



TEST DATA

ON

40 MHz TO 20 GHz

AND

40 MHz TO 4 GHz

HIGH ISOLATION

LOW INSERTION LOSS

HIGH SPEED

REFLECTIVE

RADIAL

SP7T

SOLID STATE SWITCH

**AMC MODEL No:
SW-1182-7D OPTIONS A04, A14**

(Serial Number: 7MS90304)

**PREPARED
BY
KATIE BAISEY**

**TESTED
BY
RENE AFABLE**

OCTOBER 7, 2000

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

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

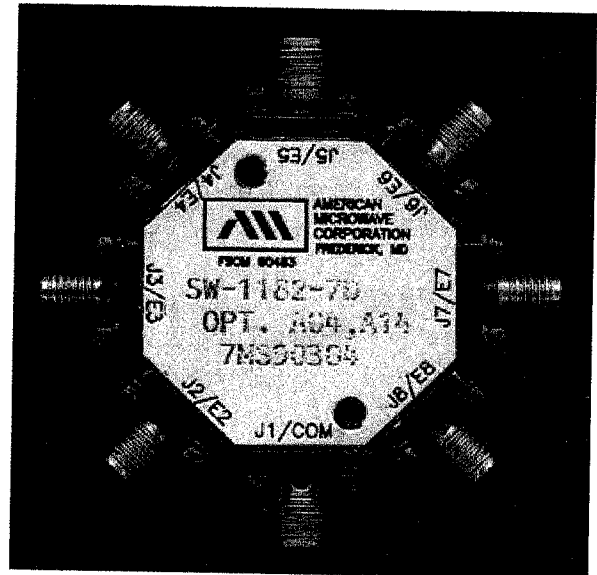


**AMERICAN MICROWAVE
CORPORATION**

**HIGH ISOLATION, LOW INSERTION
LOSS, HIGH SPEED, REFLECTIVE
RADIAL SP7T SOLID STATE SWITCH**

KEY FEATURES

- 200 MHz TO 20 GHz
- LOW INSERTION LOSS
- HIGH SPEED
- HIGH ISOLATION
- TTL COMPATIBLE



AMC MODEL No: SW-1182-7D OPTIONS A04, A14

SPECIFICATIONS: (REFLECTIVE)

• FREQUENCY RANGE	:	200 MHz to 20 GHz (10 MHz TO 20 GHz optional)
• INSERTION LOSS	:	3.5 dB MAX.
	:	1.50 dB TYP. @ 200 MHz
	:	1.00 dB TYP. @ 2 GHz
	:	1.75 dB TYP. @ 8 GHz
	:	1.90 dB TYP. @ 12 GHz
	:	3.5 dB TYP. @ 20 GHz
• ISOLATION	:	≥ 78 dB MIN.
	:	≥ 98 dB TYP. @ 200 MHz
	:	≥ 95 dB TYP. @ 2 GHz
	:	≥ 90 dB TYP. @ 6 GHz
	:	≥ 90 dB TYP. @ 10 GHz
	:	≥ 78 dB TYP. @ 20 GHz
• VSWR	:	2.0:1
• SWITCHING SPEED	:	"RISE" 15nS MAX., 10nS TYP.
	:	"FALL" 15nS MAX., 10nS TYP.
	:	"ON" 100nS MAX., 75nS TYP.
	:	"OFF" 100nS MAX., 75nS TYP.
• CONTROL	:	Independent Control TTL compatible (3 bit decoder available)
• VIDEO TRANSIENT	:	≤ 3.0 V peak to peak at 300 MHz bandwidth
	:	≤ 1.5 V peak to peak at 20 MHz bandwidth
• RF INPUT POWER	:	+20dBm (CW)(other power levels available)
• DC POWER SUPPLY	:	+5vdc @ 350mA MAX.
(Other supply voltages available)	:	-5vdc @ 75mA MAX.
• SIZE	:	1.25" (L) X 1.25" (W) X 0.88" (H)
• WEIGHT	:	≤ 2.5oz. typical

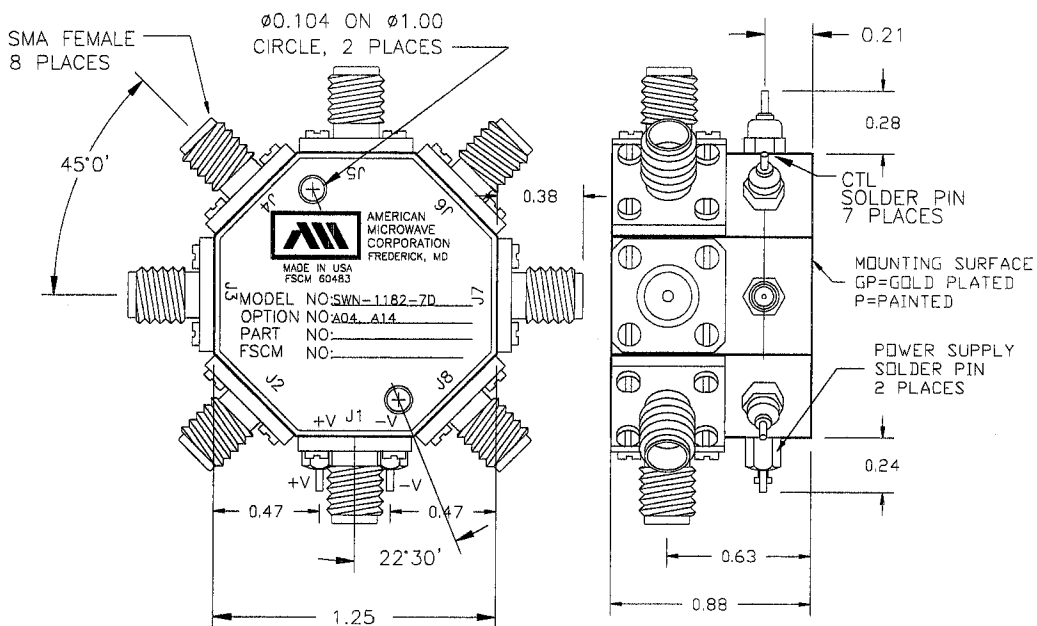
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SUMMARY TEST DATA

MODEL NUMBER	: SW-1182-7D
OPTION NUMBER	: A04, A14
SERIAL NUMBER	: 7MS90304
ENGINEER	: RENE AFABLE
VOLTAGE & CURRENT DRAW	: +5vdc @ 350mA; -5vdc @ 40mA



ALL DIMENSIONS ARE IN INCHES

TOLERANCES:

X.XX ±0.020
 X.XXX ±0.010

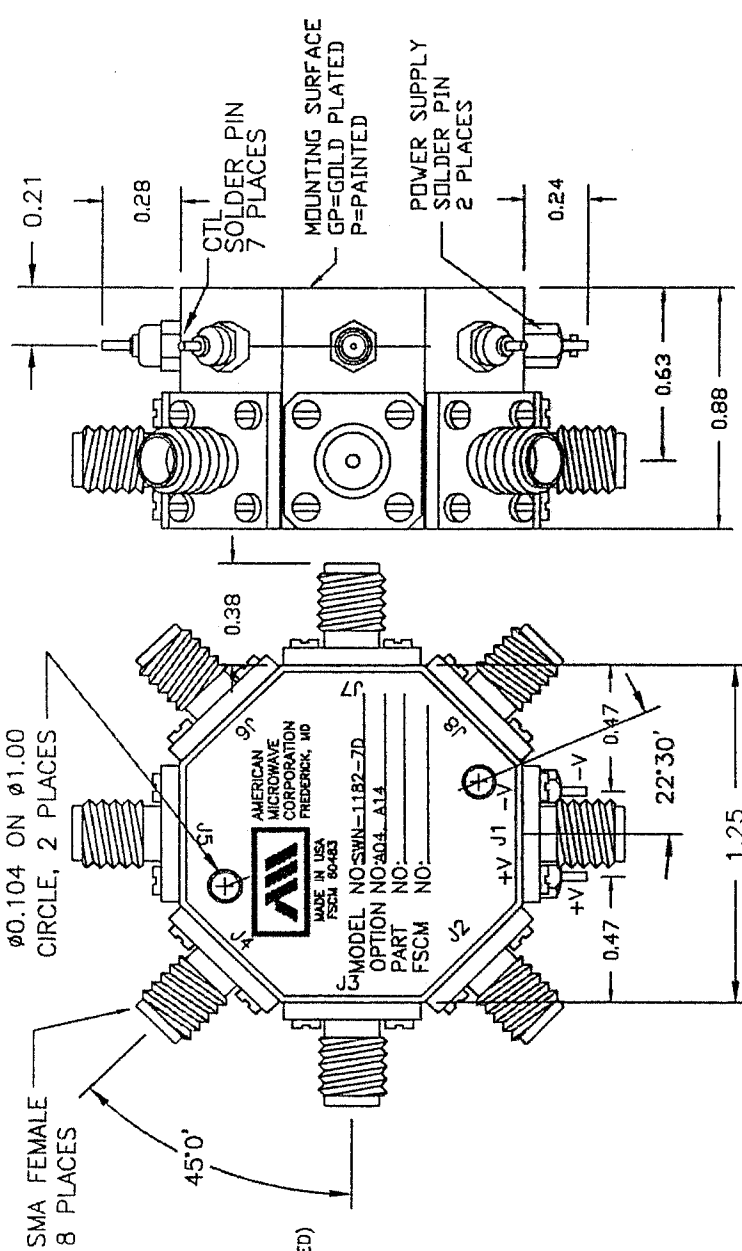
ENVIRONMENTAL RATINGS:

- TEMPERATURE:.....-55°C TO +85°C (OPERATING)
 -65°C TO +125°C (STORAGE)
- HUMIDITY:.....MIL-STD-202F, METHOD 103B COND. B
- SHOCK:.....MIL-STD-202F, METHOD 213B COND. B
- VIBRATION:.....MIL-STD-202F, METHOD 204D COND. B
- ALTITUDE:.....MIL-STD-202F, METHOD 105C COND. B
- TEMPERATURE CYCLE:.....MIL-STD-202F, METHOD 107D COND. A

NOTE: THE ABOVE SPECIFICATIONS ARE SUBJECT TO CHANGE OR REVISION.

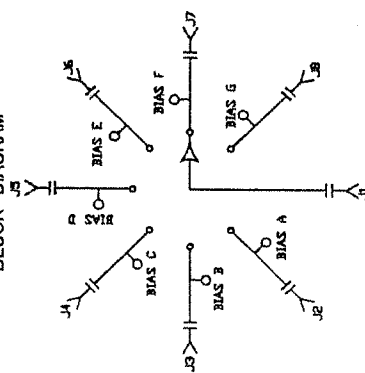
OCTOBER 7, 2000

DESCRIPTION
 AMC MODEL SW-1182-7D OPTIONS A04, A14 IS A SINGLE POLE SEVEN THROW, REFLECTIVE SWITCH MODULE WITH HIGH ISOLATION, LOW INSERTION LOSS, HIGH SPEED, AND WITH INTEGRAL TTL DRIVER, DESIGNED FOR 0.5 GHz TO 20 GHz OPERATIONS.



- SPECIFICATIONS:**
- FREQUENCY: 0.5 GHz TO 20 GHz
 - INSERTION LOSS: REFLECTIVE: 3.75db
 - ISOLATION: 0.5 GHz TO 2 GHz: 60db
 - VSWR: 2 GHz TO 20 GHz: 70db
 - REFLECTIVE IN/OUT: 2.0:1
 - RISE: 10ns TYPICAL, 15ns MAX.
 - FALL: 10ns TYPICAL, 15ns MAX.
 - DELAY ON: 75ns TYPICAL, 100ns MAX.
 - DELAY OFF: 75ns TYPICAL, 100ns MAX.
 - POWER INPUT: (CW)+20dBm (STANDARD), +10 dBm (HIGH SPEED)
 - SURVIVAL POWER: 1 WATT CW, 10 WATTS PEAK 1 usec
 - CONTROL: TTL LOGIC "0"=ON "1"=OFF
 - POWER SUPPLY: +5V @ 350 mA MAX.
 - -5V @ 75mA MAX.(REFLECTIVE)
 - SIZE: 1.25" (L) X 1.25" (W) X 0.88" (H)
 - WEIGHT: 2.5 OZ TYPICAL

BLOCK DIAGRAM



ENVIRONMENTAL RATINGS:

- TEMPERATURE: -55°C TO +85°C (OPERATING)
 - -65°C TO +125°C (STORAGE)
 - HUMIDITY: MIL-STD-202F, METHOD 103B COND. B
 - SHOCK: MIL-STD-202F, METHOD 213B COND. B
 - VIBRATION: MIL-STD-202F, METHOD 204D COND. B
 - ALTITUDE: MIL-STD-202F, METHOD 105C COND. B
 - TEMPERATURE CYCLE: MIL-STD-202F, METHOD 107D COND. A
- NOTE: THE ABOVE SPECIFICATIONS ARE SUBJECT TO CHANGE OR REVISION

OTHER OPTIONS AVAILABLE
 CUSTOM SCREENING
 ALTERNATE CONFIGURATION
 EXTENDED FREQUENCY RANGE
 ALTERNATE POWER SUPPLIES

CONFIDENTIAL AND PROPRIETARY

CONTRACT NO.		AMERICAN MICROWAVE CORPORATION FREDERICK, MARYLAND	
APPROVALS	DATE	TITLE	PRODUCT FEATURE
WSP & BRD	10/14/00	SWN-1182-7D	OPTIONS A04, A14
CHECKED			RADIAL SOLID STATE SWITCH
ISSUED		SIZE FROM NO.	ENG. NO.
		A 60483	100-4185-3
		SCALE N/S	SHEET 1 of 3

ALL DIMENSIONS ARE IN INCHES
 TOLERANCES:
 X.XX ±0.020
 X.XXX ±0.010

DESCRIPTION:
 AMC MODEL SW-1182-7DR/DT-STANDARD IS A SINGLE POLE SEVEN THROW, REFLECTIVE OR NON-REFLECTIVE/ABSORPTIVE SWITCH MODULE WITH HIGH ISOLATION, LOW LOSS, HIGH SPEED, AND WITH INTEGRAL TTL DRIVER, DESIGNED FOR BROAD BAND OPERATIONS.

SPECIFICATIONS:

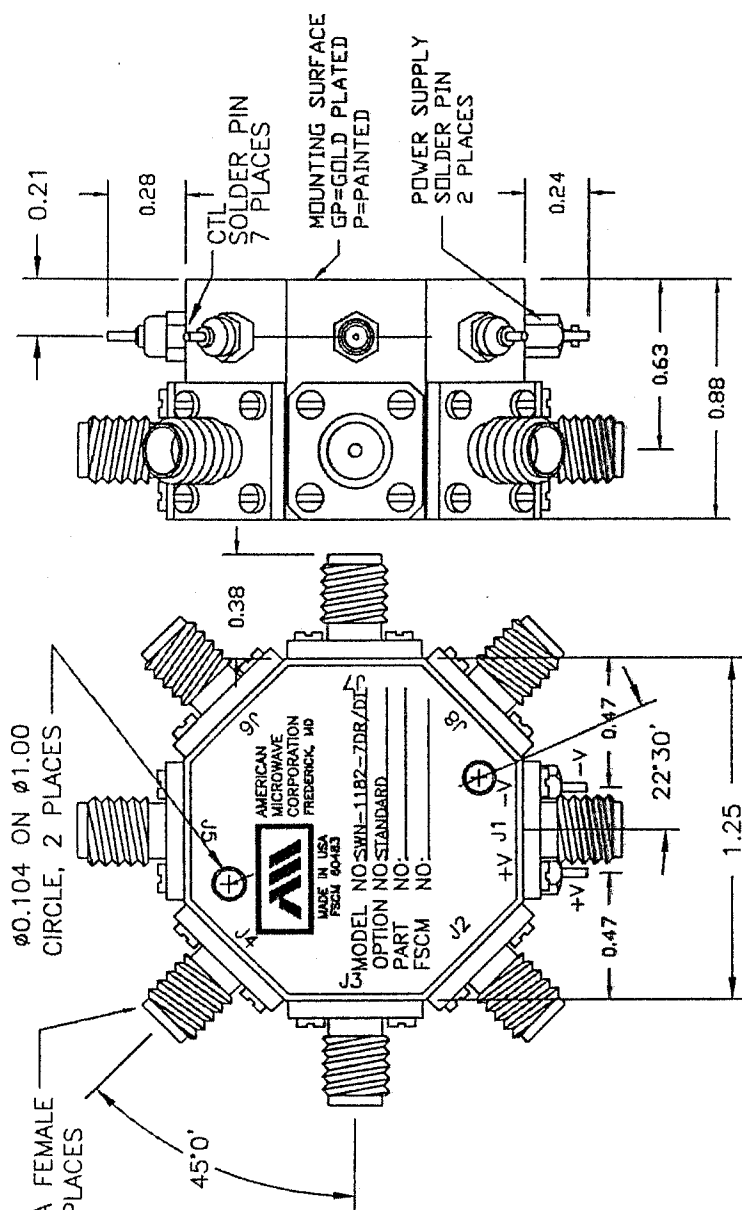
- FREQUENCY: 0.5 GHz TO 18 GHz
- INSERTION LOSS: REFLECTIVE: 3.75db
ABSORPTIVE: 4.25db
- ISOLATION: 0.5 GHz TO 2 GHz: 60db
2 GHz TO 18 GHz: 70db
- VSWR: REFLECTIVE IN/OUT: 2.0:1
ABSORPTIVE IN/OUT: 2.0:1
- SPEED: RISE: 10ns TYPICAL, 15ns MAX.
FALL: 10ns TYPICAL, 15ns MAX.
DELAY ON: 75ns TYPICAL, 100ns MAX.
DELAY OFF: 75ns TYPICAL, 100ns MAX.
- POWER INPUT: (CW)+20dBm (STANDARD), +10 dBm (HIGH SPEED)
- SURVIVAL POWER: 1 WATT CW, 10 WATTS PEAK 1 usec
- CONTROL: TTL LOGIC "0"=ON "1"=OFF
- POWER SUPPLY: +5V @ 350 mA MAX.
-5V @ 75mA MAX.(REFLECTIVE)
100mA MAX.(ABSORPTIVE/NON-REFLECTIVE)
- SIZE: 1.25" (L) X 1.25" (W) X 0.88" (H)
- WEIGHT: 2.5 OZ TYPICAL

OPTIONS:

- INDEPENDENT CONTROL WITH SOLDER PIN STANDARD
- DEC-SP 3 BIT DECODER WITH SOLDER PIN
- 10M18 10 MHz TO 18 GHz (INSERTION LOSS INCREASES BY 1.5db AT 10 MHz AND 0.5db AT 18 GHz)
- 100M18 100 MHz TO 18 GHz (INSERTION LOSS INCREASES BY 1.5db AT 100 MHz AND 0.5db AT 18 GHz)
- 118 1 GHz TO 18 GHz (NO CHANGE IN INSERTION LOSS)
- 218 2 GHz TO 18 GHz (NO CHANGE IN INSERTION LOSS)
- 412 4 GHz TO 12.4 GHz (NO CHANGE IN INSERTION LOSS)
- 618 6 GHz TO 18 GHz (NO CHANGE IN INSERTION LOSS)
- 1218 12 GHz TO 18 GHz (NO CHANGE IN INSERTION LOSS)
- 100M20 100 MHz TO 20 GHz (INSERTION LOSS INCREASES BY 1.5db AT 100 MHz AND 1.0db AT 20 GHz)
- 220 2 GHz TO 20 GHz (INSERTION LOSS INCREASES BY 1.0db AT 20 GHz)
- 1020 10 GHz TO 20 GHz (INSERTION LOSS INCREASES BY 1.0db AT 20 GHz)
- B01 -12V POWER SUPPLIES
- B02 -15V POWER SUPPLIES
- B03 REVERSE LOGIC "1"=ON "0"=OFF
- B04 DRIVERLESS, CURRENT CONTROLLED
- B05 HIGH SPEED, TURNON/TURNOFF 25 nsec MAXIMUM WHEN APPLICABLE
- B06 HIGH POWER - SPECIFY CW POWER, PEAK POWER, PULSE WIDTH, DUTY CYCLE, RF FREQUENCY AND BANDWIDTH
- B07 CUSTOM DESIGNED PRODUCT - SPECIFY INITIALS OF CUSTOMER
- B08 LOW VIDEO TRANSIENTS - SPECIFY VIDEO BANDWIDTH
- B09 LOW INSERTION LOSS VERSION
- B10 HIGHER ISOLATION VERSION
- B11 0.40" THICK VERSION
- B12 0.70" THICK VERSION

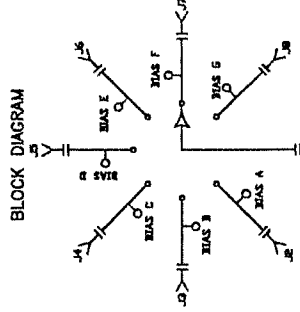
ENVIRONMENTAL RATINGS:

- TEMPERATURE: -55°C TO +85°C (OPERATING)
-65°C TO +125°C (STORAGE)
 - HUMIDITY: MIL-STD-202F, METHOD 103B COND. B
 - SHOCK: MIL-STD-202F, METHOD 213B COND. B
 - VIBRATION: MIL-STD-202F, METHOD 2040 COND. B
 - ALTITUDE: MIL-STD-202F, METHOD 105C COND. B
 - TEMPERATURE CYCLE: MIL-STD-202F, METHOD 1070 COND. A
- NOTE: THE ABOVE SPECIFICATIONS ARE SUBJECT TO CHANGE OR REVISION



OTHER OPTIONS AVAILABLE
 CUSTOM SCREENING
 ALTERNATE CONFIGURATION
 EXTENDED FREQUENCY RANGE
 ALTERNATE POWER SUPPLIES

NOTE:
 DR=WITH DRIVER, REFLECTIVE
 DT=WITH DRIVER, NON-REFLECTIVE/ABSORPTIVE



ALL DIMENSIONS ARE IN INCHES
 TOLERANCES:
 X.XX ±0.020
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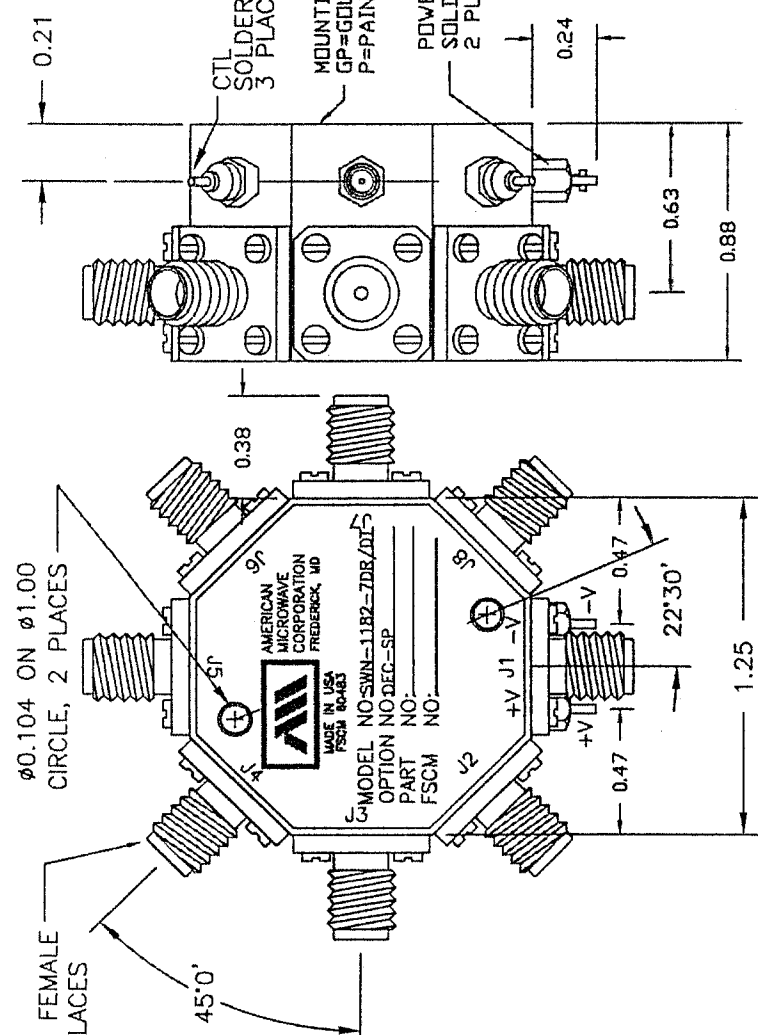
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CONTRACT NO.	APPROVALS	DATE	TITLE
	WJP & RJA	10/14/00	AMERICAN MICROWAVE CORPORATION FREDERICK, MARYLAND
	CHECKED	10/16/00	PRODUCT FEATURE
	ISSUED	10/16/00	SWN-1182-7DR/DT-STANDARD REFLECTIVE OR NON-REFLECTIVE/ABSORPTIVE RADIAL SOLID STATE SWITCH
SIZE	FORM NO.	DWG NO.	REV.
A	60483	100-4185-1	-
SCALE	N/S	SHEET	1 of 3

ZONE	REV.	DESCRIPTION	DATE	APPROVED
		ORIGINAL RELEASE	10/14/00	

DESCRIPTION:
 AMC MODEL SWN-1182-7DR/DT-DEC-SP IS A SINGLE POLE SEVEN THROW, REFLECTIVE OR NON-REFLECTIVE/ABSORPTIVE SWITCH MODULE WITH HIGH ISOLATION, LOW LOSS, HIGH SPEED, AND WITH INTEGRAL TTL DRIVER, DESIGNED FOR BROAD BAND OPERATIONS.

