



**TEST DATA**

**ON**

**0.5 TO 18.0 GHz**

**VERY LOW LOSS**

**HIGH ISOLATION**

**HIGH SPEED**

**REFLECTIVE, SP2T PIN DIODE SWITCH**

**MODEL No: SWN-218-2DR-HPX**

**(Serial No: 2MS50500)**

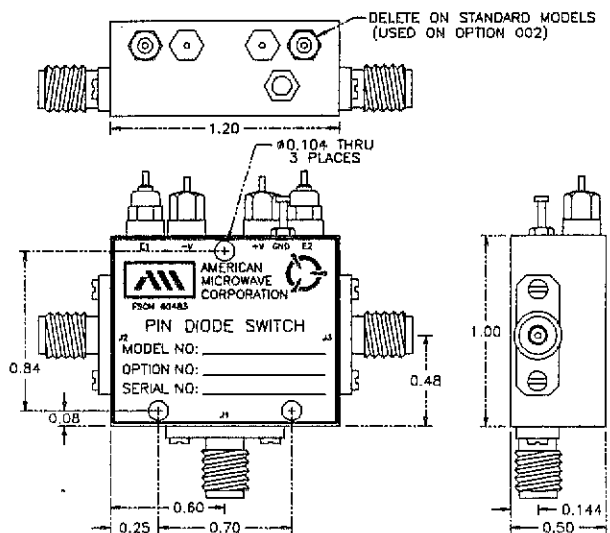
**BY  
AMERICAN MICROWAVE  
CORPORATION**

**JULY 17, 1995**

**AMERICAN MICROWAVE CORPORATION**

## LOW LOSS, HIGH SPEED REFLECTIVE, SPDT SWITCH/MODULATOR

- LOW LOSS
- HIGH ISOLATION
- FAST SWITCHING SPEED



### AMC MODEL No: SWN-218-2DR-HPX

#### SPECIFICATIONS:

- FREQUENCY RANGE : 0.50 to 18.0 GHz
- INSERTION LOSS : 2.50 dB MAX., <2.0 dB TYP.  
: 0.67 dB TYP. @ 0.5 GHz  
: 1.00 dB TYP. @ 8.0 GHz  
: 1.81 dB TYP. @ 18.0 GHz
- ISOLATION : 60 dB MIN., 75 dB TYP.  
: 94 dB TYP. @ 0.5 GHz  
: 94 dB TYP. @ 8.0 GHz  
: 84 dB TYP. @ 18.0 GHz
- INPUT VSWR : 2.0:1 MAX.
- SWITCHING SPEED : "RISE" : 10nS MAX., 8nS Typical  
: "FALL" : 10nS MAX., 5nS Typical  
: "ON" : 35nS MAX., 28nS Typical  
: "OFF" : 35nS MAX., 10nS Typical
- VIDEO TRANSIENTS : 1.7 V Peak to Peak measured in a 300 MHz BW
- CONTROL : TTL Compatible
- RF POWER : +20dBm Operating, 1 Watt Survival
- DC POWER SUPPLY :  $\pm 5$  Vdc @ 80mA MAX., 60mA TYP.
- SIZE : 1.2" X 1.00" X 0.50"
- WEIGHT : <2.0 oz.

ABSORPTIVE, MULTITHROW AND OTHER FREQUENCY BANDWIDTH VERSIONS AVAILABLE

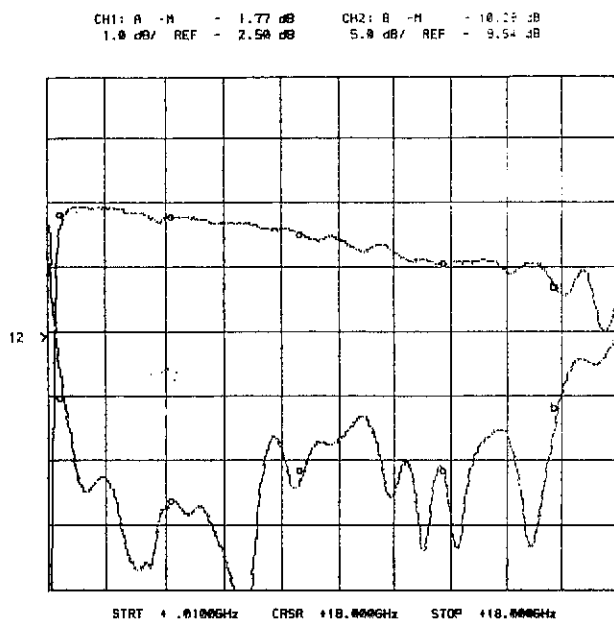
7311 G GROVE ROAD, FREDERICK, MARYLAND 21701 • Tel. (301) 662-4700 • Fax (301) 662-4938



