



DATA
ON
0.5 GHz TO 18.0 GHz
HIGH SPEED
HIGH ISOLATION
LOW VIDEO TRANSIENTS
REFLECTIVE
SPST
SOLID STATE SWITCH/MODULATOR

SWN-AKG-1DR-12X-LC

(Serial Number: 1MS503169)

DESIGNED
BY
ASH GORWARA

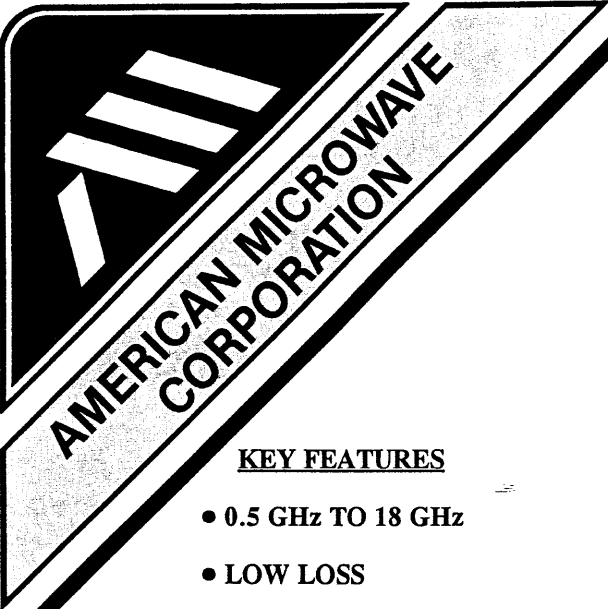
REPORT PREPARED
BY
BOBBIE GRAY

MARCH 5, 1998

WEB PAGE: [HTTP://WWW.AMWAVE.COM](http://www.amwave.com)

E-MAIL ADDRESS: AMCPMI@AOL.COM

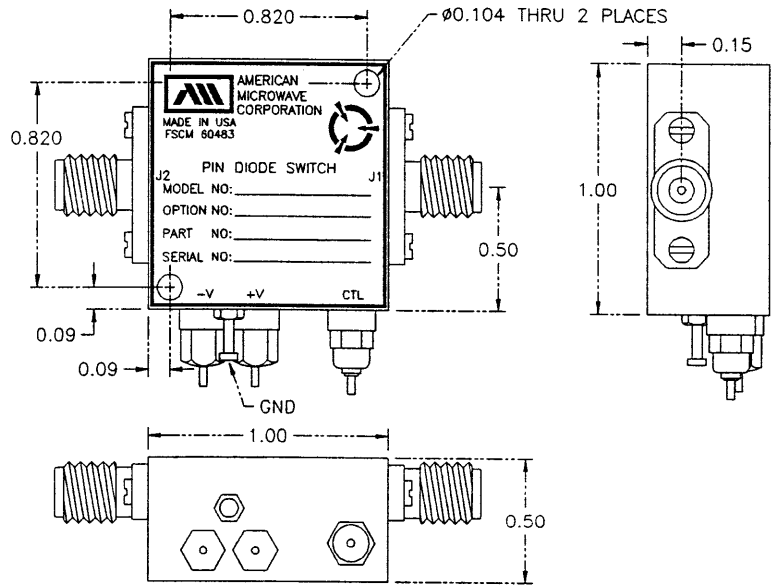
7311 G GROVE ROAD, FREDERICK, MARYLAND 21704 • Tel. (301) 662-4700 • Fax (301) 662-4938



SPST REFLECTIVE PIN-DIODE SWITCH/MODULATOR

KEY FEATURES

- 0.5 GHz TO 18 GHz
- LOW LOSS
- HIGH SPEED
- HIGH ISOLATION
- MINIATURE
- TTL LOGIC COMPATIBLE



AMC MODEL No: SWN-AKG-1DR-12X-LC

SPECIFICATIONS:(REFLECTIVE)

