

BROADBAND

SP8T SWITCH

REFLECTIVE AND ABSORPTIVE 0.02-18 GHz

GENERAL INFORMATION:

Series TL-8 and TB-8-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 +480 mA and -5 volts at -160 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 MDB1-15SPSL 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 nine sided) i.e. TL-812R.
3. If driver is required, add 'D' to the model number when ordering, i.e. Model TL-812R, with driver, becomes TL-812RD.
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-831RD-1 is a nine sided SP8T 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.)

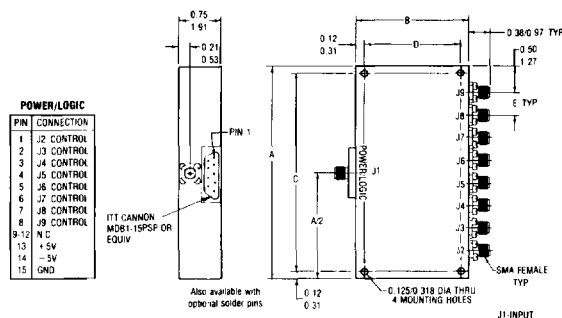
MECHANICAL OUTLINES

Outline	A Inches cm.	B Inches cm.	C Inches cm.	D Inches cm.	E Inches cm.
1	3.80 9.65	2.00 5.08	3.550 9.017	1.750 4.450	0.40 1.02
2	4.50 11.43	3.00 7.62	4.250 10.795	2.750 6.985	0.50 1.27
3	1.02 2.59	1.950 4.953	—	—	—
4	1.30 3.30	2.550 6.477	—	—	—
5	4.50 11.43	3.50 8.89	4.250 10.795	3.250 8.255	0.50 1.27
6	4.50 11.43	2.35 5.97	4.250 10.795	2.100 5.334	0.50 1.27