- SPECIFICATIONS:**
- FREQUENCY: 0.5 GHz TO 18 GHz
 - INSERTION LOSS: REFLECTIVE: 3.75db
ABSORPTIVE: 4.25db
 - ISOLATION: 0.5 GHz TO 2 GHz: 60db
2 GHz TO 18 GHz: 70db
 - VSWR: REFLECTIVE IN/OUT: 2.0:1
ABSORPTIVE IN/OUT: 2.0:1
 - SPEED: RISE: 10ns TYPICAL, 15ns MAX.
FALL: 10ns TYPICAL, 15ns MAX.
DELAY ON: 75ns TYPICAL, 100ns MAX.
DELAY OFF: 75ns TYPICAL, 100ns MAX.
 - POWER INPUT: (CW)+20dBm (STANDARD), +10 dBm (HIGH SPEED)
 - SURVIVAL POWER: 1 WATT CW, 10 WATTS PEAK 1 usec
 - CONTROL: 3 BIT CONTROL, TTL COMPATIBLE
 - POWER SUPPLY: +5V @ 350 mA MAX.
-5V @ 75mA MAX.(REFLECTIVE)
100mA MAX.(ABSORPTIVE/NON-REFLECTIVE)
 - SIZE: 1.25" (L) X 1.25" (W) X 0.88" (H)
 - WEIGHT: 2.5 OZ TYPICAL
- OPTIONS:**
- INDEPENDENT CONTROL WITH SOLDER PIN STANDARD
- DEC-SP 3 BIT DECODER WITH SOLDER PIN
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 - 1020 10 GHz TO 20 GHz (INSERTION LOSS INCREASES BY 1.0db AT 20 GHz)
 - B01 -12V POWER SUPPLIES
 - B02 -15V POWER SUPPLIES
 - B03 REVERSE LOGIC "1"=ON "0"=OFF
 - B04 DRIVERLESS, CURRENT CONTROLLED
 - B05 HIGH SPEED, TURNON/TURNOFF 25 nsec MAXIMUM WHEN APPLICABLE
 - B06 HIGH POWER - SPECIFY CW POWER, PULSE WIDTH, DUTY CYCLE, RF FREQUENCY AND BANDWIDTH
 - B07 CUSTOM DESIGNED PRODUCT- SPECIFY INITIALS OF CUSTOMER
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 - B09 LOW INSERTION LOSS VERSION
 - B10 HIGHER ISOLATION VERSION
 - B11 0.40" THICK VERSION
 - B12 0.70" THICK VERSION
- ENVIRONMENTAL RATINGS:**
- TEMPERATURE: -55C TO +85C (OPERATING)
-65 C TO +125C (STORAGE)
 - HUMIDITY: MIL-STD-202F, METHOD 103B COND. B
 - SHOCK: MIL-STD-202F, METHOD 213B COND. B
 - VIBRATION: MIL-STD-202F, METHOD 2040 COND. B
 - ALTITUDE: MIL-STD-202F, METHOD 105C COND. B
 - TEMPERATURE CYCLE: MIL-STD-202F, METHOD 107D COND. A
- NOTE: THE ABOVE SPECIFICATIONS ARE SUBJECT TO CHANGE OR REVISION



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 ALTERNATE CONFIGURATION
 EXTENDED FREQUENCY RANGE
 ALTERNATE POWER SUPPLIES

NOTE:
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 DT=WITH DRIVER, NON-REFLECTIVE/ABSORPTIVE

CONFIDENTIAL AND PROPRIETARY

AMERICAN MICROWAVE CORPORATION
 FREDERICK, MARYLAND

PRODUCT FEATURE
 SWN-1182-7DR/DT-DEC-SP
 REFLECTIVE OR NON-REFLECTIVE/ABSORPTIVE
 RADIAL SOLID STATE SWITCH

DATE: 10/14/00
 DRAWN: JSP & RBA
 CHECKED: [Signature]
 ISSUED: [Signature]

SIZE: A
 FSCM NO.: 60483
 DWG NO.: 100-4185-2

SCALE: N/S
 SHEET: 1 of 3

ALL DIMENSIONS ARE IN INCHES
 TOLERANCES:
 X.XX ±0.020
 X.XXX ±0.010

CONFIDENTIAL AND PROPRIETARY



TEST DATA

FROM

40 MHz TO 20 GHz

HIGH ISOLATION

LOW INSERTION LOSS

HIGH SPEED

RADIAL

SOLID STATE SWITCH

AMC MODEL No:

SW-1182-7D OPTIONS A04, A14

(Serial Number: 7MS90304)

PREPARED

BY

KATIE BAISEY

TESTED

BY

RENE AFABLE

OCTOBER 7, 2000

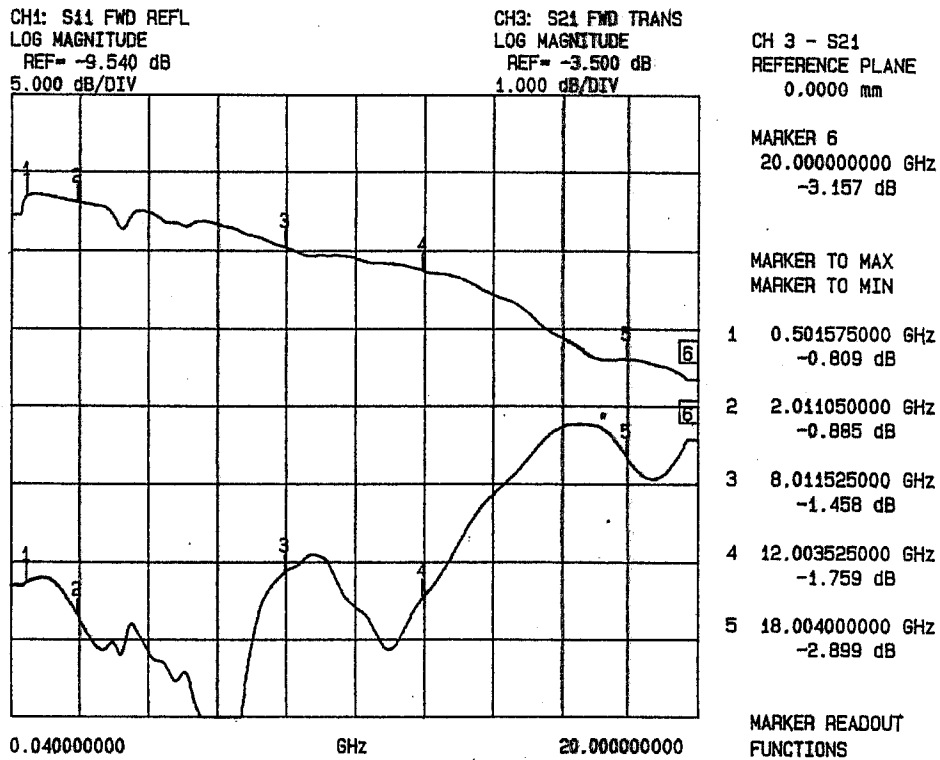


SUMMARY TEST DATA

MODEL NUMBER	: SW-1182-7D
OPTION NUMBER	: A04, A14
SERIAL NUMBER	: 7MS90304
ENGINEER	: RENE AFABLE
VOLTAGE & CURRENT DRAW	: +5vdc @ 350mA; -5vdc @ 40mA

INSERTION LOSS & RETURN LOSS*

J1-J2



*J1: INPUT ARM

FREQUENCY	INSERTION LOSS	RETURN LOSS
500 MHz	0.80 dB	20.81 dB
2.0 GHz	0.88 dB	23.03 dB
8.0 GHz	1.45 dB	20.12 dB
12.0 GHz	1.75 dB	21.76 dB
18.0 GHz	2.89 dB	12.84 dB
20.0 GHz	3.15 dB	11.66 dB

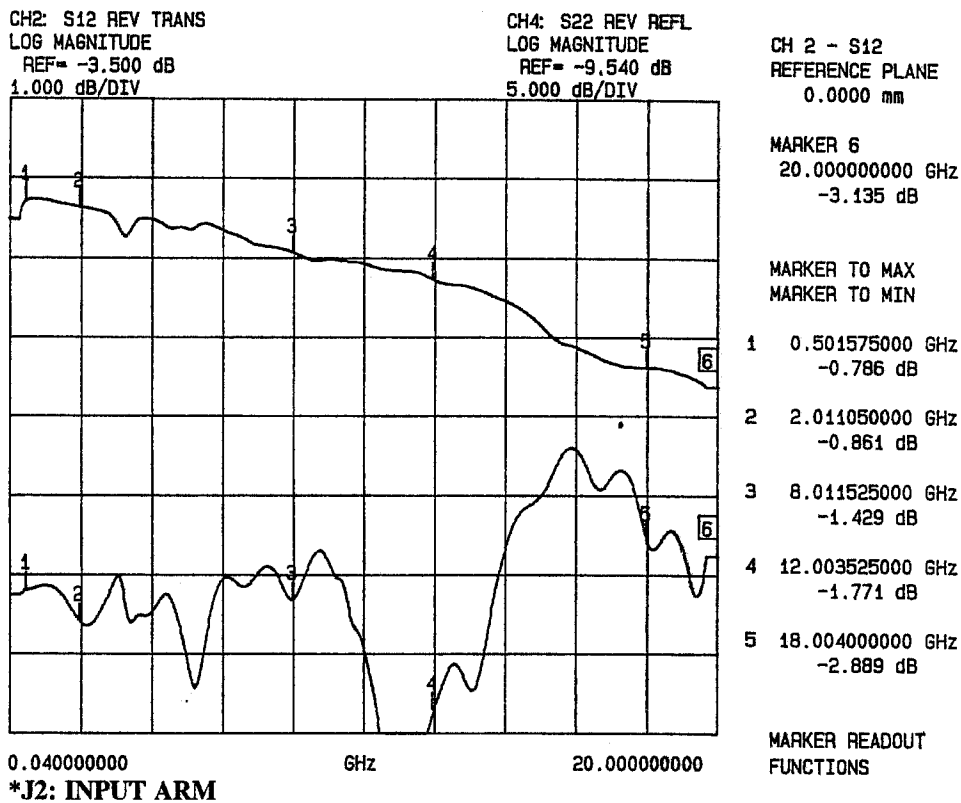


SUMMARY TEST DATA

MODEL NUMBER	: SW-1182-7D
OPTION NUMBER	: A04, A14
SERIAL NUMBER	: 7MS90304
ENGINEER	: RENE AFABLE
VOLTAGE & CURRENT DRAW	: +5vdc @ 350mA; -5vdc @ 40mA

INSERTION LOSS & RETURN LOSS*

J2-J1



FREQUENCY	INSERTION LOSS	RETURN LOSS
500 MHz	0.78 dB	20.40 dB
2.0 GHz	0.86 dB	22.38 dB
8.0 GHz	1.42 dB	20.90 dB
12.0 GHz	1.77 dB	28.00 dB
18.0 GHz	2.88 dB	17.06 dB
20.0 GHz	3.13 dB	18.13 dB

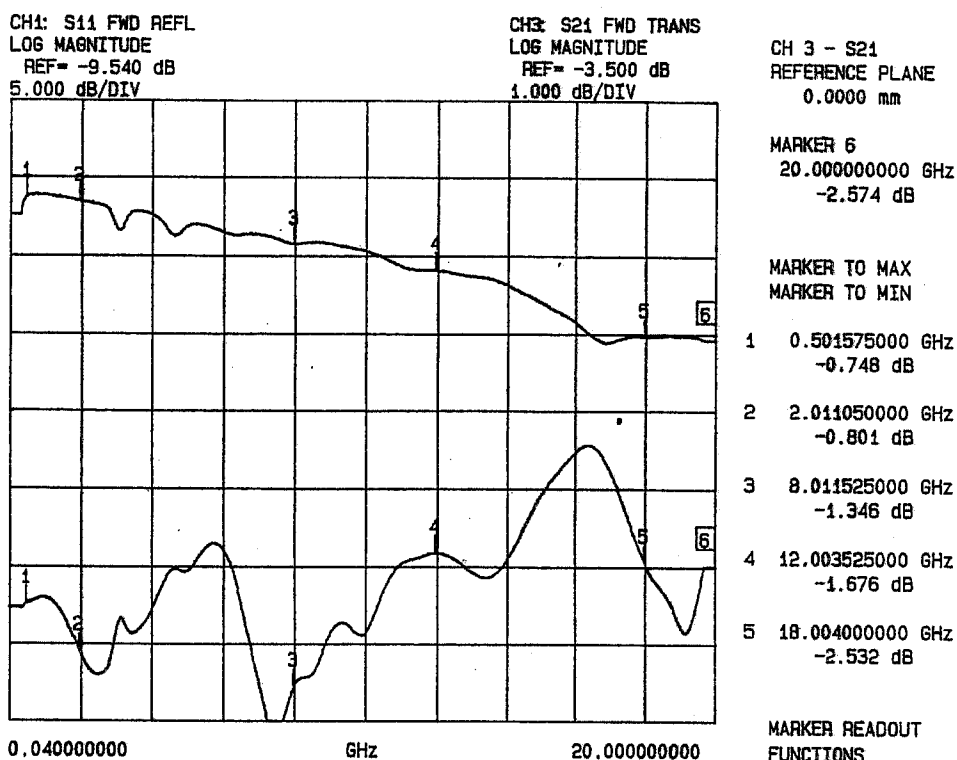


SUMMARY TEST DATA

MODEL NUMBER	: SW-1182-7D
OPTION NUMBER	: A04, A14
SERIAL NUMBER	: 7MS90304
ENGINEER	: RENE AFABLE
VOLTAGE & CURRENT DRAW	: +5vdc @ 350mA; -5vdc @ 40mA

INSERTION LOSS & RETURN LOSS*

J1-J3



*J1: INPUT ARM

FREQUENCY	INSERTION LOSS	RETURN LOSS
500 MHz	0.74 dB	21.90 dB
2.0 GHz	0.80 dB	24.99 dB
8.0 GHz	1.34 dB	27.34 dB
12.0 GHz	1.67 dB	18.59 dB
18.0 GHz	2.53 dB	19.25 dB
20.0 GHz	2.57 dB	19.48 dB

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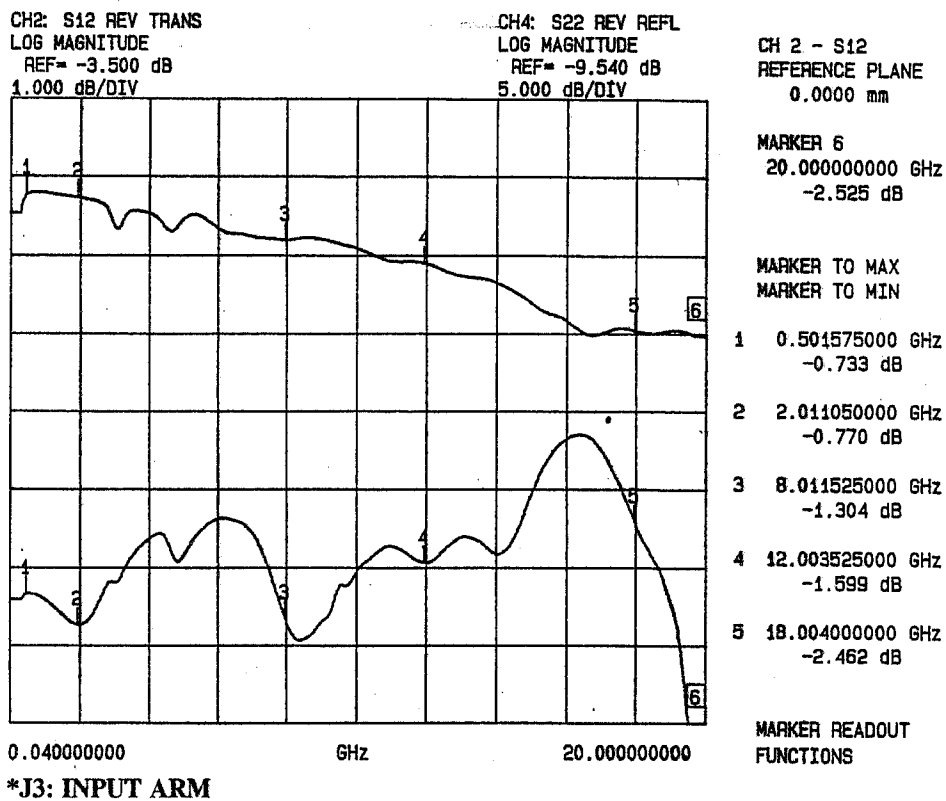


SUMMARY TEST DATA

MODEL NUMBER : SW-1182-7D
OPTION NUMBER : A04, A14
SERIAL NUMBER : 7MS90304
ENGINEER : RENE AFABLE
VOLTAGE & CURRENT DRAW : +5vdc @ 350mA; -5vdc @ 40mA

INSERTION LOSS & RETURN LOSS*

J3-J1



FREQUENCY	INSERTION LOSS	RETURN LOSS
500 MHz	0.73 dB	21.20 dB
2.0 GHz	0.77 dB	23.20 dB
8.0 GHz	1.30 dB	22.80 dB
12.0 GHz	1.59 dB	19.20 dB
18.0 GHz	2.46 dB	16.65 dB
20.0 GHz	2.52 dB	33.01 dB

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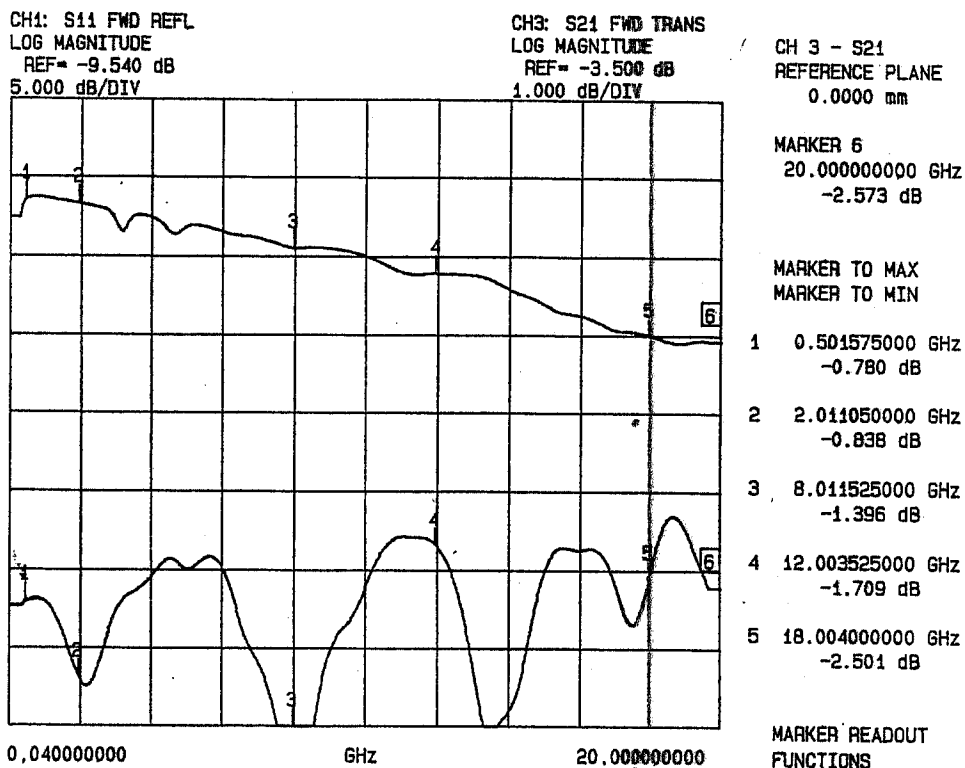


SUMMARY TEST DATA

MODEL NUMBER	: SW-1182-7D
OPTION NUMBER	: A04, A14
SERIAL NUMBER	: 7MS90304
ENGINEER	: RENE AFABLE
VOLTAGE & CURRENT DRAW	: +5vdc @ 350mA; -5vdc @ 40mA

INSERTION LOSS & RETURN LOSS*

J1-J4



*J1: INPUT ARM

FREQUENCY	INSERTION LOSS	RETURN LOSS
500 MHz	0.78 dB	21.54 dB
2.0 GHz	0.83 dB	26.43 dB
8.0 GHz	1.39 dB	35.95 dB
12.0 GHz	1.70 dB	17.92 dB
18.0 GHz	2.50 dB	20.08 dB
20.0 GHz	2.57 dB	20.60 dB



SUMMARY TEST DATA

MODEL NUMBER	: SW-1182-7D
OPTION NUMBER	: A04, A14
SERIAL NUMBER	: 7MS90304
ENGINEER	: RENE AFABLE
VOLTAGE & CURRENT DRAW	: +5vdc @ 350mA; -5vdc @ 40mA

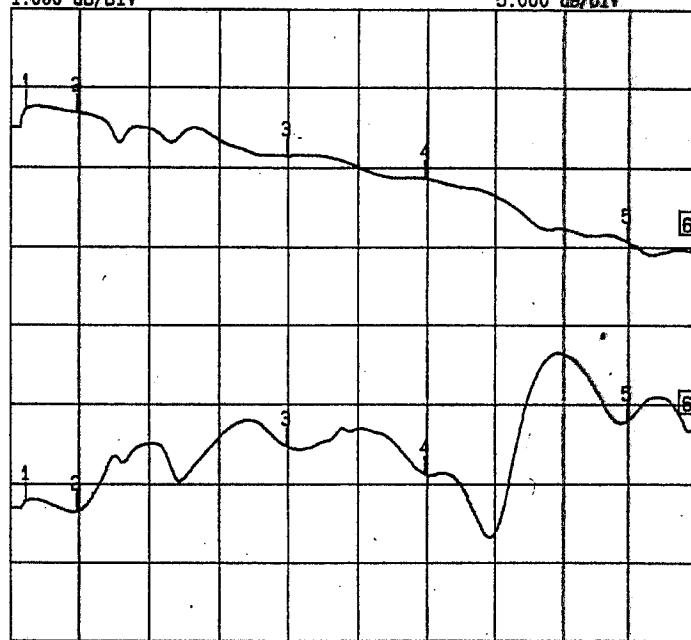
INSERTION LOSS & RETURN LOSS*

J4-J1

CH2: S12 REV TRANS
LOG MAGNITUDE
REF=-3.500 dB
1.000 dB/DIV

CH4: S22 REV REFL
LOG MAGNITUDE
REF=-9.540 dB
5.000 dB/DIV

CH 2 - S12
REFERENCE PLANE
0.0000 mm



MARKER 6
20.000000000 GHz
-2.541 dB

MARKER TO MAX
MARKER TO MIN

- 1 0.501575000 GHz
-0.769 dB
- 2 2.011050000 GHz
-0.810 dB
- 3 8.011525000 GHz
-1.350 dB
- 4 12.003525000 GHz
-1.635 dB
- 5 18.004000000 GHz
-2.438 dB

MARKER READOUT
FUNCTIONS

0.040000000

GHz

20.000000000

*J4: INPUT ARM

FREQUENCY	INSERTION LOSS	RETURN LOSS
500 MHz	0.76 dB	20.59 dB
2.0 GHz	0.81 dB	21.26 dB
8.0 GHz	1.35 dB	17.17 dB
12.0 GHz	1.63 dB	18.94 dB
18.0 GHz	2.43 dB	15.56 dB
20.0 GHz	2.54 dB	16.18 dB

