



**AMERICAN MICROWAVE
CORPORATION**

TEST DATA

ON

0.5 TO 18.0 GHz

15ns VERY HIGH SPEED

HIGH ISOLATION

ABSORPTIVE SPST PIN DIODE SWITCH

**AMC MODEL No:
SWN-AKG-1DT-12X**

Serial No: 1MS503174

OR SWN-2183-1AT (OPTION HS)

**BY
AMERICAN MICROWAVE
CORPORATION**

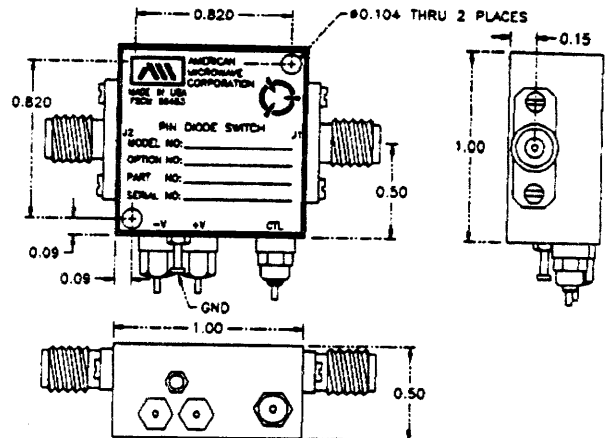
JULY 11, 1995

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

AMERICAN MICROWAVE CORPORATION

**VERY HIGH SPEED
HIGH ISOLATION, ABSORPTIVE
SPST PIN DIODE SWITCH**

- ABSORPTIVE
- VERY HIGH SPEED
- HIGH ISOLATION



AMC MODEL No: SWN-AKG-1DT-12X

SPECIFICATIONS:

- **FREQUENCY RANGE** : 0.5 GHz to 18.0 GHz
- **INSERTION LOSS** : ≤ 3.0 dB MAX.
: ≤ 0.64 dB TYP. @ 0.4 GHz
: ≤ 0.76 dB TYP. @ 2.0 GHz
: ≤ 1.38 dB TYP. @ 8.0 GHz
: ≤ 1.98 dB TYP. @ 12.0 GHz
: ≤ 2.76 dB TYP. @ 18.0 GHz
- **ISOLATION** : ≥ 70 dB MIN.
: ≥ 70 dB TYP. @ 0.5 GHz
: ≥ 95 dB TYP. @ 2.0 GHz
: ≥ 90 dB TYP. @ 8.0 GHz
: ≥ 88 dB TYP. @ 12.0 GHz
: ≥ 80 dB TYP. @ 18.0 GHz
- **VSWR** : 2.0:1
- **SWITCHING SPEED** : RISE : 7nS MAX., 5 nS TYP.
: FALL : 7nS MAX., 3 nS TYP.
: ON : 20 nS MAX., 15 nS TYP.
: OFF : 20 nS MAX., 10 nS TYP.
- **CONTROL** : TTL Compatible
- **VIDEO TRANSIENTS** : 2.15 V Peak to Peak in a 300 MHz BW
- **RF INPUT POWER** : +20 dBm Operating, 1 Watt Survival
- **DC POWER SUPPLY** : ±5vdc @ 80mA MAX., 60mA TYP.
- **SIZE** : 1.0" X 1.0" X 0.5"
- **WEIGHT** : ≤1.5 oz

MULTI-THROW AND ABSORPTIVE VERSIONS AVAILABLE

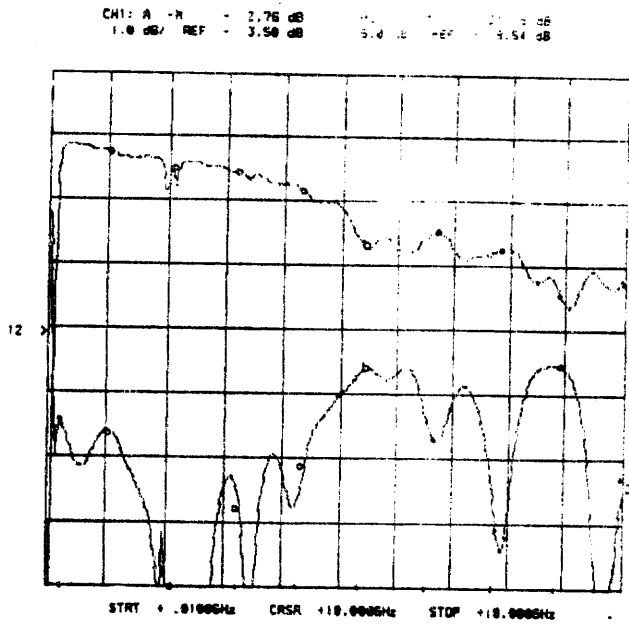
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SUMMARY TEST DATA
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SERIAL NUMBER : 1MS503174
TECHNICIAN : RENE AFABLE
VOLTAGE & CURRENT DRAW : $\pm 5\text{vdc}$ @ 60mA

