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DESCRIPTION

AMC MODEL SW-218-5 IS A REFLECTIVE SP5T BAND-SWITCH MODULE WITHOUT DRIVER CIRCUITRY.

SPECIFICATIONS

- FREQUENCY
 - J6-J1 0.01-2 GHz MINIMUM
 - J6-J2 2-4 GHz MINIMUM
 - J6-J3 4-8 GHz MINIMUM
 - J6-J4 8-12.4 GHz MINIMUM
 - J6-J5 12.4-18 GHz MINIMUM

● INSERTION LOSS

- J6-J1 1.7 DB MAXIMUM
- J6-J2 2.0 DB MAXIMUM
- J6-J3 2.3 DB MAXIMUM
- J6-J4 2.8 DB MAXIMUM
- J6-J5 3.5 DB MAXIMUM

● ISOLATION

- J6-J1 45 dB MINIMUM
- J6-J2 45 dB MINIMUM
- J6-J3 40 dB MINIMUM
- J6-J4 35 dB MINIMUM
- J6-J5 30 dB MINIMUM

● VSWR (ON)

- J6-J1 1.35:1 MAXIMUM
- J6-J2 1.8:1 MAXIMUM
- J6-J3 2.0:1 MAXIMUM
- J6-J4 2.2:1 MAXIMUM
- J6-J5 2.5:1 MAXIMUM

● RF POWER RATINGS

- J6-J1 +27 dBm CW MAXIMUM
- SWITCHING TIME
- RISE (10% RF TO 90% RF) 300 ns MAXIMUM
 - FALL (90% RF TO 10% RF) 300 ns MAXIMUM
 - ON (50% TTL TO 90% RF) 500 ns MAXIMUM
 - OFF (50% TTL TO 10% RF) 500 ns MAXIMUM

- CONTROLS
 - CURRENT CONTROLLED
 - 5 INDIVIDUAL CONTROLS
 - +20 mA = ISOLATION
 - 20 mA = INSERTION LOSS (SEE TRUTH TABLE)

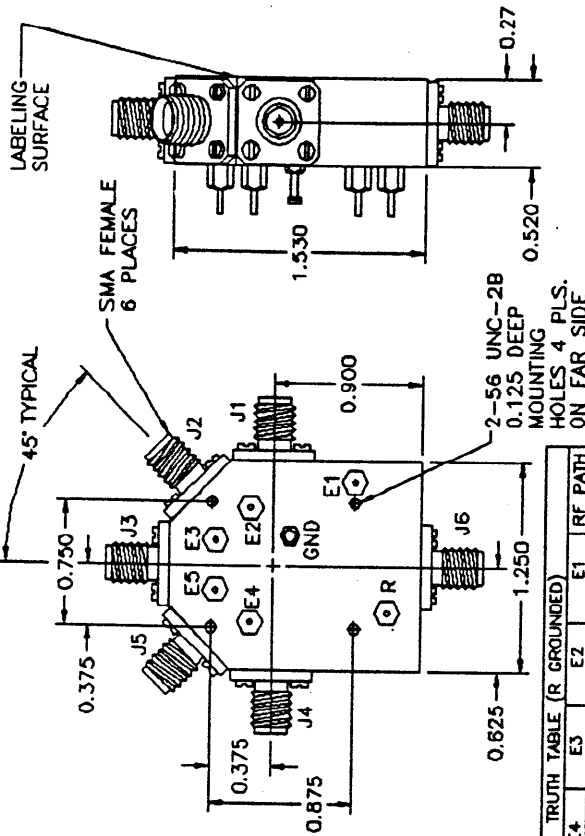
● CONNECTORS

- RF INPUT/OUTPUT SMA (FEMALE)
- CONTROL SOLDER PIN
- SIZE 1.25" x 1.53" x 0.52"

AVAILABLE OPTIONS

- A13 J6 SMA MALE, J1-J5 SMA FEMALE
- A14 J6 SMA FEMALE, J1-J5 SMA MALE
- A15 60 dB ISOLATION (CONSULT FACTORY)