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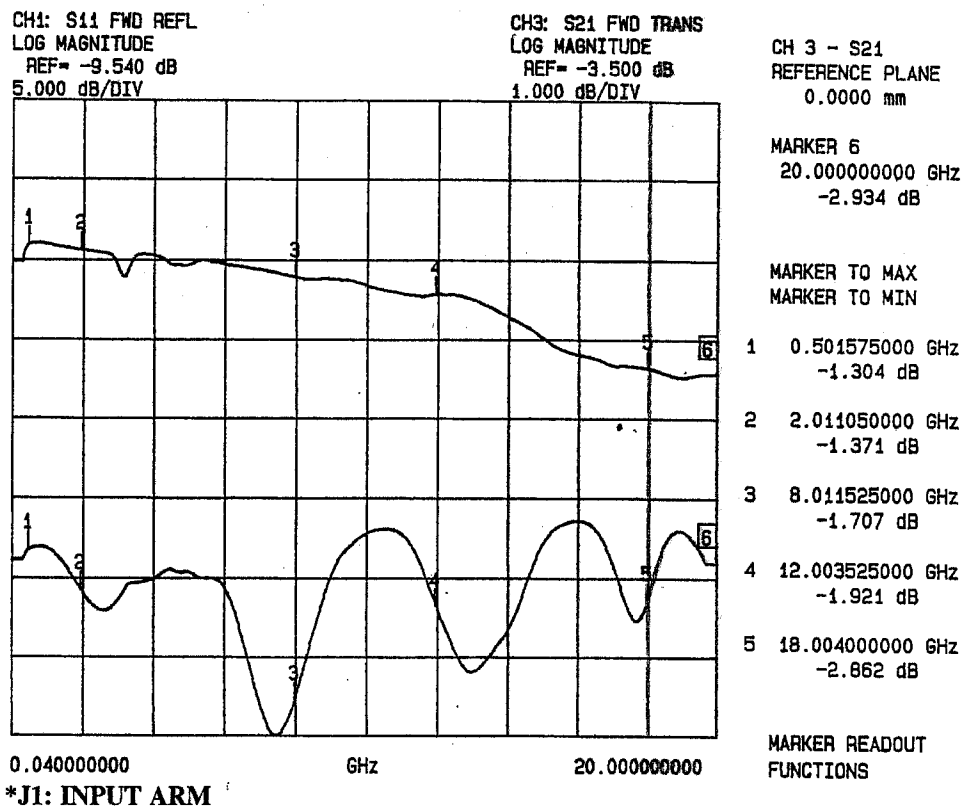


SUMMARY TEST DATA

MODEL NUMBER : SW-1182-7D
OPTION NUMBER : A04, A14
SERIAL NUMBER : 7MS90304
ENGINEER : RENE AFABLE
VOLTAGE & CURRENT DRAW : +5vdc @ 350mA; -5vdc @ 40mA

INSERTION LOSS & RETURN LOSS*

J1-J5



FREQUENCY	INSERTION LOSS	RETURN LOSS
500 MHz	1.30 dB	17.73 dB
2.0 GHz	1.37 dB	20.32 dB
8.0 GHz	1.70 dB	27.25 dB
12.0 GHz	1.92 dB	21.28 dB
18.0 GHz	2.86 dB	20.87 dB
20.0 GHz	2.93 dB	18.55 dB

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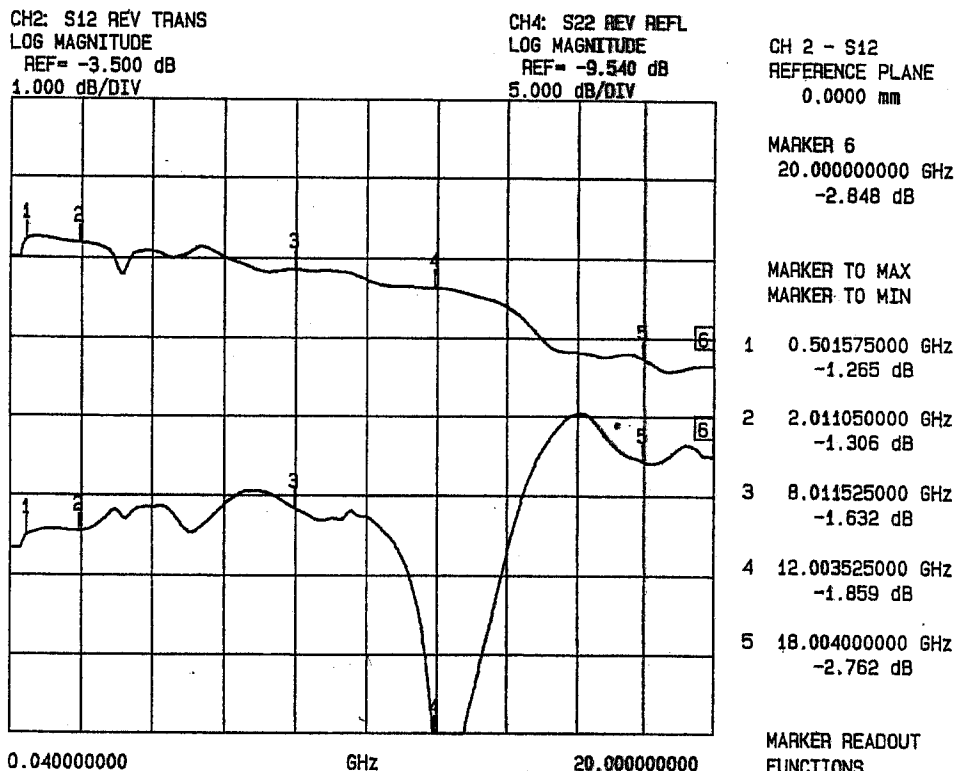
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SUMMARY TEST DATA

MODEL NUMBER	: SW-1182-7D
OPTION NUMBER	: A04, A14
SERIAL NUMBER	: 7MS90304
ENGINEER	: RENE AFABLE
VOLTAGE & CURRENT DRAW	: +5vdc @ 350mA; -5vdc @ 40mA

INSERTION LOSS & RETURN LOSS* J5-J1



*J5: INPUT ARM

FREQUENCY	INSERTION LOSS	RETURN LOSS
500 MHz	1.26 dB	17.05 dB
2.0 GHz	1.30 dB	16.78 dB
8.0 GHz	1.63 dB	15.37 dB
12.0 GHz	1.85 dB	33.26 dB
18.0 GHz	2.76 dB	12.40 dB
20.0 GHz	2.84 dB	12.01 dB

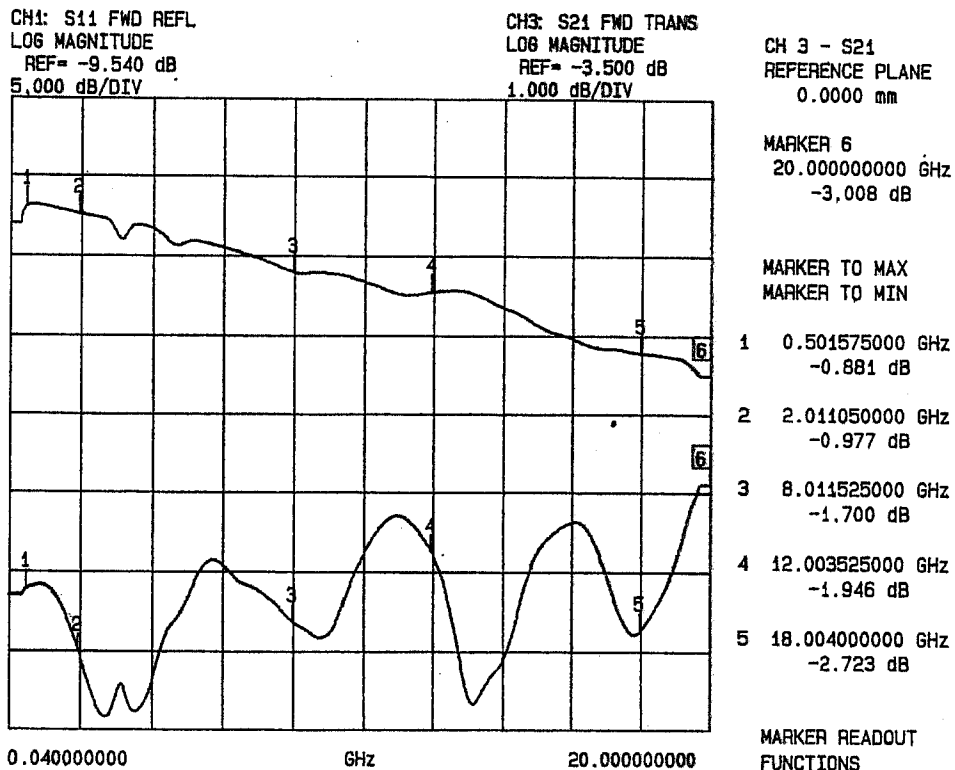


SUMMARY TEST DATA

MODEL NUMBER	: SW-1182-7D
OPTION NUMBER	: A04, A14
SERIAL NUMBER	: 7MS90304
ENGINEER	: RENE AFABLE
VOLTAGE & CURRENT DRAW	: +5vdc @ 350mA; -5vdc @ 40mA

INSERTION LOSS & RETURN LOSS*

J1-J6



*J1: INPUT ARM

FREQUENCY	INSERTION LOSS	RETURN LOSS
500 MHz	0.88 dB	20.58 dB
2.0 GHz	0.97 dB	24.61 dB
8.0 GHz	1.70 dB	22.65 dB
12.0 GHz	1.94 dB	18.33 dB
18.0 GHz	2.72 dB	23.21 dB
20.0 GHz	3.00 dB	13.96 dB



SUMMARY TEST DATA

MODEL NUMBER	: SW-1182-7D
OPTION NUMBER	: A04, A14
SERIAL NUMBER	: 7MS90304
ENGINEER	: RENE AFABLE
VOLTAGE & CURRENT DRAW	: +5vdc @ 350mA; -5vdc @ 40mA

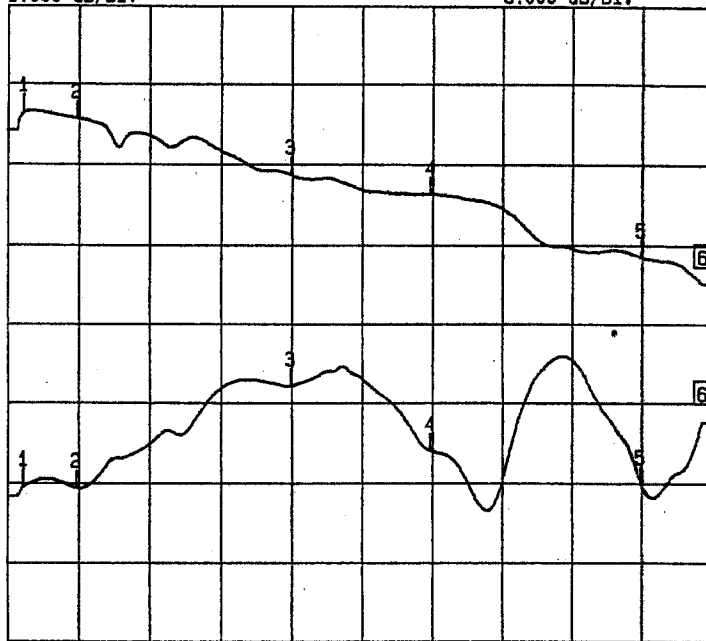
INSERTION LOSS & RETURN LOSS*

J6-J1

CH2: S12 REV TRANS
LOG MAGNITUDE
REF= -3.500 dB
1.000 dB/DIV

CH4: S22 REV REFL
LOG MAGNITUDE
REF= -9.540 dB
5.000 dB/DIV

CH 2 - S12
REFERENCE PLANE
0.0000 mm



MARKER 6
20.000000000 GHz
-2.980 dB

MARKER TO MAX
MARKER TO MIN

- 1 0.501575000 GHz
-0.857 dB
- 2 2.011050000 GHz
-0.930 dB
- 3 8.011525000 GHz
-1.628 dB
- 4 12.003525000 GHz
-1.867 dB
- 5 18.004000000 GHz
-2.650 dB

MARKER READOUT
FUNCTIONS

0.040000000

GHz

20.000000000

*J6: INPUT ARM

FREQUENCY	INSERTION LOSS	RETURN LOSS
500 MHz	0.85 dB	19.75 dB
2.0 GHz	0.93 dB	19.84 dB
8.0 GHz	1.62 dB	13.45 dB
12.0 GHz	1.86 dB	17.56 dB
18.0 GHz	2.65 dB	19.59 dB
20.0 GHz	2.98 dB	15.70 dB

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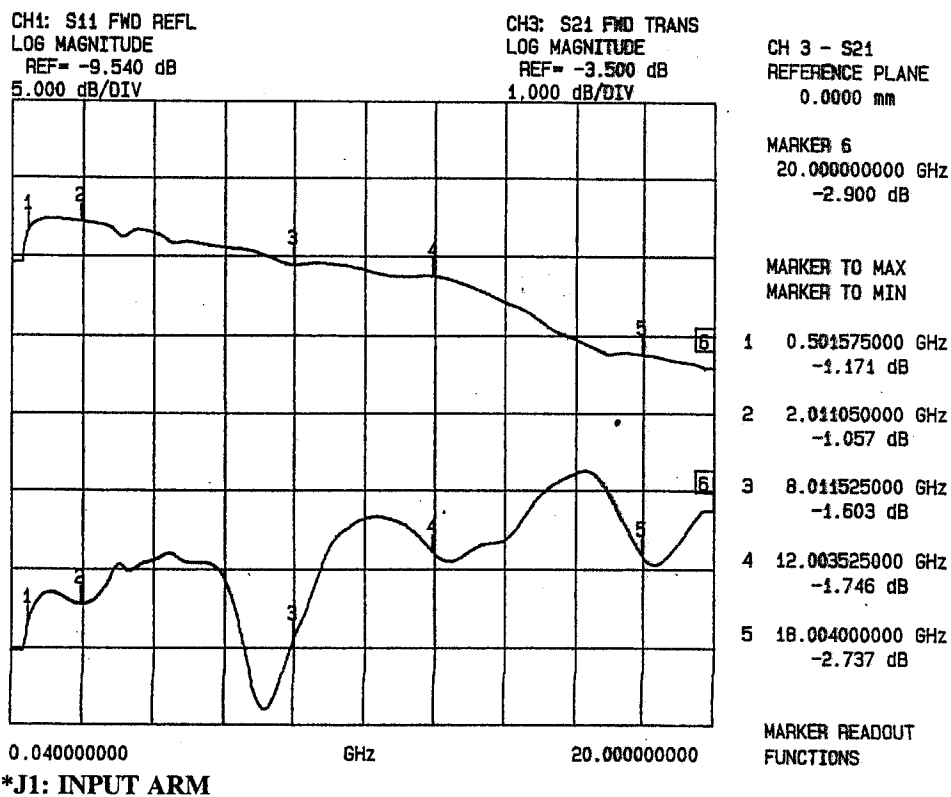


SUMMARY TEST DATA

MODEL NUMBER	: SW-1182-7D
OPTION NUMBER	: A04, A14
SERIAL NUMBER	: 7MS90304
ENGINEER	: RENE AFABLE
VOLTAGE & CURRENT DRAW	: +5vdc @ 350mA; -5vdc @ 40mA

INSERTION LOSS & RETURN LOSS*

J1-J7



FREQUENCY	INSERTION LOSS	RETURN LOSS
500 MHz	1.17 dB	23.00 dB
2.0 GHz	1.05 dB	21.72 dB
8.0 GHz	1.60 dB	24.03 dB
12.0 GHz	1.74 dB	18.50 dB
18.0 GHz	2.73 dB	18.69 dB
20.0 GHz	2.90 dB	15.80 dB

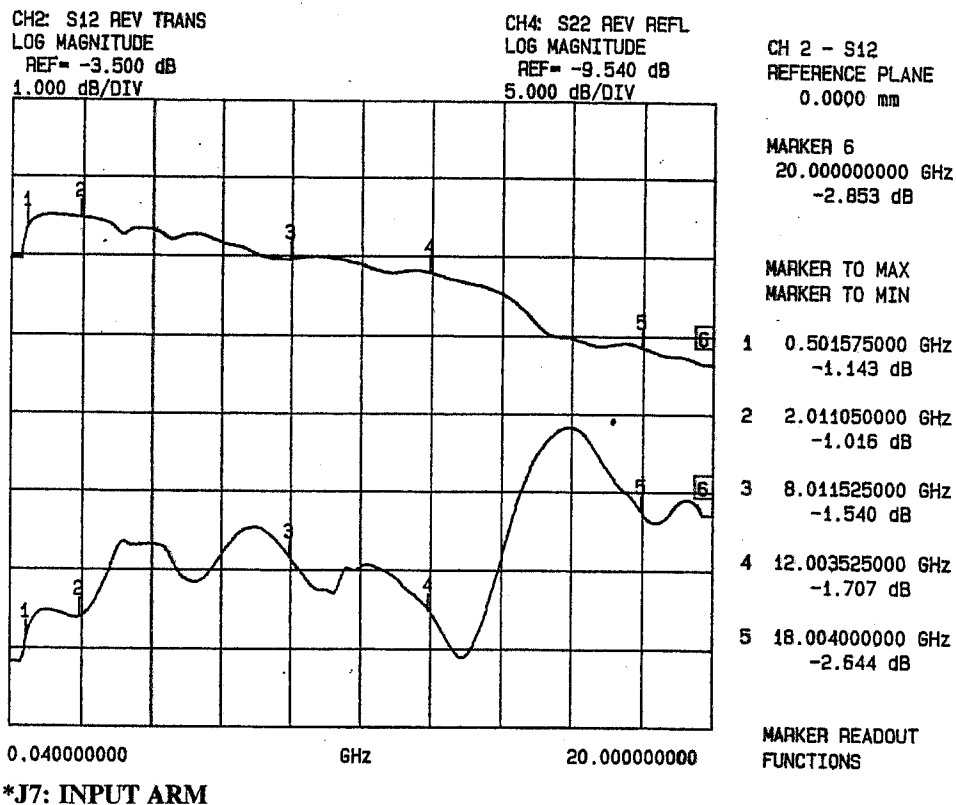


SUMMARY TEST DATA

MODEL NUMBER	: SW-1182-7D
OPTION NUMBER	: A04, A14
SERIAL NUMBER	: 7MS90304
ENGINEER	: RENE AFABLE
VOLTAGE & CURRENT DRAW	: +5vdc @ 350mA; -5vdc @ 40mA

INSERTION LOSS & RETURN LOSS*

J7-J1



FREQUENCY	INSERTION LOSS	RETURN LOSS
500 MHz	1.14 dB	23.90 dB
2.0 GHz	1.01 dB	22.49 dB
8.0 GHz	1.54 dB	18.78 dB
12.0 GHz	1.70 dB	22.12 dB
18.0 GHz	2.64 dB	15.90 dB
20.0 GHz	2.85 dB	16.02 dB

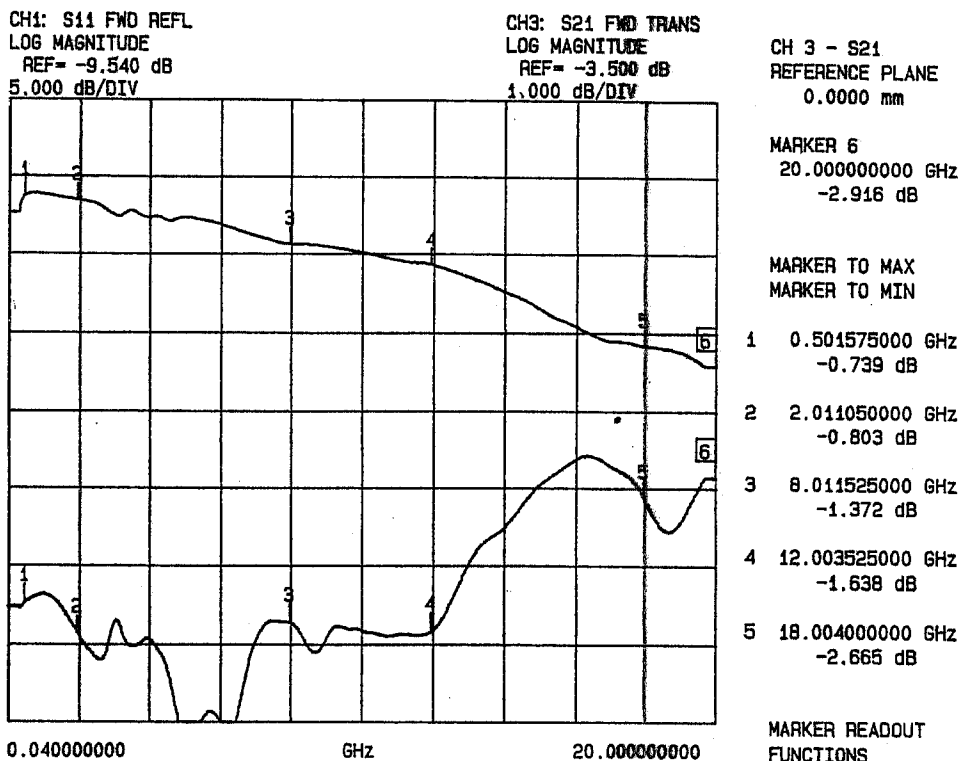


SUMMARY TEST DATA

MODEL NUMBER	: SW-1182-7D
OPTION NUMBER	: A04, A14
SERIAL NUMBER	: 7MS90304
ENGINEER	: RENE AFABLE
VOLTAGE & CURRENT DRAW	: +5vdc @ 350mA; -5vdc @ 40mA

INSERTION LOSS & RETURN LOSS*

J1-J8



*J1: INPUT ARM

FREQUENCY	INSERTION LOSS	RETURN LOSS
500 MHz	0.73 dB	21.85 dB
2.0 GHz	0.80 dB	23.84 dB
8.0 GHz	1.37 dB	23.11 dB
12.0 GHz	1.63 dB	23.67 dB
18.0 GHz	2.66 dB	15.19 dB
20.0 GHz	2.91 dB	13.82 dB

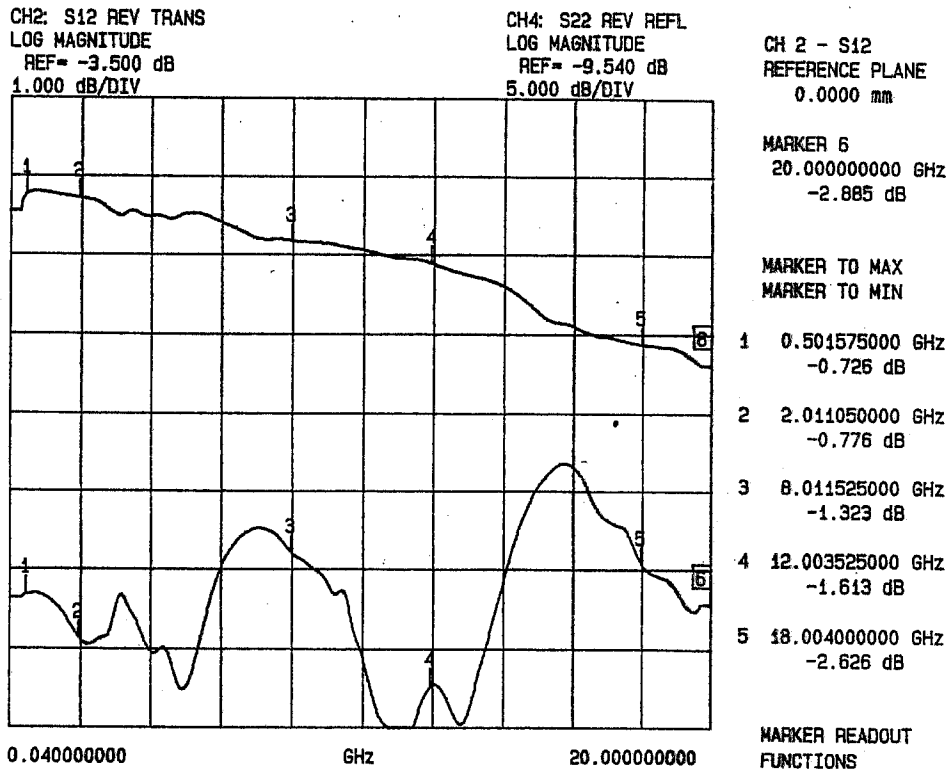


SUMMARY TEST DATA

MODEL NUMBER	: SW-1182-7D
OPTION NUMBER	: A04, A14
SERIAL NUMBER	: 7MS90304
ENGINEER	: RENE AFABLE
VOLTAGE & CURRENT DRAW	: +5vdc @ 350mA; -5vdc @ 40mA

