



**AMERICAN MICROWAVE
CORPORATION**

TEST DATA

ON

8nS HIGH SPEED

0.5 to 18.0 GHz

SPST

REFLECTIVE, PIN DIODE SWITCH

MODEL No: SWN-0518-1DR-12X

(Serial No: 1MS503160)

**BY
AMERICAN MICROWAVE
CORPORATION**

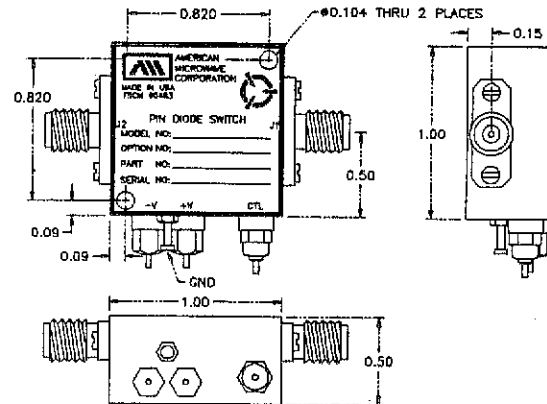
APRIL 11, 1995

7311G GROVE ROAD, FREDERICK, MARYLAND 21701 • Tel. (301) 662-4700 • Fax (301) 662-4938

AMERICAN MICROWAVE CORPORATION

VERY HIGH SPEED REFLECTIVE SPST SWITCH/MODULATOR

- VERY HIGH SPEED
- LOW INSERTION LOSS
- HIGH ISOLATION
- LOW CURRENT DRAW



AMC MODEL No: SWN-0518-1DR-12X

SPECIFICATIONS:

- | | |
|-------------------|---|
| • FREQUENCY RANGE | : 0.5 to 18.0 GHz |
| • INSERTION LOSS | : 2.50 dB Max. |
| | : ≤ 1.20 dB TYP. @ 0.5 TO 8.0 GHz |
| | : ≤ 2.10 dB TYP. @ 8.0 TO 18.0 GHz |
| • ISOLATION | : 45.0 dB Min. |
| | : ≥ 46.0 dB TYP. @ 0.05 TO 0.5 GHz |
| | : ≥ 53.0 dB TYP. @ 0.5 TO 2.0 GHz |
| | : ≥ 84.0 dB TYP. @ 2.0 TO 18.0 GHz |
| • VSWR IN/OUT | : 2.0:1 Max. |
| • SWITCHING SPEED | : Rise : 2 nS MAX., 2 nS TYP. |
| | : Fall : 2 nS MAX., 2 nS TYP. |
| | : On : 15 nS MAX., 8 nS TYP. |
| | : Off : 15 nS MAX., 8 nS TYP. |
| • CONTROL | : TTL Compatible |
| • RF POWER | : +20 dBm Operating, 1 Watt Survival |
| • DC POWER SUPPLY | : ± 5 vdc @ 60 mA Max. |
| • SIZE | : 1.0" x 1.0" x 0.5" |
| • WEIGHT | : <2.0 oz. |

MULTITHROW VERSIONS AVAILABLE

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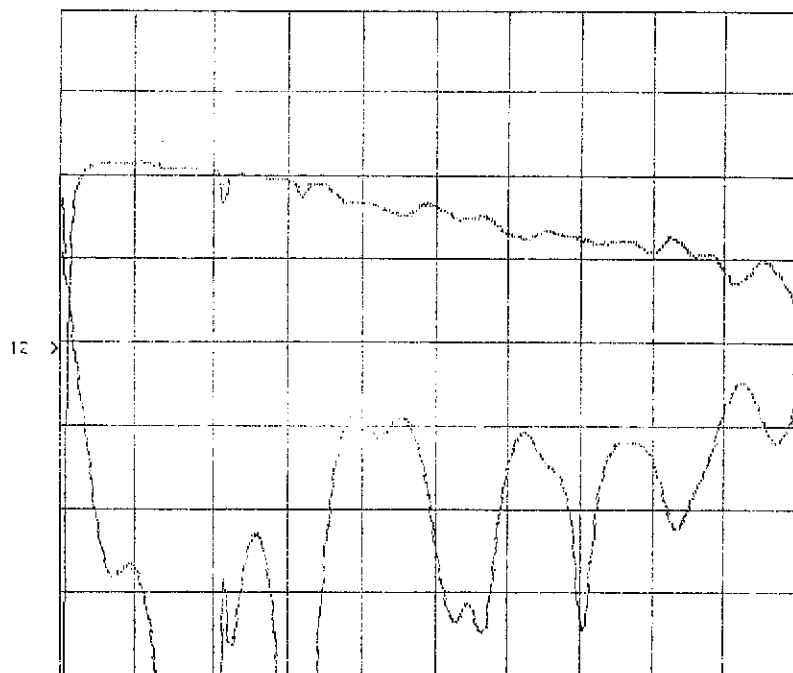