MECHANICAL OUTLINE



NOTES:

- 1) DIMENSIONS ARE IN INCHES
- 2) TOLERANCES: X:XX ±0.020
X:XXX ±0.010
- 3) WEIGHT: APPROX. 3.0 OZ

ENVIRONMENTAL RATINGS

- TEMPERATURE -55°C TO +95°C (OPERATING)
-65°C TO +125°C (STORAGE)
- HUMIDITY MIL-STD-202F, METHOD 103B COND. B
- SHOCK MIL-STD-202F, METHOD 213B COND. B
- VIBRATION MIL-STD-202F, METHOD 204D COND. B
- ALTITUDE MIL-STD-202F, METHOD 105C COND. B
- TEMPERATURE CYCLE MIL-STD-202F, METHOD 107D COND. A

TRUTH TABLE (R GROUND)					
E5	E4	E3	E2	E1	RF PATH
+20mA	+20mA	+20mA	+20mA	-20mA	J6-J1
+20mA	+20mA	+20mA	-20mA	+20mA	J6-J2
+20mA	+20mA	-20mA	+20mA	+20mA	J6-J3
-20mA	+20mA	+20mA	+20mA	+20mA	J6-J4
-20mA	+20mA	+20mA	+20mA	+20mA	J6-J5

REVISIONS		DATE	APPROVED
ZONE	REV.		
	A	11/22/92	[Signature]

ORIGINAL RELEASE



AMERICAN MICROWAVE CORPORATION
7311G GROVE RD., FREDERICK, MD. 21701
TEL: (301) 662-4700 FAX: (301) 662-4938

PRODUCT FEATURE

SW-218-5

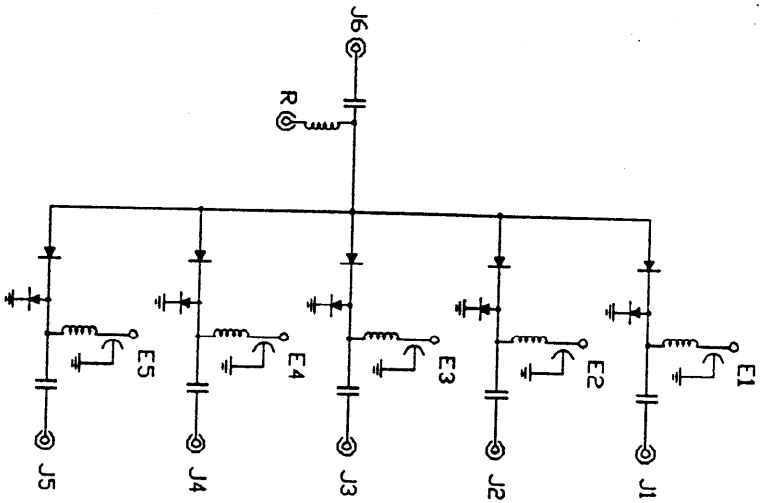
0.01-18 GHz, REFLECTIVE SP5T BAND-SWITCH MODULE