INSERTION LOSS & RETURN LOSS*

J8-J1



0.040000000 GHz 20.000000000

*J8: INPUT ARM

FREQUENCY	INSERTION LOSS	RETURN LOSS
500 MHz	0.72 dB	21.12 dB
2.0 GHz	0.77 dB	23.89 dB
8.0 GHz	1.32 dB	18.46 dB
12.0 GHz	1.61 dB	26.83 dB
18.0 GHz	2.62 dB	19.18 dB
20.0 GHz	2.88 dB	21.71 dB



SUMMARY TEST DATA

MODEL NUMBER	: SW-1182-7D
OPTION NUMBER	: A04, A14
SERIAL NUMBER	: 7MS90304
ENGINEER	: RENE AFABLE
VOLTAGE & CURRENT DRAW	: +5vdc @ 350mA; -5vdc @ 40mA

ISOLATION*
(AS MEASURED ON A SPECTRUM ANALYZER)

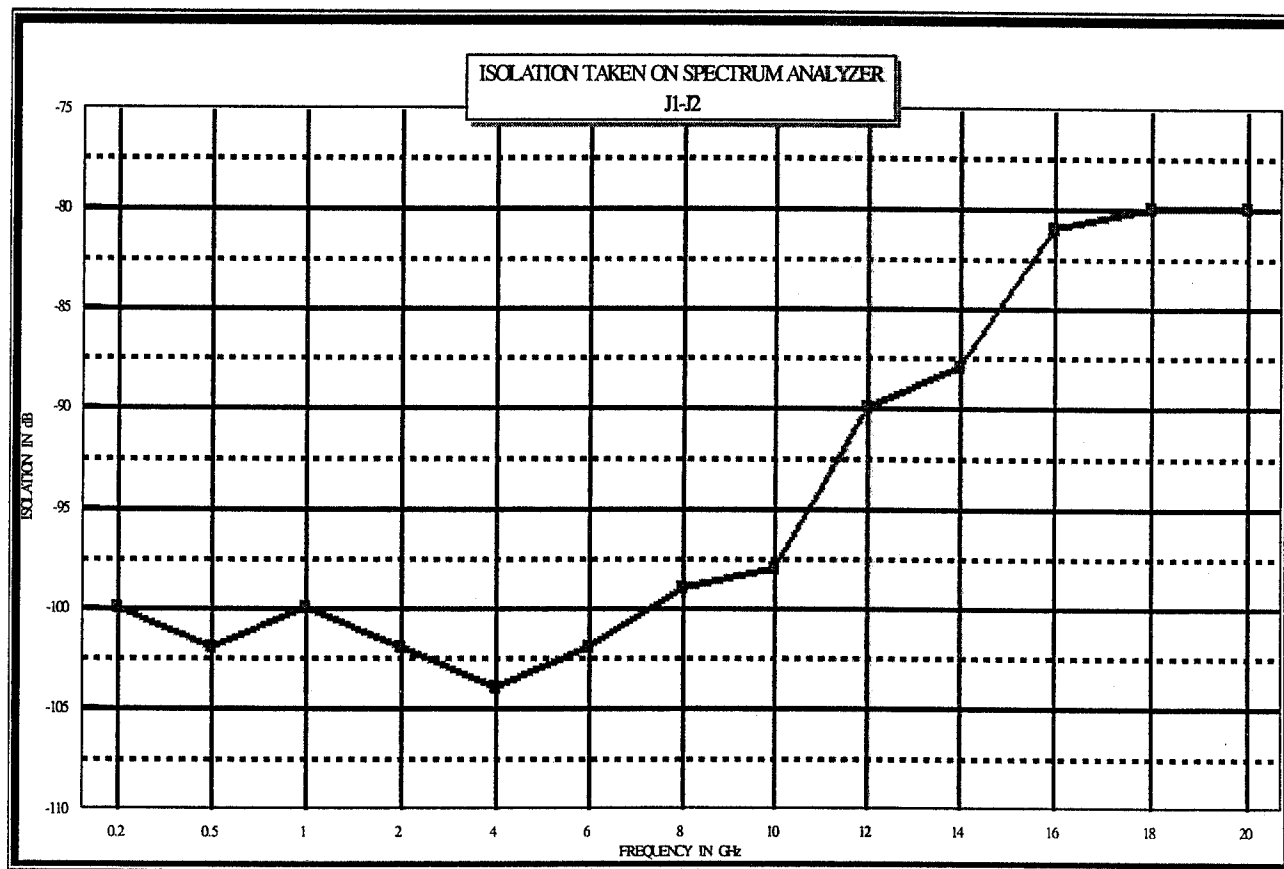
FREQUENCY	J2	J3	J4	J5	J6	J7	J8
200 MHz	100 dB	100 dB	100 dB	100 dB	100 dB	98 dB	100 dB
500 MHz	102 dB	102 dB	102 dB	102 dB	102 dB	102 dB	102 dB
1 GHz	100 dB	104 dB	104 dB	104 dB	104 dB	102 dB	102 dB
2 GHz	102 dB	104 dB	104 dB	104 dB	104 dB	104 dB	104 dB
4 GHz	104 dB	104 dB	104 dB	104 dB	100 dB	102 dB	104 dB
6 GHz	102 dB	100 dB	102 dB	102 dB	103 dB	104 dB	103 dB
8 GHz	99 dB	98 dB	100 dB	94 dB	99 dB	98 dB	99 dB
10 GHz	98 dB	98 dB	98 dB	98 dB	98 dB	96 dB	98 dB
12 GHz	90 dB	92 dB	92 dB	92 dB	92 dB	92 dB	86 dB
14 GHz	88 dB	88 dB	88 dB	88 dB	87 dB	88 dB	78 dB
16 GHz	81 dB	81 dB	84 dB	84 dB	88 dB	90 dB	86 dB
18 GHz	80 dB	82 dB	81 dB	81 dB	82 dB	82 dB	79 dB
20 GHz	80 dB	80 dB	80 dB	80 dB	80 dB	78 dB	80 dB

*J1: INPUT ARM



MODEL NUMBER : SW-1182-7D
OPTION NUMBER : A04, A14
SERIAL NUMBER : 7MS90304
ENGINEER : RENE AFABLE
VOLTAGE & CURRENT DRAW : +5vdc @ 350mA; -5vdc @ 40mA

ISOLATION*
(AS MEASURED ON A SPECTRUM ANALYZER)
J1-J2



*J1: INPUT ARM

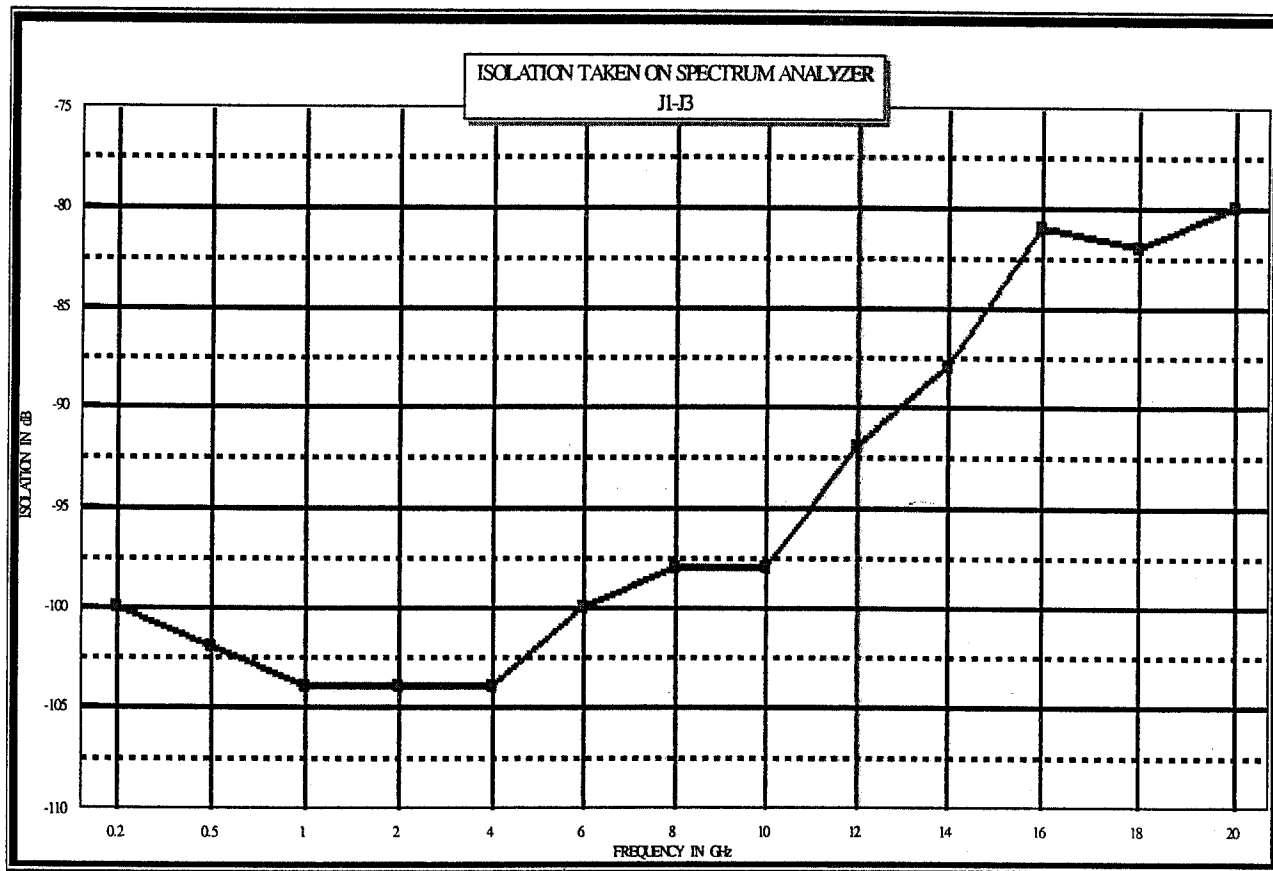
OCTOBER 3, 2000



MODEL NUMBER
 OPTION NUMBER
 SERIAL NUMBER
 ENGINEER
 VOLTAGE & CURRENT DRAW

: SW-1182-7D
 : A04, A14
 : 7MS90304
 : RENE AFABLE
 : +5vdc @ 350mA; -5vdc @ 40mA

ISOLATION*
 (AS MEASURED ON A SPECTRUM ANALYZER)
 J1-J3



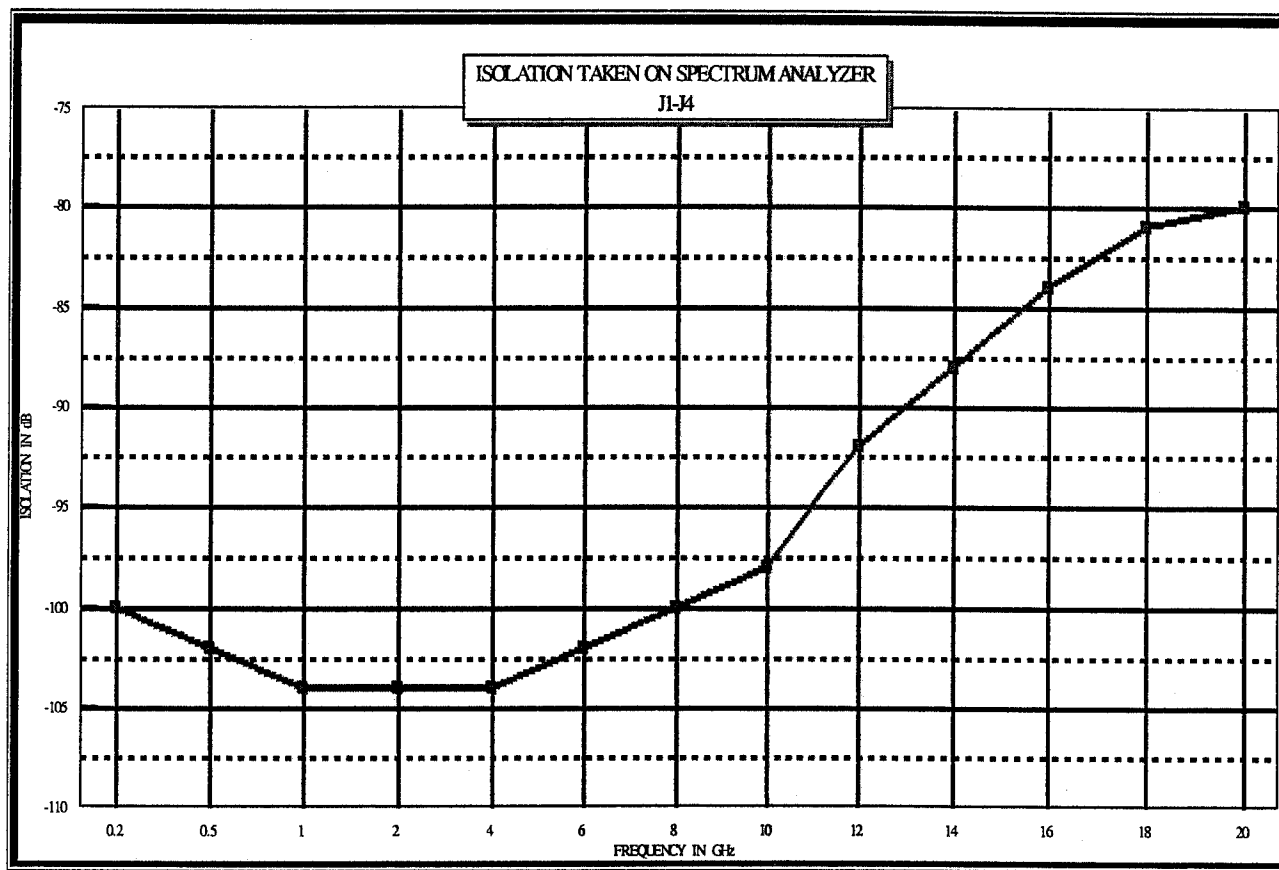
*J1: INPUT ARM

OCTOBER 3, 2000



MODEL NUMBER	: SW-1182-7D
OPTION NUMBER	: A04, A14
SERIAL NUMBER	: 7MS90304
ENGINEER	: RENE AFABLE
VOLTAGE & CURRENT DRAW	: +5vdc @ 350mA; -5vdc @ 40mA

ISOLATION*
 (AS MEASURED ON A SPECTRUM ANALYZER)
 J1-J4



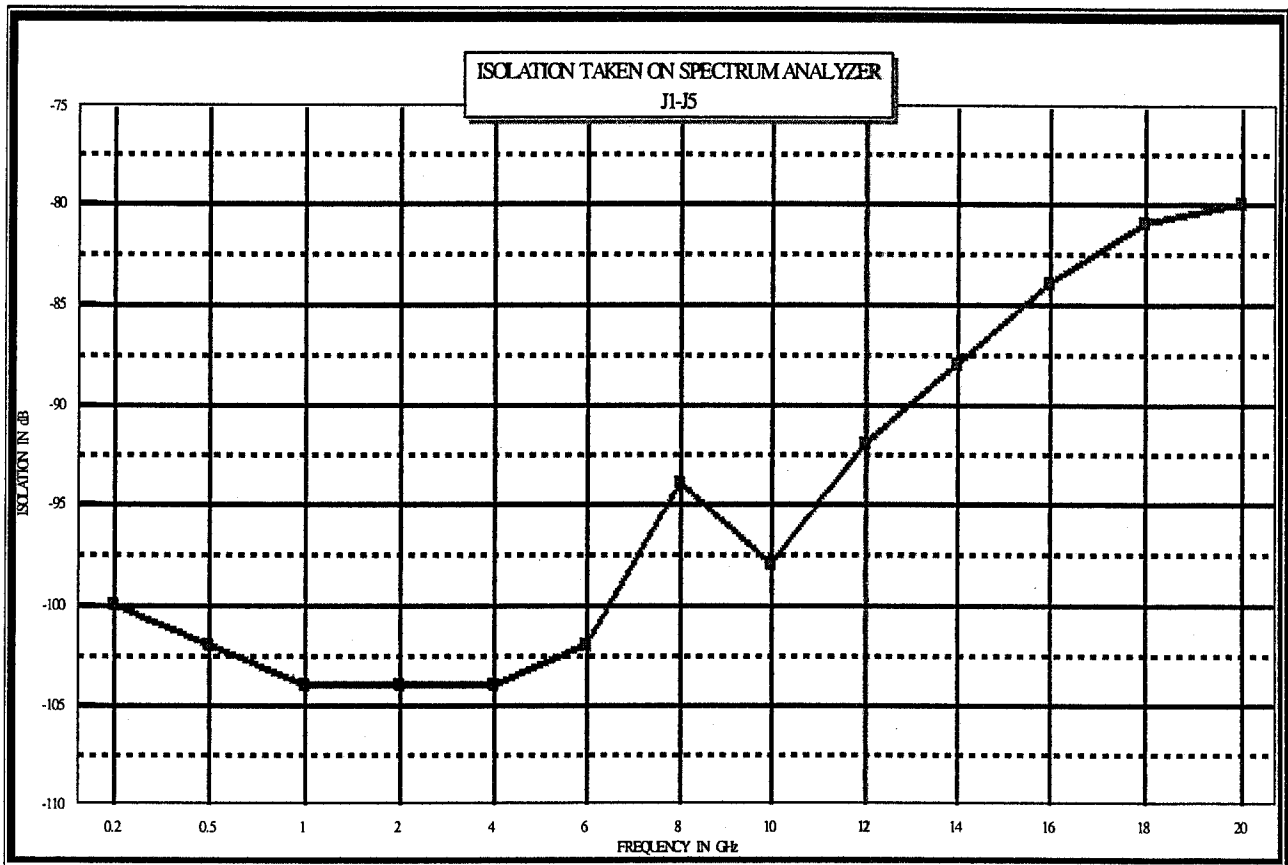
*J1: INPUT ARM

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MODEL NUMBER	: SW-1182-7D
OPTION NUMBER	: A04, A14
SERIAL NUMBER	: 7MS90304
ENGINEER	: RENE AFABLE
VOLTAGE & CURRENT DRAW	: +5vdc @ 350mA; -5vdc @ 40mA

ISOLATION*
 (AS MEASURED ON A SPECTRUM ANALYZER)
J1-J5

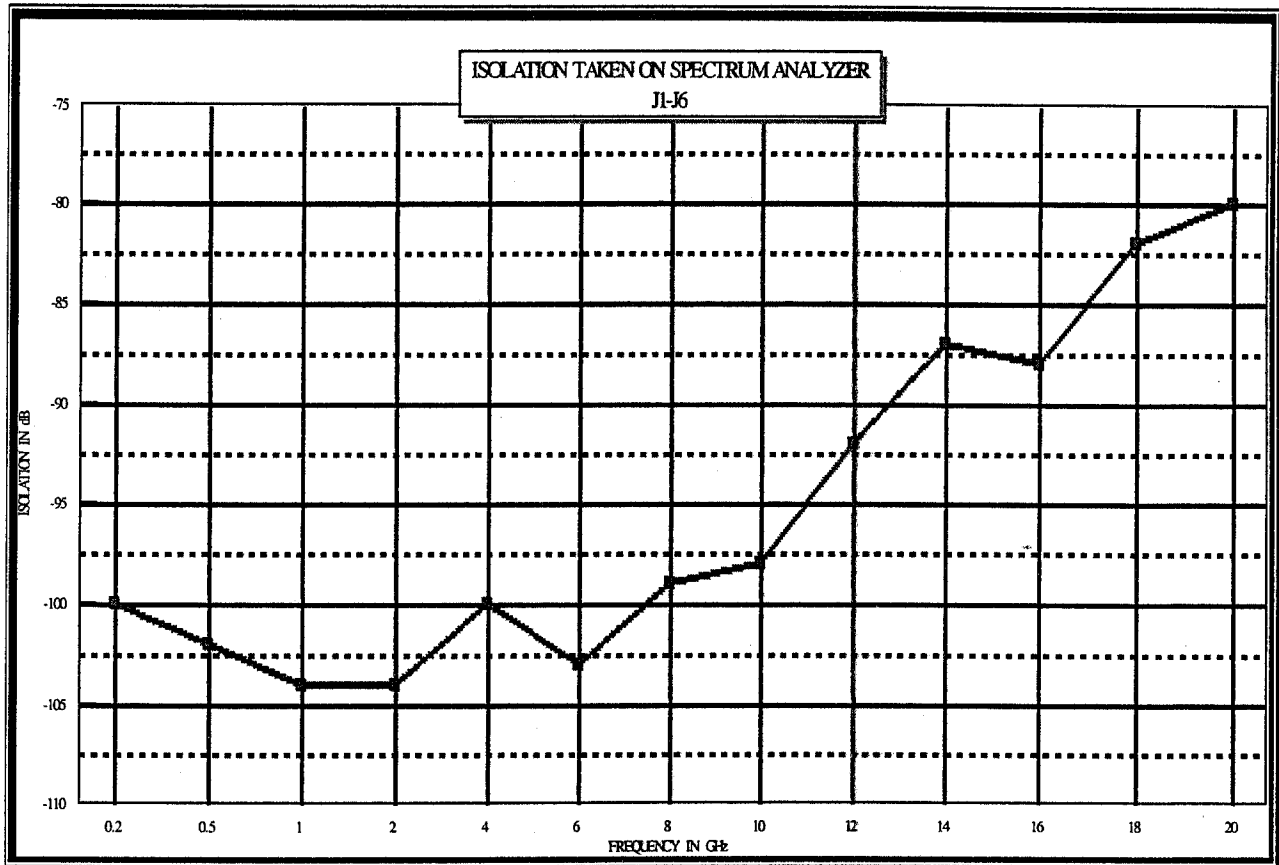


*J1: INPUT ARM



MODEL NUMBER	: SW-1182-7D
OPTION NUMBER	: A04, A14
SERIAL NUMBER	: 7MS90304
ENGINEER	: RENE AFABLE
VOLTAGE & CURRENT DRAW	: +5vdc @ 350mA; -5vdc @ 40mA