• FREQUENCY RANGE	:	0.5 GHz to 18.0 GHz
• INSERTION LOSS	:	3.0 dB MAX.
	:	1.14 dB TYP. @ 0.5 GHz
	:	0.59 dB TYP. @ 2.0 GHz
	:	1.17 dB TYP. @ 6.0 GHz
	:	1.40 dB TYP. @ 10.0 GHz
	:	2.78 dB TYP. @ 18.0 GHz
• ISOLATION	:	≥ 80 dB MIN.
	:	≥ 104 dB TYP. @ 0.5 GHz
	:	≥ 102 dB TYP. @ 2.0 GHz
	:	≥ 98 dB TYP. @ 6.0 GHz
	:	≥ 100 dB TYP. @ 10.0 GHz
	:	≥ 85 dB TYP. @ 18.0 GHz
• VSWR	:	2.0:1
• SWITCHING SPEED	:	"RISE" 7nS MAX., 5nS TYP.
	:	"FALL" 7nS MAX., 5nS TYP.
	:	"ON" 25nS MAX., 20nS TYP.
	:	"OFF" 25nS MAX., 20nS TYP.
• CONTROL	:	TTL Compatible
• VIDEO TRANSIENTS	:	≤600mV Peak to Peak, 300 MHz Bandwidth
	:	≤ 20mV Peak to Peak, 20 MHz Bandwidth
• RF INPUT POWER	:	+20dBm Operating, 1 Watt Survival
• DC POWER SUPPLY	:	+5vdc @ +50mA MAX.
(Other supply voltages available)	:	- 15vdc @ -50mA MAX.
• SIZE	:	1.0" X 1.0" X 0.5"
• WEIGHT	:	≤ 1.0 oz.

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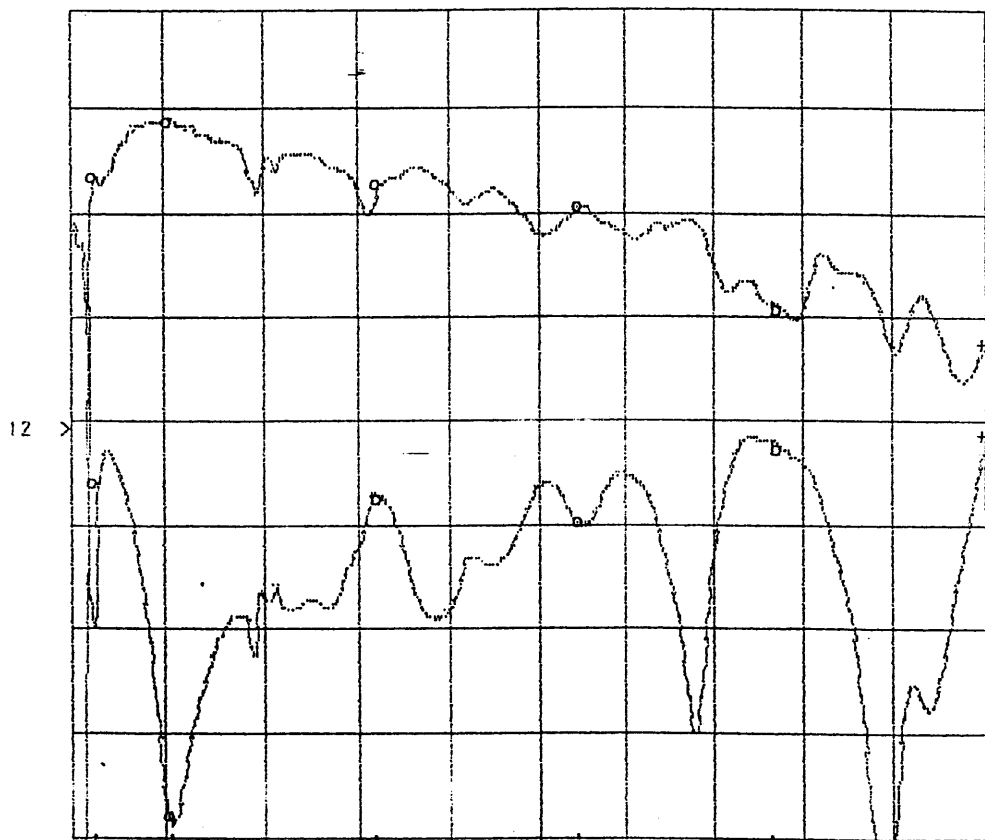


