



TEST DATA

ON

10 MHz TO 2 GHz

(USABLE TO 6 GHz)

AND

418 MHz TO 518 MHz

100 dB HIGH ISOLATION

ULTRA HIGH SPEED

BALANCED

LOW VIDEO TRANSIENTS

NON-REFLECTIVE

SPST

ECL COMPATIBLE

(TTL ALSO AVAILABLE)

SOLID STATE SWITCH

(SURFACE MOUNTABLE)

AMC MODEL No:

SWM-6000-1DTU-ECL-GB

**(DETAILED REPORT ON SERIAL NUMBER 1MS905165 AND
DATA SHEETS ON SERIAL NUMBERS 1MS905166 TO 1MS905176)**

TESTED, REPORTED AND PREPARED

BY

FRANK RETHMEIER

RENE AFABLE

July 1, 1999

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

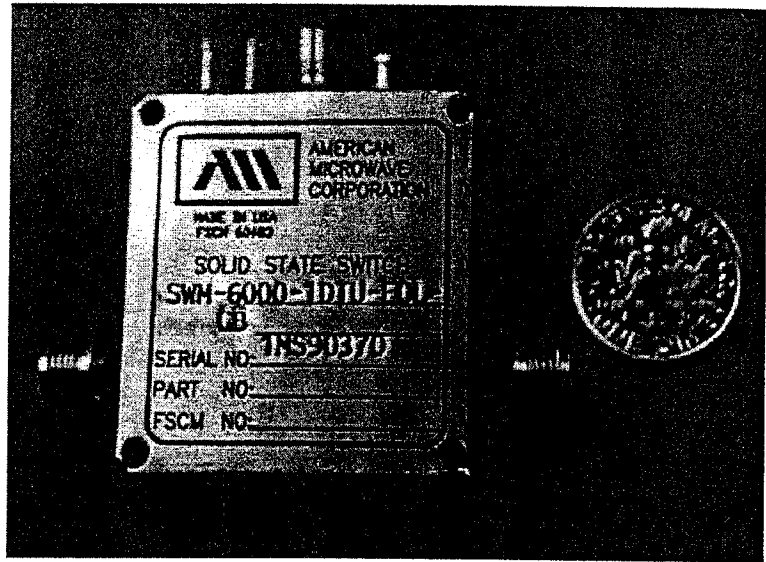
E-MAIL ADDRESS: AMCPMI@AOL.COM

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



**AMERICAN MICROWAVE
CORPORATION**

SPST NON-REFLECTIVE SOLID STATE SWITCH



KEY FEATURES

- 10 MHz TO 2 GHz
- 100 dB HIGH ISOLATION
- ULTRA HIGH SPEED
- BALANCED ON/OFF
- ECL COMPATIBLE
(TTL OPTION AVAILABLE)
- LOW VIDEO TRANSIENTS

AMC MODEL No: SWM-6000-1DTU-ECL-GB

SPECIFICATIONS: (NON-REFLECTIVE)

• FREQUENCY RANGE	:	10 MHz TO 2.0 GHz
• INSERTION LOSS	:	3.0 dB MAX.
	:	1.7 dB TYP. @ ≤ 10 MHz
	:	2.5 dB TYP. @ ≤ 500 MHz
	:	2.7 dB TYP. @ ≤ 1.0 GHz
	:	3.0 dB TYP. @ ≤ 2.0 GHz
• ISOLATION	:	90 dB MIN.
	:	>100 dB TYP. @ ≤ 10 MHz
	:	95 dB TYP. @ ≤ 500 MHz
	:	90 dB TYP. @ ≤ 2.0 GHz
• VSWR	:	2.0:1
• SWITCHING SPEED	:	"RISE" 5 ns MAX., 2 ns TYP.
	:	"FALL" 5 ns MAX., 2 ns TYP.
	:	"ON" 18 ns MAX., 15 ns TYP.
	:	"OFF" 18 ns MAX., 15 ns TYP.
• BALANCED ON/OFF	:	WITHIN ±2 ns
• CONTROL	:	ECL (OR TTL COMPATIBLE)
• VIDEO TRANSIENTS	:	≤ 80 mV PEAK TO PEAK, 300 MHz BANDWIDTH
	:	≤ 20 mV PEAK TO PEAK, 20 MHz BANDWIDTH
• RF INPUT POWER	:	+20 dBm @ 50 MHz
	:	+27 dBm @ >500 MHz
• DC POWER SUPPLY	:	+5.0 VDC @ +100 mA MAX.
	:	-5.2 VDC @ -100 mA MAX.
• SIZE	:	1.5" X 1.5" X 0.4"
• WEIGHT	:	≤ 1.3 oz.
• SURFACE MOUNTABLE	:	REMOVABLE CONNECTORS

July 1, 1999

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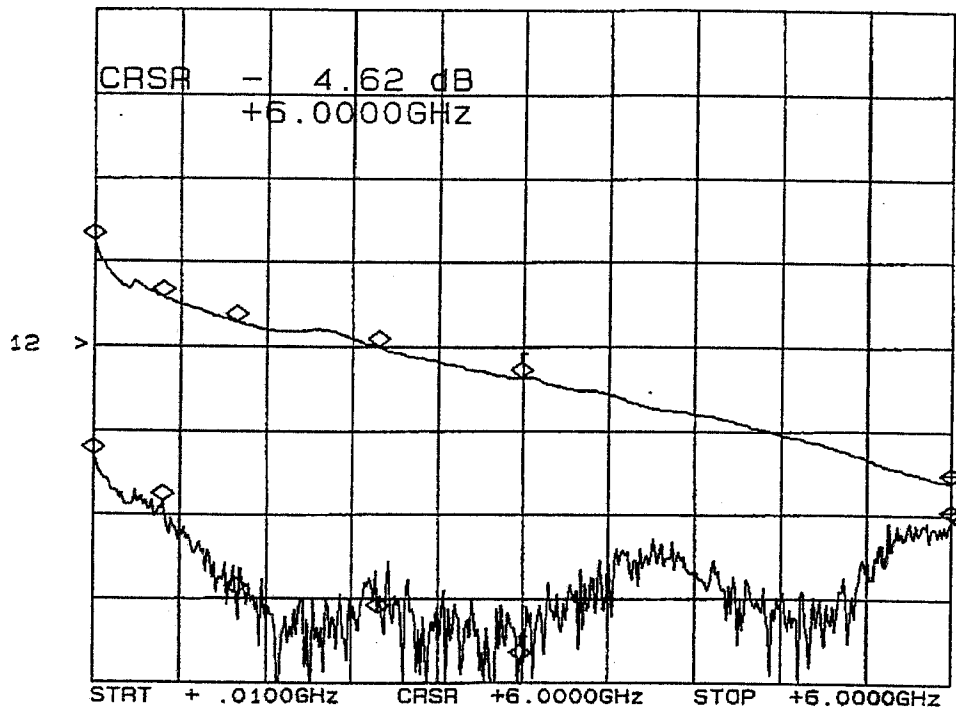
SUMMARY TEST DATA



MODEL NUMBER : SWM-6000-1DTU-ECL-GB
SERIAL NUMBER : 1MS905165
ENGINEERS : FRANK RETHMEIER, RENE AFABLE
VOLTAGE & CURRENT DRAW : +5 V, -5.2 V: +13 mA, -41 mA

INSERTION LOSS & RETURN LOSS*
 J1-J2; CONTROL VOLTAGE: "HIGH" (-0.8 V)

CH1: A -M - 4.62 dB CH2: B -M - 19.78 dB
 1.0 dB/ REF - 3.00 dB 5.0 dB/ REF - 9.54 dB