SUMMARY TEST DATA
SWN-0518-1DR-12X
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SERIAL NUMBER : 1MS503160
TECHNICIAN : HOLLY HAHN
VOLTAGE & CURRENT DRAW : ± 5 vdc ON=+3.8mA, -4.0mA
OFF=+43.3mA, -3.8mA

INSERTION LOSS vs. VSWR

CH1: A -M - 2.00 dB CH2: B -M - 12.01 dB
1.0 dB/ REF - 2.50 dB 5.0 dB/ REF - 10.16 dB



STRT + .0100GHz CRSR +18.000GHz STOP +18.000GHz

INSERTION LOSS	FREQUENCY	VSWR
0.44dB	0.5GHz	14.10dB
0.34dB	1.0GHz	22.60dB
0.55dB	4.0GHz	27.28dB
0.92dB	8.0GHz	14.93dB
1.20dB	12.4GHz	17.74dB
2.08dB	18.0GHz	12.02dB

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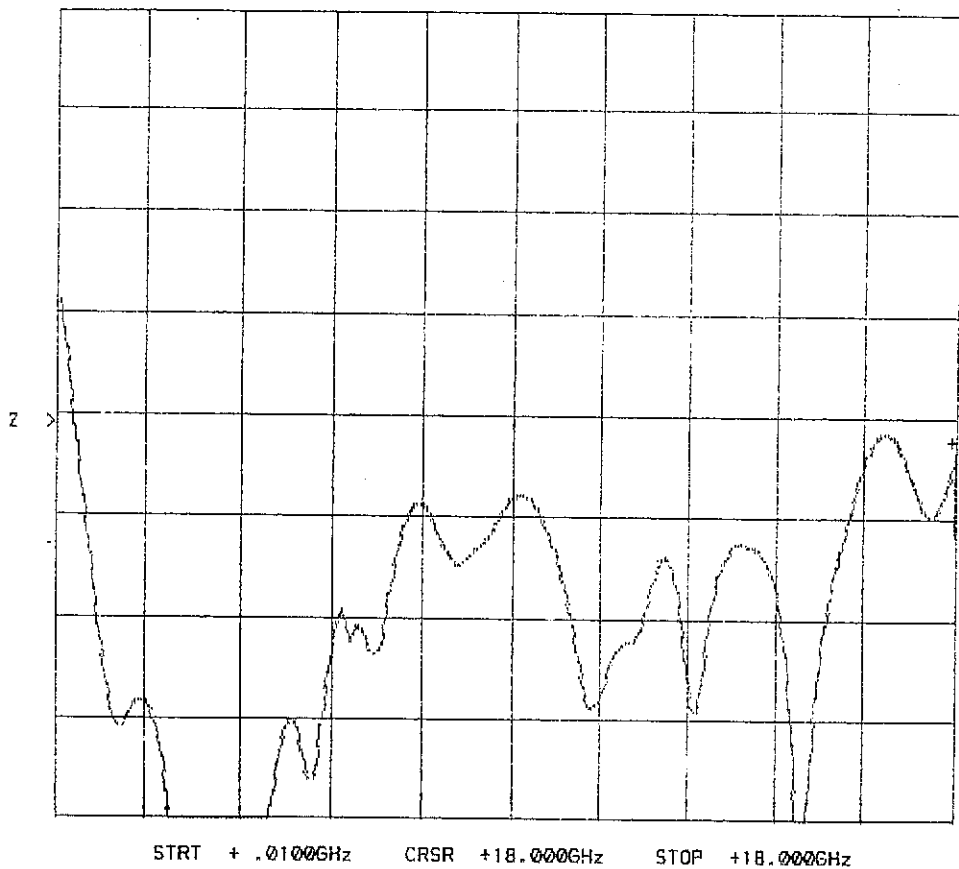


