

**NARROWBAND**

**SP5T SWITCH**

**REFLECTIVE AND ABSORPTIVE 0.02-18 GHz**

**SERIES TF-5/TN-5-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 +300 mA and -5 volts at -110 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, 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.

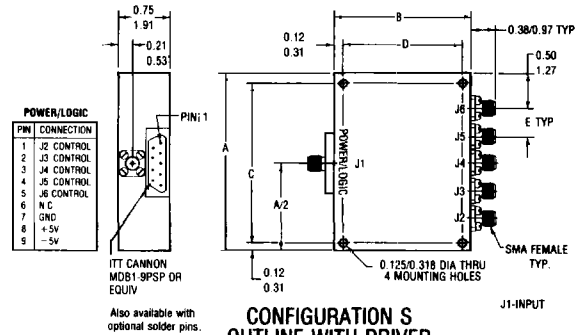
**NOTES:**

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. TF-511R.
  3. If driver is required, add 'D' to the model number when ordering, i.e. Model TF-511R, with driver, becomes TF-511RD.
  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 TF-520RD-1 is a seven sided SP5T reflective switch with driver whose frequency range is 0.7 to 0.8 GHz and a switching speed of 100 nanosec.
  5. Any unit listed can be supplied with pins instead of RF connectors.
- (Consult factory.)

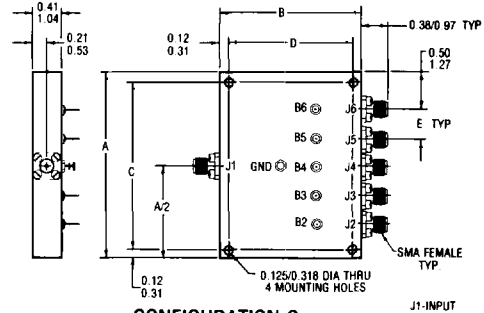
**MECHANICAL OUTLINES**

Outline	A Inches cm.	B Inches cm.	C Inches cm.	D Inches cm.	E Inches cm.
1	2.60 6.61	2.00 5.08	2.350 5.969	1.750 4.445	0.40 1.02
2	3.00 7.62	3.00 7.62	2.750 6.985	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	3.00 7.62	3.50 8.89	2.750 6.985	3.250 8.255	0.50 1.27

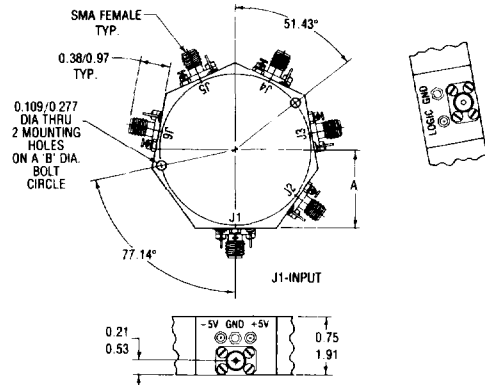
Inches/Centimeters  
 xx ±0.3 xxx ±.010/ xx ±.08 xxx ±.025



**CONFIGURATION S  
 OUTLINE WITH DRIVER**

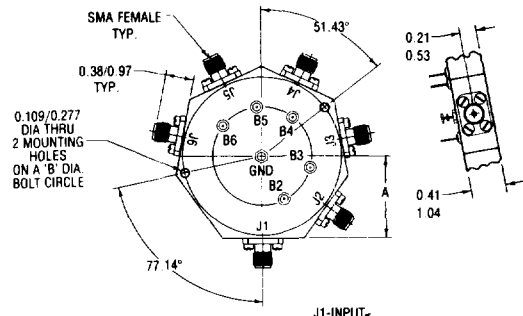


**CONFIGURATION S  
 OUTLINE WITHOUT DRIVER**



Also available with optional multi-pin conn. Package thickness will increase to 1.00 ITT Cannon MDB1-9PSP equiv.

**CONFIGURATION R  
 OUTLINE WITH DRIVER**



**CONFIGURATION R  
 OUTLINE WITHOUT DRIVER**

**NARROWBAND**

**SP5T SWITCH**

**SERIES TF-5/TN-5-A**

**REFLECTIVE AND ABSORPTIVE 0.02-18 GHz**

**ELECTRICAL PERFORMANCE**

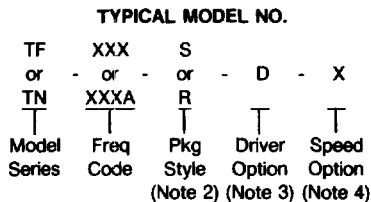
Power: 1 watt average, 10 watts peak, survival

