

Xtra Long Life

Transfer Switch

50Ω DC to 18 GHz 12 Volt

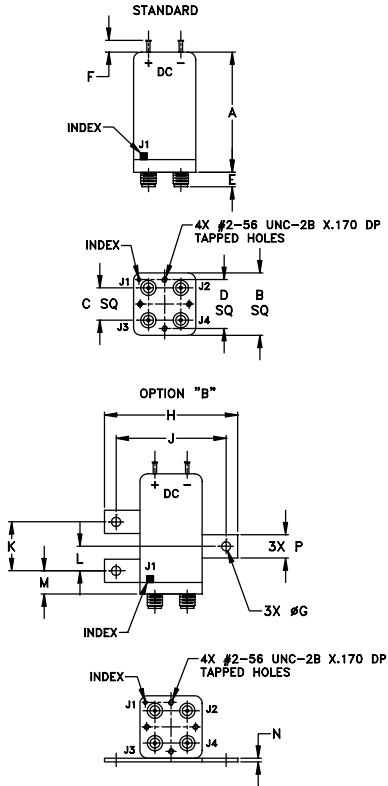
NON-CATALOG

MTS-18-12+

Maximum Ratings

Operating Temperature	-15°C to +45°C
Storage Temperature	-15°C to +45°C
RF Power (any single port)	10W
Control Voltage	13VDC
Permanent damage may occur if any of these limits are exceeded.	

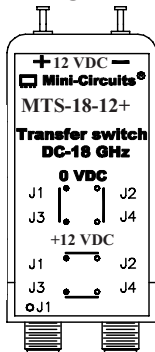
Outline Drawing



Outline Dimensions (inch/mm)

A	B	C	D	E	F	G	H
1.97	1.02	.53	.800	.240	.19	.150	2.18
50.04	25.91	13.46	20.32	6.10	4.83	3.81	55.37
J	K	L	M	N	P	wt	
1.800	.800	.400	.380	.06	.38	grams	
45.72	20.32	10.16	9.65	1.52	9.65	70	

Marking Drawing



Notes

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- Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
- 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

Features

- low insertion loss, 0.2 dB typ.
- high isolation, 85 dB typ.
- high power handling, 10W
- ultra reliable
- break-before-make configuration
- failsafe microwave transfer switch
- protected by US Patents 5,272,458; 6,414,577; 6,650,210; 7,633,361; 7,843,289

Applications

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



CASE STYLE: DS810

Connectors	Model	Price	Qty.
SMA	MTS-18-12+	Contact Sales Dept.	

+RoHS Compliant

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

Electrical Specifications

FREQUENCY (GHz)	INSERTION LOSS (dB)		ISOLATION (dB)		VSWR (:1)		DC CURRENT @+12V (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	0.10	0.25	90	75	1.15	1.20						
8 - 12	0.20	0.36	86	70	1.15	1.30	175	215	10		0.1	1.0
12 - 18	0.25	0.45	76	60	1.15	1.30						

Additional Specifications

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

Notes

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

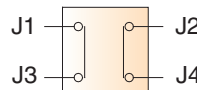
10 YEAR EXTENDED WARRANTY

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

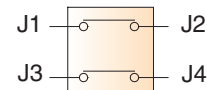
*10 year agreement
required
[Click Here for details](#)