SUMMARY TEST DATA  
SWN-218-2DR-HPX  
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SERIAL NUMBER : 2MS50500  
TECHNICIAN : RENE AFABLE  
VOLTAGE & CURRENT DRAW :  $\pm 5\text{vdc @ } 60\text{mA}$

**J1-J2**  
**INSERTION LOSS AND RETURN LOSS**



FREQUENCY	INSERTION LOSS	RETURN LOSS
0.5 GHz	0.67 dB	14.80 dB
4.0 GHz	0.72 dB	22.80 dB
8.0 GHz	1.01 dB	19.90 dB
12.4 GHz	1.44 dB	20.80 dB
16.0 GHz	1.87 dB	14.80 dB
18.0 GHz	1.77 dB	10.29 dB

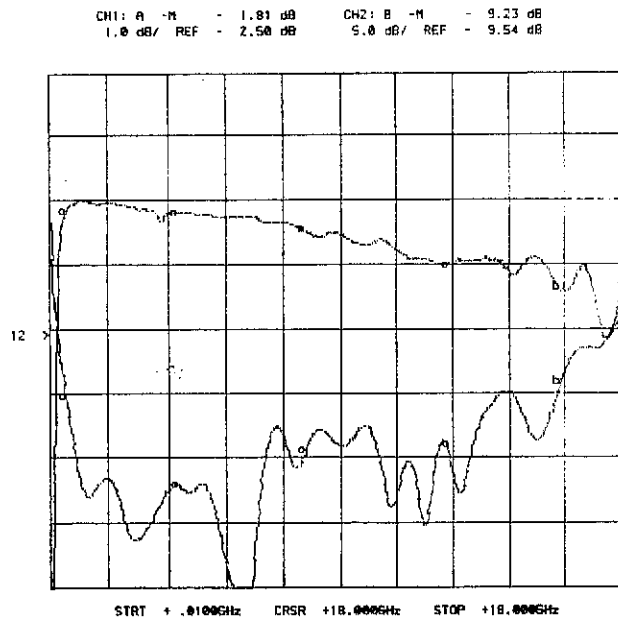
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SUMMARY TEST DATA  
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SERIAL NUMBER : 2MS50500  
TECHNICIAN : RENE AFABLE  
VOLTAGE & CURRENT DRAW :  $\pm 5\text{vdc}$  @ 60mA

**J1-J3**  
**INSERTION LOSS AND RETURN LOSS**



FREQUENCY	INSERTION LOSS	RETURN LOSS
0.5 GHz	0.57 dB	14.50 dB
4.0 GHz	0.57 dB	21.50 dB
8.0 GHz	0.85 dB	18.90 dB
12.4 GHz	1.38 dB	18.30 dB
16.0 GHz	1.76 dB	13.60 dB
18.0 GHz	1.81 dB	9.23 dB

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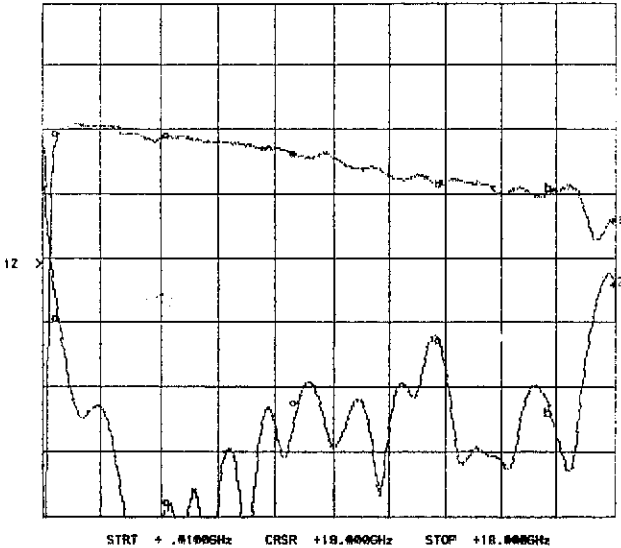


