



**AMERICAN MICROWAVE
CORPORATION**

TEST DATA

ON

0.5 TO 18.0 GHz

HIGH SPEED

HIGH ISOLATION

LOW VIDEO TRANSIENTS (R/C)

ABSORPTIVE SPST PIN DIODE SWITCH

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

Serial No: 1MS503171

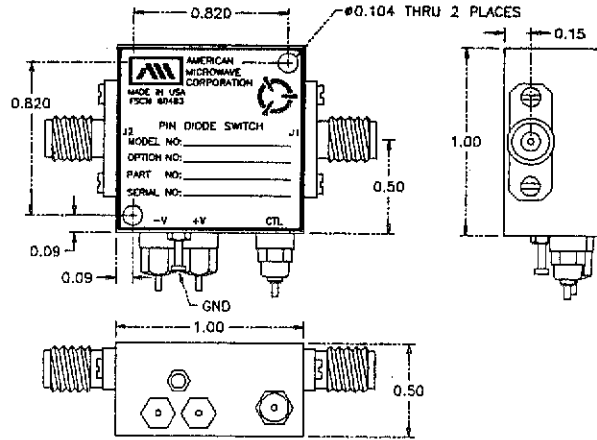
**BY
AMERICAN MICROWAVE
CORPORATION**

JULY 11, 1995

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

- **ABSORPTIVE**
- **HIGH SPEED**
- **HIGH ISOLATION**
- **LOW VIDEO TRANSIENTS**



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

SPECIFICATIONS:

- **FREQUENCY RANGE** : 0.5 GHz to 18.0 GHz
- **INSERTION LOSS** : ≤3.5 dB MAX.
: ≤0.74 dB TYP. @ 0.4 GHz
: ≤0.88 dB TYP. @ 2.0 GHz
: ≤1.45 dB TYP. @ 8.0 GHz
: ≤2.37 dB TYP. @ 12.0 GHz
: ≤3.19 dB TYP. @ 18.0 GHz
- **ISOLATION** : ≥ 40 dB MIN.
: ≥ 46 dB TYP. @ 0.5 GHz
: ≥ 76 dB TYP. @ 2.0 GHz
: ≥ 90 dB TYP. @ 8.0 GHz
: ≥ 84 dB TYP. @ 12.0 GHz
: ≥ 80 dB TYP. @ 18.0 GHz
- **VSWR** : 2.0:1
- **SWITCHING SPEED** : RISE : 30 nS MAX., 20 nS TYP.
: FALL : 10 nS MAX., 5 nS TYP.
: ON : 50 nS MAX., 35 nS TYP.
: OFF : 50 nS MAX., 25 nS TYP.
- **CONTROL** : TTL Compatible
- **VIDEO TRANSIENTS** : 450 mV Peak to Peak in a 300 MHz BW
: 70 mV Peak to Peak in a 20 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

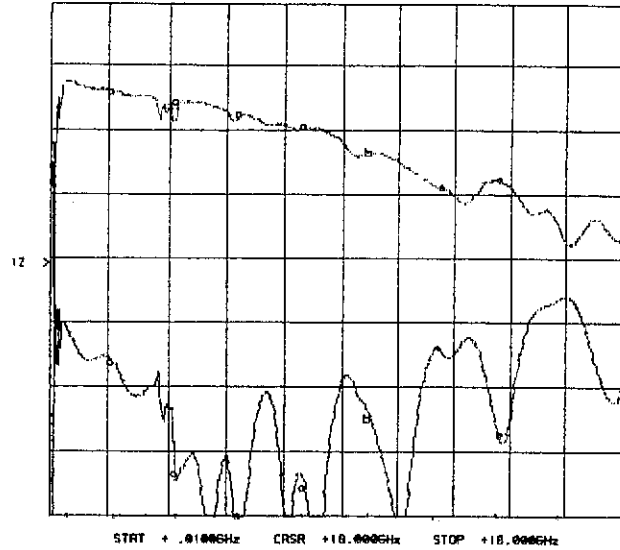


SUMMARY TEST DATA
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SERIAL NUMBER : 1MS503171
TECHNICIAN : RENE AFABLE
VOLTAGE & CURRENT DRAW : $\pm 5\text{vdc}$ @ 60mA

INSERTION LOSS & RETURN LOSS

CH1: A -H REF - 3.19 dB 1.0 dB/ REF - 3.50 dB
CH2: B -H REF - 19.85 dB 5.0 dB/ REF - 9.54 dB



FREQUENCY	INSERTION LOSS	RETURN LOSS
0.4 GHz	0.74 dB	14.63 dB
2.0 GHz	0.88 dB	17.91 dB
4.0 GHz	1.03 dB	26.07 dB
6.0 GHz	1.24 dB	31.53 dB
8.0 GHz	1.45 dB	28.33 dB
10.0 GHz	1.83 dB	22.44 dB
12.0 GHz	2.37 dB	16.48 dB
14.0 GHz	2.27 dB	23.48 dB
16.0 GHz	3.13 dB	12.50 dB
18.0 GHz	3.19 dB	19.85 dB

