



**AMERICAN MICROWAVE  
CORPORATION**

**TEST DATA**

**ON**

**0.5 TO 18.0 GHz**

**LOW LOSS**

**HIGH SPEED**

**HIGH ISOLATION**

**LOW PROFILE, RADIAL**

**REFLECTIVE, SP6T PIN DIODE SWITCH**

**AMC MODEL No: SWN-1170-6DR-HPM**

Serial No: 6MS50466

**BY**

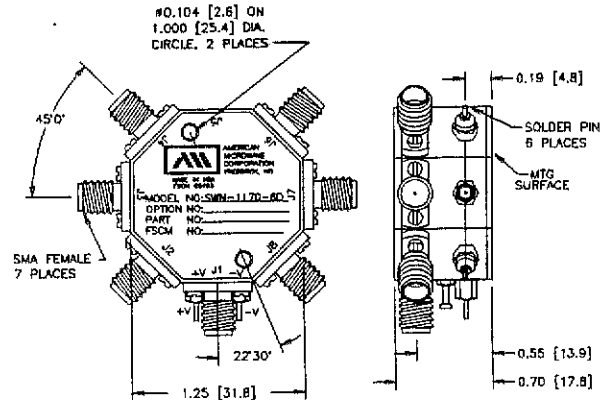
**AMERICAN MICROWAVE  
CORPORATION**

**JULY 17, 1995**

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# LOW LOSS, HIGH SPEED REFLECTIVE, RADIAL SP6T PIN DIODE SWITCH

- LOW INSERTION LOSS
- HIGH ISOLATION
- LOW PROFILE RADIAL



## AMC MODEL No: SWN-1170-6DR-HPM

**SPECIFICATIONS:**

- FREQUENCY RANGE : 0.50 GHz TO 18.0 GHz
- INSERTION LOSS : 3.50 dB MAX., 2.60 dB TYP.
- ISOLATION : 65 dB MIN., 80 dB TYP.
- VSWR : 2.0:1
- SWITCHING SPEED : "RISE" : 5nS MAX., 3nS TYP.  
: "FALL" : 5nS MAX., 3nS TYP.  
: "ON" : 50nS MAX., 40nS TYP.  
: "OFF" : 50nS MAX., 20nS TYP.
- CONTROL : TTL COMPATIBLE
- VIDEO TRANSIENTS : 1.3 V Peak to Peak in a 100 MHz BW
- RF INPUT POWER : +20 dBm Operating, 1 Watt Survival
- DC POWER SUPPLY : ±5vdc @ 250 mA MAX., <190 mA TYP.
- SIZE : 1.25" dia. X 0.70"
- WEIGHT : <3.0 oz.