FREQUENCY	INSERTION LOSS	RETURN LOSS
0.01 GHz	1.74 dB	16.0 dB
0.5 GHz	2.42 dB	18.7 dB
1.0 GHz	2.70 dB	24.2 dB
2.0 GHz	3.00 dB	25.4 dB
3.0 GHz	3.36 dB	28.1 dB
6.0 GHz	4.62 dB	19.8 dB

*J1: INPUT ARM

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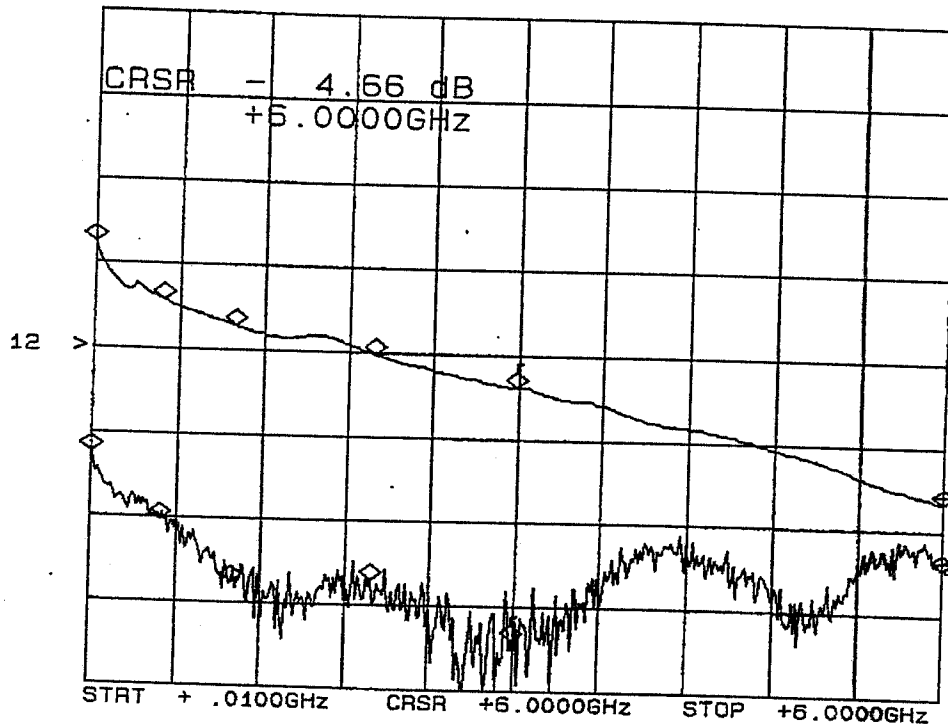
SUMMARY TEST DATA



MODEL NUMBER : SWM-6000-1DTU-ECL-GB
SERIAL NUMBER : 1MS905165
ENGINEERS : FRANK RETHMEIER, RENE AFABLE
VOLTAGE & CURRENT DRAW : +5 V, -5.2 V: +13 mA, -41 mA

INSERTION LOSS & RETURN LOSS*
 J2-J1; CONTROL VOLTAGE: "HIGH" (-0.8 V)

CH1: A -M REF = 4.66 dB
 1.0 dB/ REF = 3.00 dB
 CH2: B -M REF = 21.76 dB
 5.0 dB/ REF = 9.54 dB



FREQUENCY	INSERTION LOSS	RETURN LOSS
0.01 GHz	1.74 dB	15.6 dB
0.5 GHz	2.42 dB	19.6 dB
1.0 GHz	2.70 dB	23.3 dB
2.0 GHz	3.01 dB	23.0 dB
3.0 GHz	3.33 dB	26.5 dB
6.0 GHz	4.66 dB	21.8 dB

*J2: INPUT ARM

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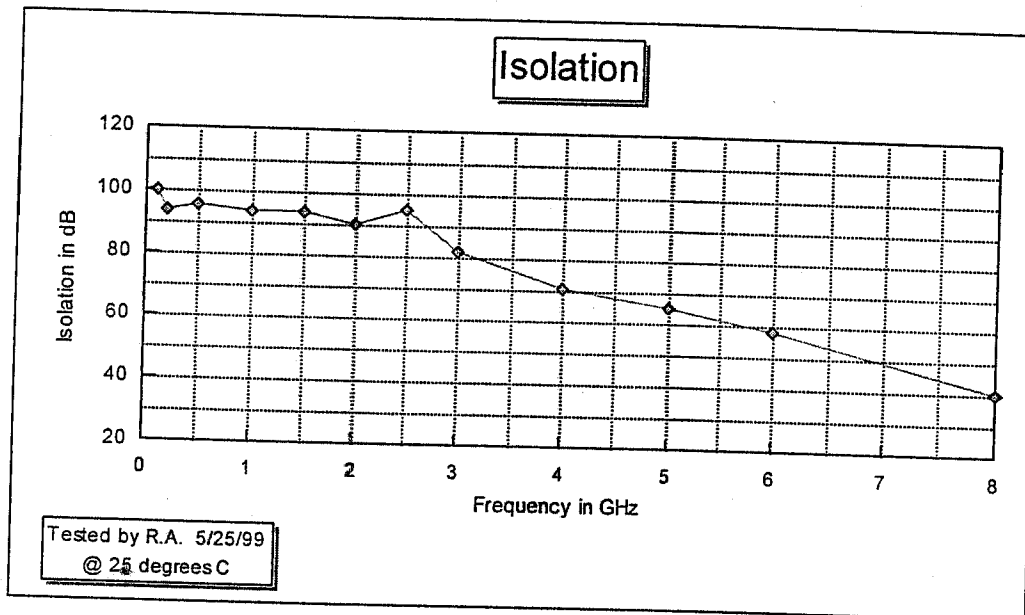
SUMMARY TEST DATA



MODEL NUMBER : SWM-6000-1DTU-ECL-GB
SERIAL NUMBER : 1MS905165
ENGINEERS : FRANK RETHMEIER, RENE AFABLE
VOLTAGE & CURRENT DRAW : +5 V, -5.2 V: +13 mA, -41 mA

ISOLATION*

(AS MEASURED ON SPECTRUM ANALYZER HP 8559A)
 CONTROL VOLTAGE: "LOW" (-1.8 V)



FREQUENCY	ISOLATION
100 MHz	100 dB
200 MHz	94 dB
500 MHz	96 dB
1.0 GHz	94 dB
1.5 GHz	94 dB
2.0 GHz	90 dB
2.5 GHz	95 dB
3.0 GHz	82 dB
4.0 GHz	71 dB
5.0 GHz	65 dB
6.0 GHz	58 dB
8.0 GHz	40 dB

