

BROADBAND SP7T SWITCH

REFLECTIVE AND ABSORPTIVE 0.02-18 GHz

SERIES TL-7/TB-7-A

GENERAL INFORMATION:

Series TL-7 and TB-7-A broadband switches are medium power devices that operate over relatively wide frequency ranges. Carefully selected diodes placed in either series, series-shunt, or shunt configurations produce excellent electrical performance from UHF through KU bands.

GENERAL SPECIFICATIONS:

- Frequency Coverage:** 0.02 to 18.0 GHz.
RF Impedance: 50 OHMS.
RF Power: +20 dBm operational. Consult factory for high power options.
DC Requirements: For switches without drivers, each path requires +60 mA for the "off" condition and -60 mA for the "on" condition. Switches with drivers require +5 volts at +420 mA and -5 volts at -140 mA supplies. Logic is TTL "0" when "on" and "1" when "off". Different supply voltages and logic available if specified at time of order.
Temperature Information: Operating temperature from -55°C to +85°C.
Switching Speed: 10% to 90% or 90% to 10% of RF. There is an additional 30 nanosec of driver delay.
Environment: MIL-E-5400
Connectors: RF connectors are SMA. Other connectors available (when specified at time of order) include types N, TNC, and BNC. Mating connector supplied for all units with multipin connector; ITT Cannon MDB1-15SSL or equiv.

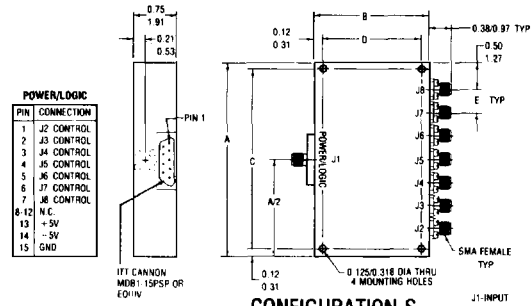
NOTES:

- All switches, with drivers, are available with either solder pins, or a multi-pin connector for the drive connection, when specified at time of order. (See "outlines with driver")
- When ordering, add suffix for configuration desired to the model number. ('S' for rectangular, 'R' for eight sided) i.e. TL-712R.
- If driver is required, add 'D' to the model number when ordering, i.e. Model TL-712R, with driver, becomes TL-712RD.
- When ordering, the complete model number should be given. The model number consists of the model number for a standard switch plus the dash number for any options, i.e. Model TL-731RD-1 is an eight sided SP7T reflective switch with driver whose frequency range is 0.5 to 1.0 GHz and a switching speed of 100 nanosec.
- Any unit listed can be supplied with pins instead of RF connectors. (Consult factory.)

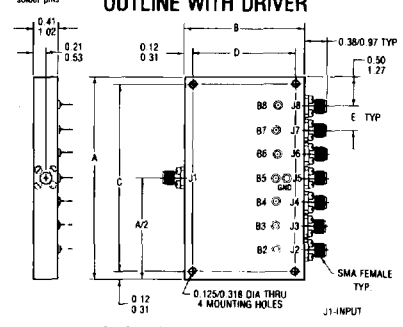
MECHANICAL OUTLINES

Outline	A Inches cm.	B Inches cm.	C Inches cm.	D Inches cm.	E Inches cm.
1	3.40 8.64	2.00 5.08	3.150 8.001	1.750 4.450	0.40 1.02
2	4.00 10.16	3.00 7.62	3.750 9.525	2.750 6.985	0.50 1.27
3	0.85 2.16	1.600 4.064	—	—	—
4	1.15 2.92	2.260 5.740	—	—	—
5	4.00 10.16	3.50 8.89	3.750 9.525	3.250 8.255	0.50 1.27
6	4.00 10.16	2.35 5.97	3.750 9.525	2.100 5.334	0.50 1.27

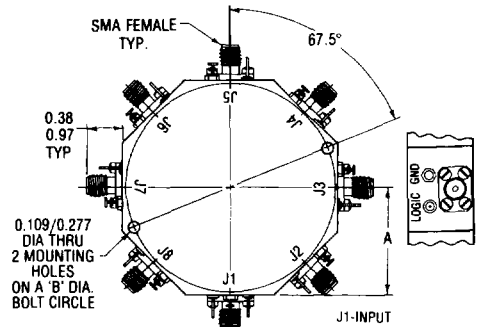
Inches/Centimeters
 xx ± 0.3 xxx ± .010/ xx ± .08 xxx ± .025