SP3T THROUGH SP7T REFLECTIVE AND ABSORPTIVE VERSIONS AVAILABLE



SUMMARY TEST DATA  
SWN-1170-6DR-HPM  
PAGE 3

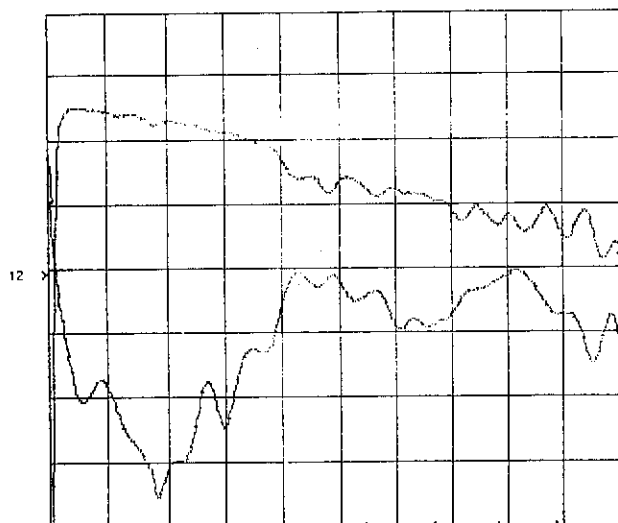
SERIAL NUMBER  
TECHNICIAN  
VOLTAGE & CURRENT DRAW

: 6MS50466  
: RENE AFABLE  
:  $\pm 5\text{vdc}$  @  $< 190\text{mA}$

### INSERTION LOSS & RETURN LOSS

#### J1 TO J2

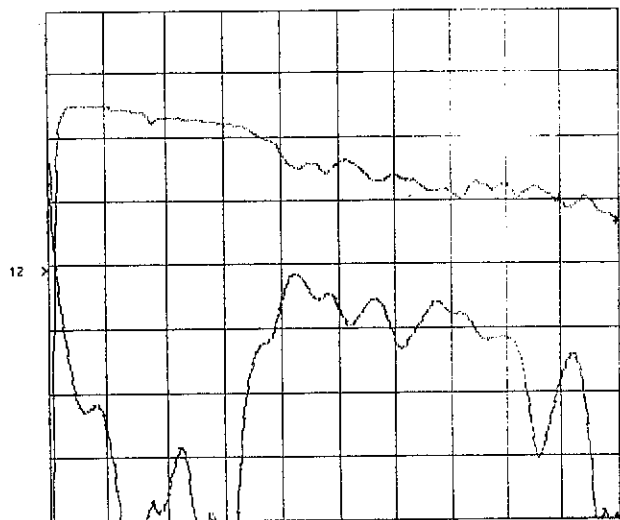
CH1: A -M - 3.00 dB      CH2: B -M - 16.94 dB  
1.0 dB/ REF - 3.20 dB      5.0 dB/ REF - 9.54 dB



STRT +.0100GHz      CSR +18.000GHz      STOP +18.000GHz

#### J1 TO J3

CH1: A -M - 2.55 dB      CH2: B -M - 12.11 dB  
1.0 dB/ REF - 3.20 dB      5.0 dB/ REF - 3.54 dB



STRT +.0100GHz      CSR +18.000GHz      STOP +18.000GHz

JULY 17, 1995



SUMMARY TEST DATA  
SWN-1170-6DR-HPM  
PAGE 4

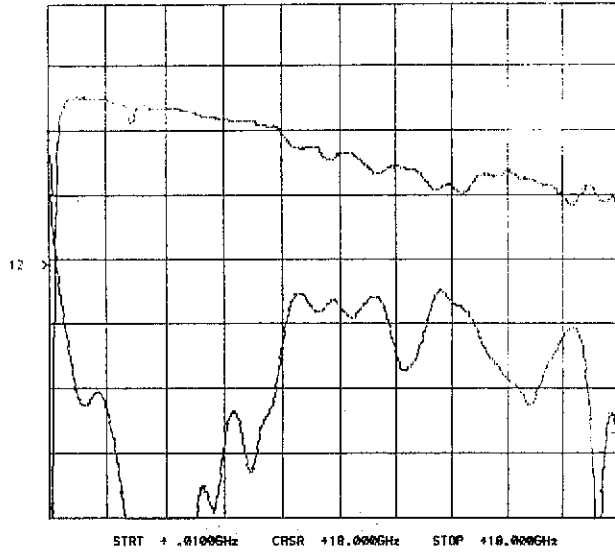
SERIAL NUMBER  
TECHNICIAN  
VOLTAGE & CURRENT DRAW

: 6MS50466  
: RENE AFABLE  
:  $\pm 5\text{vdc}$  @  $< 190\text{mA}$

INSERTION LOSS & RETURN LOSS

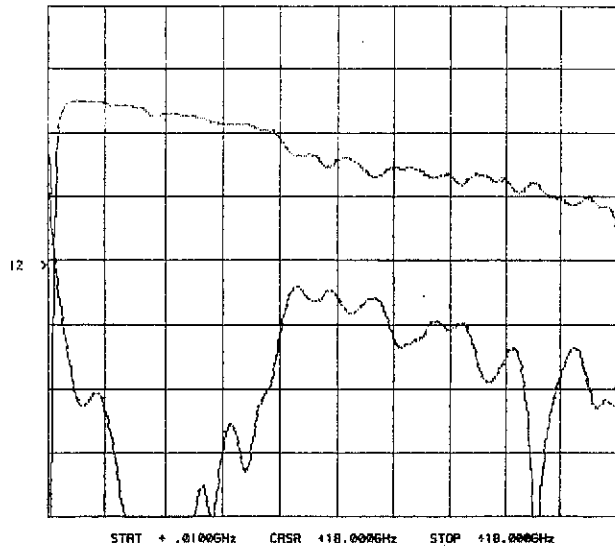
J1 TO J4

CH1: B -M	- 2.45 dB	CH2: B -M	- 24.02 dB
1.0 dB/ REF	- 3.20 dB	5.0 dB/ REF	- 3.54 dB