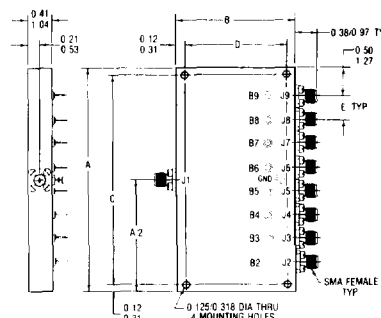
Inches/Centimeters

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

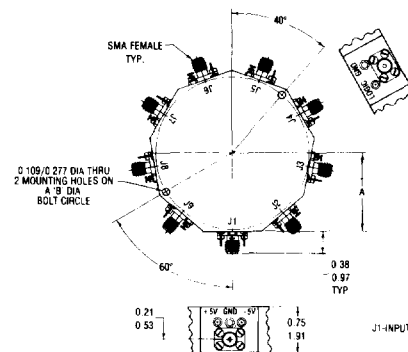
SERIES TL-8/TB-8-A



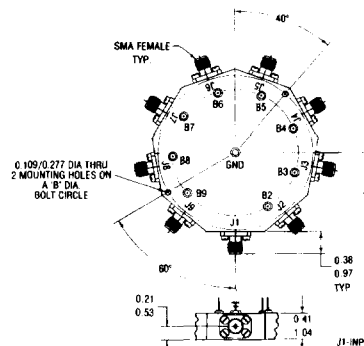
CONFIGURATION S
OUTLINE WITH DRIVER



CONFIGURATION S
OUTLINE WITHOUT DRIVER



CONFIGURATION R
OUTLINE WITH DRIVER



CONFIGURATION R
OUTLINE WITHOUT DRIVER

**KDI/triangle
ELECTRONICS**

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BROADBAND
SP8T SWITCH
 REFLECTIVE AND ABSORPTIVE 0.02-18 GHz

SERIES TL-8/TB-8-A

ELECTRICAL PERFORMANCE

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	
Reflective Model No.	Absorptive Model No.	Frequency Range GHz	Insertion Loss Max. dB Ref. / Abs.	VSWR† Max.	OUTLINE		Speed Nanosec.	Insertion Loss Max. dB Ref. / Abs.	Speed Nanosec.	Insertion Loss Max. dB Ref. / Abs.
					Config. Square Ref. / Abs.	Config. Round Ref. / Abs.				
TL-812	TB-813-A	0.02-0.1	1.10 / 1.20	1.95	2 / 5	4 / 4	500	1.15 / 1.25	N/A	N/A
TL-816	TB-817-A	0.1-1.0	1.50 / 1.60	1.95	2 / 5	4 / 4	500	1.55 / 1.65	N/A	N/A
TL-822	TB-821-A	0.1-2.0	1.80 / 1.90	1.95	2 / 5	4 / 4	500	1.85 / 1.95	N/A	N/A
TL-825	TB-825-A	0.25-0.5	1.50 / 1.60	1.95	2 / 5	4 / 4	500	1.55 / 1.65	N/A	N/A
TL-828	TB-829-A	0.25-1.0	1.50 / 1.60	1.95	2 / 5	4 / 4	500	1.55 / 1.65	N/A	N/A
TL-831	TB-833-A	0.5-1.0	1.30 / 1.40	1.95	1 / 2	4 / 4	100	1.40 / 1.50	20	1.50 / 1.60
TL-837	TB-837-A	0.5-2.0	1.50 / 1.60	1.95	1 / 2	4 / 4	100	1.60 / 1.70	20	1.70 / 1.80
TL-840	TB-841-A	1.0-2.0	1.30 / 1.40	1.95	1 / 2	3 / 4	100	1.40 / 1.50	20	1.60 / 1.70
TL-844	TB-845-A	1.0-4.0	1.70 / 1.80	1.95	1 / 2	3 / 4	100	1.80 / 1.90	20	2.00 / 2.10
TL-849	TB-849-A	1.0-6.0	1.70 / 1.80	1.95	1 / 2	3 / 4	100	1.80 / 1.90	20	2.00 / 2.10
TL-853	TB-853-A	1.5-3.0	1.40 / 1.50	1.95	1 / 2	3 / 4	100	1.65 / 1.75	20	1.90 / 2.00
TL-856	TB-857-A	2.0-4.0	1.70 / 1.80	1.95	1 / 2	3 / 4	100	1.80 / 1.90	20	2.00 / 2.10
TL-861	TB-861-A	2.0-8.0	1.80 / 1.90	1.95	1 / 2	3 / 4	100	2.00 / 2.10	20	2.10 / 2.20
TL-864	TB-865-A	3.0-12.0	2.90 / 3.00	2.50	1 / 6	3 / 4	100	3.15 / 3.25	20	3.40 / 3.50
TL-868	TB-869-A	4.0-8.0	2.00 / 2.10	1.95	1 / 2	3 / 4	100	2.15 / 2.25	20	2.40 / 2.50
TL-872	TB-873-A	2.0-18.0	3.30 / 3.40	2.50	1 / 6	3 / 4	100	3.55 / 3.65	20	3.80 / 3.90
TL-876	TB-877-A	5.0-10.0	2.40 / 2.50	1.95	1 / 2	3 / 4	100	2.55 / 2.65	20	2.80 / 2.90
TL-883	TB-881-A	6.0-12.0	2.50 / 2.60	2.20	1 / 6	3 / 4	100	2.75 / 2.85	20	2.95 / 3.05
TL-885	TB-885-A	6.0-18.0	3.30 / 3.40	2.50	1 / 6	3 / 4	100	3.55 / 3.65	20	3.80 / 3.90
TL-887	TB-889-A	7.0-12.4	2.50 / 2.60	2.20	1 / 6	3 / 4	100	2.75 / 2.85	20	3.00 / 3.10
TL-891	TB-893-A	7.0-18.0	3.30 / 3.40	2.50	1 / 6	3 / 4	100	3.55 / 3.65	20	3.80 / 3.90
TL-894	TB-896-A	8.0-18.0	3.30 / 3.40	2.50	1 / 6	3 / 4	100	3.55 / 3.65	20	3.80 / 3.90
TL-898	TB-898-A	12.0-18.0	3.30 / 3.40	2.50	1 / 6	3 / 4	100	3.55 / 3.65	20	3.80 / 3.90

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.

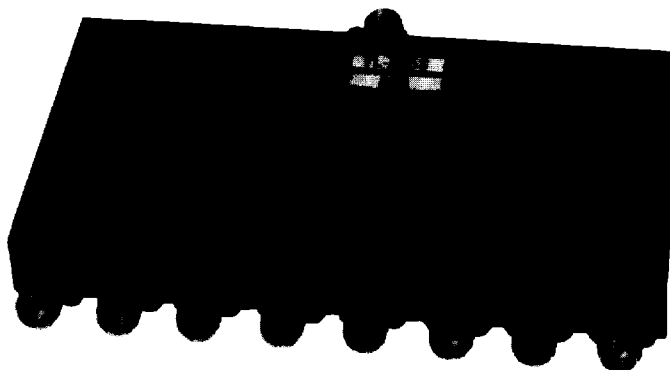
TYPICAL MODEL NO.

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

Model Series Freq Code Pkg Style Driver Option Speed Option

(Note 2) (Note 3) (Note 4)

Hermetic Seal
and Mil STD 883
Screening Available



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