



**AMERICAN MICROWAVE
CORPORATION**

TEST DATA

ON

2.0 GHz TO 18.0 GHz

LOW LOSS

LOW VIDEO TRANSIENTS (L/C)

BALANCED ON/OFF

7nS-ULTRA HIGH SPEED

TTL LOGIC

REFLECTIVE, SPST PIN DIODE SWITCH

**AMC MODEL No:
SWN-AGRA-1DR-TTL-GAK1-LVT
(Serial Number: 1MS508255)**

**BY
AMERICAN MICROWAVE
CORPORATION**

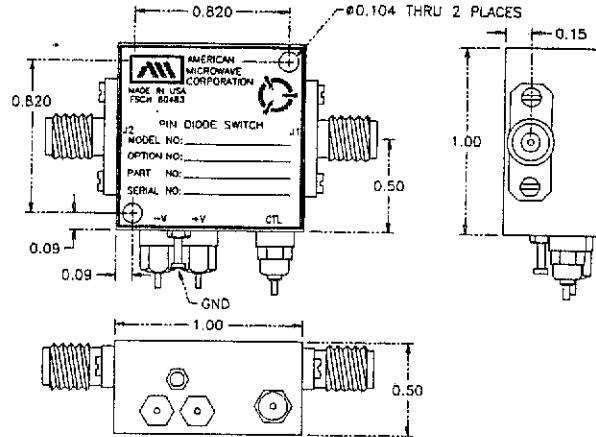
AUGUST 10, 1995

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

AMERICAN MICROWAVE CORPORATION

LOW VIDEO TRANSIENT ULTRA HIGH SPEED, TTL LOGIC REFLECTIVE, SPST SWITCH

- LOW VIDEO TRANSIENTS
- ULTRA HIGH SPEED
- HIGH ISOLATION
- TTL LOGIC



AMC MODEL No: SWN-AGRA-1DR-TTL-GAK1-LVT

SPECIFICATIONS:

- | | |
|--------------------|---|
| • FREQUENCY RANGE | : 2.0 GHz to 18.0 GHz |
| • INSERTION LOSS | : 2.0 dB MAX.
: 0.62 dB TYP. @ 2.0 GHz
: 0.91 dB TYP. @ 8.0 GHz
: 1.43 dB TYP. @ 18.0 GHz |
| • ISOLATION | : \geq 70 dB MIN.
: \geq 63 dB TYP. @ 2.0 GHz
: \geq 90 dB TYP. @ 8.0 GHz
: \geq 80 dB TYP. @ 18.0 GHz |
| • VSWR | : 2.0:1 |
| • SWITCHING SPEED | : RISE : 2nS MAX., 1nS TYP.
: FALL : 2nS MAX., 1nS TYP.
: ON : 10nS MAX., 7nS TYP.
: OFF : 10nS MAX., 7nS TYP. |
| • CONTROL | : TTL Compatible |
| • VIDEO TRANSIENTS | : \leq 235 mV Peak to Peak, 100 MHz Bandwidth
: \leq 15 mV Peak to Peak, 20 MHz Bandwidth |
| • RF INPUT POWER | : + 20 dBm Operating, 1 Watt Survival |
| • DC POWER SUPPLY | : \pm 5 vdc @ \pm 50mA MAX. |
| • SIZE | : 1.0" X 1.0" X 0.5" |
| • WEIGHT | : \leq 2.0 oz. |

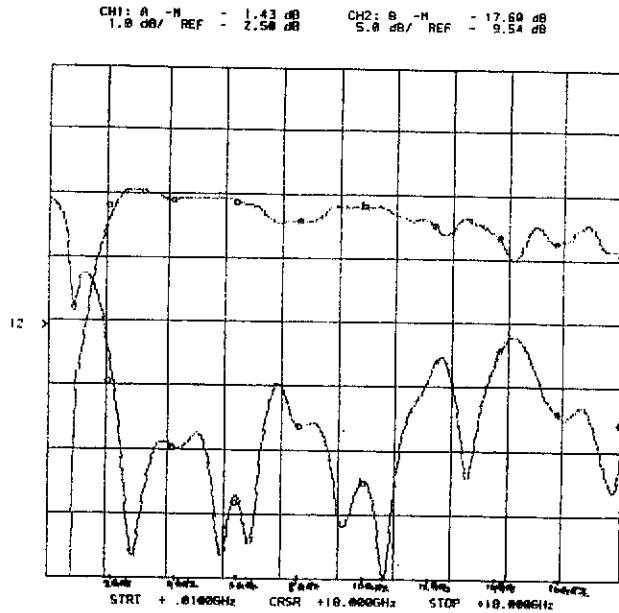
MULTI-THROW VERSIONS AVAILABLE

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SUMMARY TEST DATA
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SERIAL NUMBER : 1MS508255
 TECHNICIAN : RENE AFABLE
 VOLTAGE & CURRENT DRAW : ± 5 vdc On : +16mA, -17mA
 Off : +21mA, -12mA