J1 TO J6

CH1: B -M	- 2.66 dB	CH2: B -M	- 19.63 dB
1.0 dB/ REF	- 3.20 dB	5.0 dB/ REF	- 9.54 dB



JULY 17, 1995



SUMMARY TEST DATA  
SWN-1170-6DR-HPM  
PAGE 5

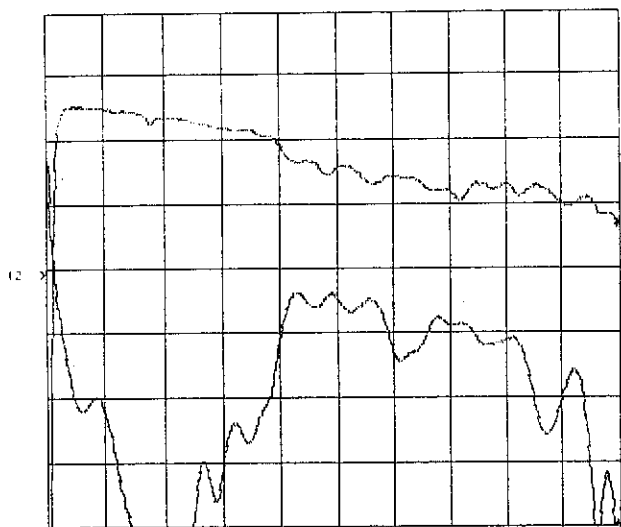
SERIAL NUMBER  
TECHNICIAN  
VOLTAGE & CURRENT DRAW

: 6MS50466  
: RENE AFABLE  
:  $\pm 5\text{vdc}$  @  $< 190\text{mA}$

INSERTION LOSS & RETURN LOSS

J1 TO J7

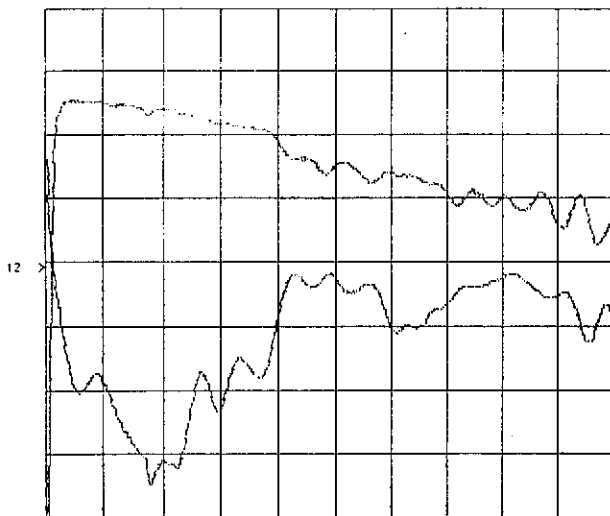
CH1: A -M - 2.54 dB      CH2: B -M - 33.63 dB  
1.0 dB/ REF - 3.20 dB      5.0 dB/ REF - 9.54 dB



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

J1 TO J8

CH1: A -M - 2.75 dB      CH2: B -M - 15.82 dB  
1.0 dB/ REF - 3.20 dB      5.0 dB/ REF - 9.54 dB