* J1: INPUT ARM

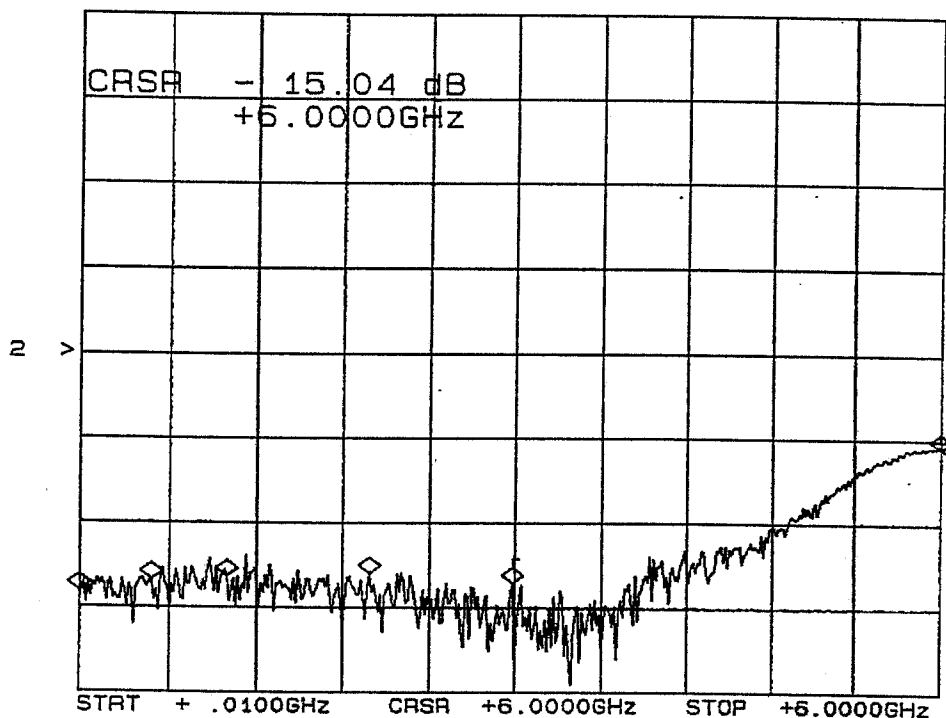
SUMMARY TEST DATA



MODEL NUMBER : SWM-6000-1DTU-ECL-GB
SERIAL NUMBER : 1MS905165
ENGINEERS : FRANK RETHMEIER, RENE AFABLE
VOLTAGE & CURRENT DRAW : +5 V, -5.2 V: +13 mA, -41 mA

RETURN LOSS*
 J1-J2; CONTROL VOLTAGE: "LOW" (-1.8 V)

CH2: B -M - 15.04 dB
 5.0 dB/ REF - 9.54 dB



FREQUENCY	RETURN LOSS
0.01 GHz	23.6 dB
0.5 GHz	22.8 dB
1.0 GHz	22.7 dB
2.0 GHz	22.4 dB
3.0 GHz	23.0 dB
6.0 GHz	15.0 dB

*J1: INPUT ARM

SUMMARY TEST DATA

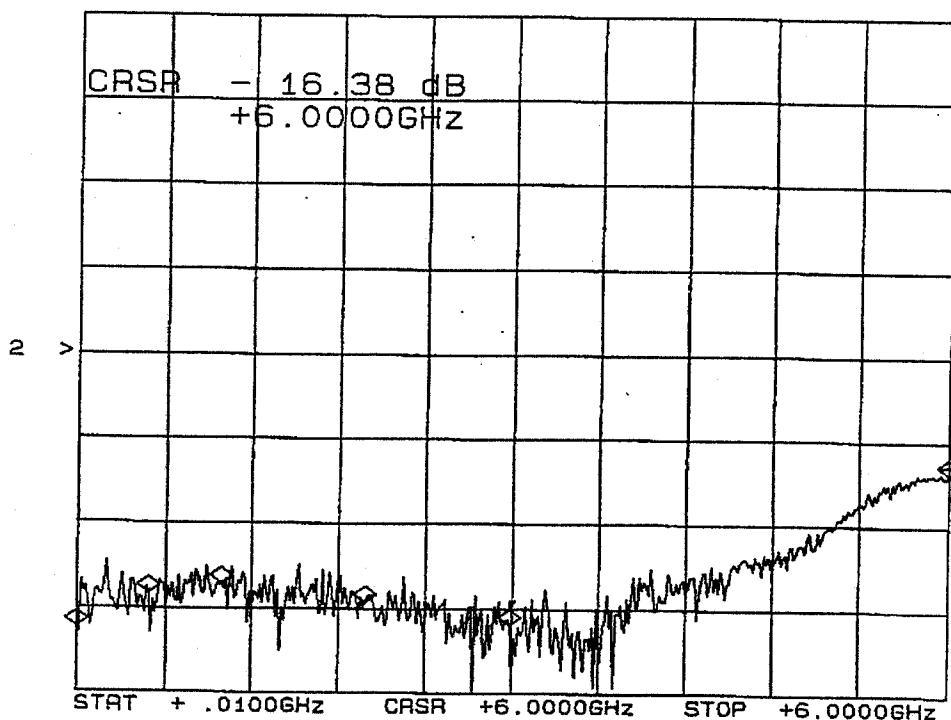


MODEL NUMBER : SWM-6000-1DTU-ECL-GB
 SERIAL NUMBER : 1MS905165
 ENGINEERS : FRANK RETHMEIER, RENE AFABLE
 VOLTAGE & CURRENT DRAW : +5 V, -5.2 V: +13 mA, -41 mA

RETURN LOSS*

J2-J1; CONTROL VOLTAGE: "LOW" (-1.8 V)

CH2: B -M - 16.38 dB
 5.0 dB/ REF - 9.54 dB



FREQUENCY	RETURN LOSS
0.01 GHz	25.6 dB
0.5 GHz	23.6 dB
1.0 GHz	23.1 dB
2.0 GHz	24.1 dB
3.0 GHz	25.5 dB
6.0 GHz	16.4 dB

*J2: INPUT ARM

July 1, 1999

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SUMMARY TEST DATA



MODEL NUMBER : SWM-6000-1DTU-ECL-GB
SERIAL NUMBER : 1MS905165
ENGINEERS : FRANK RETHMEIER, RENE AFABLE
VOLTAGE & CURRENT DRAW : +5 V, -5.2 V: +13 mA, -41 mA

SWITCHING SPEED

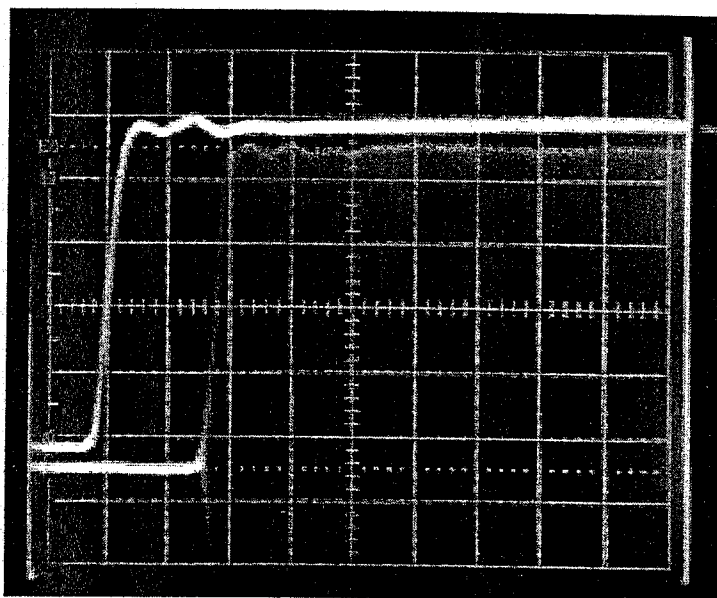
"Rise/Fall" Time: 10% RF to 90% RF & 90% RF to 10% RF

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

"DELAY ON": 15.5 ns

"RISE TIME": ≤ 2 ns

(Delay of 3.5 ns through TTL to ECL converter is added in the display)