STANDARD SWITCH							HIGH SPEED OPTION			
Isolation: 30 dB minimum Speed: 2 microsec. maximum							MODEL-1		MODEL-2	
							Speed Nanosec.	Insertion Loss Max. dB Ref. / Abs.	Speed Nanosec. Ref. / Abs.	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 Ref. / Abs.    Config. Round Ref. / Abs.					
TF-511	TN-511-A	0.02-0.07	0.60 / 0.70	1.40	2 / 5	4 / 4	500	0.65 / 0.75	N/A	N/A
TF-514	TN-514-A	0.2-0.25	0.60 / 0.70	1.40	2 / 5	4 / 4	500	0.65 / 0.75	N/A	N/A
TF-517	TN-517-A	0.4-0.45	0.70 / 0.80	1.40	2 / 5	4 / 4	200	0.75 / 0.85	N/A	N/A
TF-520	TN-520-A	0.7-0.8	0.80 / 0.90	1.40	1 / 5	3 / 4	100	0.90 / 1.00	20 / N/A	1.00 / N/A
TF-523	TN-523-A	0.95-1.22	0.90 / 1.00	1.40	1 / 2	3 / 4	100	1.00 / 1.10	20	1.10 / 1.20
TF-526	TN-526-A	1.02-1.10	0.90 / 1.00	1.40	1 / 2	3 / 4	100	1.00 / 1.10	20	1.10 / 1.20
TF-529	TN-529-A	1.2-1.4	0.90 / 1.00	1.40	1 / 2	3 / 4	100	1.00 / 1.10	20	1.10 / 1.20
TF-532	TN-532-A	1.5-1.6	0.90 / 1.00	1.40	1 / 2	3 / 4	100	1.00 / 1.10	20	1.10 / 1.20
TF-535	TN-535-A	1.7-2.4	1.00 / 1.10	1.40	1 / 2	3 / 4	100	1.10 / 1.20	20	1.20 / 1.30
TF-538	TN-538-A	2.2-2.3	1.00 / 1.10	1.40	1 / 2	3 / 4	100	1.10 / 1.20	20	1.20 / 1.30
TF-541	TN-541-A	2.9-3.1	1.00 / 1.10	1.40	1 / 2	3 / 4	100	1.10 / 1.20	20	1.20 / 1.30
TF-544	TN-544-A	3.1-3.5	1.00 / 1.10	1.40	1 / 2	3 / 4	100	1.10 / 1.20	20	1.20 / 1.30
TF-547	TN-547-A	3.3-3.7	1.00 / 1.10	1.40	1 / 2	3 / 4	100	1.10 / 1.20	20	1.20 / 1.30
TF-550	TN-550-A	3.7-4.2	1.00 / 1.10	1.40	1 / 2	3 / 4	100	1.10 / 1.20	20	1.20 / 1.30
TF-553	TN-553-A	4.2-4.4	1.10 / 1.20	1.40	1 / 2	3 / 4	100	1.20 / 1.30	20	1.30 / 1.40
TF-556	TN-556-A	4.4-5.0	1.20 / 1.30	1.40	1 / 2	3 / 4	100	1.30 / 1.40	20	1.40 / 1.50
TF-559	TN-559-A	5.0-5.25	1.20 / 1.30	1.50	1 / 2	3 / 4	100	1.30 / 1.40	20	1.40 / 1.50
TF-562	TN-562-A	5.4-5.9	1.20 / 1.30	1.50	1 / 2	3 / 4	100	1.30 / 1.40	20	1.40 / 1.50
TF-565	TN-565-A	5.9-6.4	1.20 / 1.30	1.50	1 / 2	3 / 4	100	1.30 / 1.40	20	1.40 / 1.50
TF-568	TN-568-A	6.7-7.4	1.35 / 1.50	1.50	1 / 2	3 / 4	100	1.50 / 1.60	20	1.60 / 1.70
TF-571	TN-571-A	7.1-7.7	1.35 / 1.50	1.50	1 / 2	3 / 4	100	1.50 / 1.60	20	1.60 / 1.70
TF-574	TN-574-A	8.5-9.6	1.50 / 1.60	1.50	1 / 1	3 / 4	100	1.60 / 1.70	20	1.70 / 1.80
TF-577	TN-577-A	9.0-9.2	1.50 / 1.60	1.50	1 / 1	3 / 4	100	1.60 / 1.70	20	1.70 / 1.80
TF-580	TN-580-A	9.3-9.7	1.50 / 1.60	1.50	1 / 1	3 / 4	100	1.60 / 1.70	20	1.70 / 1.80
TF-583	TN-583-A	9.8-10.4	1.70 / 1.80	1.60	1 / 1	3 / 4	100	1.80 / 1.90	20	1.90 / 2.00
TF-586	TN-586-A	10.0-10.5	1.70 / 1.80	1.60	1 / 1	3 / 4	100	1.80 / 1.90	20	1.90 / 2.00
TF-589	TN-589-A	12.0-12.4	1.80 / 1.90	1.60	1 / 1	3 / 4	100	1.90 / 2.00	20	2.00 / 2.10
TF-592	TN-591-A	13.1-13.5	1.90 / 2.00	1.60	1 / 1	3 / 4	100	2.00 / 2.10	20	2.10 / 2.20
TF-595	TN-594-A	14.5-15.5	1.90 / 2.00	1.60	1 / 1	3 / 4	100	2.00 / 2.10	20	2.10 / 2.20
TF-596	TN-596-A	15.0-17.0	1.90 / 2.00	1.60	1 / 1	3 / 4	100	2.00 / 2.10	20	2.10 / 2.20
TF-599	TN-599-A	16.0-18.0	1.90 / 2.00	1.60	1 / 1	3 / 4	100	2.05 / 2.15	20	2.20 / 2.30

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