Switching States

DE-ENERGIZED DC=0V



ENERGIZED DC=12V



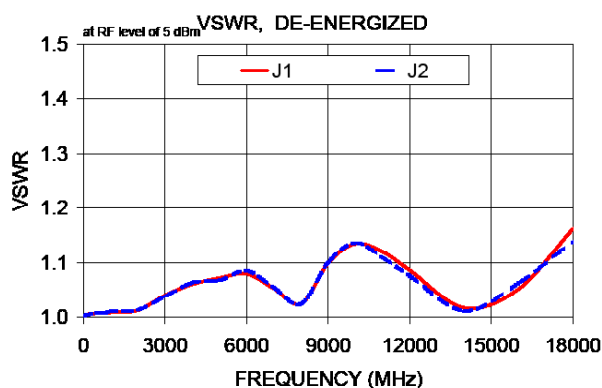
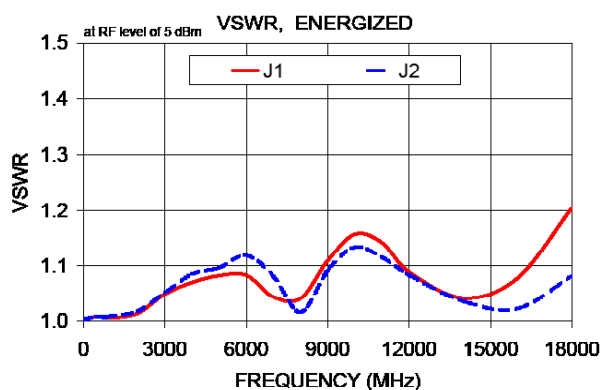
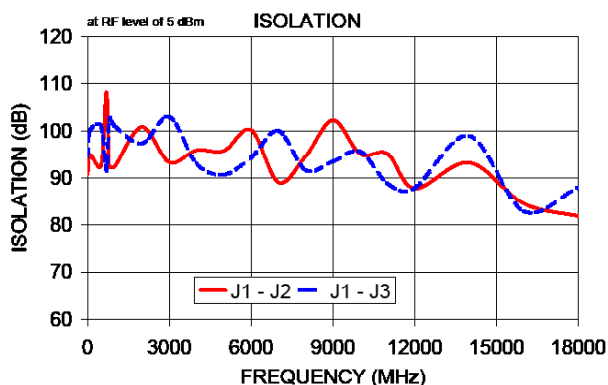
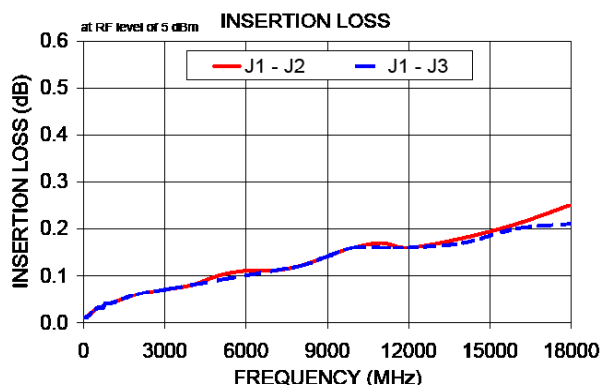
Mini-Circuits®

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REV. A
M152466
MTS-18-12+
AR/TH/CP
150815
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Typical Performance Data

FREQ. (MHz)	ON INSERTION LOSS (dB)		OFF ISOLATION (dB)		VSWR energized (:1)		VSWR de-energized (:1)	
	J1-J2	J1-J3	J1-J2	J1-J3	J1	J2	J1	J2
10.00	0.01	0.01	90.66	94.50	1.00	1.00	1.00	1.00
100.00	0.01	0.01	94.93	100.05	1.00	1.00	1.00	1.00
500.00	0.03	0.03	92.59	100.93	1.01	1.01	1.01	1.01
700.00	0.03	0.03	108.21	91.48	1.01	1.01	1.01	1.01
800.00	0.04	0.04	92.52	102.45	1.01	1.01	1.01	1.01
1000.00	0.04	0.04	92.45	100.96	1.01	1.01	1.01	1.01
2000.00	0.06	0.06	100.79	97.34	1.01	1.02	1.01	1.01
3000.00	0.07	0.07	93.32	102.92	1.05	1.05	1.04	1.04
4000.00	0.08	0.08	95.89	93.03	1.07	1.09	1.06	1.06
5000.00	0.10	0.09	95.75	90.70	1.08	1.10	1.07	1.07
6000.00	0.11	0.10	100.15	94.32	1.08	1.12	1.08	1.09
7000.00	0.11	0.11	89.08	99.96	1.04	1.08	1.05	1.05
8000.00	0.12	0.12	94.59	91.64	1.04	1.02	1.02	1.02
9000.00	0.14	0.14	102.19	93.50	1.11	1.09	1.10	1.10
10000.00	0.16	0.16	95.10	95.63	1.16	1.13	1.14	1.14
11000.00	0.17	0.16	95.14	88.79	1.14	1.12	1.12	1.11
12000.00	0.16	0.16	87.77	87.85	1.09	1.08	1.09	1.08
14000.00	0.18	0.17	93.24	98.95	1.04	1.04	1.02	1.01
16000.00	0.21	0.20	84.54	82.94	1.08	1.02	1.05	1.06
18000.00	0.25	0.21	81.87	88.03	1.20	1.08	1.16	1.14