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VSWR OUTPUT ON J2-J1 PORT

CH2: B -M - 11.42 dB
5.0 dB/ REF - 10.16 dB



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ISOLATION AS MEASURED ON A SPECTRUM ANALYZER

FREQUENCY	ISOLATION
0.05GHz	48dB
0.1GHz	46dB
0.5GHz	53dB
2.0GHz	84dB
8.0GHz	98dB
12.4GHz	92dB
18.0GHz	84dB

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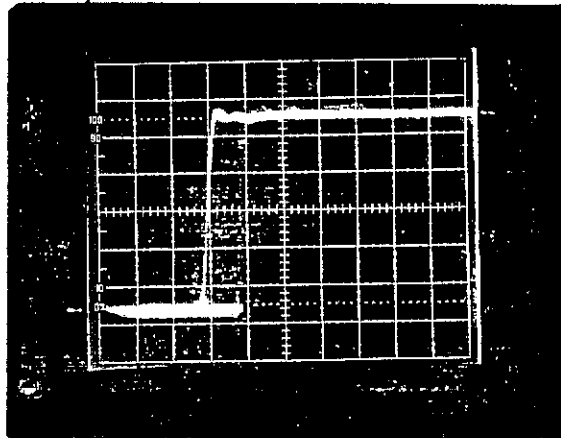
SWITCHING SPEED: RISE/FALL, ON/OFF

Rise/Fall= 10% to 90% RF/90% to 10% RF

On/Off= 50% TTL to 90%/10% RF

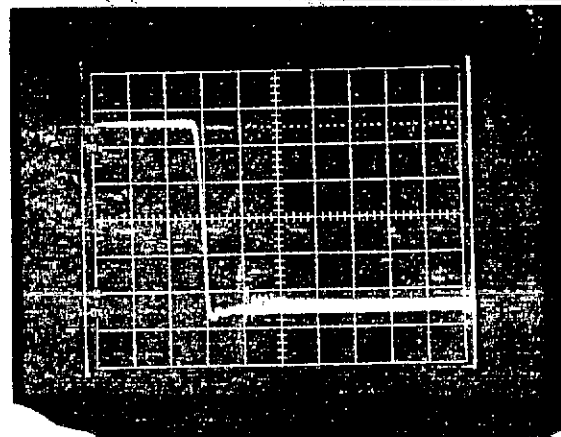
$\leq 2\text{nS}$ Rise/Fall, $\leq 8\text{nS}$ On/Off

5nV/Div



VERTICAL:
5nV/Division

10nS/Div



HORIZONTAL:
10nS/Division

10nS/Div

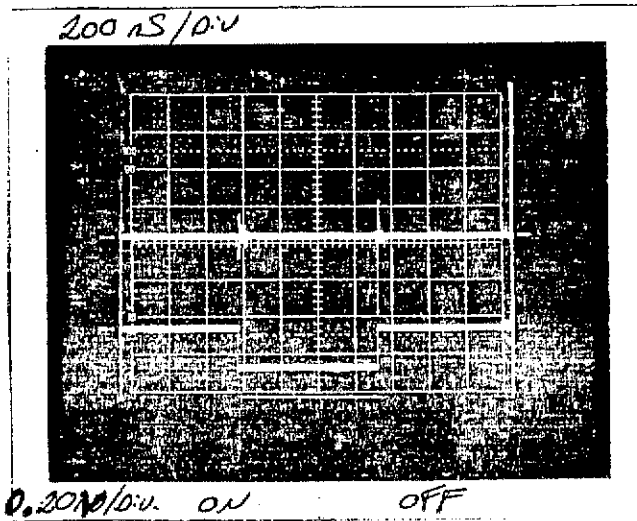
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VIDEO TRANSIENTS



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