SIZE A

SHEET 1 OF 2

DWG. 100-2899

FUNCTIONAL SCHEMATIC



4-6



AMERICAN MICROWAVE CORPORATION
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PRODUCT FEATURE

SW-218-5

0.01-18 GHz, REFLECTIVE SPST BAND-SW

MODULE

APPROVALS

DATE

DESIGN

WGP

11/22/92

CHECKED

WGP

11/22/92

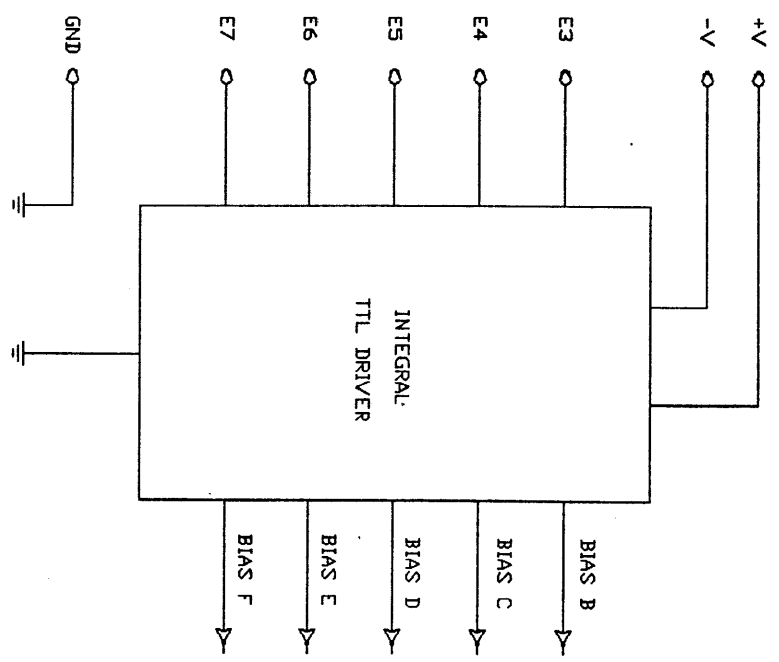
SIZE A

SHEET 2 OF 2

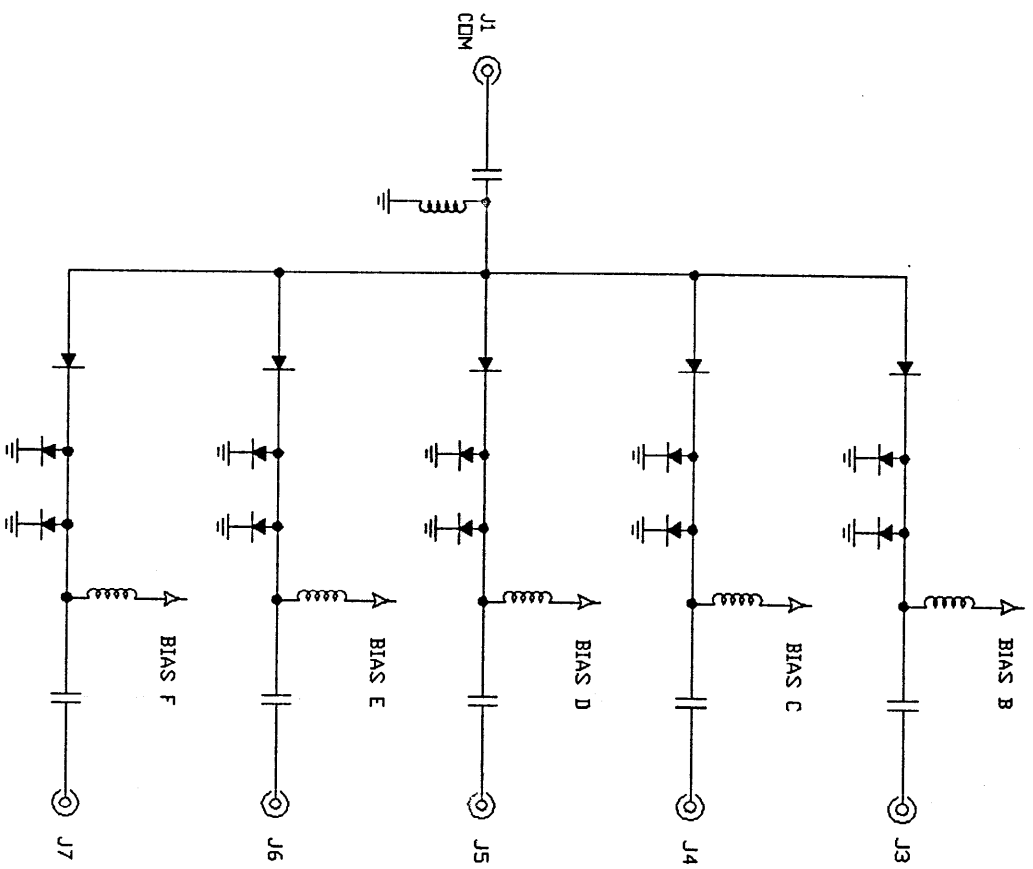
DMC 100-2899

FUNCTIONAL BLOCK DIAGRAM

DRIVER CIRCUIT



RF SECTION



APPROVALS	DATE
<i>[Signature]</i>	7/8/88
<i>[Signature]</i>	7/9/93

AMERICAN MICROWAVE CORPORATION
 7311G GROVE RD., FREDERICK, MD. 21701
 TEL: (301) 662-4700 FAX: (301) 662-4938
PRODUCT FEATURE
SW-1182-5D
 1.0-18 GHz, SP5T SWITCH N

DESCRIPTION

AMC MODEL SW-2181-5A-171 IS A REFLECTIVE BROAD BAND SP5T SWITCH MODULE WITH INTEGRAL TTL DRIVER.