INSERTION LOSS & RETURN LOSS



FREQUENCY	INSERTION LOSS	RETURN LOSS
2.0 GHz	0.62 dB	14.93 dB
4.0 GHz	0.56 dB	19.34 dB
6.0 GHz	0.61 dB	24.02 dB
8.0 GHz	0.91 dB	17.55 dB
10.0 GHz	0.67 dB	22.31 dB
12.0 GHz	0.92 dB	12.70 dB
14.0 GHz	1.09 dB	11.90 dB
16.0 GHz	1.23 dB	16.79 dB
18.0 GHz	1.43 dB	17.60 dB

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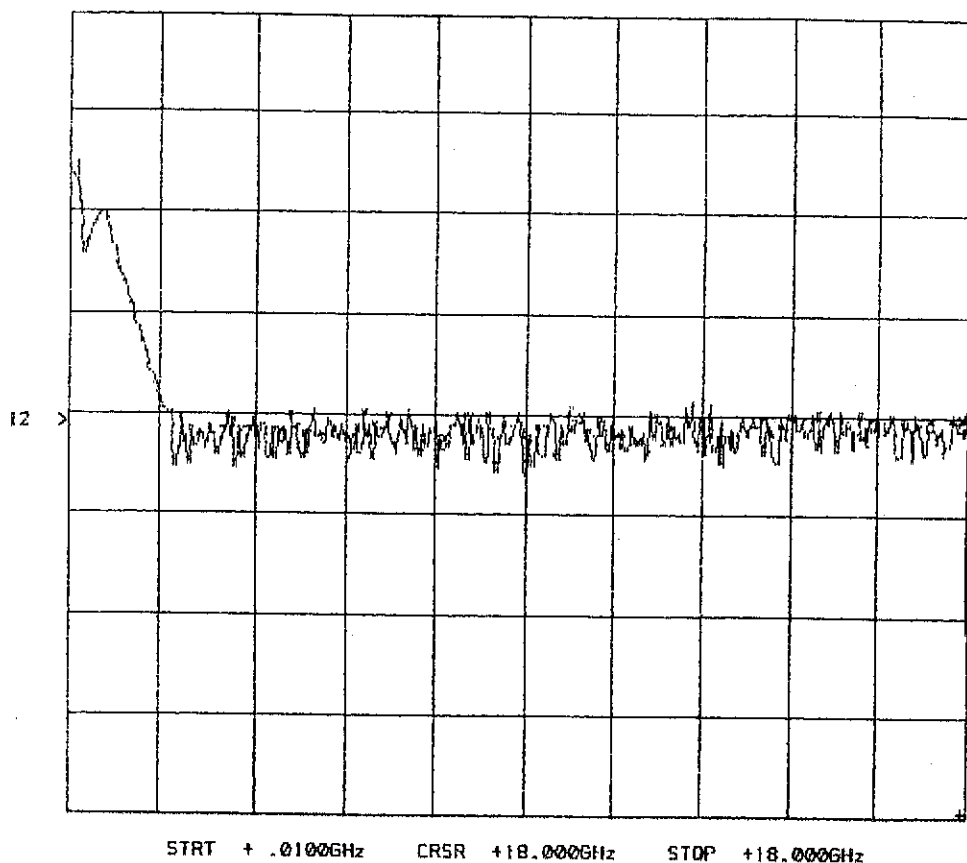
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ISOLATION

(AS MEASURED ON A NETWORK ANALYZER)

CH1: A -M REF = 53.00 dB 20.0 dB/ REF = 50.00 dB
CH2: B -M REF = 45.16 dB 5.0 dB/ REF = 49.57 dB



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Off : +21mA, -12mA

ISOLATION

(AS MEASURED ON A SPECTRUM ANALYZER)

FREQUENCY	ISOLATION
500 MHz	40 dB
800 MHz	38 dB
1 GHz	44 dB
2 GHz	72 dB
4 GHz	92 dB
6 GHz	96 dB
8 GHz	82 dB
10 GHz	90 dB
12 GHz	90 dB
14 GHz	86 dB
16 GHz	84 dB
18 GHz	82 dB