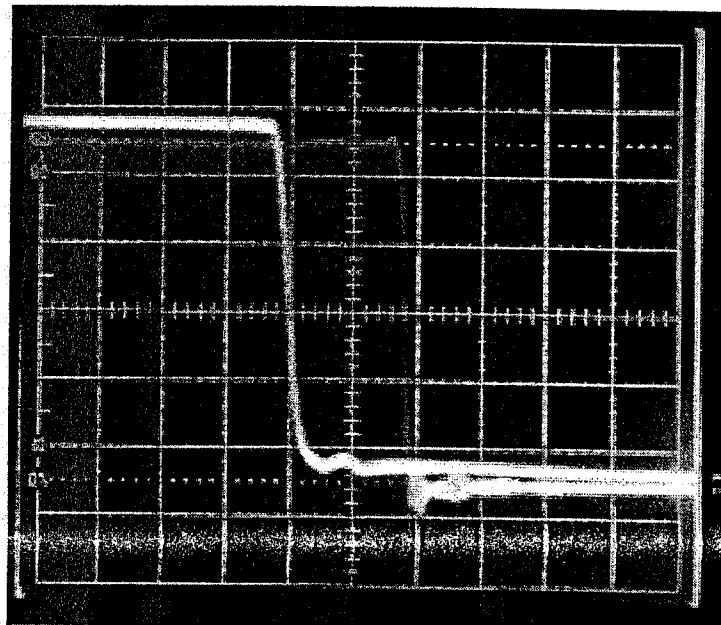


HORIZONTAL SCALE: 10 ns PER DIVISION

"DELAY OFF": 15 ns

"FALL TIME": ≤ 2 ns

(Delay of 4 ns through TTL to ECL converter is added in the display)



HORIZONTAL SCALE: 10 ns PER DIVISION

SUMMARY TEST DATA



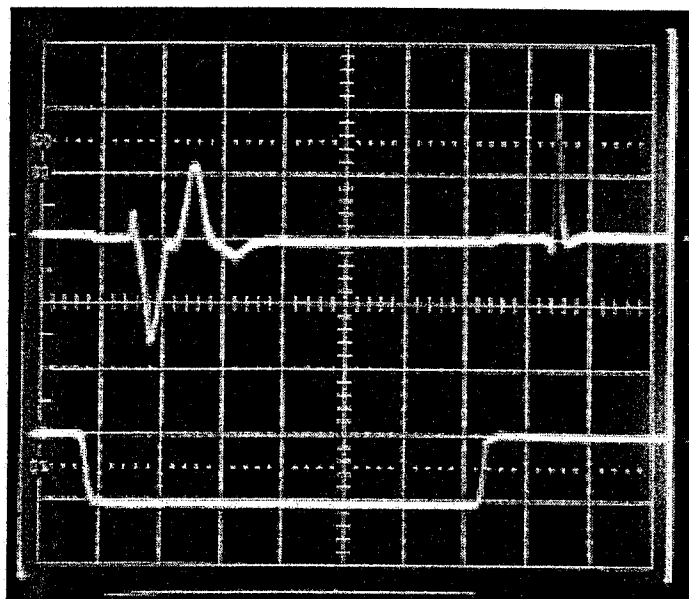
MODEL NUMBER	: SWM-6000-1DTU-ECL-GB
SERIAL NUMBER	: 1MS905165
ENGINEERS	: FRANK RETHMEIER, RENE AFABLE
VOLTAGE & CURRENT DRAW	: +5 V, -5.2 V: +13 mA, -41 mA

VIDEO TRANSIENTS

≤80 mV P-P MEASURED IN A 300 MHz BANDWIDTH

**VERTICAL SCALE:
20 mV PER DIVISION**

TTL

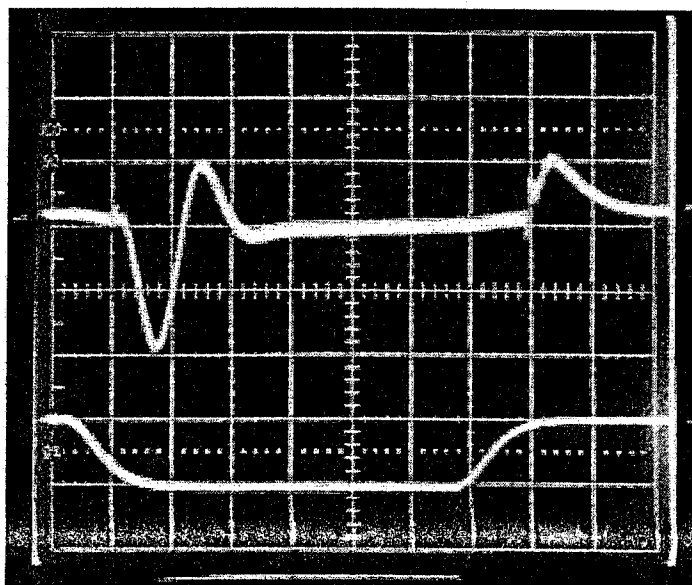


HORIZONTAL SCALE: 20 ns PER DIVISION

≤20 mV P-P MEASURED IN A 20 MHz BANDWIDTH

**VERTICAL SCALE:
5 mV PER DIVISION**

TTL



HORIZONTAL SCALE: 20 ns PER DIVISION



TEST DATA

ON

418 MHz TO 518 MHz

100 dB HIGH ISOLATION

ULTRA HIGH SPEED

BALANCED

LOW VIDEO TRANSIENTS

NON-REFLECTIVE

SPST

ECL COMPATIBLE

(TTL ALSO AVAILABLE)

SOLID STATE SWITCH

(SURFACE MOUNTABLE)

AMC MODEL No:

SWM-6000-1DTU-ECL-GB

**(DETAILED REPORT ON SERIAL NUMBER 1MS905165 AND
DATA SHEETS ON SERIAL NUMBERS 1MS905166 TO 1MS905176)**

July 1, 1999

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

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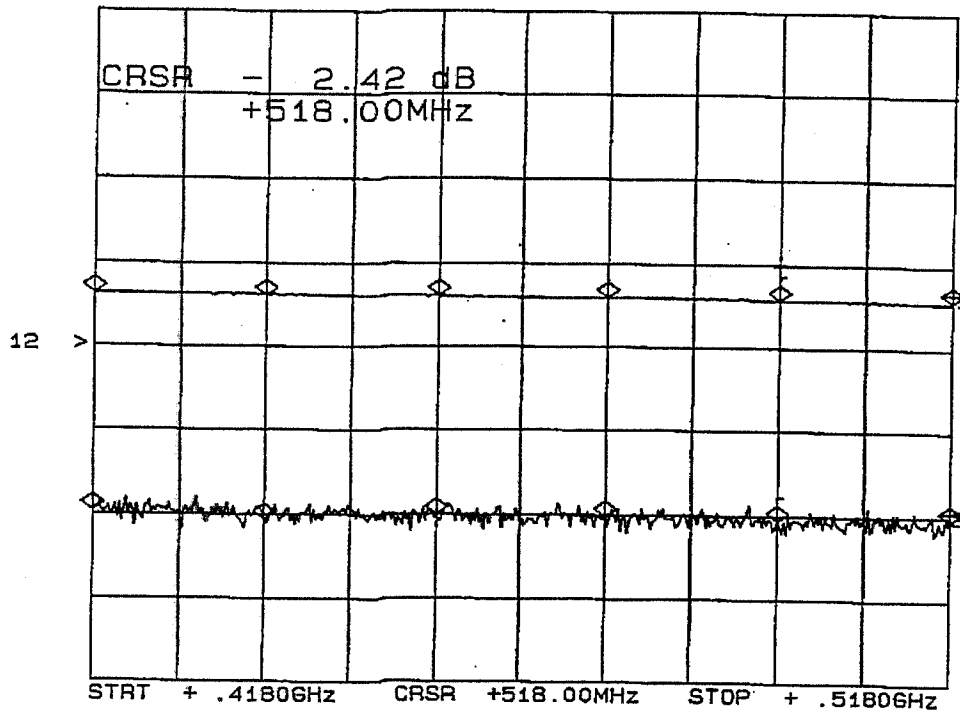
SUMMARY TEST DATA