SUMMARY TEST DATA  
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SERIAL NUMBER : 2MS50500  
TECHNICIAN : RENE AFABLE  
VOLTAGE & CURRENT DRAW :  $\pm 5\text{vdc}$  @ 60mA

**J2**  
**RETURN LOSS OUTPUT ON**

CH1: A -N - 1.93 dB      CH2: B -N - 11.74 dB  
1.0 dB/ REF - 2.50 dB      5.0 dB/ REF - 8.54 dB



FREQUENCY	RETURN LOSS
0.5 GHz	14.10 dB
4.0 GHz	28.00 dB
8.0 GHz	20.80 dB
12.4 GHz	15.70 dB
16.0 GHz	21.60 dB
18.0 GHz	11.74 dB

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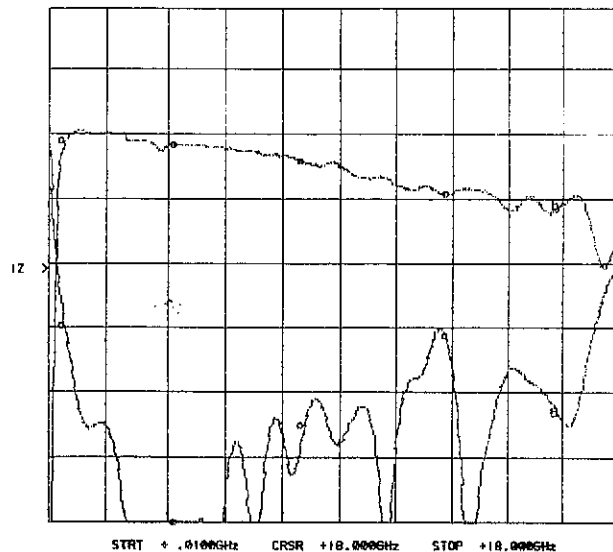


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SERIAL NUMBER : 2MS50500  
TECHNICIAN : RENE AFABLE  
VOLTAGE & CURRENT DRAW :  $\pm 5\text{vdc}$  @ 60mA

J3  
RETURN LOSS OUTPUT ON

CH1: A -N - 2.04 dB 1.0 dB/ REF - 2.50 dB  
CH2: B -N - 11.30 dB 5.0 dB/ REF - 9.54 dB



FREQUENCY	RETURN LOSS
0.5 GHz	14.20 dB
4.0 GHz	29.00 dB
8.0 GHz	22.00 dB
12.4 GHz	15.10 dB
16.0 GHz	20.90 dB
18.0 GHz	11.30 dB

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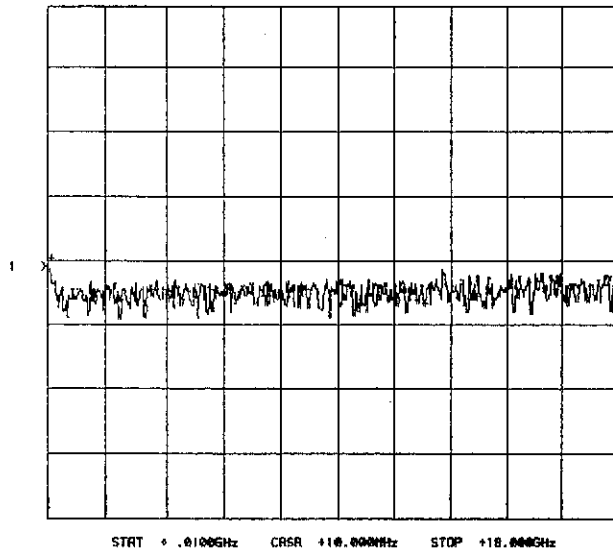
SUMMARY TEST DATA  
SWN-218-2DR-HPX  
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SERIAL NUMBER : 2MS50500  
TECHNICIAN : RENE AFABLE  
VOLTAGE & CURRENT DRAW :  $\pm 5\text{vdc @ } 60\text{mA}$