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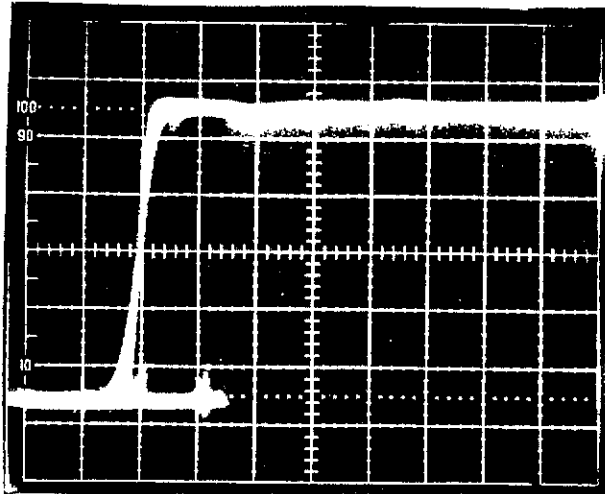
SWITCHING SPEED

"Rise/Fall" Time: 10% RF to 90% RF & 90% RF to 10% RF

"On/Off" Time: 50% TTL to 90% RF or 10% RF

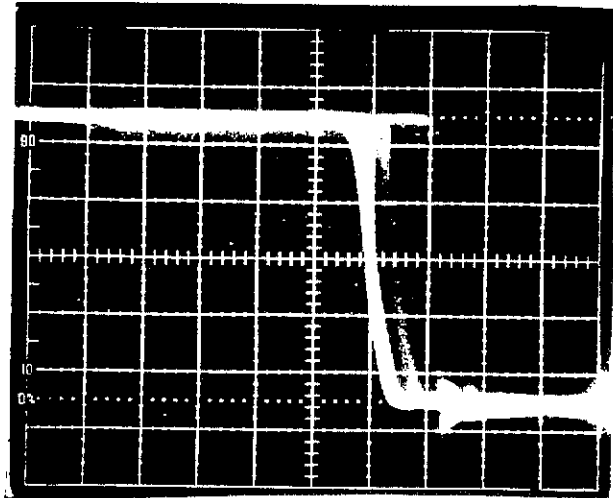
SUBTRACT TWO (3)nS FROM ALL SWITCHING SPEED PHOTOS FOR TTL to ECL CONVERTER DELAY.

VERTICAL SCALE:
10mV/DIVISION



RISE TIME: ≤ 1 nS
ON TIME: ≤ 7 nS

HORIZONTAL SCALE:
5nS/DIVISION



FALL TIME: ≤ 1 nS
OFF TIME: ≤ 7 nS

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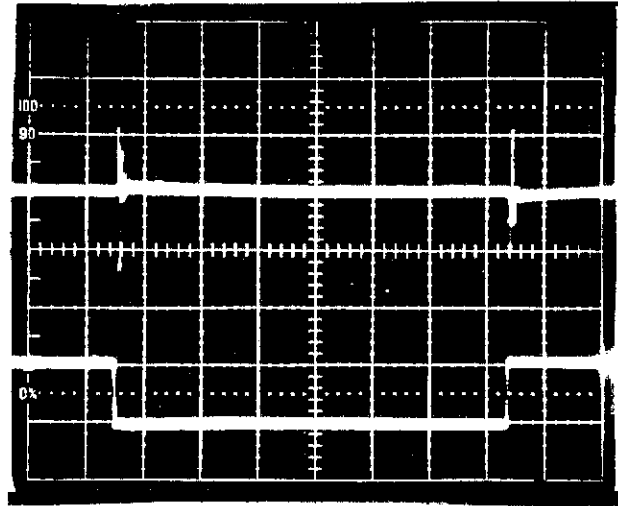
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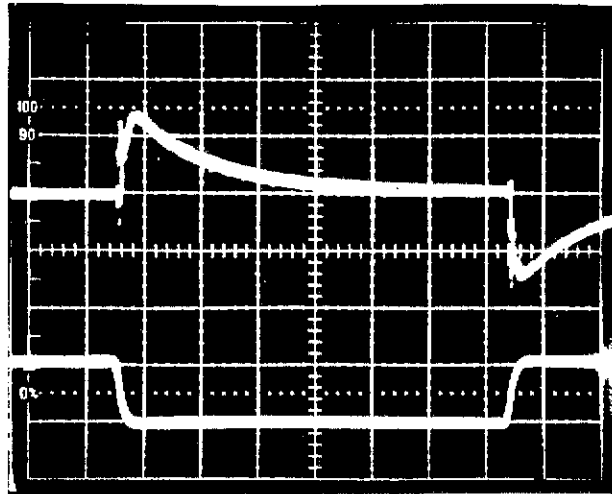
VIDEO TRANSIENTS

HORIZONTAL SCALE:
0.1 μ S/DIVISION

≤ 235 mV P-P
MEASURED IN A
100 MHz BANDWIDTH
VERTICAL SCALE:
0.1V/DIVISION



≤ 15 mV P-P
MEASURED IN A
20 MHz BANDWIDTH
VERTICAL SCALE:
5mV/DIVISION



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