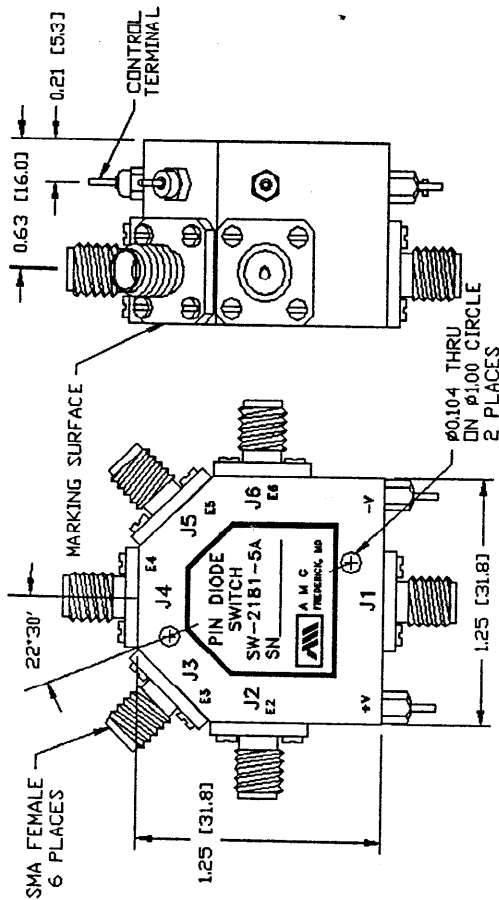
SPECIFICATIONS

- FREQUENCY RANGE 0.3-20 GHz MINIMUM
- INSERTION LOSS 0.3-4 GHz, 1.4 dB MAXIMUM
4-8 GHz, 1.5 dB MAXIMUM
8-12.4 GHz, 2.0 dB MAXIMUM
12.4-20 GHz, 3.0 dB MAXIMUM
- ISOLATION 0.3-12.4 GHz, 60 dB MINIMUM
12.4-20 GHz, 50 dB MINIMUM
- VSWR (ON) 1.8:1 MAXIMUM
- RF POWER RATING 1W CW, 75W PEAK (1µS, PW MAXIMUM)
- SWITCHING TIME
RISE (10% RF TO 90% RF) 15 ns MAXIMUM
FALL (90% RF TO 10% RF) 15 ns MAXIMUM
ON (50% TTL TO 90% RF) 45 ns MAXIMUM
OFF (50% TTL TO 10% RF) 45 ns MAXIMUM
- CONTROL TTL LOW POWER SCHOTTKY, (UNITY LOAD)
(SEE TRUTH TABLE)
LOGIC "1" = INSERTION LOSS
LOGIC "0" = ISOLATION
- POWER SUPPLY +5VDC ±5% @ 250 mA MAXIMUM
-6VDC ±5% @ 100 mA MAXIMUM
- CONNECTORS
RF INPUT/OUTPUT SMA (FEMALE)
POWER/CONTROL SOLDER PIN
- SIZE 1.25" x 1.25" x 0.88"