ISOLATION*
 (AS MEASURED ON A SPECTRUM ANALYZER)
 J1-J6



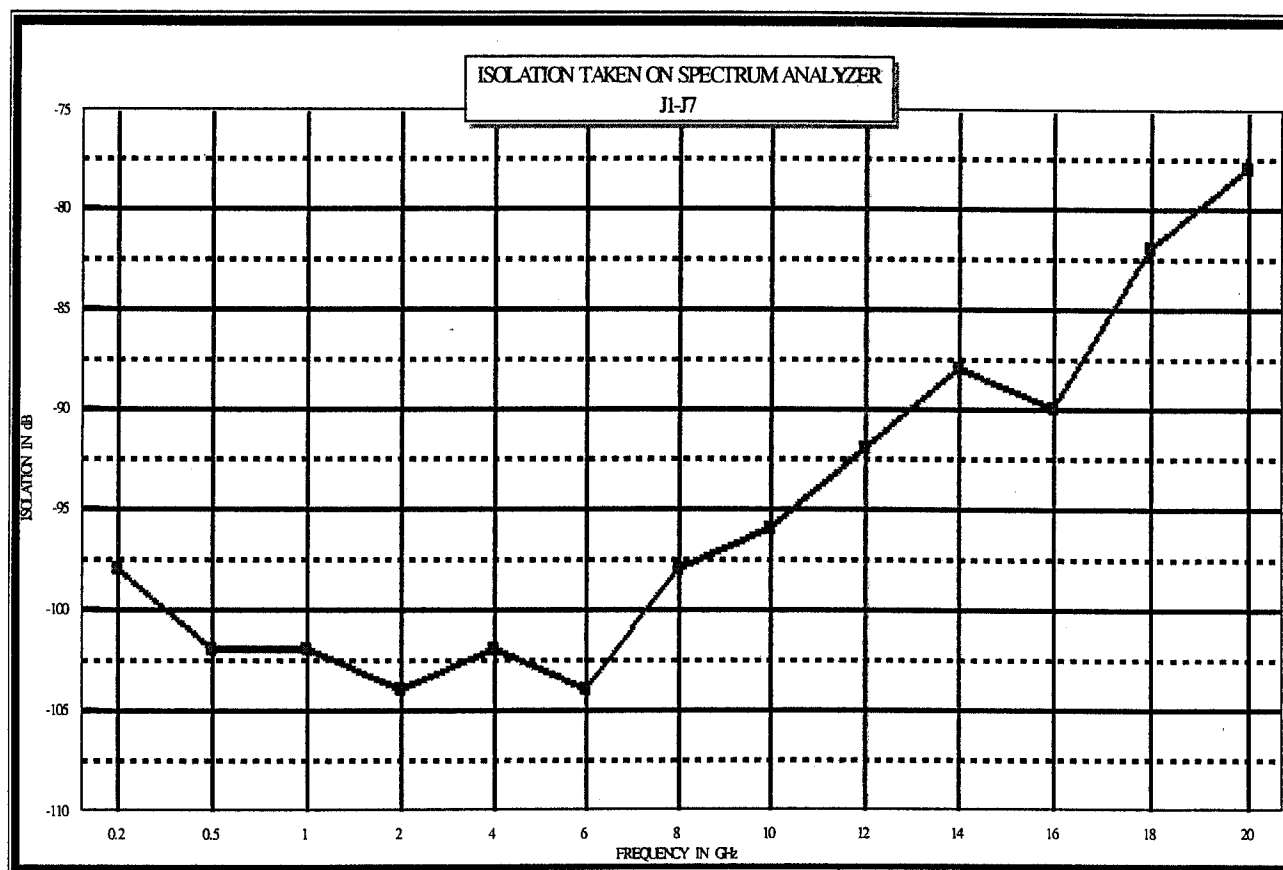
*J1: INPUT ARM

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MODEL NUMBER : SW-1182-7D
OPTION NUMBER : A04, A14
SERIAL NUMBER : 7MS90304
ENGINEER : RENE AFABLE
VOLTAGE & CURRENT DRAW : +5vdc @ 350mA; -5vdc @ 40mA

ISOLATION*
(AS MEASURED ON A SPECTRUM ANALYZER)
J1-J7



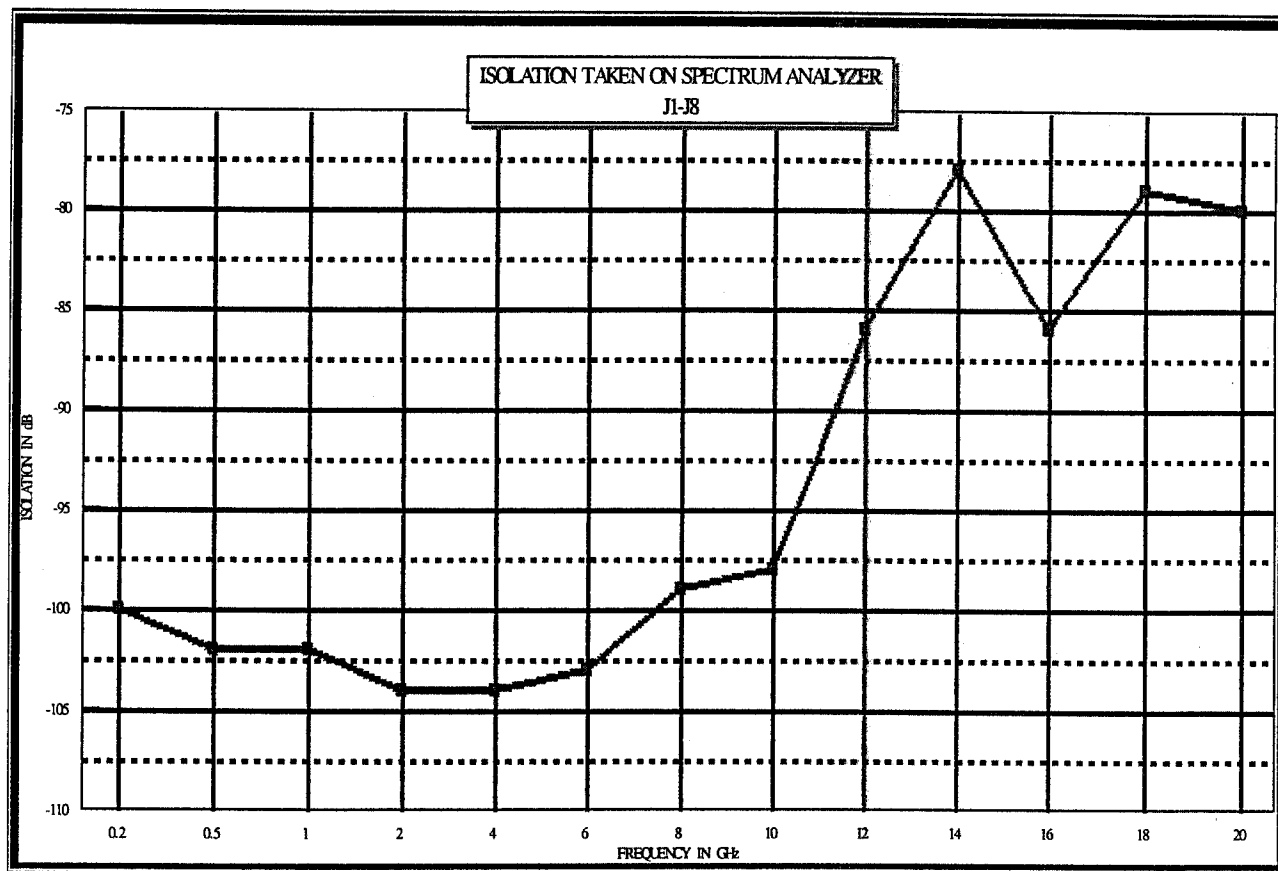
*J1: INPUT ARM

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MODEL NUMBER : SW-1182-7D
OPTION NUMBER : A04, A14
SERIAL NUMBER : 7MS90304
ENGINEER : RENE AFABLE
VOLTAGE & CURRENT DRAW : +5vdc @ 350mA; -5vdc @ 40mA

ISOLATION*
(AS MEASURED ON A SPECTRUM ANALYZER)
J1-J8



*J1: INPUT ARM

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TEST DATA

FROM

40 MHz TO 4 GHz

HIGH ISOLATION

LOW INSERTION LOSS

HIGH SPEED

RADIAL

SOLID STATE SWITCH

AMC MODEL No:

SW-1182-7D OPTIONS A04, A14

(Serial Number: 7MS90304)

PREPARED

BY

KATIE BAISEY

TESTED

BY

RENE AFABLE

OCTOBER 7, 2000

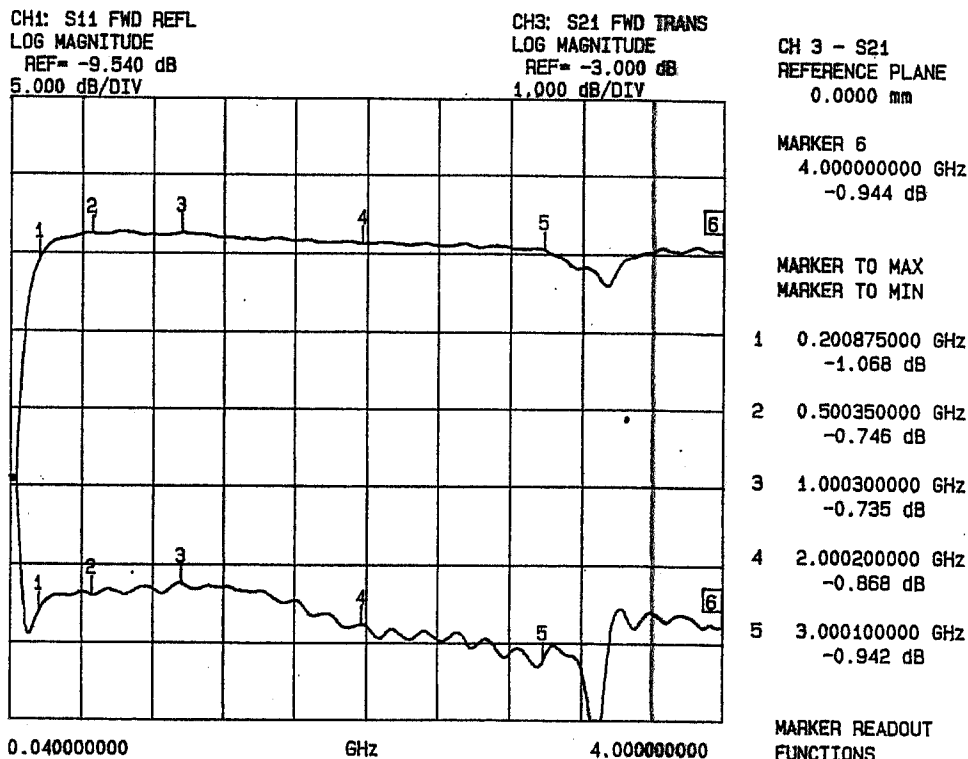


SUMMARY TEST DATA

MODEL NUMBER	: SW-1182-7D
OPTION NUMBER	: A04, A14
SERIAL NUMBER	: 7MS90304
ENGINEER	: RENE AFABLE
VOLTAGE & CURRENT DRAW	: +5vdc @ 350mA; -5vdc @ 40mA

INSERTION LOSS & RETURN LOSS*

J1-J2



*J1: INPUT ARM

FREQUENCY	INSERTION LOSS	RETURN LOSS
200 MHz	1.06 dB	22.48 dB
500 MHz	0.74 dB	21.46 dB
1.0 GHz	0.73 dB	20.72 dB
2.0 GHz	0.86 dB	23.35 dB
3.0 GHz	0.94 dB	25.62 dB
4.0 GHz	0.94 dB	23.48 dB

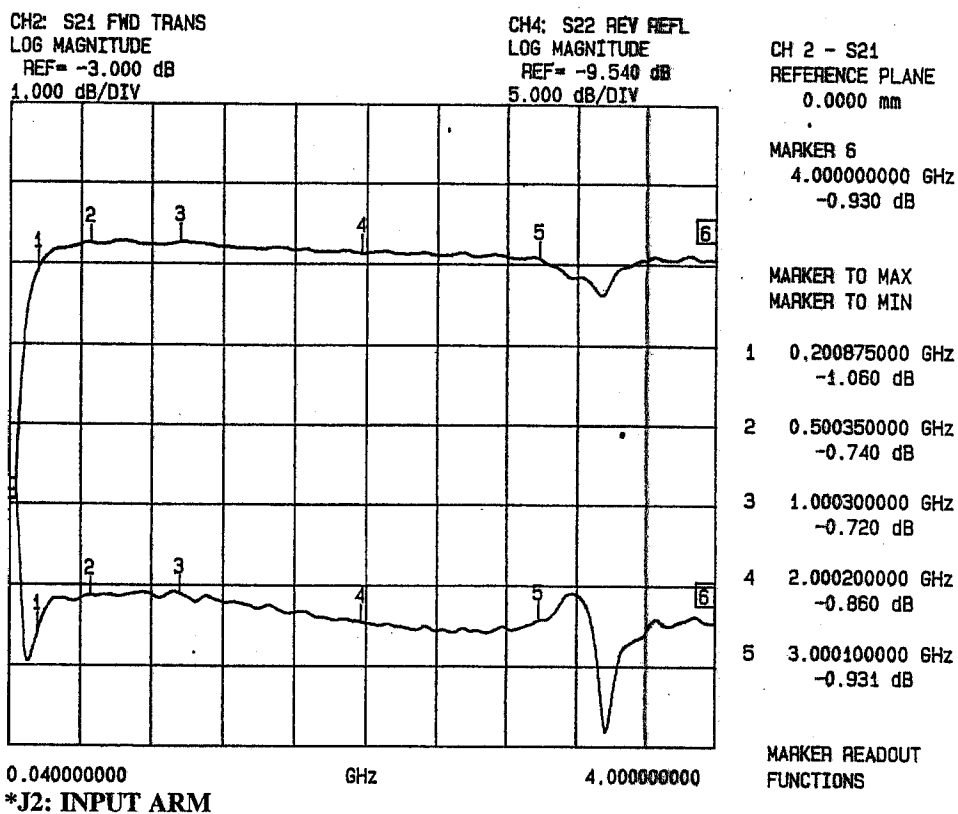


SUMMARY TEST DATA

MODEL NUMBER	: SW-1182-7D
OPTION NUMBER	: A04, A14
SERIAL NUMBER	: 7MS90304
ENGINEER	: RENE AFABLE
VOLTAGE & CURRENT DRAW	: +5vdc @ 350mA; -5vdc @ 40mA

INSERTION LOSS & RETURN LOSS*

J2-J1



FREQUENCY	INSERTION LOSS	RETURN LOSS
200 MHz	1.06 dB	22.40 dB
500 MHz	0.74 dB	20.16 dB
1.0 GHz	0.72 dB	20.07 dB
2.0 GHz	0.86 dB	21.79 dB
3.0 GHz	0.93 dB	21.65 dB
4.0 GHz	0.93 dB	21.79 dB

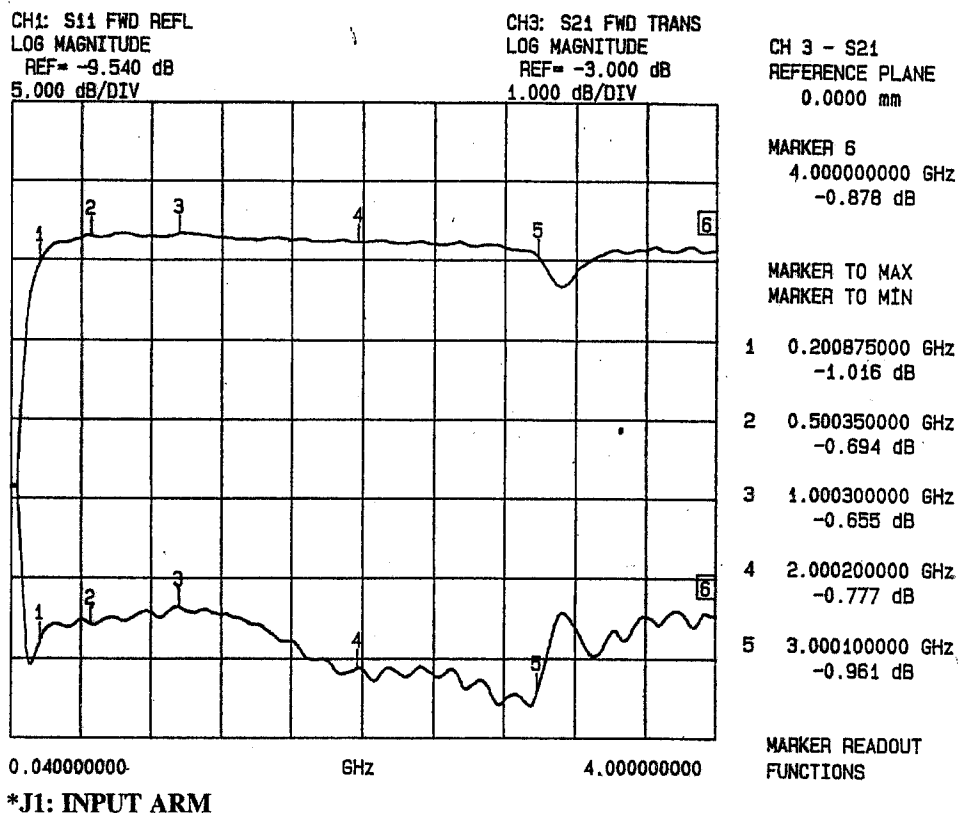


SUMMARY TEST DATA

MODEL NUMBER	: SW-1182-7D
OPTION NUMBER	: A04, A14
SERIAL NUMBER	: 7MS90304
ENGINEER	: RENE AFABLE
VOLTAGE & CURRENT DRAW	: +5vdc @ 350mA; -5vdc @ 40mA

INSERTION LOSS & RETURN LOSS*

J1-J3



*J1: INPUT ARM

FREQUENCY	INSERTION LOSS	RETURN LOSS
200 MHz	1.01 dB	23.46 dB
500 MHz	0.69 dB	22.42 dB
1.0 GHz	0.65 dB	21.34 dB
2.0 GHz	0.77 dB	25.12 dB
3.0 GHz	0.96 dB	26.60 dB
4.0 GHz	0.87 dB	21.80 dB

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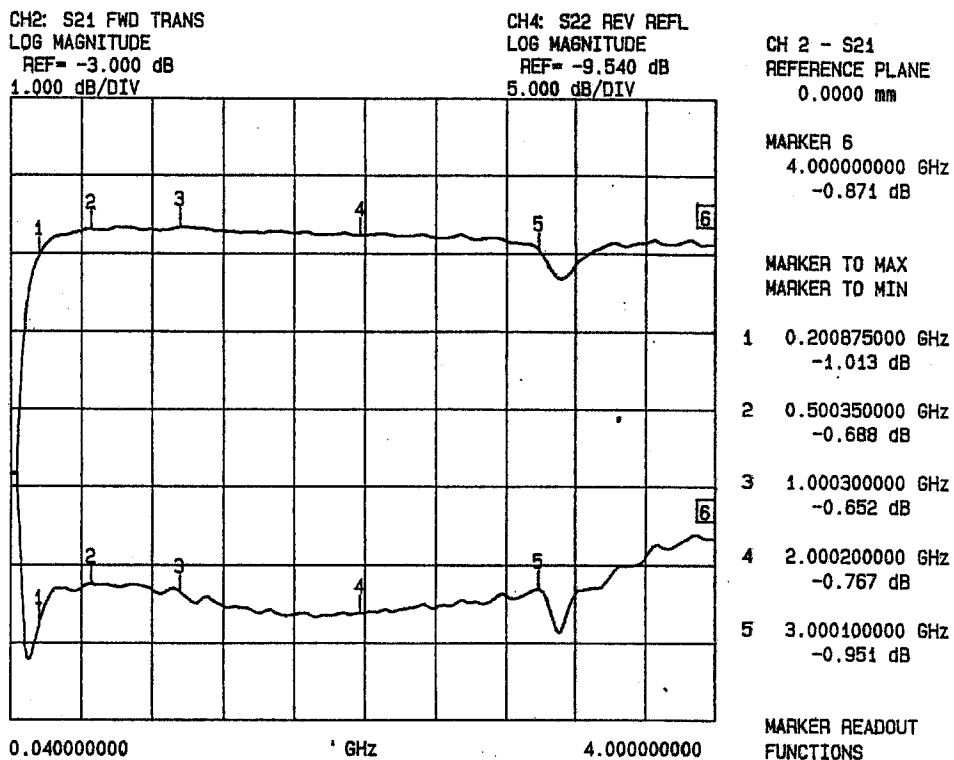


SUMMARY TEST DATA

MODEL NUMBER	: SW-1182-7D
OPTION NUMBER	: A04, A14
SERIAL NUMBER	: 7MS90304
ENGINEER	: RENE AFABLE
VOLTAGE & CURRENT DRAW	: +5vdc @ 350mA; -5vdc @ 40mA

INSERTION LOSS & RETURN LOSS*

J3-J1



*J3: INPUT ARM

FREQUENCY	INSERTION LOSS	RETURN LOSS
200 MHz	1.01 dB	23.33 dB
500 MHz	0.68 dB	20.72 dB
1.0 GHz	0.65 dB	21.31 dB
2.0 GHz	0.76 dB	22.61 dB
3.0 GHz	0.95 dB	21.05 dB
4.0 GHz	0.87 dB	17.85 dB

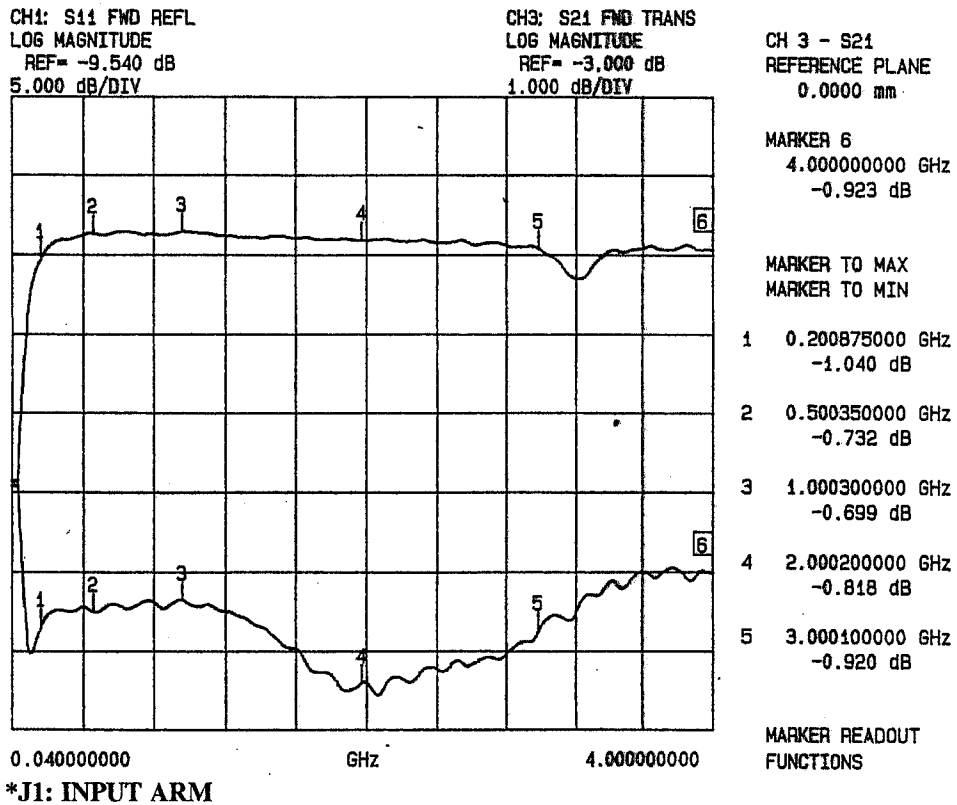


SUMMARY TEST DATA

MODEL NUMBER	: SW-1182-7D
OPTION NUMBER	: A04, A14
SERIAL NUMBER	: 7MS90304
ENGINEER	: RENE AFABLE
VOLTAGE & CURRENT DRAW	: +5vdc @ 350mA; -5vdc @ 40mA

INSERTION LOSS & RETURN LOSS*

J1-J4



FREQUENCY	INSERTION LOSS	RETURN LOSS
200 MHz	1.04 dB	22.97 dB
500 MHz	0.73 dB	22.07 dB
1.0 GHz	0.69 dB	21.30 dB
2.0 GHz	0.81 dB	26.51 dB
3.0 GHz	0.92 dB	23.25 dB
4.0 GHz	0.92 dB	19.52 dB

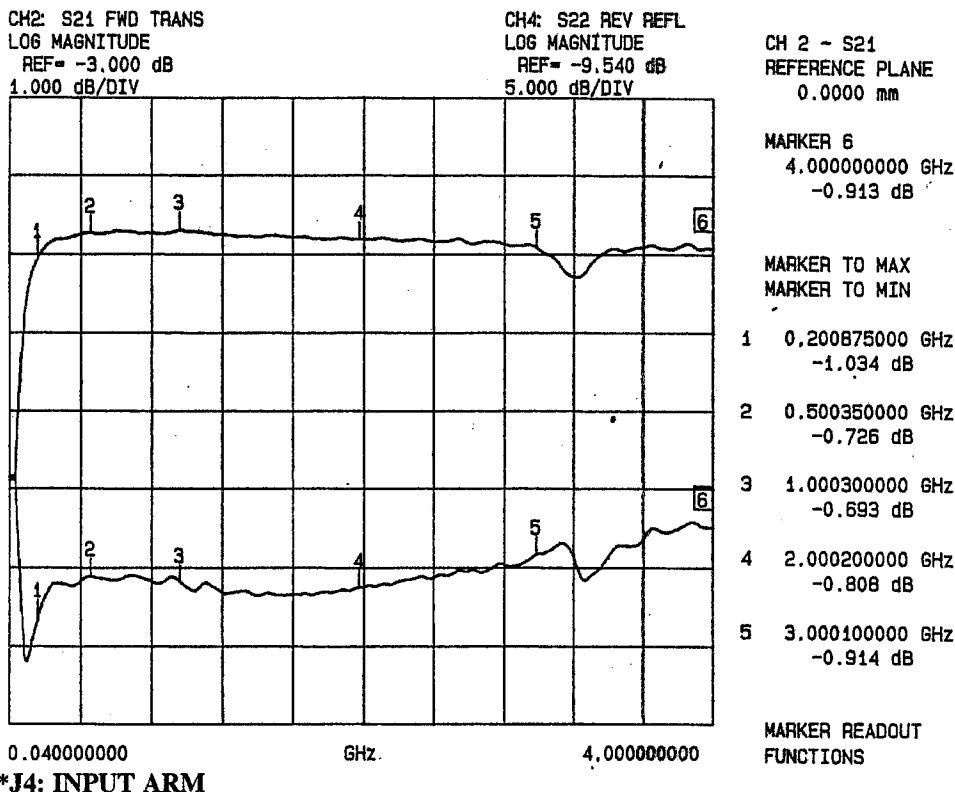


SUMMARY TEST DATA

MODEL NUMBER	: SW-1182-7D
OPTION NUMBER	: A04, A14
SERIAL NUMBER	: 7MS90304
ENGINEER	: RENE AFABLE
VOLTAGE & CURRENT DRAW	: +5vdc @ 350mA; -5vdc @ 40mA