SUMMARY TEST DATA

MODEL NUMBER : SWN-AKG-1DR-12X-LC
SERIAL NUMBER : 1MS503169
TECHNICIAN : RENE AFABLE
VOLTAGE & CURRENT DRAW : +5vdc @ 44mA
: -15vdc @ 37mA

INSERTION LOSS & RETURN LOSS

CH1: A -M - 2.79 dB CH2: B -M - 10.25 dB
1.0 dB/ REF - 3.50 dB 5.0 dB/ REF - 9.54 dB



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

FREQUENCY	INSERTION LOSS	RETURN LOSS
0.5 GHz	-1.14 dB	-12.4 dB
2.0 GHz	-0.59 dB	-28.07 dB
6.0 GHz	-1.17 dB	-13.19 dB
10.0 GHz	-1.40 dB	-14.45 dB
14.0 GHz	-2.41 dB	-10.79 dB
18.0 GHz	-2.78 dB	-10.23 dB

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SUMMARY TEST DATA

MODEL NUMBER : SWN-AKG-1DR-12X-LC
SERIAL NUMBER : 1MS503169
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: -15vdc @ 37mA

ISOLATION

(AS MEASURED ON A SPECTRUM ANALYZER)

FREQUENCY	ISOLATION
0.1 GHz	> -104 dB
0.3 GHz	> -104 dB
0.5 GHz	> -104 dB
1.0 GHz	> -104 dB
2.0 GHz	-102 dB
4.0 GHz	-100 dB
6.0 GHz	-98 dB
8.0 GHz	-98 dB
10.0 GHz	-100 dB
12.0 GHz	-96 dB
14.0 GHz	-92 dB
16.0 GHz	-90 dB
18.0 GHz	-85 dB