AVAILABLE OPTIONS

- A01 50Ω CONTROL IMPEDANCE
- A02 100Ω CONTROL IMPEDANCE
- A03 INVERSE CONTROL LOGIC (LOGIC "0" ISOLATION)
- A04 EXTENDED FREQUENCY RANGE TO 100 MHz
- A07 VIDEO FILTER ON COMMON PORT ONLY (0.25 dB EXCESS LOSS)
- A08 VIDEO FILTER ON OUTPUT PORTS ONLY (0.25 dB EXCESS LOSS)
- A09 VIDEO FILTER ON ALL PORTS (0.5 dB EXCESS LOSS)
- A10 SMA MALE RF CONNECTORS (0.4 dB EXCESS LOSS)
- A11 SMC CONTROL TERMINALS
- A13 +12 TO +18 VDC POWER SUPPLY
- A14 -12 TO -18 VDC POWER SUPPLY

MECHANICAL OUTLINE



NOTES:

1. DIMENSIONS ARE IN INCHES [MILLIMETERS]
2. TOLERANCES: X.XX ±0.020
X.XXX ±0.010
APPROX. 2.5 OZ
3. WEIGHT:

E6	E5	E4	E3	E2	RF PATH ON
0	0	0	0	1	J1-J2
0	0	0	1	0	J1-J3
0	0	1	0	0	J1-J4
0	1	0	0	0	J1-J5
1	0	0	0	0	J1-J6

ENVIRONMENTAL RATINGS

- TEMPERATURE:
 - OPERATING -65°C TO +110°C
 - NON-OPERATING -65°C TO +125°C
- HUMIDITY MIL-STD-202F, METHOD 103B COND. B
- SHOCK MIL-STD-202F, METHOD 213B COND. B
- VIBRATION MIL-STD-202F, METHOD 204D COND. B
- ALTITUDE MIL-STD-202F, METHOD 105C COND. B
- TEMPERATURE CYCLE MIL-STD-202F, METHOD 107D COND. A

		APPROVALS	DATE
		DRAWN: <i>W.Y.P.</i> CHECKED: <i>W.Y.P.</i> DATE: 6/22/93	6/22/93

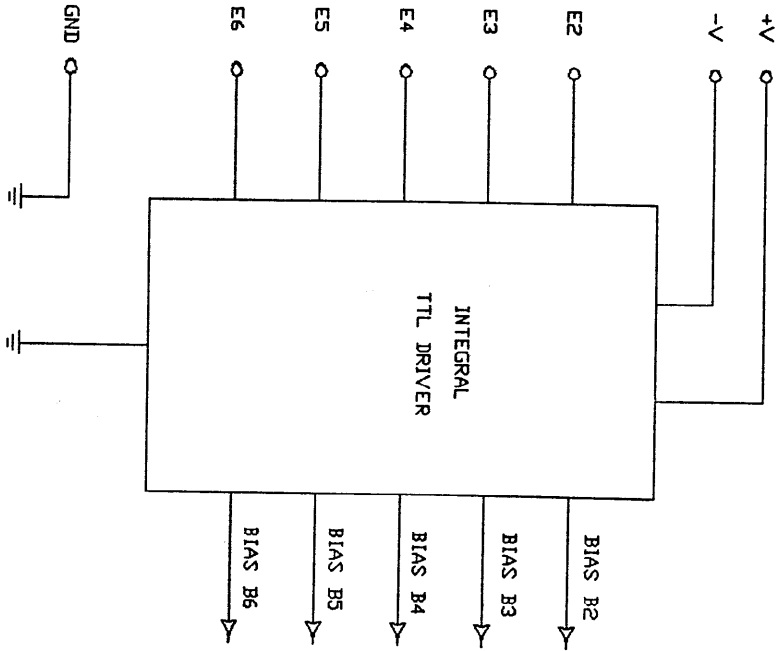
AMERICAN MICROWAVE CORPORATION
 7311G GROVE RD., FREDERICK, MD. 21701
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PRODUCT FEATURE
SW-2181-5A-171
 0.3-20 GHz, SP5T SWITCH MODULE