INSERTION LOSS & RETURN LOSS*

J4-J1



FREQUENCY	INSERTION LOSS	RETURN LOSS
200 MHz	1.03 dB	22.72 dB
500 MHz	0.72 dB	20.08 dB
1.0 GHz	0.69 dB	20.46 dB
2.0 GHz	0.80 dB	20.78 dB
3.0 GHz	0.91 dB	18.67 dB
4.0 GHz	0.91 dB	16.97 dB

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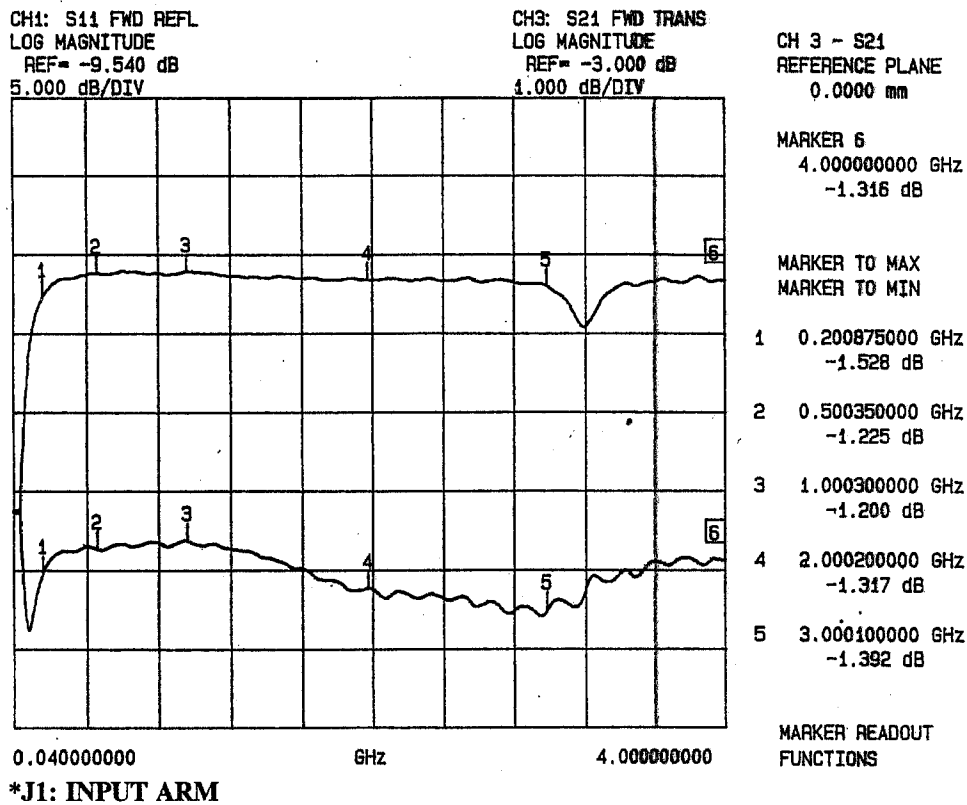


SUMMARY TEST DATA

MODEL NUMBER	: SW-1182-7D
OPTION NUMBER	: A04, A14
SERIAL NUMBER	: 7MS90304
ENGINEER	: RENE AFABLE
VOLTAGE & CURRENT DRAW	: +5vdc @ 350mA; -5vdc @ 40mA

INSERTION LOSS & RETURN LOSS*

J1-J5



FREQUENCY	INSERTION LOSS	RETURN LOSS
200 MHz	1.52 dB	19.71 dB
500 MHz	1.22 dB	18.21 dB
1.0 GHz	1.20 dB	17.67 dB
2.0 GHz	1.31 dB	20.64 dB
3.0 GHz	1.39 dB	22.06 dB
4.0 GHz	1.31 dB	18.87 dB

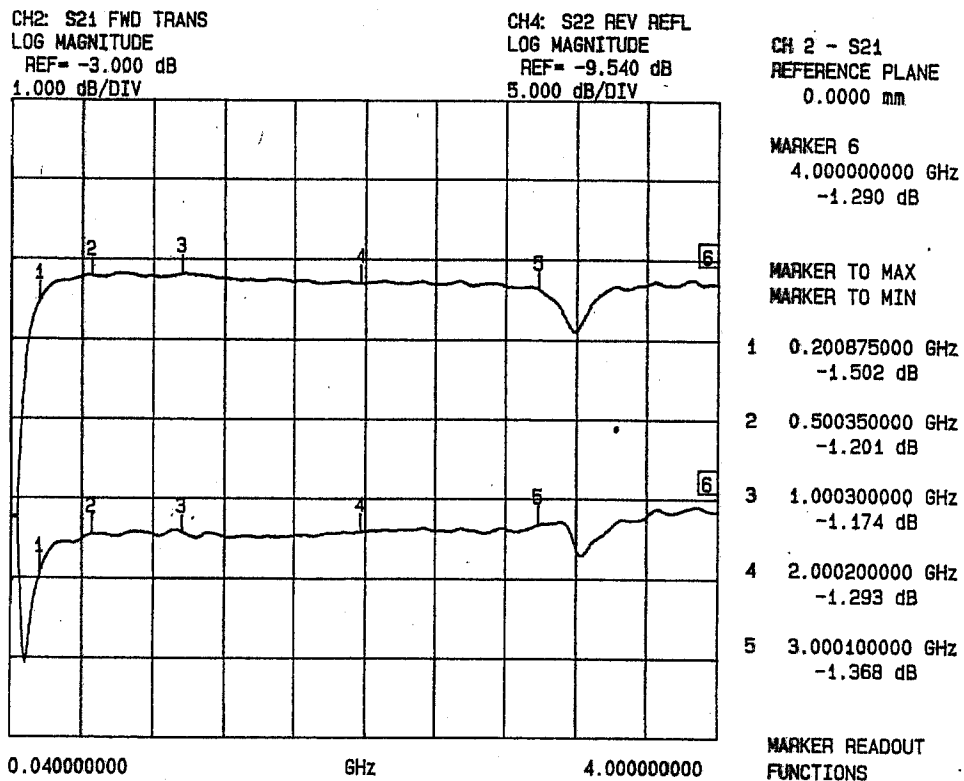


SUMMARY TEST DATA

MODEL NUMBER	: SW-1182-7D
OPTION NUMBER	: A04, A14
SERIAL NUMBER	: 7MS90304
ENGINEER	: RENE AFABLE
VOLTAGE & CURRENT DRAW	: +5vdc @ 350mA; -5vdc @ 40mA

INSERTION LOSS & RETURN LOSS*

J5-J1



*J5: INPUT ARM

FREQUENCY	INSERTION LOSS	RETURN LOSS
200 MHz	1.50 dB	19.23 dB
500 MHz	1.20 dB	16.76 dB
1.0 GHz	1.17 dB	16.67 dB
2.0 GHz	1.29 dB	16.59 dB
3.0 GHz	1.36 dB	16.12 dB
4.0 GHz	1.29 dB	15.29 dB

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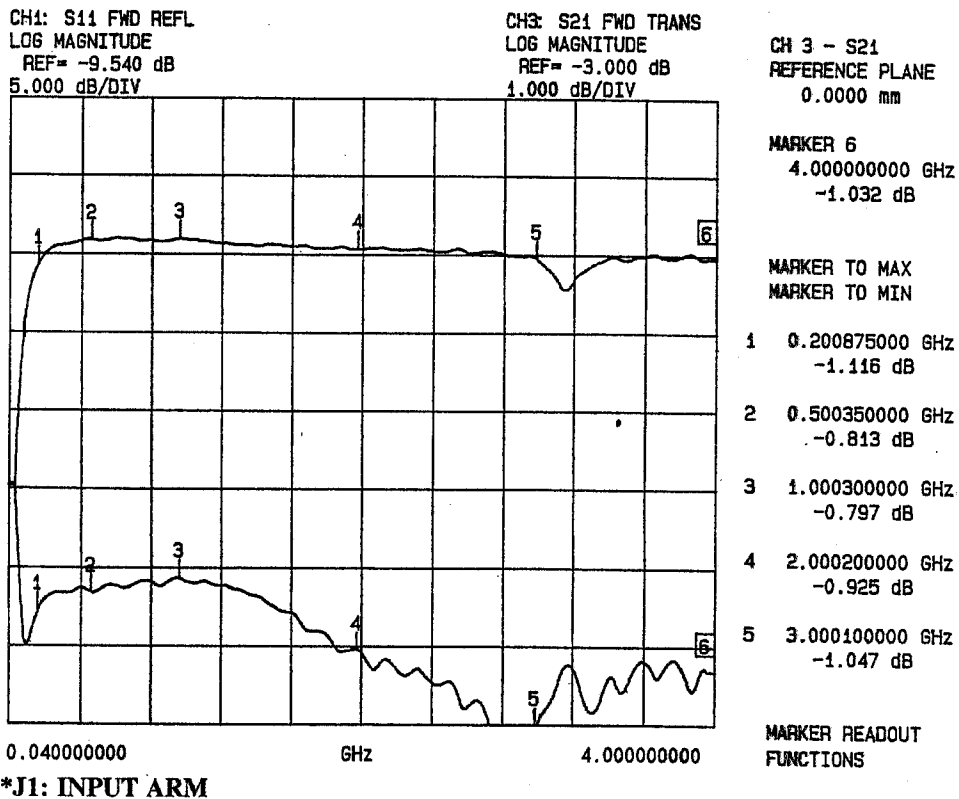


SUMMARY TEST DATA

MODEL NUMBER	: SW-1182-7D
OPTION NUMBER	: A04, A14
SERIAL NUMBER	: 7MS90304
ENGINEER	: RENE AFABLE
VOLTAGE & CURRENT DRAW	: +5vdc @ 350mA; -5vdc @ 40mA

INSERTION LOSS & RETURN LOSS*

J1-J6



FREQUENCY	INSERTION LOSS	RETURN LOSS
200 MHz	1.11 dB	22.29 dB
500 MHz	0.81 dB	21.09 dB
1.0 GHz	0.79 dB	20.20 dB
2.0 GHz	0.92 dB	24.74 dB
3.0 GHz	1.04 dB	30.25 dB
4.0 GHz	1.03 dB	26.13 dB

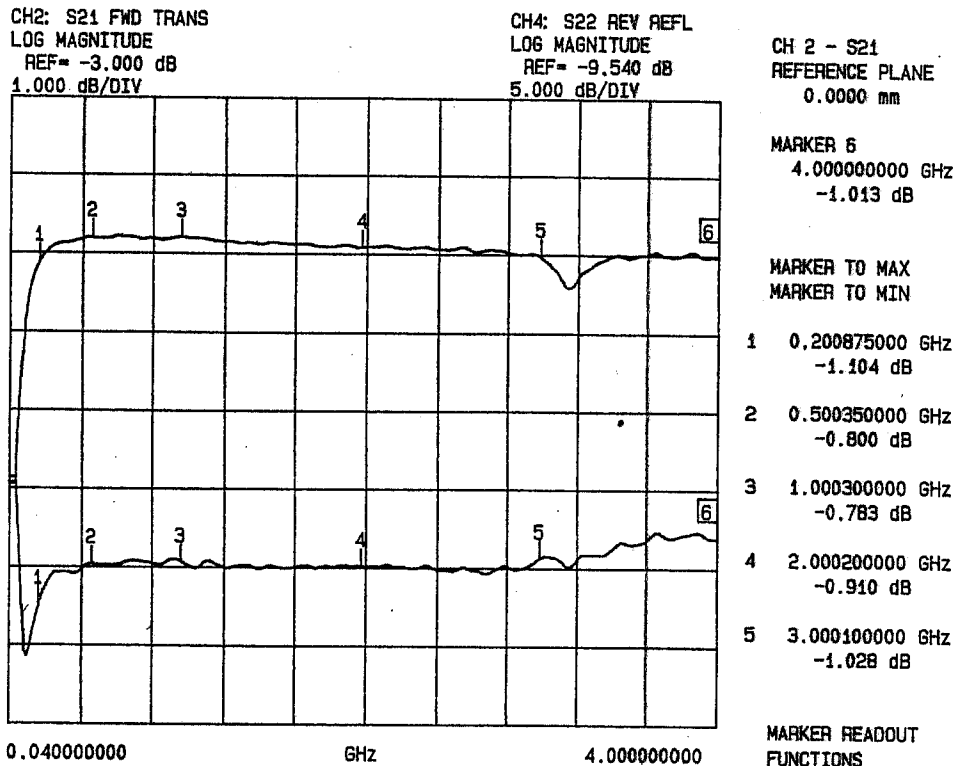


SUMMARY TEST DATA

MODEL NUMBER	: SW-1182-7D
OPTION NUMBER	: A04, A14
SERIAL NUMBER	: 7MS90304
ENGINEER	: RENE AFABLE
VOLTAGE & CURRENT DRAW	: +5vdc @ 350mA; -5vdc @ 40mA

INSERTION LOSS & RETURN LOSS*

J6-J1



*J6: INPUT ARM

FREQUENCY	INSERTION LOSS	RETURN LOSS
200 MHz	1.10 dB	21.97 dB
500 MHz	0.80 dB	19.33 dB
1.0 GHz	0.78 dB	19.22 dB
2.0 GHz	0.91 dB	19.42 dB
3.0 GHz	1.02 dB	18.88 dB
4.0 GHz	1.01 dB	17.59 dB

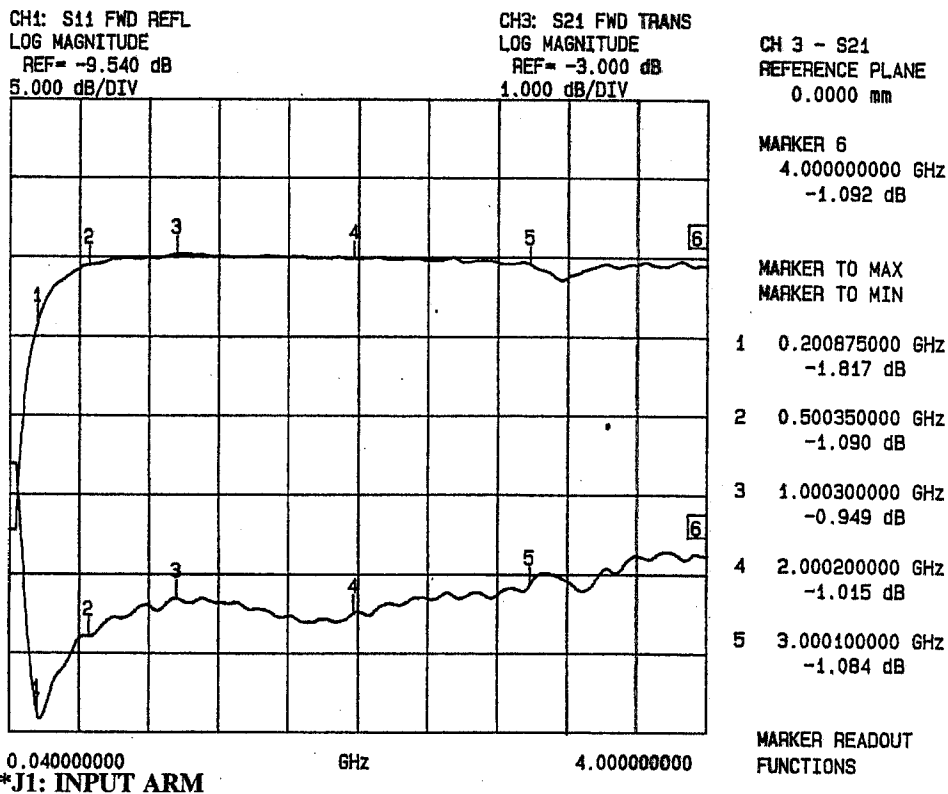


SUMMARY TEST DATA

MODEL NUMBER	: SW-1182-7D
OPTION NUMBER	: A04, A14
SERIAL NUMBER	: 7MS90304
ENGINEER	: RENE AFABLE
VOLTAGE & CURRENT DRAW	: +5vdc @ 350mA; -5vdc @ 40mA

INSERTION LOSS & RETURN LOSS*

J1-J7



FREQUENCY	INSERTION LOSS	RETURN LOSS
200 MHz	1.81 dB	28.46 dB
500 MHz	1.09 dB	23.45 dB
1.0 GHz	0.94 dB	21.03 dB
2.0 GHz	1.01 dB	21.93 dB
3.0 GHz	1.08 dB	20.15 dB
4.0 GHz	1.09 dB	18.29 dB

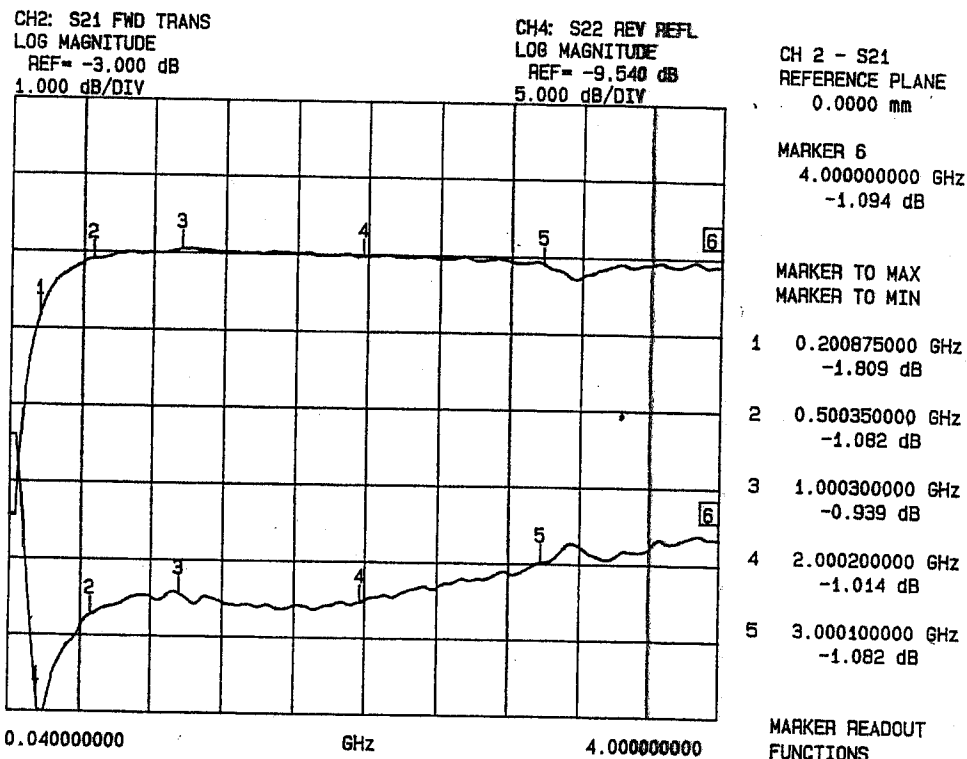


SUMMARY TEST DATA

MODEL NUMBER	: SW-1182-7D
OPTION NUMBER	: A04, A14
SERIAL NUMBER	: 7MS90304
ENGINEER	: RENE AFABLE
VOLTAGE & CURRENT DRAW	: +5vdc @ 350mA; -5vdc @ 40mA

INSERTION LOSS & RETURN LOSS*

J7-J1



*J7: INPUT ARM

FREQUENCY	INSERTION LOSS	RETURN LOSS
200 MHz	1.80 dB	28.91 dB
500 MHz	1.08 dB	23.11 dB
1.0 GHz	0.93 dB	21.76 dB
2.0 GHz	1.01 dB	22.14 dB
3.0 GHz	1.08 dB	19.37 dB
4.0 GHz	1.09 dB	17.82 dB

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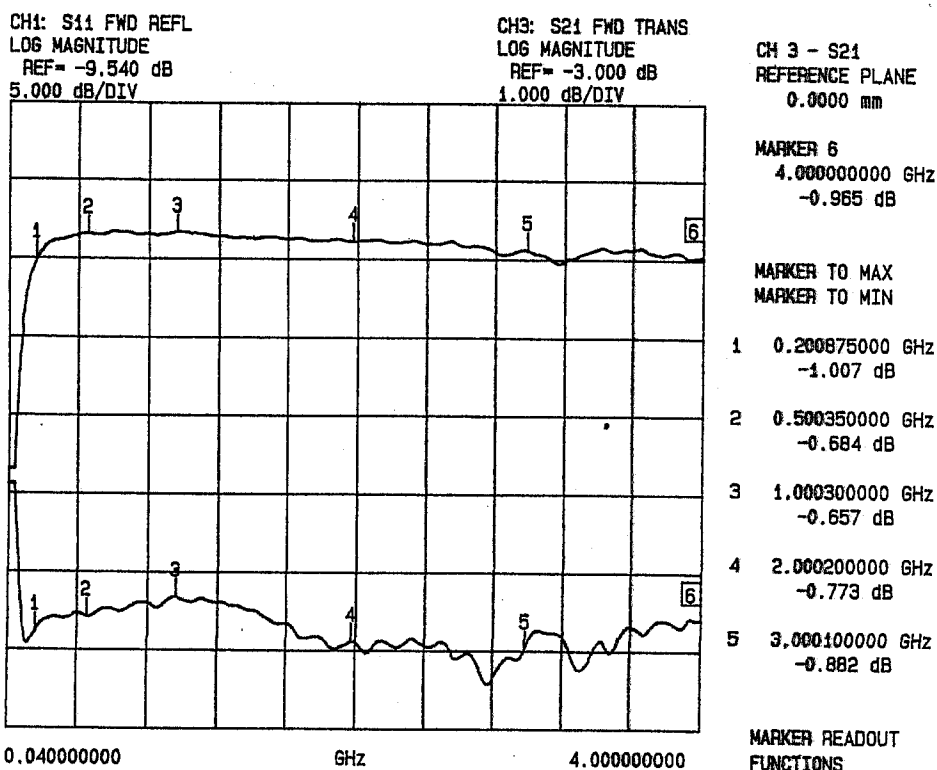


SUMMARY TEST DATA

MODEL NUMBER	: SW-1182-7D
OPTION NUMBER	: A04, A14
SERIAL NUMBER	: 7MS90304
ENGINEER	: RENE AFABLE
VOLTAGE & CURRENT DRAW	: +5vdc @ 350mA; -5vdc @ 40mA

INSERTION LOSS & RETURN LOSS*

J1-J8



*J1: INPUT ARM

FREQUENCY	INSERTION LOSS	RETURN LOSS
200 MHz	1.00 dB	22.28 dB
500 MHz	0.68 dB	22.39 dB
1.0 GHz	0.65 dB	21.13 dB
2.0 GHz	0.77 dB	23.97 dB
3.0 GHz	0.88 dB	24.35 dB
4.0 GHz	0.96 dB	22.53 dB