MODEL NUMBER : SWM-6000-1DTU-ECL-GB
SERIAL NUMBER : 1MS905165
ENGINEERS : FRANK RETHMEIER, RENE AFABLE
VOLTAGE & CURRENT DRAW : +5 V, -5.2 V: +13 mA, -41 mA

INSERTION LOSS & RETURN LOSS*
 J1-J2; CONTROL VOLTAGE: "HIGH" (-0.8 V)

CH1: A -M - 2.42 dB CH2: B -M - 19.71 dB
 1.0 dB/ REF - 3.00 dB 5.0 dB/ REF - 9.54 dB



FREQUENCY	INSERTION LOSS	RETURN LOSS
418 MHz	2.35 dB	19.2 dB
438 MHz	2.37 dB	19.8 dB
458 MHz	2.38 dB	19.5 dB
478 MHz	2.40 dB	19.6 dB
498 MHz	2.41 dB	19.7 dB
518 MHz	2.42 dB	19.7 dB

*J1: INPUT ARM

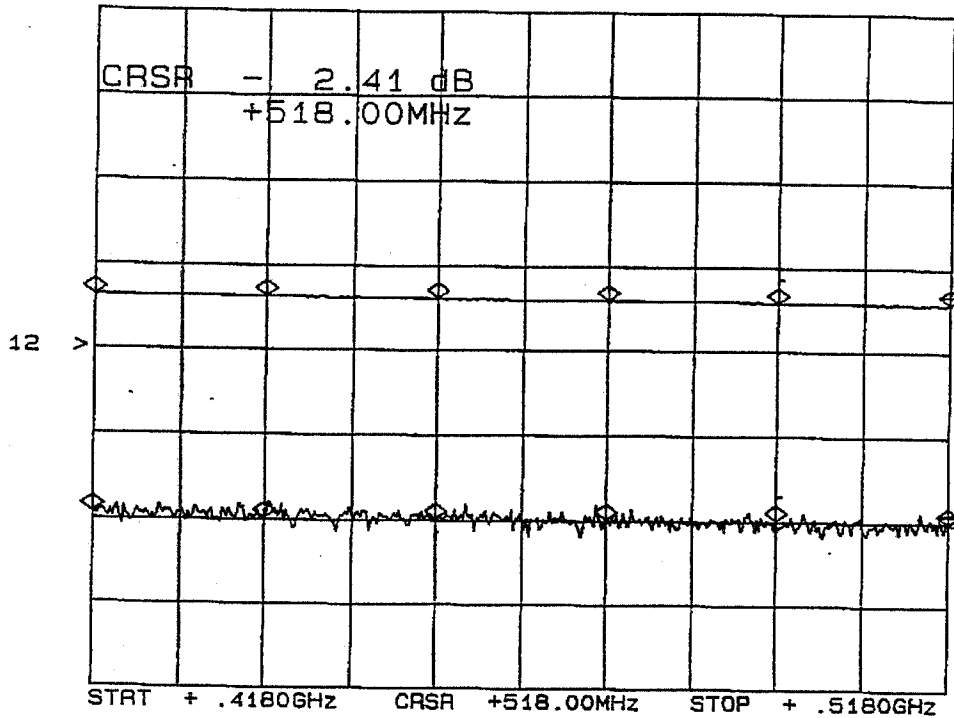
SUMMARY TEST DATA



MODEL NUMBER : SWM-6000-1DTU-ECL-GB
 SERIAL NUMBER : 1MS905165
 ENGINEERS : FRANK RETHMEIER, RENE AFABLE
 VOLTAGE & CURRENT DRAW : +5 V, -5.2 V: +13 mA, -41 mA

INSERTION LOSS & RETURN LOSS*
 J2-J1; CONTROL VOLTAGE: "HIGH" (-0.8 V)

CH1: A -M - 2.41 dB
 1.0 dB/ REF - 3.00 dB
 CH2: B -M - 19.49 dB
 5.0 dB/ REF - 9.54 dB



FREQUENCY	INSERTION LOSS	RETURN LOSS
418 MHz	2.35 dB	19.2 dB
438 MHz	2.36 dB	19.4 dB
458 MHz	2.38 dB	19.3 dB
478 MHz	2.40 dB	19.4 dB
498 MHz	2.41 dB	19.4 dB
518 MHz	2.41 dB	19.5 dB

*J2: INPUT ARM

SUMMARY TEST DATA

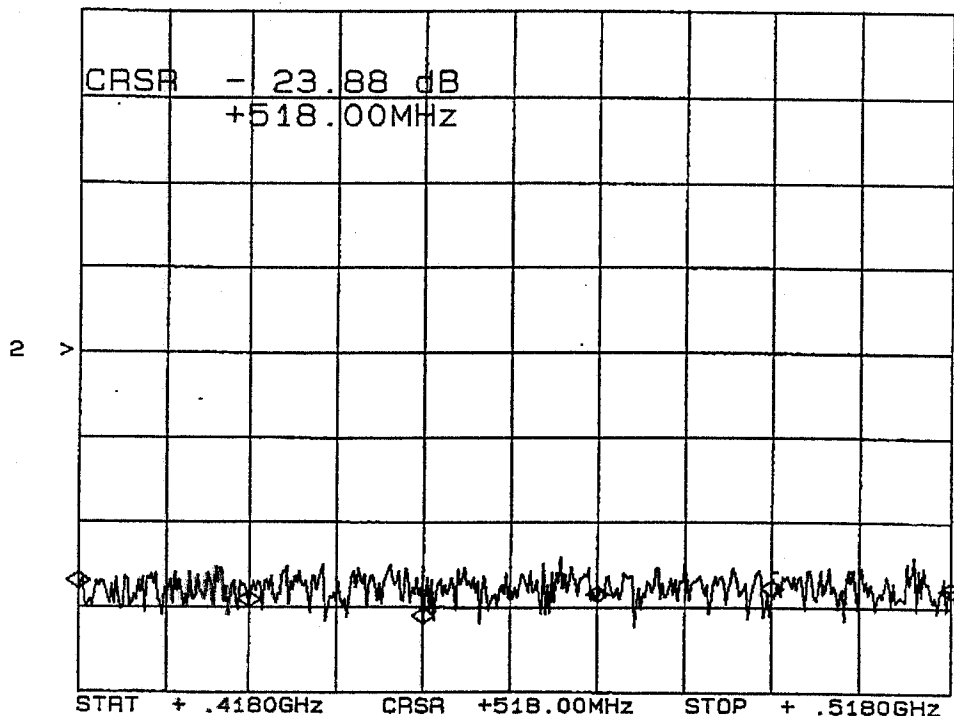


MODEL NUMBER : SWM-6000-1DTU-ECL-GB
SERIAL NUMBER : 1MS905165
ENGINEERS : FRANK RETHMEIER, RENE AFABLE
VOLTAGE & CURRENT DRAW : +5 V, -5.2 V: +13 mA, -41 mA

ISOLATION & RETURN LOSS*
 J1-J2; CONTROL VOLTAGE: "LOW" (-1.8 V)

FREQUENCY	ISOLATION
468 MHz	96 dB

CH2: B -M - 23.88 dB
 5.0 dB/ REF - 9.54 dB



FREQUENCY	RETURN LOSS
418 MHz	23.4 dB
438 MHz	24.5 dB
458 MHz	25.4 dB
478 MHz	24.2 dB
498 MHz	23.8 dB
518 MHz	23.9 dB