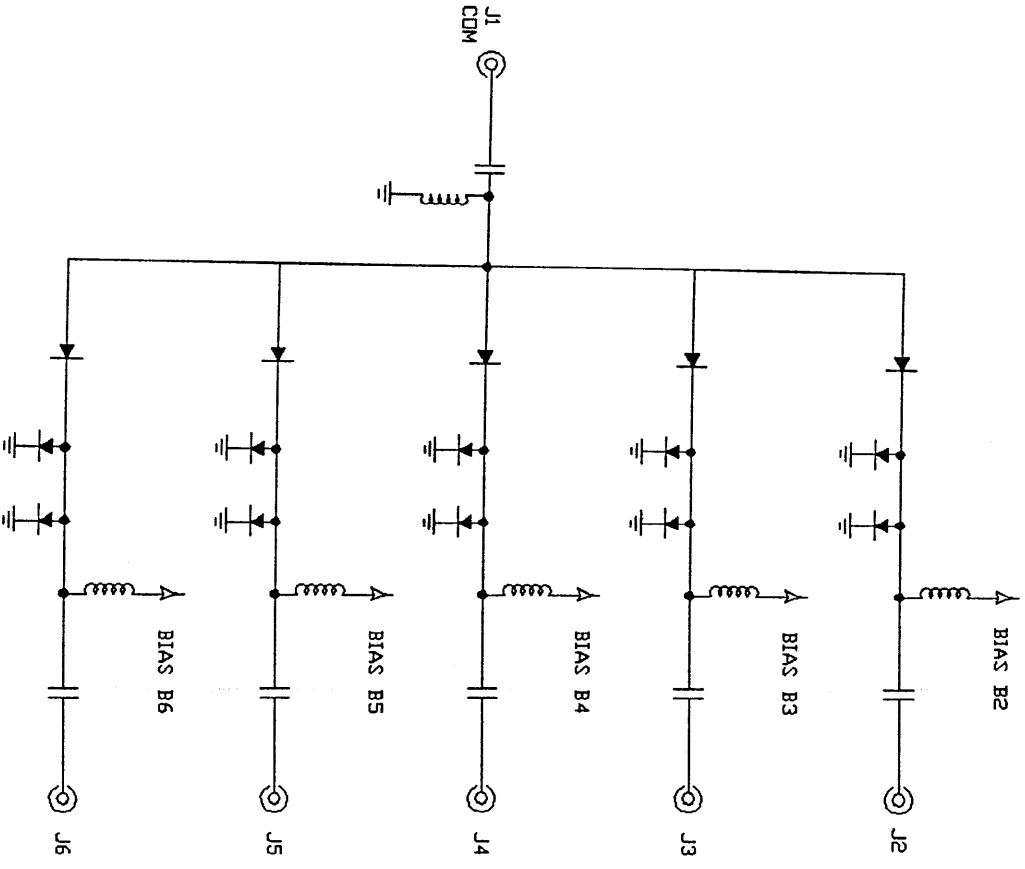
ZONE	REV.	DESCRIPTION	DATE	APPROVED
A		ORIGINAL RELEASE, JOB #212326-2	6/22/93	<i>W.Y.P.</i>

FUNCTIONAL BLOCK DIAGRAM

DRIVER CIRCUIT



RF SECTION



AMERICAN MICROWAVE CORPORATION
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APPROVALS	DATE
DRAWN <i>WJG</i>	6/22/93
CHECKED <i>WJG</i>	6/29/93

PRODUCT FEATURE
SW-2181-5A-171
 0.3-20 GHz, SPST SWITCH