

BROADBAND
SP6T SWITCH
 REFLECTIVE AND ABSORPTIVE 0.02-18 GHz

SERIES TL-6/TB-6-A

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 +360 mA and -5 volts at -130 mA supplies. Logic is TTL "0" when "on" and "1" when "off". Different supply voltages and logic available if specified at time of order. Operating temperature from -55°C to +85°C.
Temperature Information:
Switching Speed: 10% to 90% or 90% to 10% of RF. There is an additional 30 nanosec of driver delay.
Environment: MIL-E-5400, MIL-STD-202, MIL-E-16400 MIL-STD-883 (Special request only).
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 MDB1-9SSL or equiv.

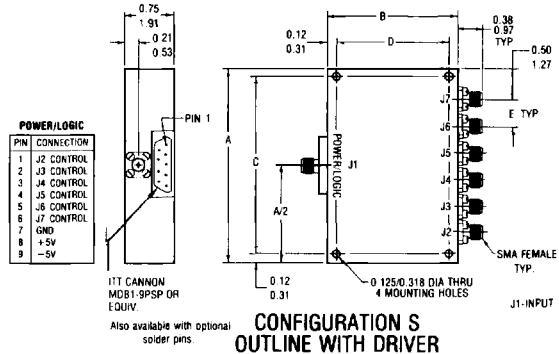
NOTES:

1. 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")
2. When ordering, add suffix for configuration desired to the model number. ('S' for rectangular, 'R' for seven sided) i.e. TB-613AS.
3. If driver is required, add 'D' to the model number when ordering, i.e. Model TL-612R, with driver, becomes TL-612RD.
4. 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-631RD-1 is a seven sided SP6T reflective switch with driver whose frequency range is 0.5 to 1.0 GHz and a switching speed of 100 nanosec.
5. Any unit listed can be supplied with pins instead of RF connectors. (Consult factory.)

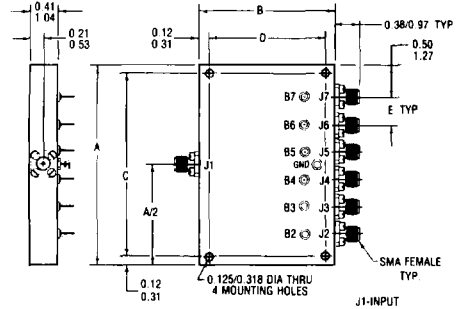
MECHANICAL OUTLINES

Outline	A Inches cm.	B Inches cm.	C Inches cm.	D Inches cm.	E Inches cm.
1	3.00 7.62	2.00 5.08	2.750 6.985	1.750 4.450	0.40 1.02
2	3.50 8.89	3.00 7.62	3.250 8.255	2.750 6.985	0.50 1.27
3	0.71 1.80	1.350 3.429	—	—	—
4	1.00 2.54	2.000 5.080	—	—	—
5	3.50 8.89	3.50 8.89	3.250 8.255	3.250 8.255	0.50 1.27

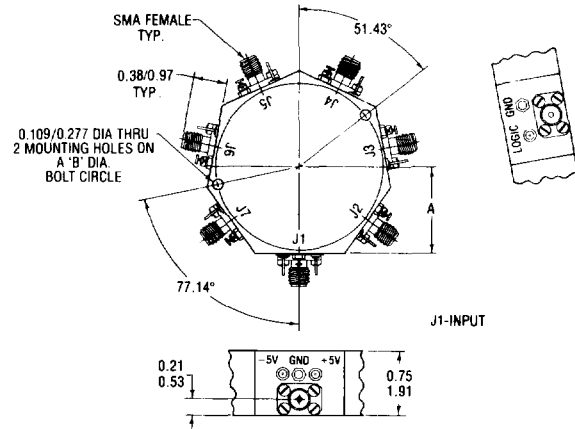
Inches/Centimeters
 xx ± 0.3 xxx ± .010/ xxx ± .08 xxx ± .025



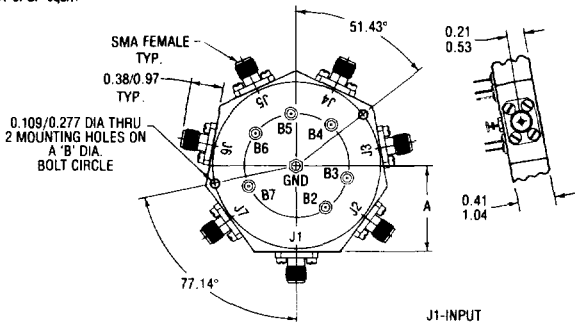
**CONFIGURATION S
 OUTLINE WITH DRIVER**