INSERTION LOSS & RETURN LOSS



FREQUENCY	INSERTION LOSS	RETURN LOSS
0.4 GHz	0.64 dB	16.94 dB
2.0 GHz	0.76 dB	17.72 dB
4.0 GHz	0.91 dB	30.69 dB
6.0 GHz	1.09 dB	24.25 dB
8.0 GHz	1.38 dB	19.53 dB
10.0 GHz	2.17 dB	12.56 dB
12.0 GHz	1.98 dB	17.86 dB
14.0 GHz	2.24 dB	25.14 dB
16.0 GHz	2.98 dB	12.26 dB
18.0 GHz	2.76 dB	21.15 dB

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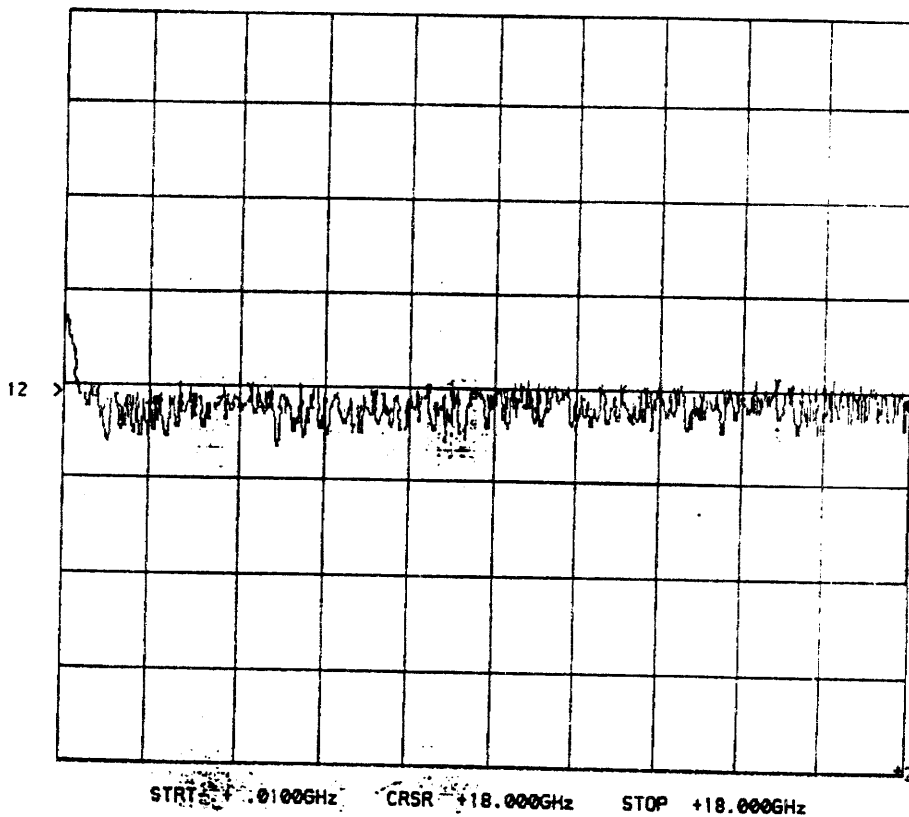
SUMMARY TEST DATA
SWN-AKG-1DT-12X
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SERIAL NUMBER : 1MS503174
TECHNICIAN : RENE AFABLE
VOLTAGE & CURRENT DRAW : $\pm 5\text{vdc @ } 60\text{mA}$

ISOLATION

AS MEASURED ON A NETWORK ANALYSER

CH1: A -M - 62.55 dB
20.0 dB/ REF - 50.00 dB
CH2: B -M - 44.47 dB
5.0 dB/ REF - 9.54 dB



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SUMMARY TEST DATA
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SERIAL NUMBER : IMS503174
TECHNICIAN : RENE AFABLE
VOLTAGE & CURRENT DRAW : $\pm 5\text{vdc @ } 60\text{mA}$

ISOLATION

AS MEASURED ON A SPECTRUM ANALYSER

FREQUENCY	ISOLATION
100 MHz	14 dB
200 MHz	61 dB
300 MHz	64 dB
500 MHz	70 dB
800 MHz	80 dB
1.0 GHz	83 dB
2.0 GHz	> 95 dB :
4.0 GHz	> 90 dB
6.0 GHz	90 dB
8.0 GHz	90 dB
10.0 GHz	90 dB
12.0 GHz	88 dB
14.0 GHz	84 dB
16.0 GHz	80 dB
18.0 GHz	80 dB

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SUMMARY TEST DATA
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SERIAL NUMBER : 1MS503174
 TECHNICIAN : RENE AFABLE
 VOLTAGE & CURRENT DRAW : $\pm 5\text{vdc}$ @ 60mA