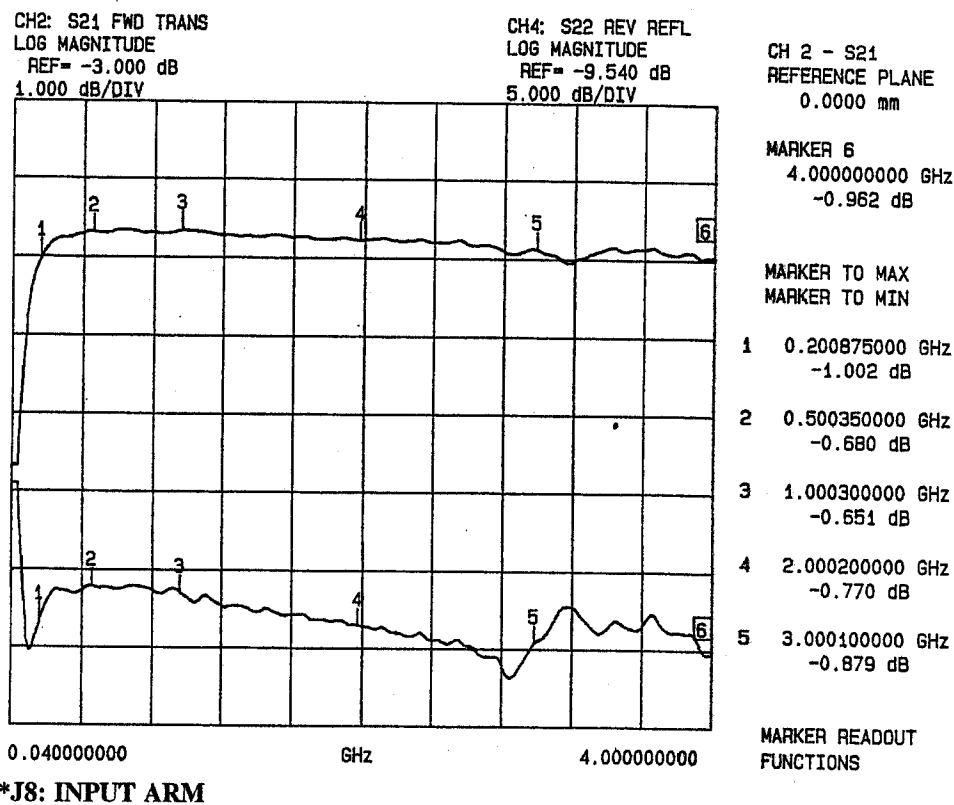


SUMMARY TEST DATA

MODEL NUMBER : SW-1182-7D
OPTION NUMBER : A04, A14
SERIAL NUMBER : 7MS90304
ENGINEER : RENE AFABLE
VOLTAGE & CURRENT DRAW : +5vdc @ 350mA; -5vdc @ 40mA

INSERTION LOSS & RETURN LOSS*

J8-J1



FREQUENCY	INSERTION LOSS	RETURN LOSS
200 MHz	1.00 dB	22.83 dB
500 MHz	0.68 dB	20.59 dB
1.0 GHz	0.65 dB	21.04 dB
2.0 GHz	0.77 dB	23.07 dB
3.0 GHz	0.87 dB	24.13 dB
4.0 GHz	0.96 dB	24.86 dB

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PAGE 44



SUMMARY TEST DATA

MODEL NUMBER	: SW-1182-7D
OPTION NUMBER	: A04, A14
SERIAL NUMBER	: 7MS90304
ENGINEER	: RENE AFABLE
VOLTAGE & CURRENT DRAW	: +5vdc @ 350mA; -5vdc @ 40mA

SWITCHING SPEED

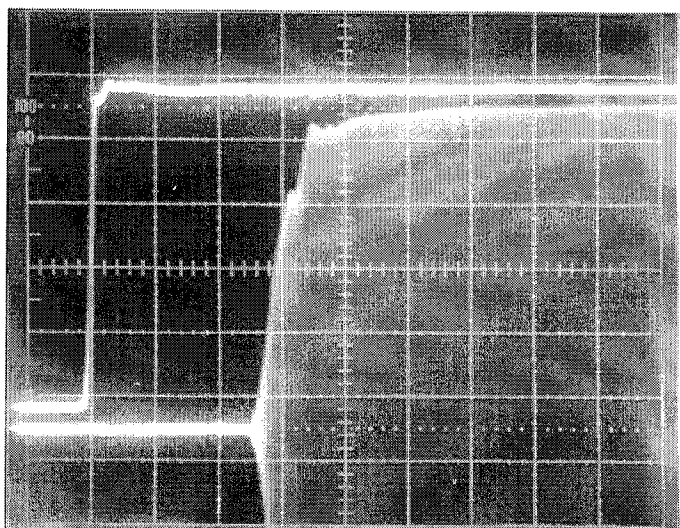
"Rise/Fall" Time: 10% RF to 90% RF & 90% RF to 10% RF
 "On/Off" Time: 50% TTL to 90% RF or 10% RF

TYPICAL OF ALL ARMS

"DELAY ON": 70 nS
 "RISE TIME": 12 nS

HORIZONTAL SCALE:
 20 nS PER DIVISION

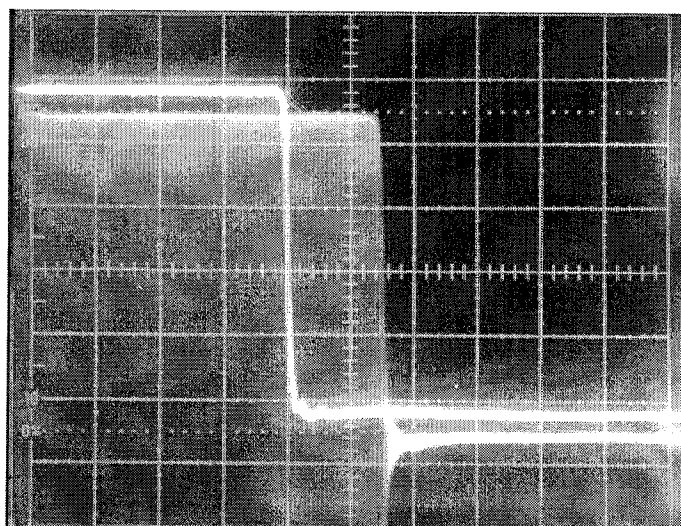
VERTICAL SCALE:
 10 mV PER DIVISION



"DELAY OFF": 30 nS
 "FALL TIME": 4 nS

HORIZONTAL SCALE:
 20 nS PER DIVISION

VERTICAL SCALE:
 10 mV PER DIVISION



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SUMMARY TEST DATA

MODEL NUMBER	: SW-1182-7D
OPTION NUMBER	: A04, A14
SERIAL NUMBER	: 7MS90304
ENGINEER	: RENE AFABLE
VOLTAGE & CURRENT DRAW	: +5vdc @ 350mA; -5vdc @ 40mA

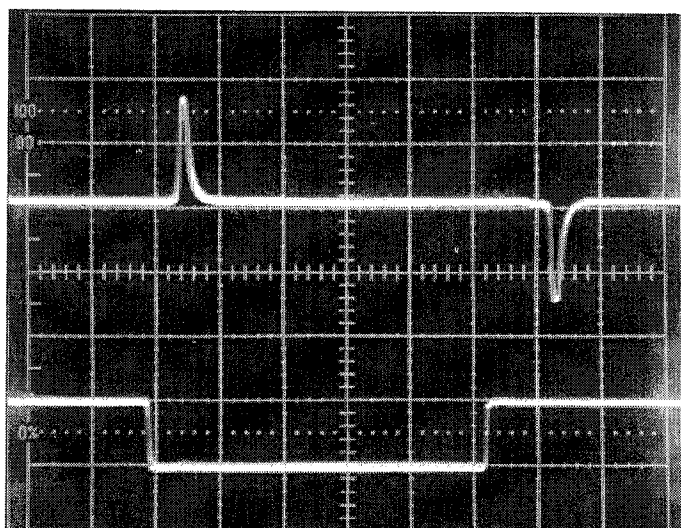
VIDEO TRANSIENTS

TYPICAL OF ALL ARMS

≤ 3.0 V P-P
MEASURED IN A
300 MHZ BANDWIDTH

VERTICAL SCALE:
1 V PER DIVISION

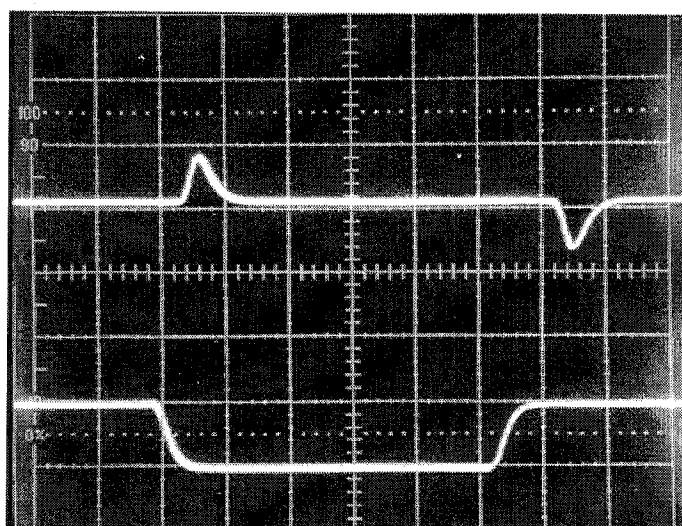
HORIZONTAL SCALE:
50 nS PER DIVISION



≤ 1.5 V P-P
MEASURED IN A
20 MHZ BANDWIDTH

VERTICAL SCALE:
1 V PER DIVISION

HORIZONTAL SCALE:
50 nS PER DIVISION



OCTOBER 7, 2000



**AMERICAN MICROWAVE
CORPORATION**

APPENDIX A
MISCELLANEOUS
TEST DATA AND PLOTS
ON
ISOLATION
AS
MEASURED
ON A VECTOR NETWORK ANALYZER
ON A
SP7T
SOLID STATE SWITCH
AMC MODEL No:
SW-1182-7D OPTIONS A04, A14
(Serial Number: 7MS90304)
FROM
40 MHz TO 20 GHz
AND FROM
40 MHz TO 4 GHz

OCTOBER 7, 2000



**AMERICAN MICROWAVE
CORPORATION**

**ISOLATION
DATA AND PLOTS
FROM
40 MHz TO 20 GHz
AS
MEASURED
ON A VECTOR NETWORK ANALYZER
ON A
SP7T
SOLID STATE SWITCH
AMC MODEL No:
SW-1182-7D OPTIONS A04, A14
(Serial Number: 7MS90304)**

**PREPARED
BY
KATIE BAISEY**

**TESTED
BY
RENE AFABLE**

OCTOBER 7, 2000

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

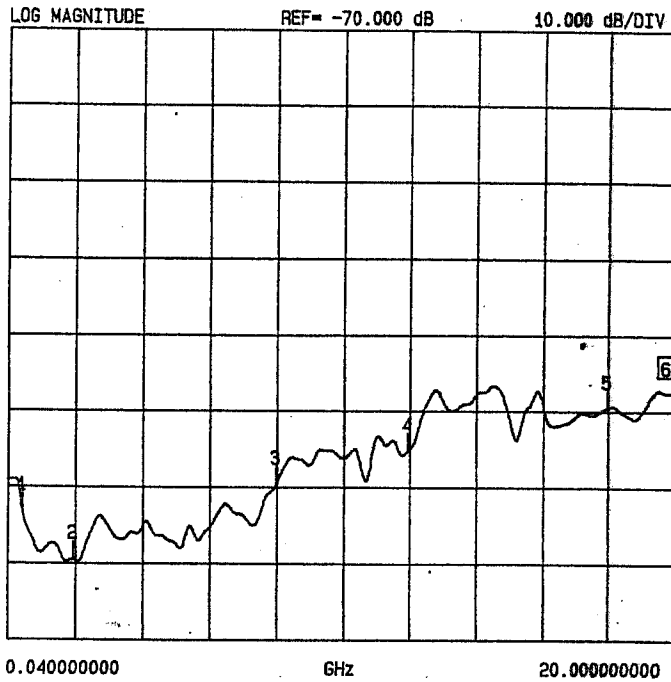


SUMMARY TEST DATA

MODEL NUMBER : SW-1182-7D
OPTION NUMBER : A04, A14
SERIAL NUMBER : 7MS90304
ENGINEER : RENE AFABLE
VOLTAGE & CURRENT DRAW : +5vdc @ 350mA; -5vdc @ 40mA

ISOLATION*
 (AS MEASURED ON A VECTOR NETWORK ANALYZER)
J1-J2

S21 FORWARD TRANSMISSION



CH 3 - S21
 REFERENCE PLANE
 0.0000 mm

MARKER 6
 20.000000000 GHz
 -77.547 dB

MARKER TO MAX
 MARKER TO MIN

- 1 0.501575000 GHz
-93.165 dB
- 2 2.011050000 GHz
-99.515 dB
- 3 8.011525000 GHz
-89.573 dB
- 4 12.003525000 GHz
-85.112 dB
- 5 18.004000000 GHz
-79.443 dB

MARKER READOUT FUNCTIONS

*J1: INPUT ARM

FREQUENCY	ISOLATION
500 MHz	93.16 dB
2.0 GHz	99.51 dB
8.0 GHz	89.57 dB
12.0 GHz	85.11 dB
18.0 GHz	79.44 dB
20.0 GHz	77.54 dB

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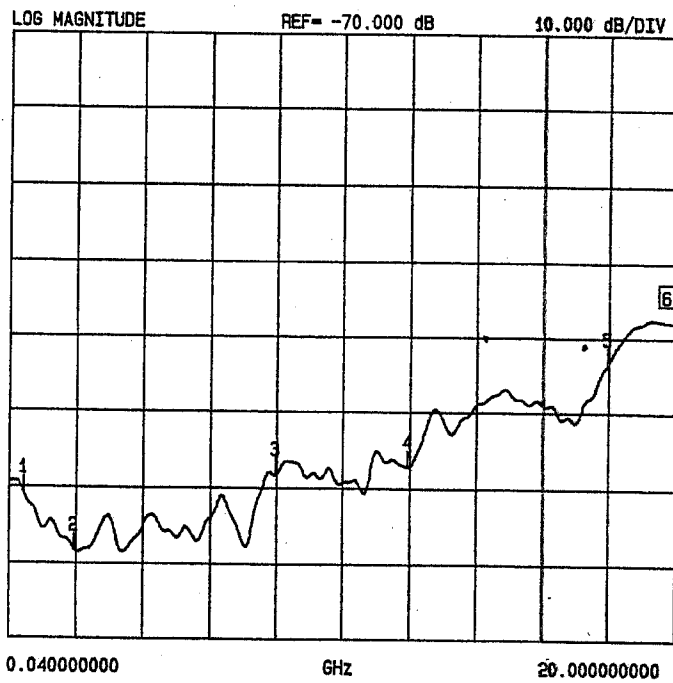


SUMMARY TEST DATA

MODEL NUMBER	: SW-1182-7D
OPTION NUMBER	: A04, A14
SERIAL NUMBER	: 7MS90304
ENGINEER	: RENE AFABLE
VOLTAGE & CURRENT DRAW	: +5vdc @ 350mA; -5vdc @ 40mA

ISOLATION*
(AS MEASURED ON A VECTOR NETWORK ANALYZER)
J1-J3

S21 FORWARD TRANSMISSION



CH 3 - S21
REFERENCE PLANE
0.0000 mm
MARKER 6
20.000000000 GHz
-67.870 dB

MARKER TO MAX
MARKER TO MIN

- 1 0.501575000 GHz
-90.758 dB
- 2 2.011050000 GHz
-98.382 dB
- 3 8.011525000 GHz
-88.362 dB
- 4 12.003525000 GHz
-87.188 dB
- 5 18.004000000 GHz
-73.374 dB

MARKER READOUT
FUNCTIONS

*J1: INPUT ARM

FREQUENCY	ISOLATION
500 MHz	90.75 dB
2.0 GHz	98.38 dB
8.0 GHz	88.36 dB
12.0 GHz	87.18 dB
18.0 GHz	73.37 dB
20.0 GHz	67.87 dB

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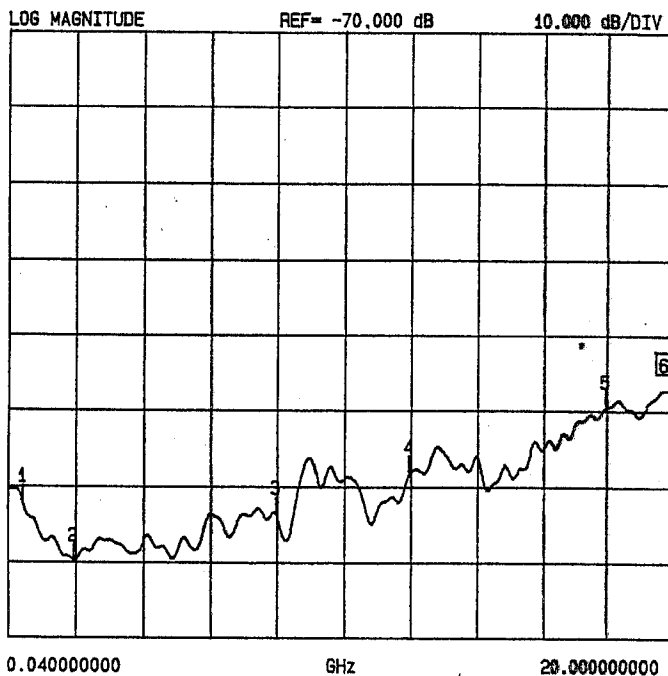


SUMMARY TEST DATA

MODEL NUMBER	: SW-1182-7D
OPTION NUMBER	: A04, A14
SERIAL NUMBER	: 7MS90304
ENGINEER	: RENE AFABLE
VOLTAGE & CURRENT DRAW	: +5vdc @ 350mA; -5vdc @ 40mA

ISOLATION*
(AS MEASURED ON A VECTOR NETWORK ANALYZER)
J1-J4

S21 FORWARD TRANSMISSION



CH 3 - S21
REFERENCE PLANE
0.0000 mm
MARKER 6
20.000000000 GHz
-77.219 dB

MARKER TO MAX
MARKER TO MIN

- 1 0.501575000 GHz
-92.105 dB
- 2 2.011050000 GHz
-99.773 dB
- 3 8.011525000 GHz
-93.642 dB
- 4 12.003525000 GHz
-88.114 dB
- 5 18.004000000 GHz
-79.495 dB

MARKER READOUT
FUNCTIONS

*J1: INPUT ARM

FREQUENCY	ISOLATION
500 MHz	92.10 dB
2.0 GHz	99.77 dB
8.0 GHz	93.64 dB
12.0 GHz	88.11 dB
18.0 GHz	79.49 dB
20.0 GHz	77.21 dB

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A5



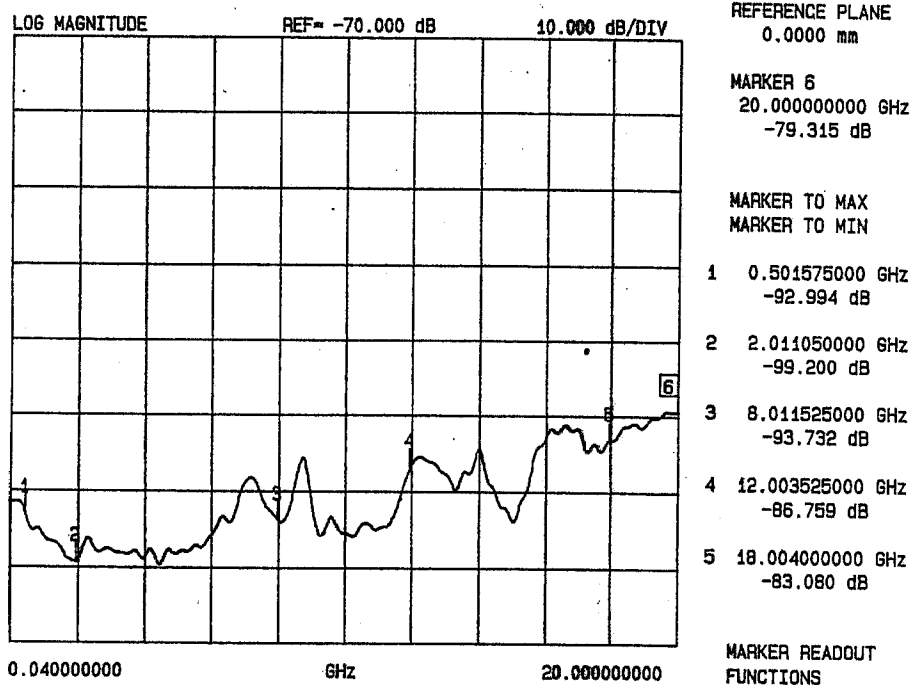
SUMMARY TEST DATA

MODEL NUMBER	: SW-1182-7D
OPTION NUMBER	: A04, A14
SERIAL NUMBER	: 7MS90304
ENGINEER	: RENE AFABLE
VOLTAGE & CURRENT DRAW	: +5vdc @ 350mA; -5vdc @ 40mA

ISOLATION*

(AS MEASURED ON A VECTOR NETWORK ANALYZER)
J1-J5

S21 FORWARD TRANSMISSION



*J1: INPUT ARM

FREQUENCY	ISOLATION
500 MHz	92.99 dB
2.0 GHz	99.20 dB
8.0 GHz	93.73 dB
12.0 GHz	86.75 dB
18.0 GHz	83.08 dB
20.0 GHz	79.31 dB

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A6

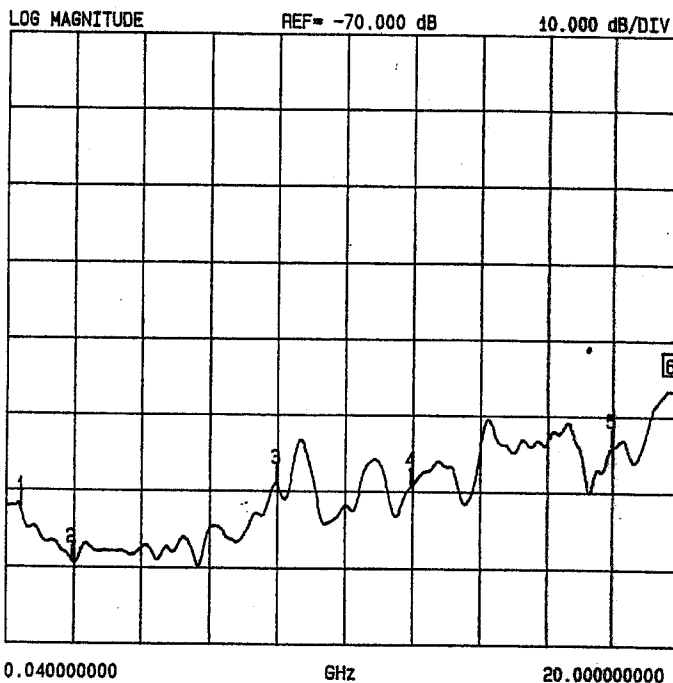


SUMMARY TEST DATA

MODEL NUMBER	: SW-1182-7D
OPTION NUMBER	: A04, A14
SERIAL NUMBER	: 7MS90304
ENGINEER	: RENE AFABLE
VOLTAGE & CURRENT DRAW	: +5vdc @ 350mA; -5vdc @ 40mA

ISOLATION*
(AS MEASURED ON A VECTOR NETWORK ANALYZER)
J1-J6

S21 FORWARD TRANSMISSION



CH 3 - S21
REFERENCE PLANE
0.0000 mm

MARKER 6
20.000000000 GHz
-76.539 dB

MARKER TO MAX
MARKER TO MIN

1 0.501575000 GHz
-92.641 dB

2 2.011050000 GHz
-99.349 dB

3 8.011525000 GHz
-89.015 dB

4 12.003525000 GHz
-89.228 dB

5 18.004000000 GHz
-84.036 dB

MARKER READOUT
FUNCTIONS

*J1: INPUT ARM

FREQUENCY	ISOLATION
500 MHz	92.64 dB
2.0 GHz	99.34 dB
8.0 GHz	89.01 dB
12.0 GHz	89.22 dB
18.0 GHz	84.03 dB
20.0 GHz	76.53 dB