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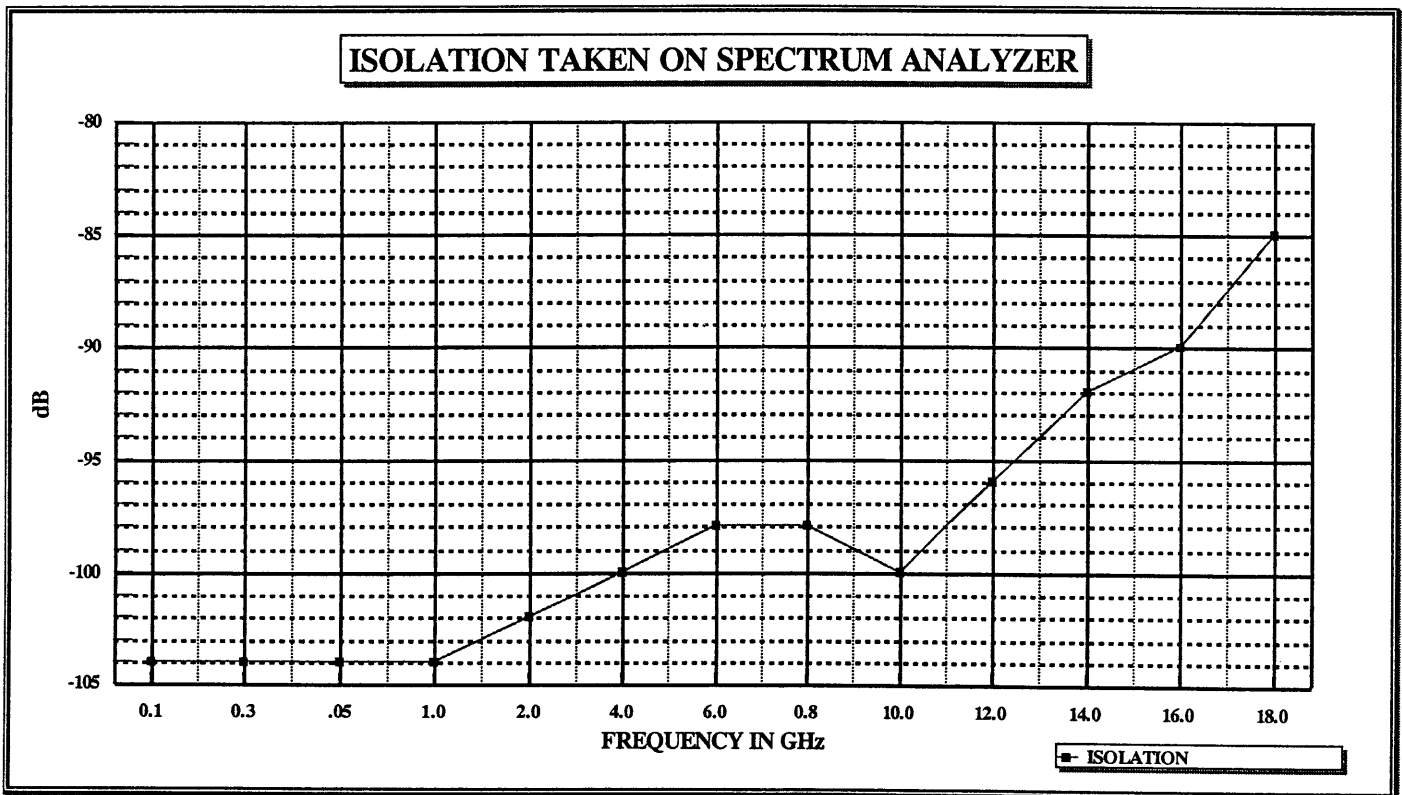


SUMMARY TEST DATA

MODEL NUMBER : SWN-AKG-1DR-12X-LC
SERIAL NUMBER : 1MS503169
TECHNICIAN : RENE AFABLE
VOLTAGE & CURRENT DRAW : +5vdc @ 44mA
: -15vdc @ 37mA

ISOLATION

(AS MEASURED ON A SPECTRUM ANALYZER)



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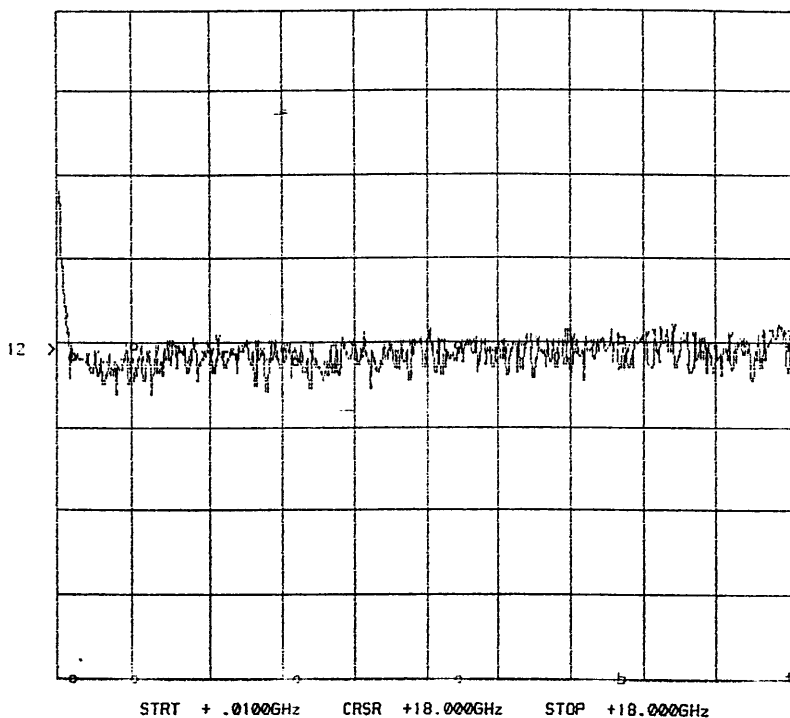
SUMMARY TEST DATA