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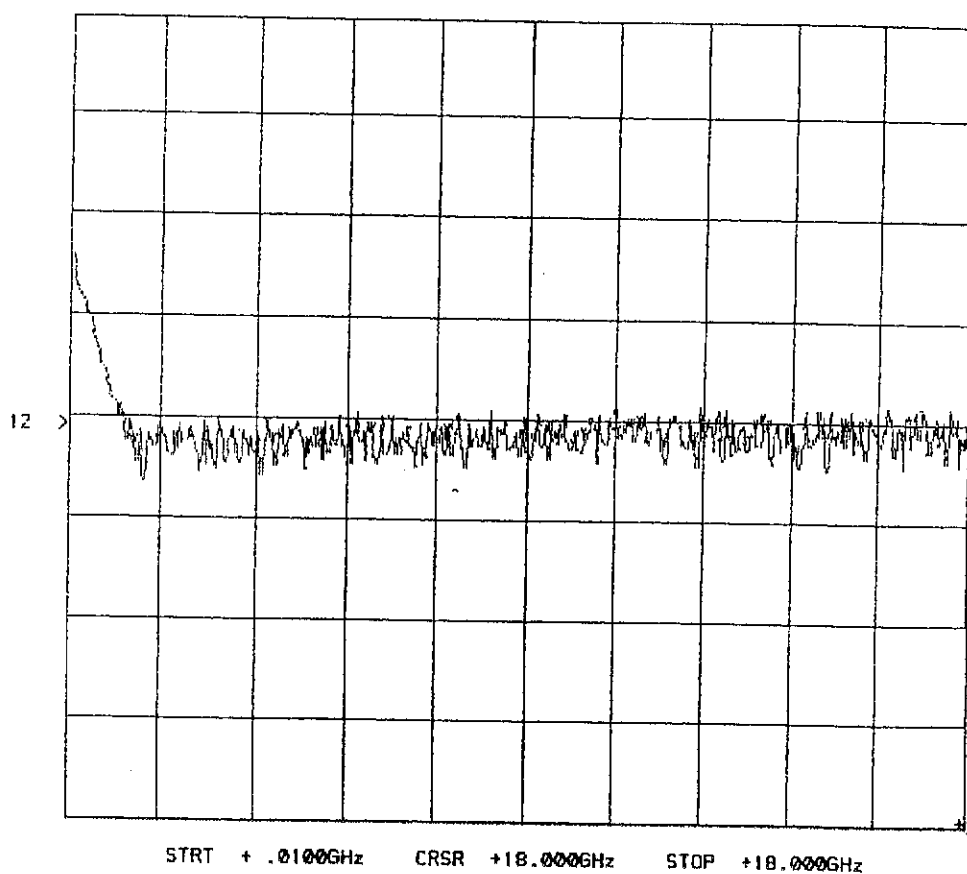
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SERIAL NUMBER : 1MS503171
TECHNICIAN : RENE AFABLE
VOLTAGE & CURRENT DRAW : $\pm 5\text{vdc @ } 60\text{mA}$

ISOLATION

AS MEASURED ON A NETWORK ANALYSER

CH1: A -M - 63.57 dB
20.0 dB/ REF - 60.00 dB
CH2: B -M - 48.93 dB
5.0 dB/ REF - 9.54 dB



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SERIAL NUMBER : 1MS503171
TECHNICIAN : RENE AFABLE
VOLTAGE & CURRENT DRAW : $\pm 5\text{vdc}$ @ 60mA

ISOLATION

AS MEASURED ON A SPECTRUM ANALYSER

FREQUENCY	ISOLATION
100 MHz	40 dB
200 MHz	38 dB
300 MHz	40 dB
500 MHz	46 dB
800 MHz	54 dB
1.0 GHz	60 dB
2.0 GHz	76 dB
4.0 GHz	> 90 dB
6.0 GHz	> 90 dB
8.0 GHz	> 90 dB
10.0 GHz	> 88 dB
12.0 GHz	> 84 dB
14.0 GHz	> 80 dB
16.0 GHz	80 dB
18.0 GHz	80 dB

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SERIAL NUMBER : 1MS503171
 TECHNICIAN : RENE AFABLE
 VOLTAGE & CURRENT DRAW : $\pm 5\text{vdc @ } 60\text{mA}$