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

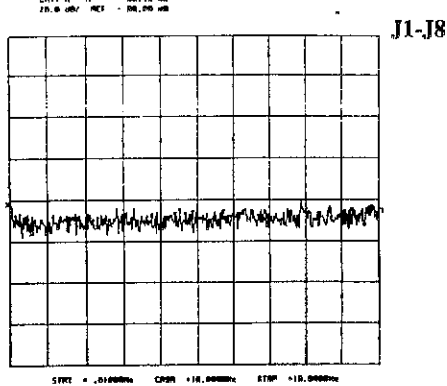
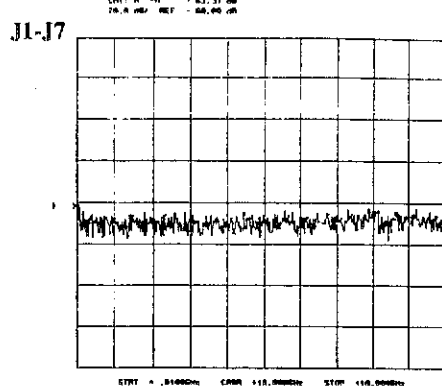
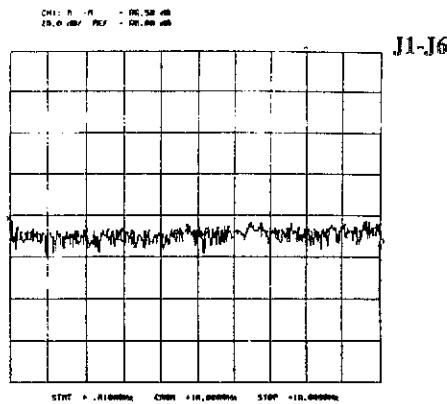
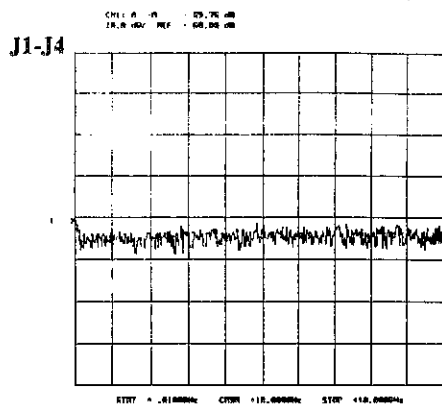
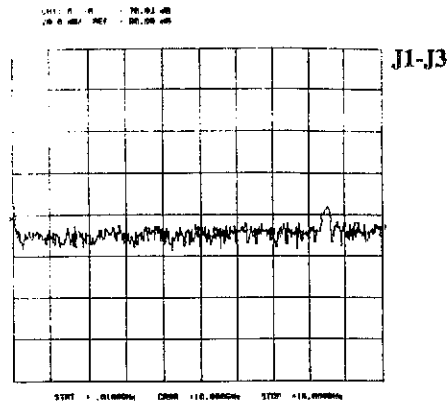
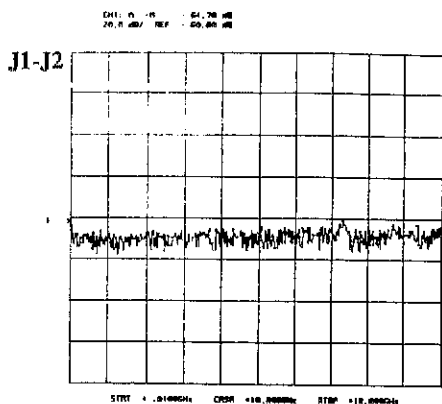
JULY 17, 1995



SUMMARY TEST DATA  
SWN-1170-6DT-HPM  
PAGE 6

SERIAL NUMBER : 6MS50466  
TECHNICIAN : RENE AFABLE  
VOLTAGE & CURRENT DRAW :  $\pm 5\text{vdc}$  @  $< 190\text{mA}$

ISOLATION  
AS MEASURED ON A NETWORK ANALYSER



JULY 17, 1995



SUMMARY TEST DATA  
SWN-1170-6DR-HPM  
PAGE 7

SERIAL NUMBER : 6MS50466  
TECHNICIAN : RENE AFABLE  
VOLTAGE & CURRENT DRAW :  $\pm 5\text{vdc}$  @  $< 190\text{mA}$

ISOLATION

AS MEASURED ON A SPECTRUM ANALYSER

FREQUENCY	J1-J2	J1-J3	J1-J4	J1-J6	J1-J7	J1-J8
0.05 GHz	89 dB	92 dB	84 dB	92 dB	88 dB	84 dB
0.5 GHz	92 dB	92 dB	94 dB	92 dB	92 dB	91 dB
2.0 GHz	104 dB	98 dB	94 dB	102 dB	98 dB	98 dB
6.0 GHz	94 dB	88 dB	94 dB	84 dB	94 dB	92 dB
12.4 GHz	80 dB	78 dB	78 dB	88 dB	78 dB	84 dB
18.0 GHz	82 dB	72 dB	80 dB	66 dB	74 dB	74 dB