**CONFIGURATION S
 OUTLINE WITHOUT DRIVER**



**CONFIGURATION R
 OUTLINE WITH DRIVER**



**CONFIGURATION R
 OUTLINE WITHOUT DRIVER**

BROADBAND

SP6T SWITCH

SERIES TL-6/TB-6-A

REFLECTIVE AND ABSORPTIVE 0.02-18 GHz

ELECTRICAL PERFOR

MANCE

Power: 1 watt average, 10 watts peak, survival

STANDARD SWITCH							HIGH SPEED OPTION			
Isolation: 30 dB minimum 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		OUTLINE					
			Max. dB Ref. / Abs.	VSWR† Max.	Config. Square Ref. / Abs.	Config. Round Ref. / Abs.				
TL-612	TB-613-A	0.02-0.1	0.90 / 1.00	1.85	2 / 5	4 / 4	500	0.95 / 1.05	N/A	N/A
TL-616	TB-617-A	0.1-1.0	1.30 / 1.40	1.85	2 / 5	4 / 4	500	1.35 / 1.45	N/A	N/A
TL-622	TB-621-A	0.1-2.0	1.60 / 1.70	1.85	2 / 5	4 / 4	500	1.65 / 1.75	N/A	N/A
TL-625	TB-625-A	0.25-0.5	1.30 / 1.40	1.85	2 / 5	4 / 4	500	1.35 / 1.45	N/A	N/A
TL-628	TB-629-A	0.25-1.0	1.30 / 1.40	1.85	2 / 5	4 / 4	500	1.35 / 1.45	N/A	N/A
TL-631	TB-633-A	0.5-1.0	1.10 / 1.20	1.85	1 / 2	4 / 4	100	1.20 / 1.30	20	1.30 / 1.40
TL-637	TB-637-A	0.5-2.0	1.30 / 1.40	1.85	1 / 2	4 / 4	100	1.40 / 1.50	20	1.50 / 1.60
TL-640	TB-641-A	1.0-2.0	1.10 / 1.20	1.85	1 / 2	3 / 4	100	1.20 / 1.30	20	1.40 / 1.50
TL-644	TB-645-A	1.0-4.0	1.50 / 1.60	1.85	1 / 2	3 / 4	100	1.60 / 1.70	20	1.80 / 1.90
TL-649	TB-649-A	1.0-6.0	1.50 / 1.60	1.85	1 / 2	3 / 4	100	1.60 / 1.70	20	1.80 / 1.90
TL-653	TB-653-A	1.5-3.0	1.20 / 1.30	1.85	1 / 2	3 / 4	100	1.45 / 1.55	20	1.70 / 1.80
TL-656	TB-657-A	2.0-4.0	1.50 / 1.60	1.85	1 / 2	3 / 4	100	1.60 / 1.70	20	1.80 / 1.90
TL-661	TB-661-A	2.0-8.0	1.60 / 1.70	1.85	1 / 1	3 / 4	100	1.80 / 1.90	20	2.00 / 2.10
TL-664	TB-665-A	3.0-12.0	2.70 / 2.80	2.50	1 / 1	3 / 4	100	2.95 / 3.05	20	3.20 / 3.30
TL-668	TB-669-A	4.0-8.0	1.80 / 1.90	1.85	1 / 1	3 / 4	100	1.95 / 2.05	20	2.20 / 2.30
TL-672	TB-673-A	2.0-18.0	3.10 / 3.20	2.50	1 / 1	3 / 4	100	3.35 / 3.45	20	3.60 / 3.70
TL-676	TB-677-A	5.0-10.0	2.10 / 2.30	1.85	1 / 1	3 / 4	100	2.35 / 2.45	20	2.60 / 2.70
TL-683	TB-681-A	6.0-12.0	2.30 / 2.40	2.10	1 / 1	3 / 4	100	2.55 / 2.65	20	2.80 / 2.85
TL-685	TB-685-A	6.0-18.0	3.10 / 3.20	2.50	1 / 1	3 / 4	100	3.35 / 3.45	20	3.60 / 3.70
TL-687	TB-689-A	7.0-12.4	2.30 / 2.40	2.10	1 / 1	3 / 4	100	2.55 / 2.65	20	2.80 / 2.90
TL-691	TB-693-A	7.0-18.0	2.60 / 2.70	2.50	1 / 1	3 / 4	100	2.85 / 3.45	20	3.10 / 3.70
TL-694	TB-696-A	8.0-18.0	2.60 / 2.70	2.50	1 / 1	3 / 4	100	2.85 / 3.45	20	3.10 / 3.70
TL-698	TB-698-A	12.0-18.0	2.60 / 2.70	2.50	1 / 1	3 / 4	100	2.85 / 3.45	20	3.10 / 3.70

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.

Hermetic Seal
and Mil STD 883
Screening Available

TL XXX S
or - or - D - X
TB XXXA R

Model Freq Pkg Driver Speed
Series Code Style Option Option
(Note 2) (Note 3) (Note 4)