ISOLATION

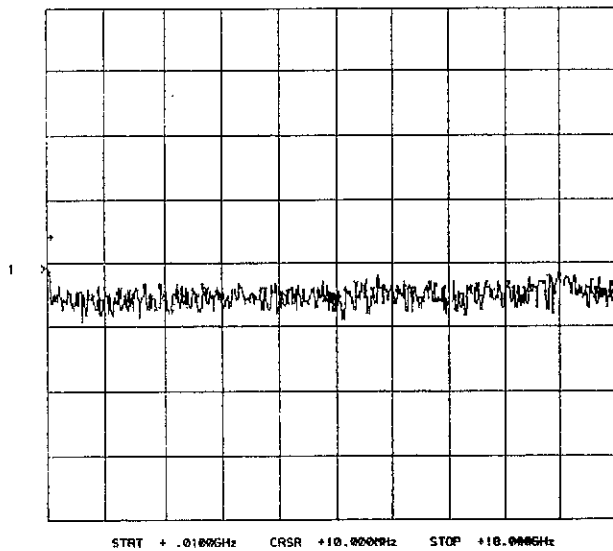
CH1: A -M - 59.13 dB  
20.0 dB/ REF - 60.00 dB

J1-J2



CH1: A -M - 51.72 dB  
20.0 dB/ REF - 60.00 dB

J1-J3



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SUMMARY TEST DATA  
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SERIAL NUMBER : 2MS50500  
TECHNICIAN : RENE AFABLE  
VOLTAGE & CURRENT DRAW :  $\pm 5\text{vdc}$  @ 60mA

**ISOLATION**

As Measured on a Spectrum Analyser

FREQUENCY	J1 TO J2	J1 TO J3
0.1 GHz	85 dB	88 dB
0.5 GHz	94 dB	92 dB
2.0 GHz	>98 dB	98 dB
4.0 GHz	96 dB	96 dB
8.0 GHz	94 dB	94 dB
12.4 GHz	88 dB	84 dB
18.0 GHz	84 dB	82 dB

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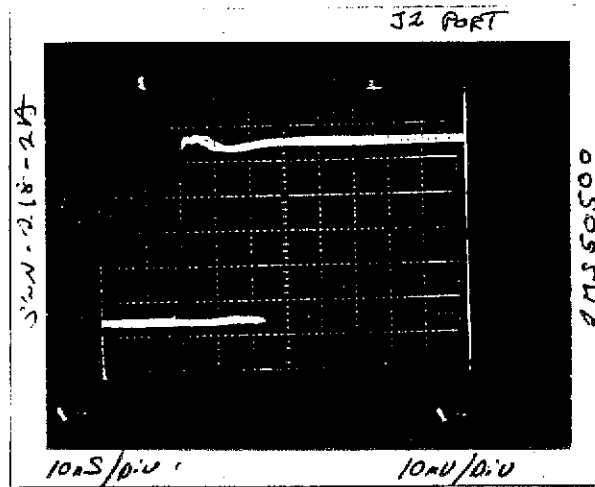


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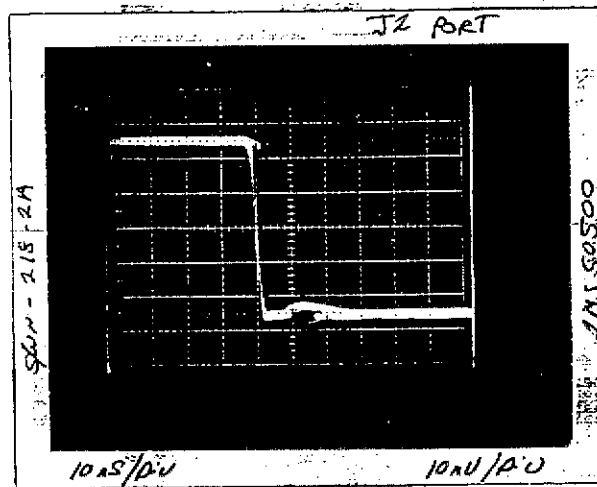
SERIAL NUMBER : 2MS50500  
TECHNICIAN : RENE AFABLE  
VOLTAGE & CURRENT DRAW :  $\pm 5\text{vdc}$  @ 60mA