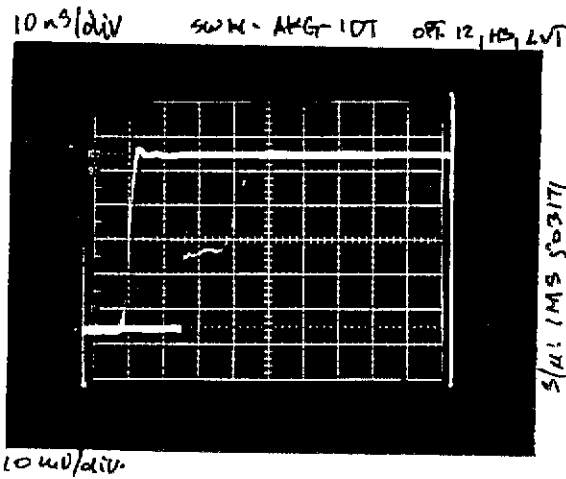
SWITCHING SPEED

"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" 35nS, "RISE" 20nS

HORIZONTAL SCALE:
 10nS/DIVISION

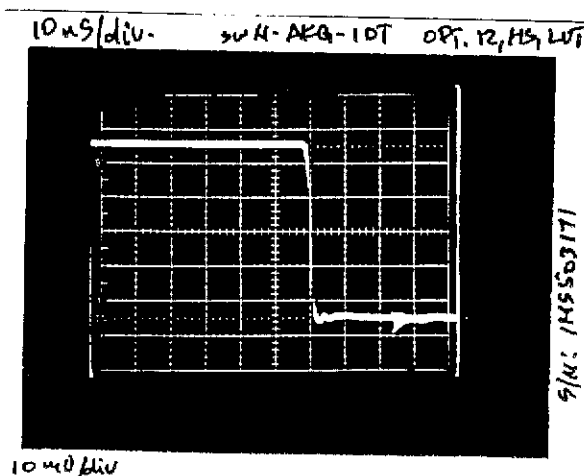
VERTICAL SCALE:
 10mV/DIVISION



"OFF" 25nS, "FALL" 5nS

HORIZONTAL SCALE:
 10nS/DIVISION

VERTICAL SCALE:
 10mV/DIVISION



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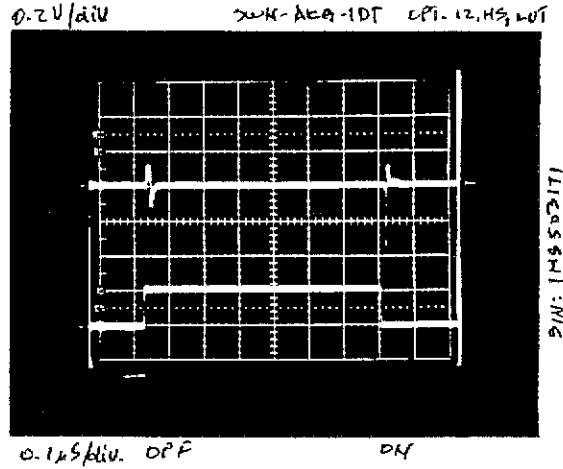
SERIAL NUMBER : 1MS503171
TECHNICIAN : RENE AFABLE
VOLTAGE & CURRENT DRAW : $\pm 5\text{vdc}$ @ 60mA

VIDEO TRANSIENTS

AS MEASURED IN A
300MHz BANDWIDTH

HORIZONTAL SCALE:
 $0.1\mu\text{s}/\text{DIVISION}$

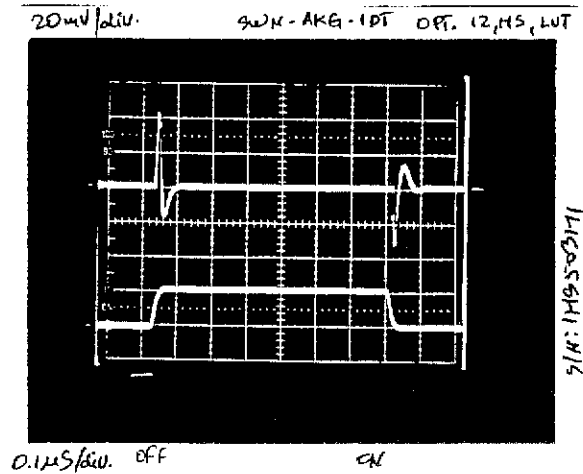
VERTICAL SCALE:
 $0.2\text{V}/\text{DIVISION}$



AS MEASURED IN A
20MHz BANDWIDTH

HORIZONTAL SCALE:
 $0.1\mu\text{s}/\text{DIVISION}$

VERTICAL SCALE:
 $20\text{mV}/\text{DIVISION}$



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