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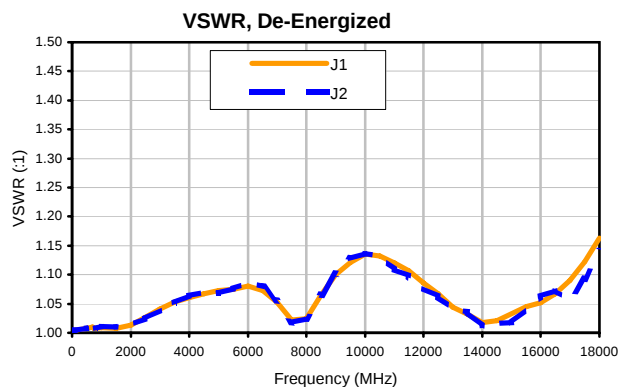
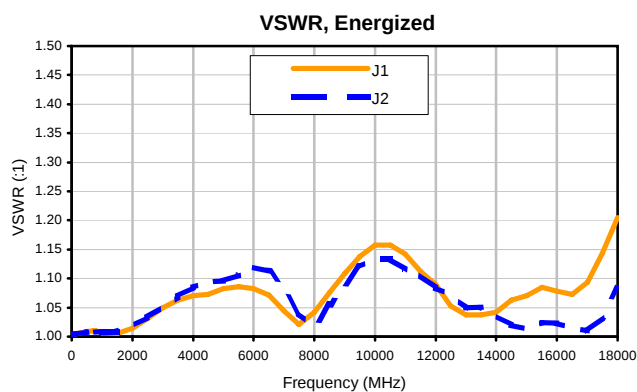
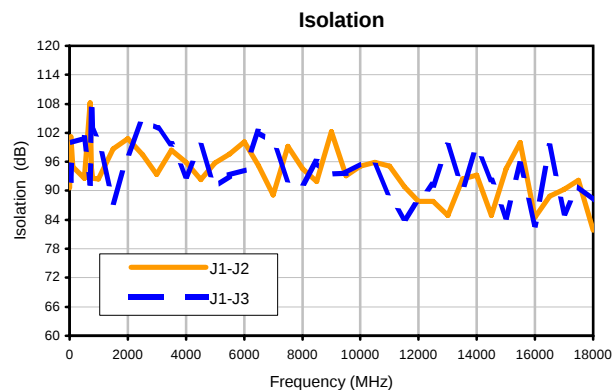
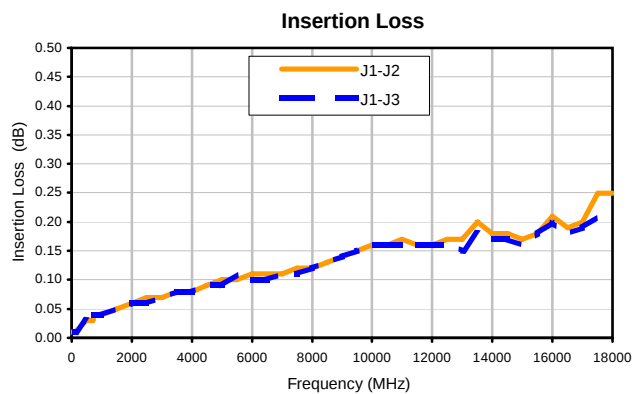
Xtra Long Life Transfer Switch