*J1: INPUT ARM

SUMMARY TEST DATA

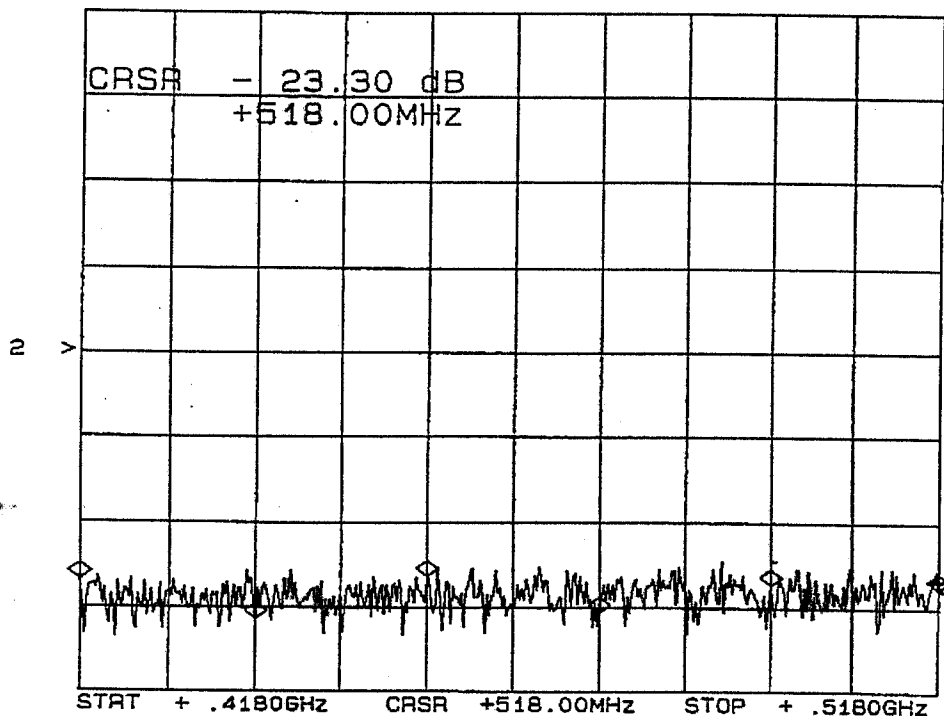


MODEL NUMBER : SWM-6000-1DTU-ECL-GB
SERIAL NUMBER : 1MS905165
ENGINEERS : FRANK RETHMEIER, RENE AFABLE
VOLTAGE & CURRENT DRAW : +5 V, -5.2 V: +13 mA, -41 mA

RETURN LOSS*

J2-J1; CONTROL VOLTAGE: "LOW" (-1.8 V)

CH2: B -M - 23.30 dB
5.0 dB/ REF - 9.54 dB



FREQUENCY	RETURN LOSS
418 MHz	22.8 dB
438 MHz	25.1 dB
458 MHz	22.7 dB
478 MHz	24.8 dB
498 MHz	23.1 dB
518 MHz	23.3 dB

*J2: INPUT ARM



APPENDIX A

SUMMARY TEST DATA SHEETS

ON

NON-REFLECTIVE

SPST

SOLID STATE SWITCH

AMC MODEL No:
SWM-6000-1DTU-ECL-GB

SERIAL NUMBERS 1MS905166 TO 1MS905176

MEASURED

AT

418 MHz TO 518 MHz

July 1, 1999

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SUMMARY TEST DATA



MODEL NUMBER
SERIAL NUMBER

: SWM-6000-1DTU-ECL-GB
: 1MS905166

FORM: SW-DATA 2/10/99



AMERICAN MICROWAVE CORPORATION

DATE: 5/29/99

FINAL TEST DATA
ON
MICROWAVE SWITCH

CUSTOMER: APW ENCLOSURE
JOB NO: 905083
MODEL NO: SWM-6000-1DTU-ECL-GB
SERIAL NO: 1MS905166
CURRENT DRAW: +5 VDC @ 13 mA; -5 VDC @ 42 mA

TECHNICIAN: PA
OPTION:
FREQUENCY RANGE: 418 MHz - 518 MHz
SPECIFICATIONS:

MAXIMUM INSERTION LOSS	RETURN LOSS					
	MIN. INPUT dB	INPUT VSWR	MIN. OUTPUT ON dB	OUTPUT ON VSWR	MIN. OUTPUT OFF dB	OUTPUT OFF VSWR
U1-U2 2.37 dB	20.61 dB	1.21 : 1	20.95 dB	1.20 : 1	24.29 dB	1.10 : 1
		: 1		: 1	26.55 dB	1.10 : 1
		: 1		: 1		: 1
		: 1		: 1		: 1
		: 1		: 1		: 1
		: 1		: 1		: 1
		: 1		: 1		: 1
		: 1		: 1		: 1
		: 1		: 1		: 1

MINIMUM ISOLATION	SWITCHING SPEED			
	DELAY ON	RISE TIME	DELAY OFF	FALL TIME
U1-U2 > 90 dB	16 ns	2 ns	14 ns	2 ns

NOTE: Any additional test data on back

TESTED ON: 8/5/99 / 8:30a

TEST: 03 PA
QA/QC: PA
DATED: JUN 02 1999

July 1, 1999

SUMMARY TEST DATA



MODEL NUMBER
SERIAL NUMBER

: SWM-6000-1DTU-ECL-GB
: 1MS905167

FORM: SW-DATA 27/0199



AMERICAN MICROWAVE CORPORATION

DATE: 5/27/99

FINAL TEST DATA ON MICROWAVE SWITCH

CUSTOMER: APW ENCLOSURE

TECHNICIAN: PA

JOB NO: 905083

OPTION:

MODEL NO: SWM-6000-1DTU-ECL-GB

FREQUENCY RANGE: 418 MHz - 518 MHz

SERIAL NO: 1MS905167

SPECIFICATIONS:

CURRENT DRAW: +5 VDC @ 13 mA; -5 VDC @ 43 mA

MAXIMUM INSERTION LOSS	RETURN LOSS					
	MIN. INPUT dB	INPUT VSWR	MIN. OUTPUT ON dB	OUTPUT ON VSWR	MIN. OUTPUT OFF dB	OUTPUT OFF VSWR
11-12 2.45 dB	20.29 dB	1.21 :1	20.52 dB	1.21 :1	24.11 dB	1.13 :1
dB	dB	:1	dB	:1	24.99 dB	1.12 :1
dB	dB	:1	dB	:1	dB	:1
dB	dB	:1	dB	:1	dB	:1
dB	dB	:1	dB	:1	dB	:1
dB	dB	:1	dB	:1	dB	:1
dB	dB	:1	dB	:1	dB	:1
dB	dB	:1	dB	:1	dB	:1
dB	dB	:1	dB	:1	dB	:1
dB	dB	:1	dB	:1	dB	:1

MINIMUM ISOLATION	SWITCHING SPEED			
	DELAY ON	RISE TIME	DELAY OFF	FALL TIME
11-12 290 dB	16 ns	2 ns	13 ns	2 ns
dB				
dB				
dB				
dB				
dB				
dB				
dB				

NOTE: Any additional test data on back

TESTED ON: 8/5/99 / 83606

TESTER: [Signature]

DATED: JUN 02 1999

SUMMARY TEST DATA



MODEL NUMBER
SERIAL NUMBER

: SWM-6000-1DTU-ECL-GB
: 1MS905168

FORM: SW-DATA 27/0199



AMERICAN MICROWAVE CORPORATION

DATE: 5/29/99

FINAL TEST DATA ON MICROWAVE SWITCH

CUSTOMER: APW ENCLOSURE
JOB NO: 905083
MODEL NO: SWM-6000-1DTU-ECL-GB
SERIAL NO: 1MS905168
CURRENT DRAW: +5 VDC @ 13 mA; -5 VDC @ 43 mA