MODEL NUMBER : SWN-AKG-1DR-12X-LC
SERIAL NUMBER : 1MS503169
TECHNICIAN : RENE AFABLE
VOLTAGE & CURRENT DRAW : +5vdc @ 44mA
: -15vdc @ 37mA

ISOLATION

(AS MEASURED ON A SCALAR NETWORK ANALYZER)

CH1: A -M - 61.32 dB CH2: B -M - 47.70 dB
20.0 dB/ REF - 60.00 dB 5.0 dB/ REF - 9.54 dB



FREQUENCY	ISOLATION
0.5 GHz	-60.9 dB
2.0 GHz	-60.5 dB
6.0 GHz	-61.6 dB
10.0 GHz	-61.9 dB
14.0 GHz	-59.3 dB
18.0 GHz	-62.7 dB

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SUMMARY TEST DATA

MODEL NUMBER	: SWN-AKG-1DR-12X-LC
SERIAL NUMBER	: 1MS503169
TECHNICIAN	: RENE AFABLE
VOLTAGE & CURRENT DRAW	: +5vdc @ 44mA
	: -15vdc @ 37mA

SWITCHING SPEED

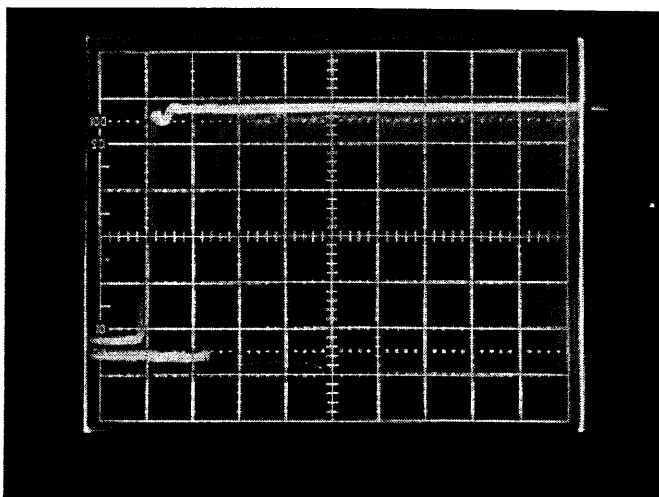
"Rise/Fall" Time: 10% RF to 90% RF & 90% RF to 10% RF