MTS-18-12+

Typical Performance Data

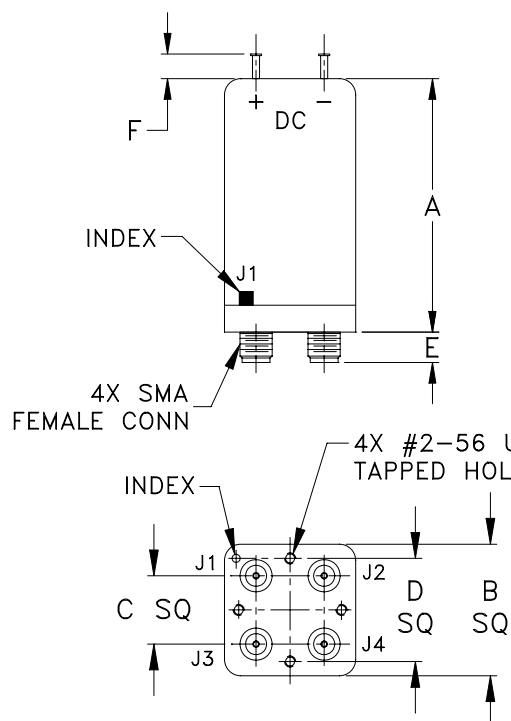
FREQUENCY (MHz)	INSERTION LOSS ON (dB)		ISOLATION OFF (dB)		VSWR ENERGIZED (:1)		VSWR DE-ENERGIZED (:1)	
	J1-J2	J1-J3	J1-J2	J1-J3	J1	J2	J1	J2
10.0	0.01	0.01	90.66	94.50	1.00	1.00	1.00	1.00
50.0	0.01	0.01	101.14	92.25	1.00	1.00	1.00	1.00
100.0	0.01	0.01	94.93	100.05	1.00	1.00	1.00	1.00
500.0	0.03	0.03	92.59	100.93	1.01	1.01	1.01	1.01
700.0	0.03	0.03	108.21	91.48	1.01	1.01	1.01	1.01
750.0	0.04	0.04	94.79	108.86	1.01	1.01	1.01	1.01
800.0	0.04	0.04	92.52	102.45	1.01	1.01	1.01	1.01
1000.0	0.04	0.04	92.45	100.96	1.01	1.01	1.01	1.01
1500.0	0.05	0.05	98.61	87.38	1.01	1.01	1.01	1.01
2000.0	0.06	0.06	100.79	97.34	1.01	1.02	1.01	1.01
2500.0	0.07	0.06	97.51	104.72	1.03	1.03	1.03	1.02
3000.0	0.07	0.07	93.32	102.92	1.05	1.05	1.04	1.04
3500.0	0.08	0.08	98.46	99.72	1.06	1.07	1.05	1.05
4000.0	0.08	0.08	95.89	93.03	1.07	1.09	1.06	1.06
4500.0	0.09	0.09	92.30	99.42	1.07	1.09	1.07	1.07
5000.0	0.10	0.09	95.75	90.70	1.08	1.10	1.07	1.07
5500.0	0.10	0.11	97.60	93.21	1.09	1.11	1.07	1.08
6000.0	0.11	0.10	100.15	94.32	1.08	1.12	1.08	1.09
6500.0	0.11	0.10	95.17	102.24	1.07	1.11	1.07	1.08
7000.0	0.11	0.11	89.08	99.96	1.04	1.08	1.05	1.05
7500.0	0.12	0.11	99.16	92.07	1.02	1.04	1.02	1.02
8000.0	0.12	0.12	94.59	91.64	1.04	1.02	1.02	1.02
8500.0	0.13	0.13	91.86	95.94	1.08	1.05	1.06	1.07
9000.0	0.14	0.14	102.19	93.50	1.11	1.09	1.10	1.10
9500.0	0.15	0.15	93.12	93.68	1.14	1.12	1.12	1.13
10000.0	0.16	0.16	95.10	95.63	1.16	1.13	1.14	1.14
10500.0	0.16	0.16	95.91	95.23	1.16	1.13	1.13	1.13
11000.0	0.17	0.16	95.14	88.79	1.14	1.12	1.12	1.11
11500.0	0.16	0.16	90.91	84.34	1.11	1.11	1.11	1.10
12000.0	0.16	0.16	87.77	87.85	1.09	1.08	1.09	1.08
12500.0	0.17	0.16	87.81	91.10	1.05	1.07	1.07	1.06
13000.0	0.17	0.15	84.88	99.40	1.04	1.05	1.04	1.04
13500.0	0.20	0.18	92.47	90.30	1.04	1.05	1.03	1.04
14000.0	0.18	0.17	93.24	98.95	1.04	1.04	1.02	1.01
14500.0	0.18	0.17	84.93	92.18	1.06	1.02	1.02	1.02
15000.0	0.17	0.16	94.61	84.44	1.07	1.01	1.03	1.02
15500.0	0.18	0.18	99.94	95.56	1.09	1.02	1.05	1.04
16000.0	0.21	0.20	84.54	82.94	1.08	1.02	1.05	1.06
16500.0	0.19	0.18	88.84	99.24	1.07	1.02	1.07	1.07
17000.0	0.20	0.19	90.32	85.46	1.09	1.01	1.09	1.06
17500.0	0.25	0.21	92.16	91.04	1.14	1.03	1.12	1.09
18000.0	0.25	0.21	81.87	88.03	1.20	1.08	1.16	1.14