TECHNICIAN: PA
OPTION: _____
FREQUENCY RANGE: 418 MHz - 518 MHz
SPECIFICATIONS: _____

MAXIMUM INSERTION LOSS	RETURN LOSS					
	MIN. INPUT dB	INPUT VSWR	MIN. OUTPUT ON dB	OUTPUT ON VSWR	MIN. OUTPUT OFF dB	OUTPUT OFF VSWR
<u>11-12 2.41</u> dB	<u>20.44</u> dB	<u>1.21 : 1</u>	<u>20.70</u> dB	<u>1.20 : 1</u>	<u>26.88</u> dB	<u>1.09 : 1</u>
dB	dB	: 1	dB	: 1	<u>26.50</u> dB	<u>1.10 : 1</u>
dB	dB	: 1	dB	: 1	dB	: 1
dB	dB	: 1	dB	: 1	dB	: 1
dB	dB	: 1	dB	: 1	dB	: 1
dB	dB	: 1	dB	: 1	dB	: 1
dB	dB	: 1	dB	: 1	dB	: 1
dB	dB	: 1	dB	: 1	dB	: 1
dB	dB	: 1	dB	: 1	dB	: 1

MINIMUM ISOLATION	SWITCHING SPEED			
	DELAY ON	RISE TIME	DELAY OFF	FALL TIME
<u>11-12 290</u> dB	<u>16 ns</u>	<u>3 ns</u>	<u>15 ns</u>	<u>2 ns</u>
dB				
dB				
dB				
dB				
dB				
dB				

NOTE: Any additional test data on back

TESTED ON: 8757A / 8360b

TEST: _____
QA/QC: CO PA
DATED: JUN 02 1999

July 1, 1999

SUMMARY TEST DATA



MODEL NUMBER : SWM-6000-1DTU-ECL-GB
 SERIAL NUMBER : 1MS905169

FORM: SW-DATA 27/0199



AMERICAN MICROWAVES CORPORATION

DATE: 5/29/99

FINAL TEST DATA
 ON
 MICROWAVE SWITCH

CUSTOMER: APW ENCLOSURE TECHNICIAN: PA
 JOB NO: 905083 OPTION:
 MODEL NO: SWM-6000-1DTU-ECL-GB FREQUENCY RANGE: 418 MHz - 518 MHz
 SERIAL NO: 1MS905169 SPECIFICATIONS:
 CURRENT DRAW: +5VDC @ 13 mA; -5VDC @ 42 mA

MAXIMUM INSERTION LOSS	RETURN LOSS					
	MIN. INPUT dB	INPUT VSWR	MIN. OUTPUT ON dB	OUTPUT ON VSWR	MIN. OUTPUT OFF dB	OUTPUT OFF VSWR
U1-U2 2.41 dB	20.34 dB	1.21 :1	20.49 dB	1.21 :1	25.05 dB	1.12 :1
		:1		:1	26.39 dB	1.10 :1
		:1		:1		:1
		:1		:1		:1
		:1		:1		:1
		:1		:1		:1
		:1		:1		:1
		:1		:1		:1
		:1		:1		:1

MINIMUM ISOLATION	SWITCHING SPEED			
	DELAY ON	RISE TIME	DELAY OFF	FALL TIME
U1-U2 >90 dB	16 ns	3 ns	14 ns	2 ns

NOTE: Any additional test data on back

TESTED ON: 8757A / 83606

TEST: PA
 QA/QC: PA
 DATED: 02 99

July 1, 1999

SUMMARY TEST DATA



MODEL NUMBER
SERIAL NUMBER

: SWM-6000-1DTU-ECL-GB
: 1MS905170

FORM: SW-DATA: 27/0199



AMERICAN MICROWAVE CORPORATION

DATE: 5/29/99

FINAL TEST DATA ON MICROWAVE SWITCH

CUSTOMER: APW Enclosure
JOB NO: 905083
MODEL NO: SWM-6000-1DTU-ECL-GB
SERIAL NO: 1MS905170
CURRENT DRAW: +5 VDC @ 13 mA; -5 VDC @ 43 mA

TECHNICIAN: PA
OPTION:
FREQUENCY RANGE: 418 MHz - 518 MHz
SPECIFICATIONS:

MAXIMUM INSERTION LOSS	RETURN LOSS					
	MIN. INPUT dB	INPUT VSWR	MIN. OUTPUT ON dB	OUTPUT ON VSWR	MIN. OUTPUT OFF dB	OUTPUT OFF VSWR
<u>11-32 2.41</u> dB	<u>20.56</u> dB	<u>1.21</u> :1	<u>26.04</u> dB	<u>1.19</u> :1	<u>26.46</u> dB	<u>1.10</u> :1
		:1		:1	<u>26-20</u> dB	<u>1.10</u> :1
		:1		:1		:1
		:1		:1		:1
		:1		:1		:1
		:1		:1		:1
		:1		:1		:1
		:1		:1		:1
		:1		:1		:1
		:1		:1		:1
		:1		:1		:1
MINIMUM ISOLATION	SWITCHING SPEED					
	DELAY ON	RISE TIME	DELAY OFF	FALL TIME		
<u>11-32 290</u> dB	<u>16 ns</u>	<u>2 ns</u>	<u>15 ns</u>	<u>2 ns</u>		

NOTE: Any additional test data on back

TESTED ON: 8/5/98

TEST: 03
QA/QC: 02
DATED: 02/99

July 1, 1999

SUMMARY TEST DATA



MODEL NUMBER : SWM-6000-1DTU-ECL-GB
 SERIAL NUMBER : 1MS905172

FORM: SW-DATA 27/0199



AMERICAN MICROWAVE CORPORATION

DATE: 5/29/99

FINAL TEST DATA
 ON
 MICROWAVE SWITCH

CUSTOMER: APW ENCLOSURE TECHNICIAN: PA
 JOB NO: 905083 OPTION: _____
 MODEL NO: SWM-6000-1DTU-ECL-GB FREQUENCY RANGE: 418 MHz - 518 MHz
 SERIAL NO: 1MS905172 SPECIFICATIONS: _____
 CURRENT DRAW: +5 VDC @ 13 mA; -5 VDC @ 42 mA

MAXIMUM INSERTION LOSS	RETURN LOSS					
	MIN. INPUT dB	INPUT VSWR	MIN. OUTPUT ON dB	OUTPUT ON VSWR	MIN. OUTPUT OFF dB	OUTPUT OFF VSWR
11-12 2.44 dB	20.59 dB	1.21 :1	20.27 dB	1.20 :1	26.87 dB	1.09 :1
	dB	:1	dB	:1	27.44 dB	1.09 :1
	dB	:1	dB	:1	dB	:1
	dB	:1	dB	:1	dB	:1
	dB	:1	dB	:1	dB	:1
	dB	:1	dB	:1	dB	:1
	dB	:1	dB	:1	dB	:1
	dB	:1	dB	:1	dB	:1
	dB	:1	dB	:1	dB	:1
	dB	:1	dB	:1	dB	:1
MINIMUM ISOLATION	SWITCHING SPEED					
	DELAY ON	RISE TIME	DELAY OFF	FALL TIME		
11-12 290 dB	16 ns	3 ns	12 ns	2 ns		