**J2 PORT SWITCHING SPEED**  
(RISE/FALL: 10% RF TO 90%RF/90% RF TO 10% RF)  
(DELAY ON/OFF: 50% TTL TO 90%/10% RF)

VERTICAL SCALE:  
1.0 $\mu$ S/DIVISION



HORIZONTAL SCALE:  
10nS/DIVISION



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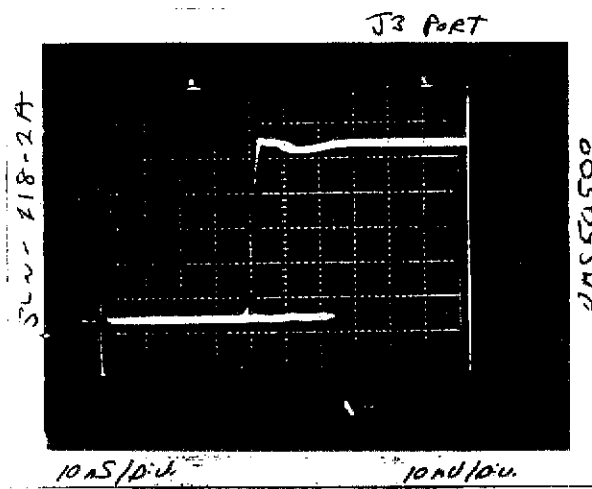


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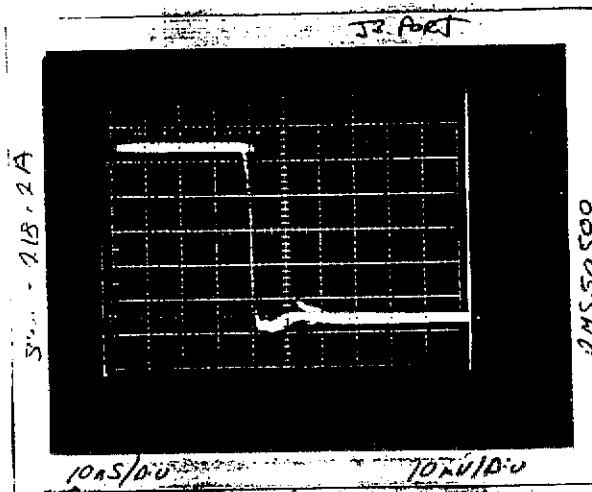
SERIAL NUMBER : 2MS50500  
TECHNICIAN : RENE AFABLE  
VOLTAGE & CURRENT DRAW :  $\pm 5\text{vdc @ } 60\text{mA}$

**J3 PORT SWITCHING SPEED**  
(RISE/FALL: 10% RF TO 90%RF/90% RF TO 10% RF)  
(DELAY ON/OFF: 50% TTL TO 90%/10% RF)

VERTICAL SCALE:  
 $1.0\mu\text{S}/\text{DIVISION}$



HORIZONTAL SCALE:  
 $10\text{nS}/\text{DIVISION}$



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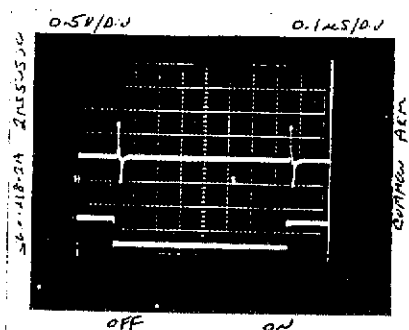
SUMMARY TEST DATA  
SWN-218-2DR-HPX  
PAGE 11

SERIAL NUMBER : 2MS50500  
TECHNICIAN : RENE AFABLE  
VOLTAGE & CURRENT DRAW :  $\pm 5\text{vdc @ } 60\text{mA}$

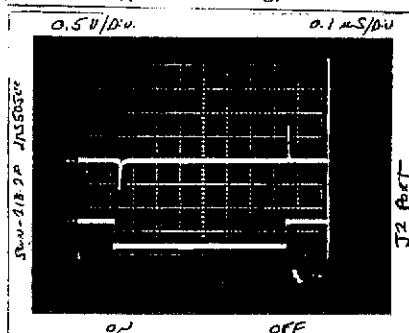
VIDEO TRANSIENTS

100 MHz BANDWIDTH, 50 OHM SYSTEM  
VERTICAL SCALE: 0.5 VOLT/DIVISION  
HORIZONTAL SCALE: 0.1  $\mu\text{s}$ /DIVISION

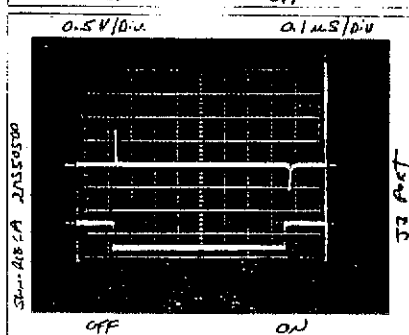
J1 PORT:



J2 PORT:



J3 PORT:



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