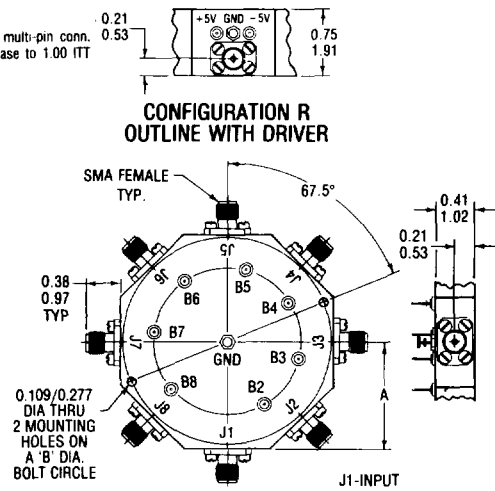
CONFIGURATION S
OUTLINE WITH DRIVER



CONFIGURATION S
OUTLINE WITHOUT DRIVER



CONFIGURATION R
OUTLINE WITH DRIVER



CONFIGURATION R
OUTLINE WITHOUT DRIVER

BROADBAND
SP7T SWITCH
 REFLECTIVE AND ABSORPTIVE 0.02-18 GHz

SERIES TL-7/TB-7-A

ELECTRICAL PERFORMANCE

STANDARD SWITCH							HIGH SPEED OPTION			
Isolation: 30 dB minimum Power: 1 watt average, 10 watts peak, survival Speed: 2 microsec. maximum							MODEL-1		MODEL-2	
							Speed Nanosec.	Insertion Loss Max. dB Ref. / Abs.	Speed Nanosec.	Insertion Loss Max. dB Ref. / Abs.
Reflective Model No.	Absorptive Model No.	Frequency Range GHz	Insertion Loss Max. dB Ref. / Abs.	VSWR† Max.	OUTLINE Config. Square Config. Round Ref. / Abs. Ref. / Abs.					
TL-712	TB-713-A	0.02-0.1	1.00 / 1.10	1.90	2 / 5	4 / 4	500	1.05 / 1.15	N/A	N/A
TL-716	TB-717-A	0.1-1.0	1.40 / 1.50	1.90	2 / 5	4 / 4	500	1.45 / 1.55	N/A	N/A
TL-722	TB-721-A	0.1-2.0	1.70 / 1.80	1.90	2 / 5	4 / 4	500	1.75 / 1.85	N/A	N/A
TL-725	TB-725-A	0.25-0.5	1.40 / 1.50	1.90	2 / 5	4 / 4	500	1.45 / 1.55	N/A	N/A
TL-728	TB-729-A	0.25-1.0	1.40 / 1.50	1.90	2 / 5	4 / 4	500	1.45 / 1.55	N/A	N/A
TL-731	TB-733-A	0.5-1.0	1.20 / 1.30	1.90	1 / 2	4 / 4	100	1.30 / 1.40	20	1.40 / 1.50
TL-737	TB-737-A	0.5-2.0	1.40 / 1.50	1.90	1 / 2	4 / 4	100	1.50 / 1.60	20	1.60 / 1.70
TL-740	TB-741-A	1.0-2.0	1.20 / 1.30	1.90	1 / 2	3 / 4	100	1.30 / 1.40	20	1.50 / 1.60
TL-744	TB-745-A	1.0-4.0	1.60 / 1.70	1.90	1 / 2	3 / 4	100	1.70 / 1.80	20	1.90 / 2.00
TL-749	TB-749-A	1.0-6.0	1.60 / 1.70	1.90	1 / 2	3 / 4	100	1.70 / 1.80	20	1.90 / 2.00
TL-753	TB-753-A	1.5-3.0	1.30 / 1.40	1.90	1 / 2	3 / 4	100	1.55 / 1.65	20	1.80 / 1.90
TL-756	TB-757-A	2.0-4.0	1.60 / 1.70	1.90	1 / 2	3 / 4	100	1.70 / 1.80	20	1.90 / 2.00
TL-761	TB-761-A	2.0-8.0	1.70 / 1.80	1.90	1 / 6	3 / 4	100	1.90 / 2.00	20	2.10 / 2.10
TL-764	TB-765-A	3.0-12.0	2.80 / 2.90	2.50	1 / 6	3 / 4	100	3.05 / 3.15	20	3.30 / 3.40
TL-768	TB-769-A	4.0-8.0	1.90 / 2.00	1.90	1 / 6	3 / 4	100	2.05 / 2.15	20	2.30 / 2.40
TL-772	TB-773-A	2.0-18.0	3.20 / 3.30	2.50	1 / 6	3 / 4	100	3.45 / 3.55	20	3.70 / 3.80
TL-776	TB-777-A	5.0-10.0	2.30 / 2.40	1.90	1 / 6	3 / 4	100	2.45 / 2.55	20	2.70 / 2.80
TL-783	TB-781-A	6.0-12.0	2.40 / 2.50	2.15	1 / 6	3 / 4	100	2.65 / 2.75	20	2.85 / 2.95
TL-785	TB-785-A	6.0-18.0	3.20 / 3.30	2.50	1 / 6	3 / 4	100	3.45 / 3.55	20	3.70 / 3.80
TL-787	TB-789-A	7.0-12.4	2.40 / 2.50	2.15	1 / 6	3 / 4	100	2.65 / 2.75	20	2.90 / 3.00
TL-791	TB-793-A	7.0-18.0	3.20 / 3.30	2.50	1 / 6	3 / 4	100	3.45 / 3.55	20	3.70 / 3.80
TL-794	TB-796-A	8.0-18.0	3.20 / 3.30	2.50	1 / 6	3 / 4	100	3.45 / 3.55	20	3.70 / 3.80
TL-798	TB-798-A	12.0-18.0	3.20 / 3.30	2.50	1 / 6	3 / 4	100	3.45 / 3.55	20	3.70 / 3.80

If improvement of any of the electrical specifications listed above is required, consult factory.

† Reflective Switch: VSWR measured in the 'ON' input and 'ON' Output Position.
 Absorptive Switch: VSWR measured in the 'ON' Input and 'ON' Output and 'OFF' Output Position.

Insertion Loss measured with input power less than 100 mW. Increase insertion loss by 20% for outer arms, for rectangular (S) package.

TYPICAL MODEL NO.

Hermetic Seal
 and Mil STD 883
 Screening Available

TL	XXX	S		D	X
or	or	or			
TB	XXXXA	R			
Model	Freq	Pkg	Driver	Speed	
Series	Code	Style	Option	Option	
		(Note 2)	(Note 3)	(Note 4)	