Typical Performance Curves

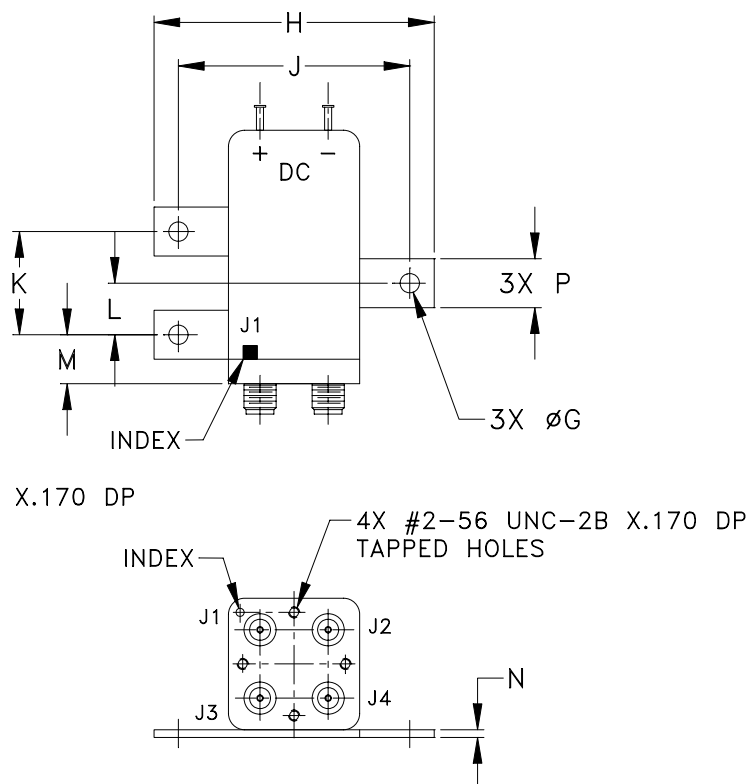


Outline Dimensions

STANDARD



OPTION "B"



CASE #	A	B	C	D	E	F	G	H	J	K	L
DS810	1.97 (50.04)	1.02 (25.91)	.53 (13.46)	.800 (20.32)	.240 (6.10)	.19 (4.83)	.150 (3.81)	2.18 (55.37)	1.800 (45.72)	.800 (20.32)	.400 (10.16)

CASE #	M	N	P	WT. GRAM
DS810	.380 (9.65)	.06 (1.52)	.38 (9.65)	70

Dimensions are in inches (mm). Tolerances: 2Pl. $\pm .03$; 3 Pl. $\pm .015$

Note:

- Case material: Copper-Nickel alloy.



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