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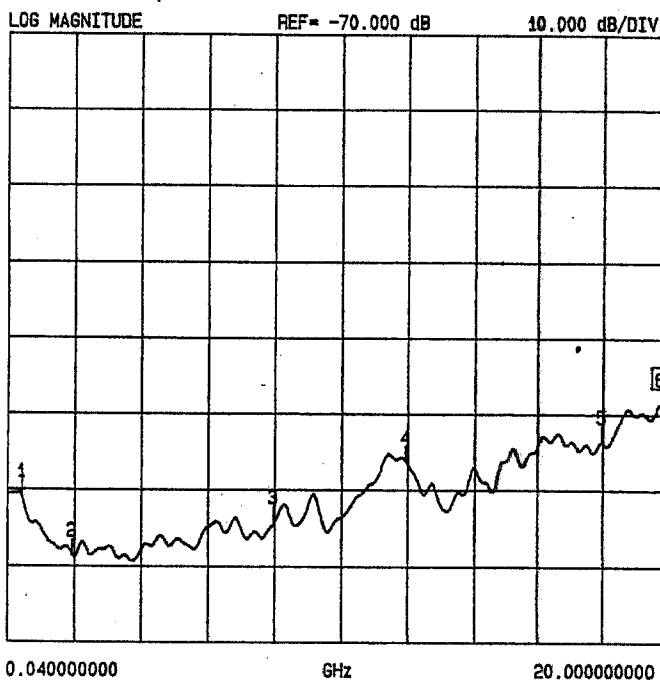


SUMMARY TEST DATA

MODEL NUMBER	: SW-1182-7D
OPTION NUMBER	: A04, A14
SERIAL NUMBER	: 7MS90304
ENGINEER	: RENE AFABLE
VOLTAGE & CURRENT DRAW	: +5vdc @ 350mA; -5vdc @ 40mA

ISOLATION*
(AS MEASURED ON A VECTOR NETWORK ANALYZER)
J1-J7

S21 FORWARD TRANSMISSION



CH 3 - S21
REFERENCE PLANE
0.0000 mm

MARKER 6
20.000000000 GHz
-78.605 dB

MARKER TO MAX
MARKER TO MIN

1	0.501575000 GHz	-91.031 dB
2	2.011050000 GHz	-98.788 dB
3	8.011525000 GHz	-94.423 dB
4	12.003525000 GHz	-86.429 dB
5	18.004000000 GHz	-83.817 dB

MARKER READOUT
FUNCTIONS

*J1: INPUT ARM

FREQUENCY	ISOLATION
500 MHz	91.03 dB
2.0 GHz	98.78 dB
8.0 GHz	94.42 dB
12.0 GHz	86.42 dB
18.0 GHz	83.81 dB
20.0 GHz	78.60 dB

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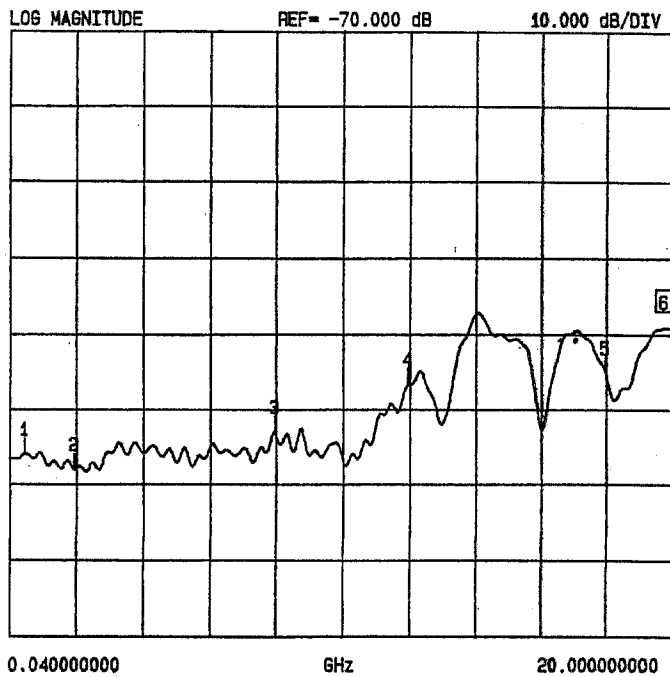


SUMMARY TEST DATA

MODEL NUMBER	: SW-1182-7D
OPTION NUMBER	: A04, A14
SERIAL NUMBER	: 7MS90304
ENGINEER	: RENE AFABLE
VOLTAGE & CURRENT DRAW	: +5vdc @ 350mA; -5vdc @ 40mA

ISOLATION*
(AS MEASURED ON A VECTOR NETWORK ANALYZER)
J1-J8

S21 FORWARD TRANSMISSION



CH 3 - S21
REFERENCE PLANE
0.0000 mm

MARKER 6
20.000000000 GHz
-69.038 dB

MARKER TO MAX
MARKER TO MIN

- 1 0.501575000 GHz
-85.934 dB
- 2 2.011050000 GHz
-88.134 dB
- 3 8.011525000 GHz
-83.197 dB
- 4 12.003525000 GHz
-76.552 dB
- 5 18.004000000 GHz
-75.185 dB

MARKER READOUT
FUNCTIONS

*J1: INPUT ARM

FREQUENCY	ISOLATION
500 MHz	85.93 dB
2.0 GHz	88.13 dB
8.0 GHz	83.19 dB
12.0 GHz	76.55 dB
18.0 GHz	75.18 dB
20.0 GHz	69.03 dB

OCTOBER 7, 2000



**ISOLATION
DATA AND PLOTS
FROM
40 MHz TO 4 GHz
AS
MEASURED
ON A VECTOR NETWORK ANALYZER
ON A
SP7T
SOLID STATE SWITCH
AMC MODEL No:
SW-1182-7D OPTIONS A04, A14
(Serial Number: 7MS90304)**

**PREPARED
BY
KATIE BAISEY**

**TESTED
BY
RENE AFABLE**

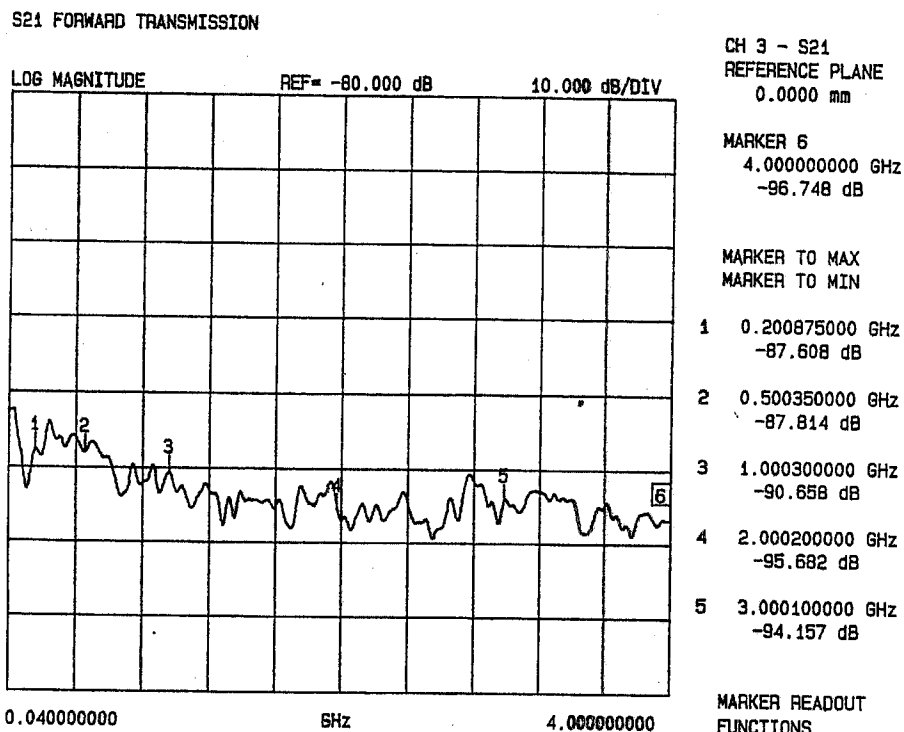
OCTOBER 7, 2000



SUMMARY TEST DATA

MODEL NUMBER	: SW-1182-7D
OPTION NUMBER	: A04, A14
SERIAL NUMBER	: 7MS90304
ENGINEER	: RENE AFABLE
VOLTAGE & CURRENT DRAW	: +5vdc @ 350mA; -5vdc @ 40mA

ISOLATION*
(AS MEASURED ON A VECTOR NETWORK ANALYZER)
J1-J2



*J1: INPUT ARM

FREQUENCY	ISOLATION
200 MHz	87.60 dB
500 MHz	87.81 dB
1.0 GHz	90.65 dB
2.0 GHz	95.68 dB
3.0 GHz	94.15 dB
4.0 GHz	96.74 dB

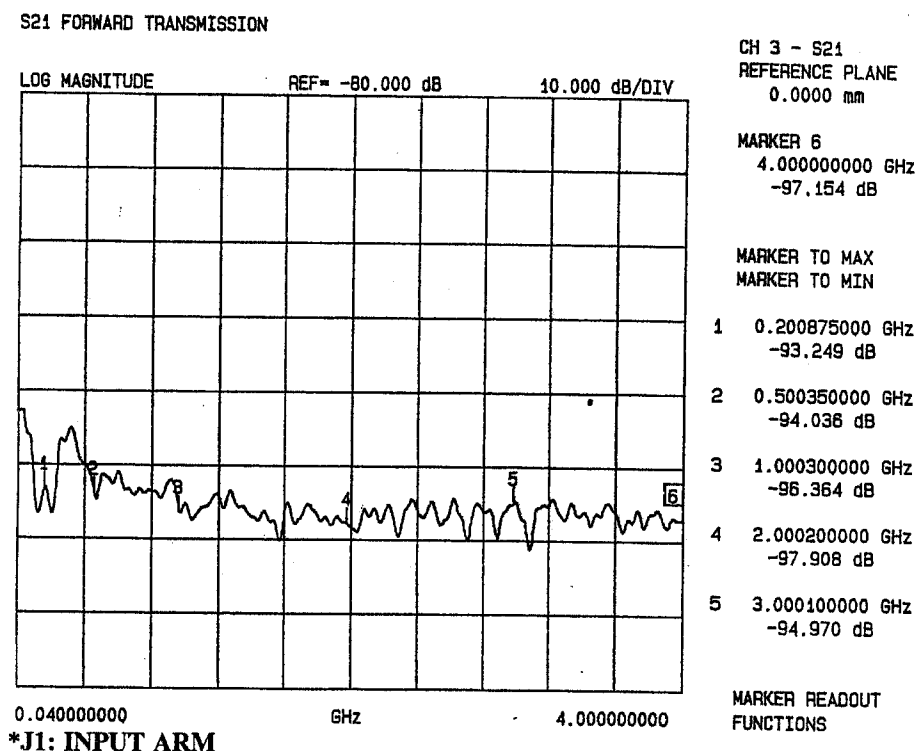
OCTOBER 7, 2000



SUMMARY TEST DATA

MODEL NUMBER	: SW-1182-7D
OPTION NUMBER	: A04, A14
SERIAL NUMBER	: 7MS90304
ENGINEER	: RENE AFABLE
VOLTAGE & CURRENT DRAW	: +5vdc @ 350mA; -5vdc @ 40mA

ISOLATION*
(AS MEASURED ON A VECTOR NETWORK ANALYZER)
J1-J3



FREQUENCY	ISOLATION
200 MHz	93.24 dB
500 MHz	94.03 dB
1.0 GHz	96.36 dB
2.0 GHz	97.90 dB
3.0 GHz	94.97 dB
4.0 GHz	97.15 dB

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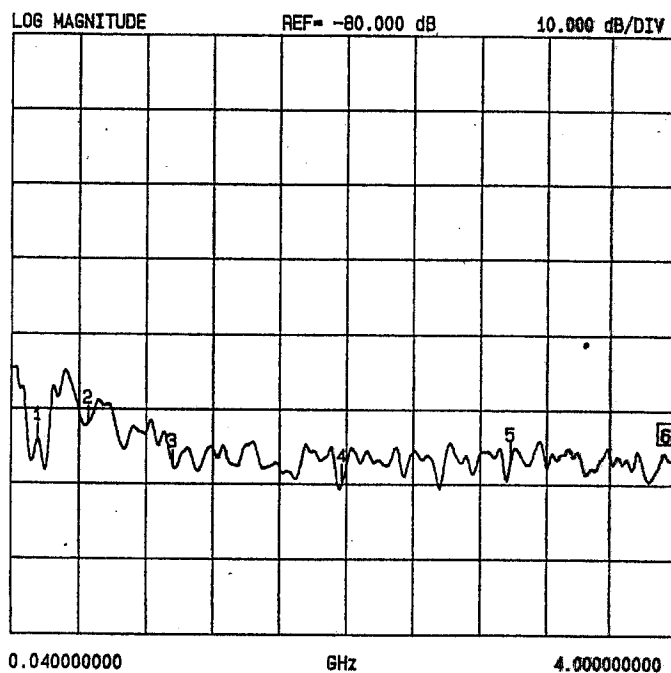


SUMMARY TEST DATA

MODEL NUMBER : SW-1182-7D
OPTION NUMBER : A04, A14
SERIAL NUMBER : 7MS90304
ENGINEER : RENE AFABLE
VOLTAGE & CURRENT DRAW : +5vdc @ 350mA; -5vdc @ 40mA

ISOLATION*
 (AS MEASURED ON A VECTOR NETWORK ANALYZER)
 J1-J4

S21 FORWARD TRANSMISSION



CH 3 - S21
 REFERENCE PLANE
 0.0000 mm
 MARKER 6
 4.000000000 GHz
 -96.756 dB
 MARKER TO MAX
 MARKER TO MIN
 1 0.200875000 GHz
 -94.058 dB
 2 0.500350000 GHz
 -91.757 dB
 3 1.000300000 GHz
 -97.808 dB
 4 2.000200000 GHz
 -99.525 dB
 5 3.000100000 GHz
 -96.682 dB
 MARKER READOUT
 FUNCTIONS

*J1: INPUT ARM

FREQUENCY	ISOLATION
200 MHz	94.05 dB
500 MHz	91.75 dB
1.0 GHz	97.80 dB
2.0 GHz	99.52 dB
3.0 GHz	96.68 dB
4.0 GHz	96.75 dB

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SUMMARY TEST DATA

MODEL NUMBER	: SW-1182-7D
OPTION NUMBER	: A04, A14
SERIAL NUMBER	: 7MS90304
ENGINEER	: RENE AFABLE
VOLTAGE & CURRENT DRAW	: +5vdc @ 350mA; -5vdc @ 40mA

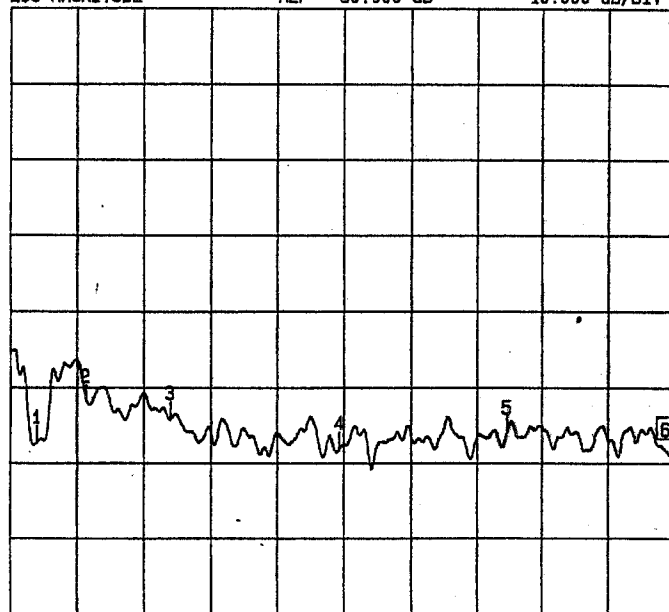
ISOLATION*

(AS MEASURED ON A VECTOR NETWORK ANALYZER)

J1-J5

S21 FORWARD TRANSMISSION

LOG MAGNITUDE REF= -80.000 dB 10.000 dB/DIV



CH 3 - S21

REFERENCE PLANE
0.0000 mmMARKER 6
4.000000000 GHz
-98.907 dBMARKER TO MAX
MARKER TO MIN

1	0.200875000 GHz	-97.284 dB
2	0.500350000 GHz	-91.814 dB
3	1.000300000 GHz	-94.057 dB
4	2.000200000 GHz	-98.033 dB
5	3.000100000 GHz	-95.939 dB

MARKER READOUT
FUNCTIONS

0.040000000

GHz

4.000000000

*J1: INPUT ARM

FREQUENCY	ISOLATION
200 MHz	97.28 dB
500 MHz	91.81 dB
1.0 GHz	94.05 dB
2.0 GHz	98.03 dB
3.0 GHz	95.93 dB
4.0 GHz	98.90 dB

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A14

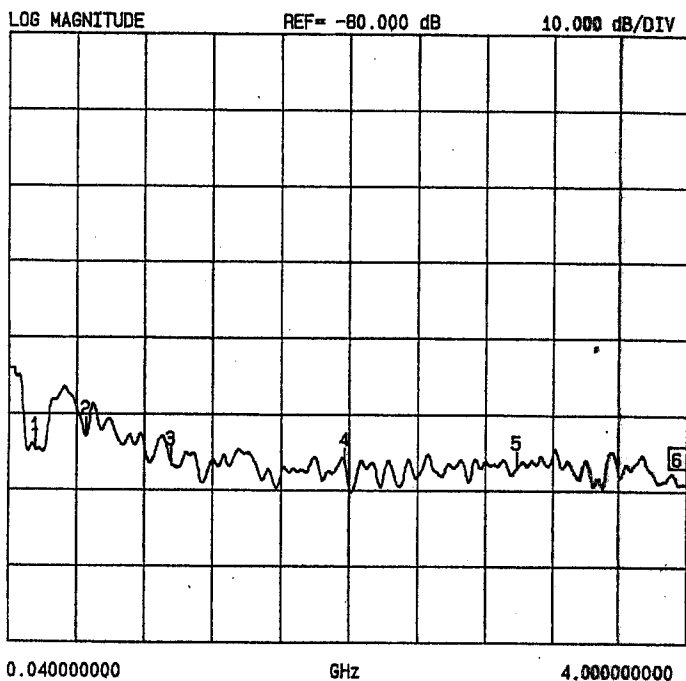


SUMMARY TEST DATA

MODEL NUMBER	: SW-1182-7D
OPTION NUMBER	: A04, A14
SERIAL NUMBER	: 7MS90304
ENGINEER	: RENE AFABLE
VOLTAGE & CURRENT DRAW	: +5vdc @ 350mA; -5vdc @ 40mA

ISOLATION*
(AS MEASURED ON A VECTOR NETWORK ANALYZER)
J1-J6

S21 FORWARD TRANSMISSION



CH 3 - S21
REFERENCE PLANE
0.0000 mm

MARKER 6
4.000000000 GHz
-99.160 dB

MARKER TO MAX
MARKER TO MIN

1	0.200875000 GHz	-94.667 dB
2	0.500350000 GHz	-92.727 dB
3	1.000300000 GHz	-96.745 dB
4	2.000200000 GHz	-96.704 dB
5	3.000100000 GHz	-97.075 dB

MARKER READOUT
FUNCTIONS

*J1: INPUT ARM

FREQUENCY	ISOLATION
200 MHz	94.66 dB
500 MHz	92.72 dB
1.0 GHz	96.74 dB
2.0 GHz	96.70 dB
3.0 GHz	97.07 dB
4.0 GHz	99.16 dB

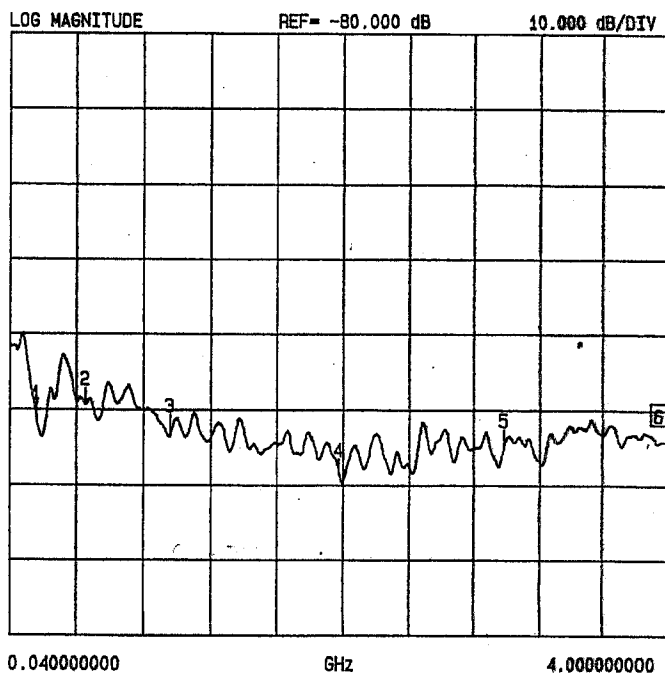


SUMMARY TEST DATA

MODEL NUMBER	: SW-1182-7D
OPTION NUMBER	: A04, A14
SERIAL NUMBER	: 7MS90304
ENGINEER	: RENE AFABLE
VOLTAGE & CURRENT DRAW	: +5vdc @ 350mA; -5vdc @ 40mA

ISOLATION*
(AS MEASURED ON A VECTOR NETWORK ANALYZER)
J1-J7

S21 FORWARD TRANSMISSION



CH 3 - S21
REFERENCE PLANE
0.0000 mm

MARKER 6
4.000000000 GHz
-94.205 dB

MARKER TO MAX
MARKER TO MIN

1 0.200875000 GHz
-91.209 dB

2 0.500350000 GHz
-89.244 dB

3 1.000300000 GHz
-92.855 dB

4 2.000200000 GHz
-98.658 dB

5 3.000100000 GHz
-94.719 dB

MARKER READOUT
FUNCTIONS

*J1: INPUT ARM

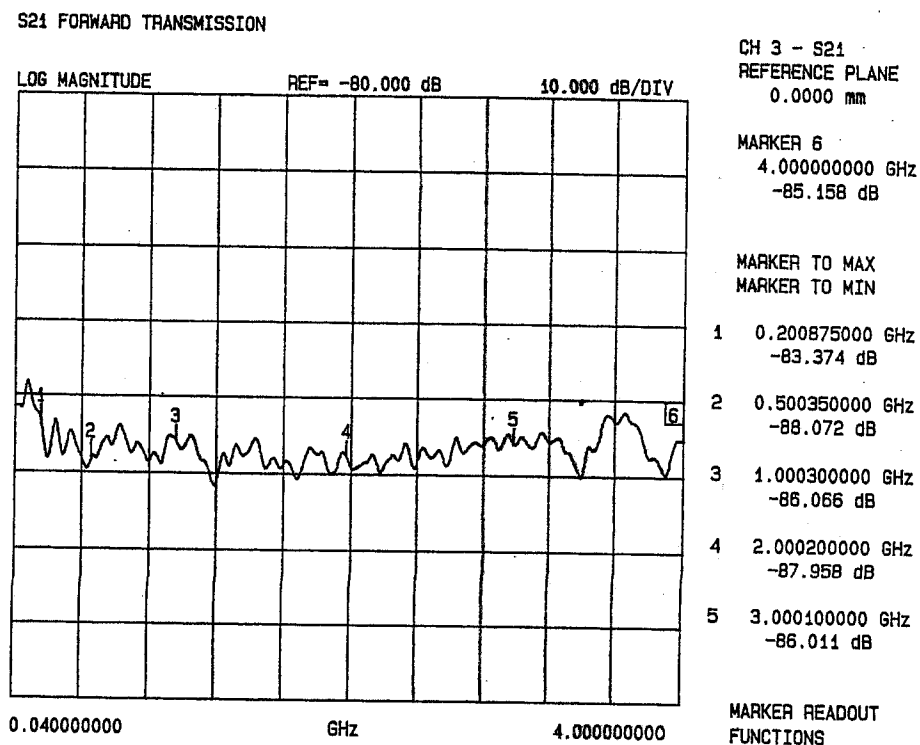
FREQUENCY	ISOLATION
200 MHz	91.20 dB
500 MHz	89.24 dB
1.0 GHz	92.85 dB
2.0 GHz	98.65 dB
3.0 GHz	94.71 dB
4.0 GHz	94.20 dB



SUMMARY TEST DATA

MODEL NUMBER	: SW-1182-7D
OPTION NUMBER	: A04, A14
SERIAL NUMBER	: 7MS90304
ENGINEER	: RENE AFABLE
VOLTAGE & CURRENT DRAW	: +5vdc @ 350mA; -5vdc @ 40mA

ISOLATION*
(AS MEASURED ON A VECTOR NETWORK ANALYZER)
J1-J8



*J1: INPUT ARM

FREQUENCY	ISOLATION
200 MHz	83.37 dB
500 MHz	88.07 dB
1.0 GHz	86.06 dB
2.0 GHz	87.95 dB
3.0 GHz	86.01 dB
4.0 GHz	85.15 dB

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A17