JULY 17, 1995



SUMMARY TEST DATA  
SWN-1170-6DR-HPM  
PAGE 8

SERIAL NUMBER : 6MS50466  
TECHNICIAN : RENE AFABLE  
VOLTAGE & CURRENT DRAW : +5vdc @ <190mA

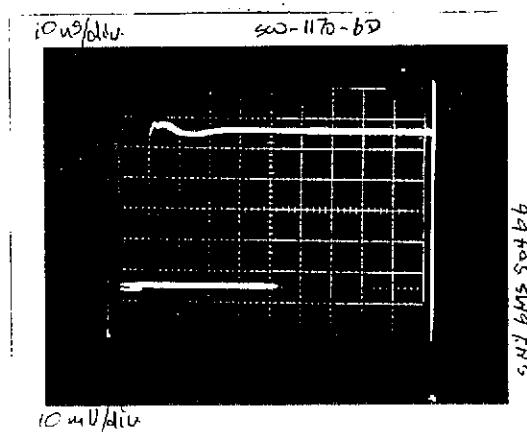
SWITCHING SPEED  
TYPICAL FOR ALL ARMS

"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" 40nS, "RISE" 3nS

HORIZONTAL SCALE:  
10nS/DIVISION

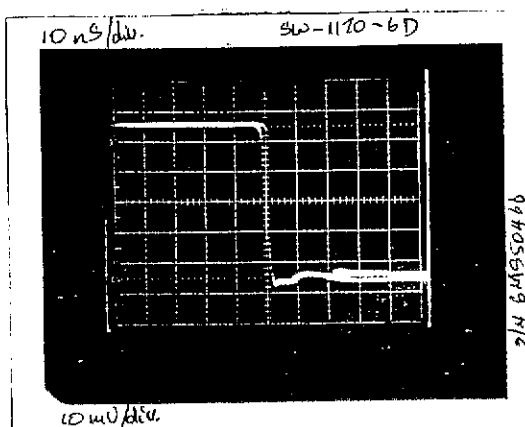
VERTICAL SCALE:  
10mV/DIVISION



"OFF" 20nS, "FALL" 3nS

HORIZONTAL SCALE:  
10nS/DIVISION

VERTICAL SCALE:  
10mV/DIVISION



JULY 17, 1995





SUMMARY TEST DATA  
SWN-1170-6DR-HPM  
PAGE 9

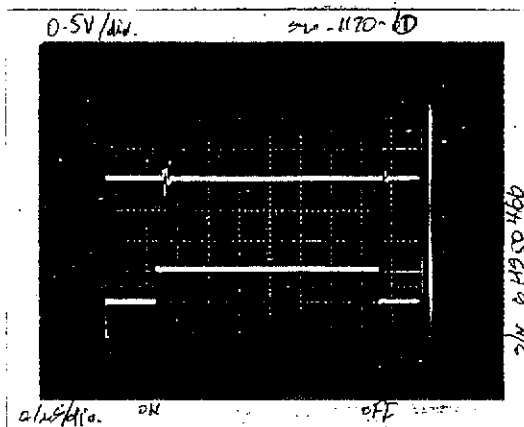
SERIAL NUMBER : 6MS50466  
TECHNICIAN : RENE AFABLE  
VOLTAGE & CURRENT DRAW :  $\pm 5\text{vdc}$  @  $< 190\text{mA}$

VIDEO TRANSIENTS  
TYPICAL FOR ALL ARMS: 1.3 Volts Peak to Peak

AS MEASURED IN A  
100MHz BANDWIDTH

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

VERTICAL SCALE:  
0.5 V/DIVISION

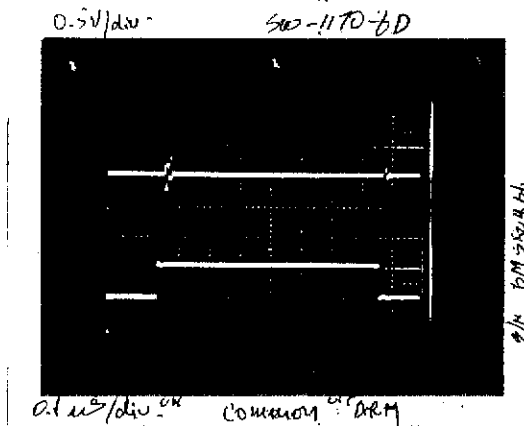


COMMON ARM

AS MEASURED IN A  
100MHz BANDWIDTH

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

VERTICAL SCALE:  
0.5 V/DIVISION



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