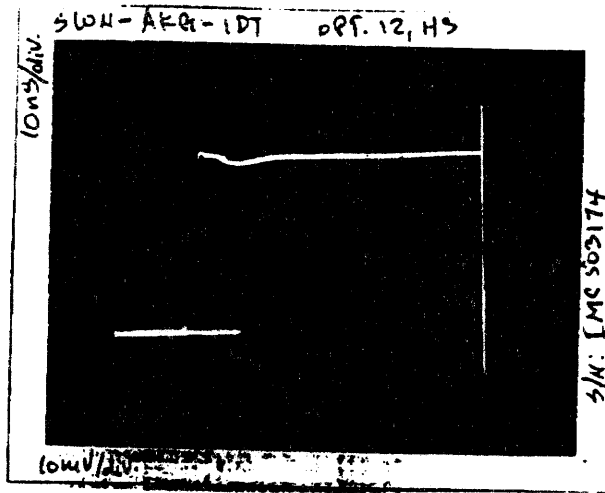
SWITCHING SPEED

"RISE/FALL" TIME: 10%RF TO 90%RF & 90%RF TO 10%RF
 "ON/OFF" TIME: 50%TTL TO 90%RF OR 10%RF

"ON" 15nS, "RISE" 5nS

HORIZONTAL SCALE:
 10nS/DIVISION

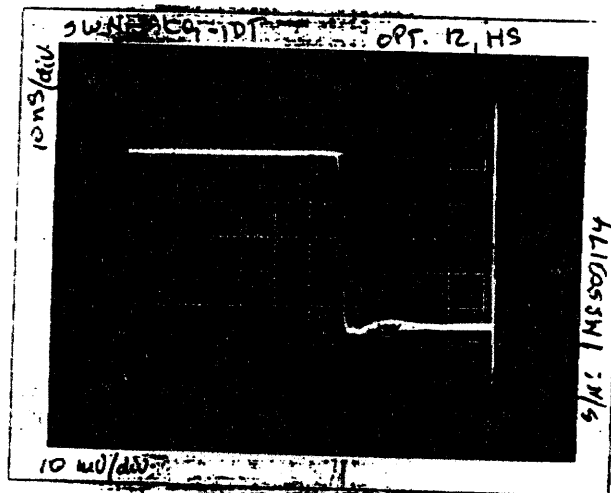
VERTICAL SCALE:
 10mV/DIVISION



"OFF" 10nS, "FALL" 3nS

HORIZONTAL SCALE:
 10nS/DIVISION

VERTICAL SCALE:
 10mV/DIVISION



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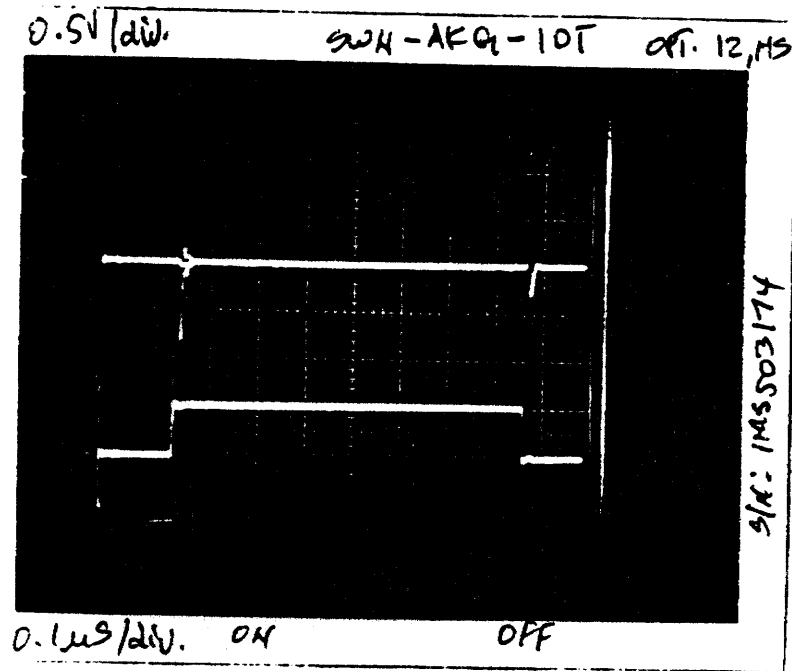
SERIAL NUMBER : IMS503174
TECHNICIAN : RENE AFABLE
VOLTAGE & CURRENT DRAW : $\pm 5\text{vdc}$ @ 60mA

VIDEO TRANSIENTS

AS MEASURED IN A
100MHz BANDWIDTH

HORIZONTAL SCALE:
0.1 μ S/DIVISION

VERTICAL SCALE:
0.5V/DIVISION



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