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

"DELAY ON": 15nS
"RISE TIME": 4nS

HORIZONTAL SCALE:
10nS PER DIVISION

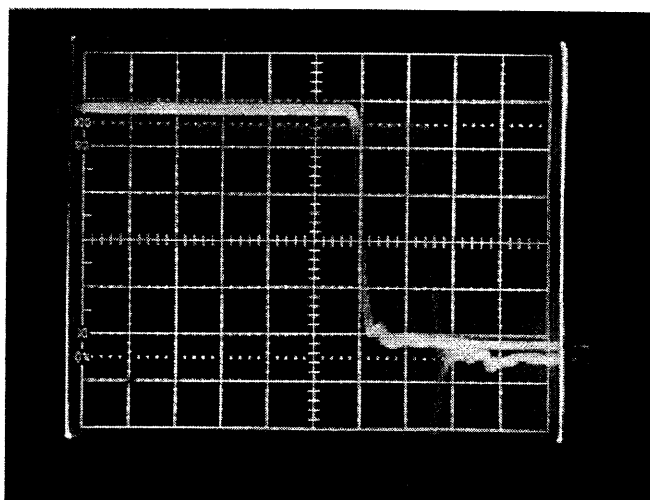
VERTICAL SCALE:
10mV PER DIVISION



"DELAY OFF": 20nS
"FALL TIME": 4nS

HORIZONTAL SCALE:
10nS PER DIVISION

VERTICAL SCALE:
10mV PER DIVISION



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SUMMARY TEST DATA

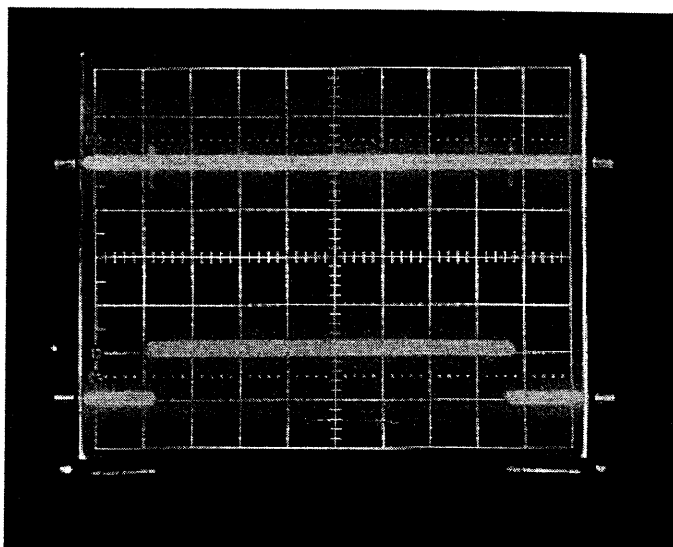
MODEL NUMBER	: SWN-AKG-1DR-12X-LC
SERIAL NUMBER	: 1MS503169
TECHNICIAN	: RENE AFABLE
VOLTAGE & CURRENT DRAW	: +5vdc @ 44mA
	: -15vdc @ 37mA

VIDEO TRANSIENTS

≤ 600 V P-P
MEASURED IN A
300 MHz BANDWIDTH

VERTICAL SCALE:
0.2V PER DIVISION

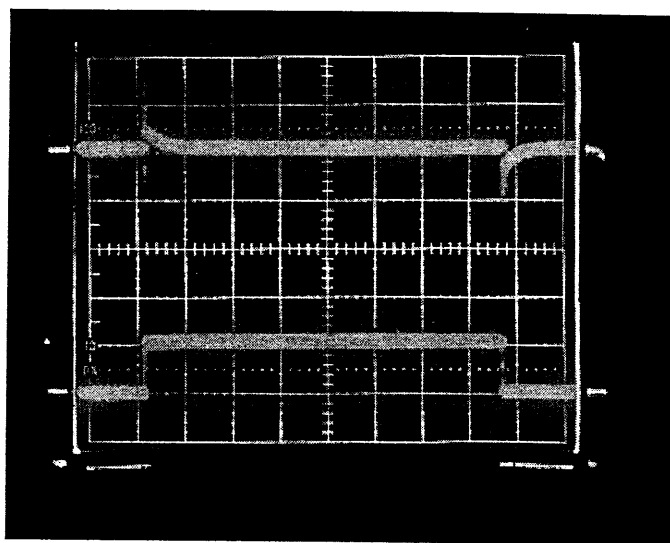
HORIZONTAL SCALE:
0.1 μ S PER DIVISION



20 mV P-P
MEASURED IN A
20 MHz BANDWIDTH

VERTICAL SCALE:
5mV PER DIVISION

HORIZONTAL SCALE:
0.1 μ S PER DIVISION



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