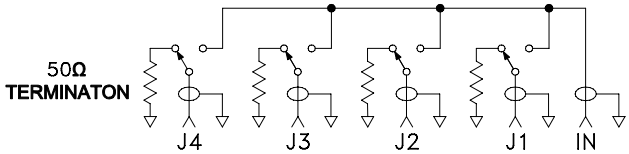
Marking Drawing



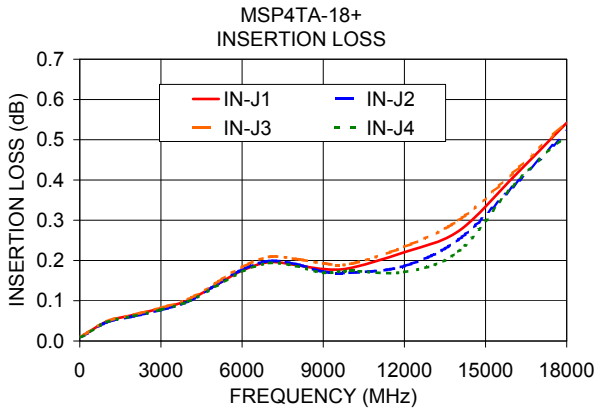
Switching Position (Non-Energized)

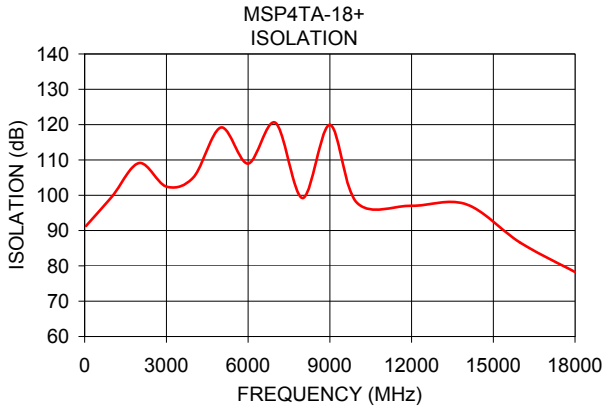


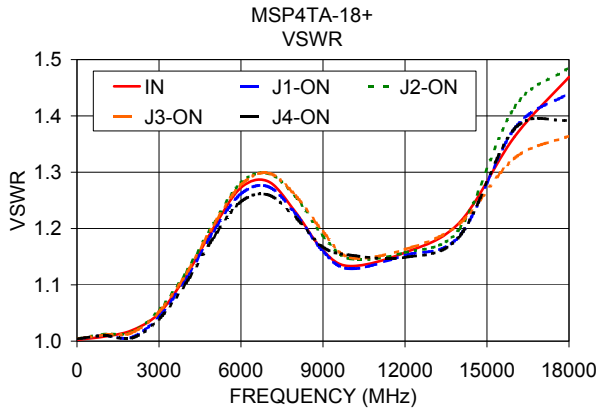
Notes
A. Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's 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

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
50.00	0.01	0.01	0.01	0.01	91.27	1.00	1.00	1.00	1.00	1.00
1000.00	0.05	0.05	0.05	0.05	99.60	1.01	1.01	1.01	1.01	1.01
2000.00	0.06	0.06	0.07	0.06	109.11	1.02	1.01	1.02	1.01	1.01
3000.00	0.08	0.08	0.08	0.08	102.46	1.05	1.04	1.05	1.05	1.04
4000.00	0.10	0.10	0.10	0.10	105.14	1.12	1.11	1.12	1.12	1.10
5000.00	0.14	0.14	0.14	0.13	119.18	1.20	1.20	1.21	1.21	1.18
6000.00	0.17	0.18	0.18	0.17	108.97	1.27	1.26	1.28	1.28	1.25
7000.00	0.20	0.20	0.21	0.19	120.51	1.28	1.27	1.30	1.30	1.26
8000.00	0.19	0.19	0.20	0.19	99.22	1.23	1.23	1.26	1.26	1.22
9000.00	0.18	0.17	0.19	0.17	119.92	1.16	1.16	1.19	1.19	1.17
10000.00	0.18	0.17	0.19	0.17	97.84	1.13	1.13	1.15	1.15	1.15
12000.00	0.22	0.19	0.23	0.17	97.02	1.16	1.15	1.16	1.16	1.15
14000.00	0.27	0.25	0.30	0.22	97.45	1.21	1.19	1.20	1.21	1.19
16000.00	0.41	0.38	0.42	0.38	86.52	1.36	1.38	1.41	1.32	1.38
18000.00	0.54	0.52	0.54	0.51	78.26	1.47	1.44	1.49	1.36	1.39







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