NOTE: Any additional test data on back

TESTED ON: 8757A / 8360B

TEST: _____
 QA/QC: CO
 DATED: 02 99

July 1, 1999

SUMMARY TEST DATA



MODEL NUMBER
SERIAL NUMBER

: SWM-6000-1DTU-ECL-GB
: 1MS905173

FORM: SW-DATA 27/0199



AMERICAN MICROWAVE CORPORATION

DATE: 5/29/99

FINAL TEST DATA
ON
MICROWAVE SWITCH

CUSTOMER: APW ENCLOSURE

TECHNICIAN: PA

JOB NO: 905083

OPTION: _____

MODEL NO: SWM-6000-1DTU-ECL-GB

FREQUENCY RANGE: 418 MHz - 518 MHz

SERIAL NO: 1MS905173

SPECIFICATIONS: _____

CURRENT DRAW: +5 VDC @ 13 mA; -5 VDC @ 42 mA

MAXIMUM INSERTION LOSS	RETURN LOSS					
	MIN. INPUT dB	INPUT VSWR	MIN. OUTPUT ON dB	OUTPUT ON VSWR :	MIN. OUTPUT OFF dB	OUTPUT OFF VSWR
J1-J2 240 dB	20.55 dB	1.21 :1	20.92 dB	1.20 :1	26.66 dB	1.10 :1
		:1		:1	25.78 dB	1.11 :1
		:1		:1		:1
		:1		:1		:1
		:1		:1		:1
		:1		:1		:1
		:1		:1		:1
		:1		:1		:1
		:1		:1		:1
		:1		:1		:1
MINIMUM ISOLATION	SWITCHING SPEED					
	DELAY ON	RISE TIME	DELAY OFF	FALL TIME		
J1-J2 290 dB	17 ns	3 ns	15 ns	2 ns		

NOTE: Any additional test data on back

TESTED ON: 8757A / 8360B

TEST: _____

QA/QC: CO PA

DATED: 02 1999

July 1, 1999

SUMMARY TEST DATA



MODEL NUMBER : SWM-6000-1DTU-ECL-GB
 SERIAL NUMBER : 1MS905174

FORM: SW-DATA 27/0199



AMERICAN MICROWAVE CORPORATION

DATE: 5/29/99

FINAL TEST DATA
 ON
 MICROWAVE SWITCH

CUSTOMER: APW ENCLOSURE TECHNICIAN: PA
 JOB NO: 905083 OPTION: _____
 MODEL NO: SWM-6000-1DTU-ECL-GB FREQUENCY RANGE: 418 MHz - 518 MHz
 SERIAL NO: 1MS905174 SPECIFICATIONS: _____
 CURRENT DRAW: +5 VDC @ 13 mA; -5 VDC @ 45 mA

MAXIMUM INSERTION LOSS	RETURN LOSS					
	MIN. INPUT dB	INPUT VSWR	MIN. OUTPUT ON dB	OUTPUT ON VSWR	MIN. OUTPUT OFF dB	OUTPUT OFF VSWR
11-12 2.10 dB	20.62 dB	1.21 : 1	20.76 dB	1.20 : 1	26.71 dB	1.10 : 1
	dB	: 1	dB	: 1	26.70 dB	1.10 : 1
	dB	: 1	dB	: 1	dB	: 1
	dB	: 1	dB	: 1	dB	: 1
	dB	: 1	dB	: 1	dB	: 1
	dB	: 1	dB	: 1	dB	: 1
	dB	: 1	dB	: 1	dB	: 1
	dB	: 1	dB	: 1	dB	: 1
	dB	: 1	dB	: 1	dB	: 1
	dB	: 1	dB	: 1	dB	: 1
MINIMUM ISOLATION	SWITCHING SPEED					
	DELAY ON	RISE TIME	DELAY OFF	FALL TIME		
11-12 290 dB	16 ns	3 ns	15 ns	2 ns		
dB						
dB						
dB						
dB						
dB						
dB						
dB						

NOTE: Any additional test data on back

TESTED ON: 8757A / 83606

TEST: _____
 QA/QC: PA
 DATED: JUN 02 1999

July 1, 1999

SUMMARY TEST DATA



MODEL NUMBER : SWM-6000-1DTU-ECL-GB
 SERIAL NUMBER : 1MS905175

FORM: SW-DATA 2/10/99



AMERICAN MICROWAVE CORPORATION

DATE: 5/29/99

FINAL TEST DATA
 ON
 MICROWAVE SWITCH

CUSTOMER: APW ENCLOSURE TECHNICIAN: PA
 JOB NO: 905083 OPTION: _____
 MODEL NO: SWM-6000-1DTU-ECL-GB FREQUENCY RANGE: 418 MHz - 518 MHz
 SERIAL NO: 1MS905175 SPECIFICATIONS: _____
 CURRENT DRAW: +5 VDC @ 13 mA; -5 VDC @ 42 mA

MAXIMUM INSERTION LOSS	RETURN LOSS					
	MIN. INPUT dB	INPUT VSWR	MIN. OUTPUT ON dB	OUTPUT ON VSWR	MIN. OUTPUT OFF dB	OUTPUT OFF VSWR
11-12 2.41 dB	20.51 dB	1.21 :1	22.74 dB	1.20 :1	26.31 dB	1.11 :1
dB	dB	:1	dB	:1	26.49 dB	1.10 :1
dB	dB	:1	dB	:1	dB	:1
dB	dB	:1	dB	:1	dB	:1
dB	dB	:1	dB	:1	dB	:1
dB	dB	:1	dB	:1	dB	:1
dB	dB	:1	dB	:1	dB	:1
dB	dB	:1	dB	:1	dB	:1
dB	dB	:1	dB	:1	dB	:1

MINIMUM ISOLATION	SWITCHING SPEED			
	DELAY ON	RISE TIME	DELAY OFF	FALL TIME
11-12 290 dB	15 ns	4 ns	15 ns	3 ns
dB				
dB				
dB				
dB				
dB				
dB				
dB				

NOTE: Any additional test data on back

TESTED ON: 8757A / 83608

TEST: 03
 QA/QC: PA
 DATED: JUN 02 1999

July 1, 1999

SUMMARY TEST DATA



MODEL NUMBER
SERIAL NUMBER

: SWM-6000-1DTU-ECL-GB
: IMS905176

FORM: SW-DATA 27/0199



AMERICAN MICROWAVE CORPORATION

DATE: 5/29/99

FINAL TEST DATA
ON
MICROWAVE SWITCH

CUSTOMER: APW ENCLOSURE

TECHNICIAN: PA

JOB NO: 905083

OPTION:

MODEL NO: SWM-6000-1DTU-ECL-GB

FREQUENCY RANGE: 418 MHz - 518 MHz

SERIAL NO: IMS905176

SPECIFICATIONS:

CURRENT DRAW: +5 VDC @ 13 mA; -5 VDC @ 42 mA

MAXIMUM INSERTION LOSS	RETURN LOSS					
	MIN. INPUT dB	INPUT VSWR	MIN. OUTPUT ON dB	OUTPUT ON VSWR	MIN. OUTPUT OFF dB	OUTPUT OFF VSWR
J1-J2 2.41 dB	21.11 dB	1.19 :1	21.24 dB	1.19 :1	26.03 dB	1.11 :1
		:1		:1	27.44 dB	1.09 :1
		:1		:1		:1
		:1		:1		:1
		:1		:1		:1
		:1		:1		:1
		:1		:1		:1
		:1		:1		:1
		:1		:1		:1

MINIMUM ISOLATION	SWITCHING SPEED			
	DELAY ON	RISE TIME	DELAY OFF	FALL TIME
J1-J2 290 dB	15 ns	2 ns	15 ns	2 ns

NOTE: Any additional test data on back

TESTED ON: 8/5/98 / 83608

TEST: PA
QA/QC: 03 PA
DATED: JUN 02 1999

July 1, 1999



**AMERICAN MICROWAVE
CORPORATION**

APPENDIX B
MISCELLANEOUS
TEST DATA AND PLOTS
ON
ISOLATION
FROM 10 MHz TO 18 GHz

AND
418 MHz TO 518 MHz
SPST
SOLID STATE SWITCH
(SURFACE MOUNTABLE)

AMC MODEL No:
SWM-6000-1DTU-ECL-GB
(Serial Number: 1MS905165)

AS MEASURED
ON AN HP 8757A SCALAR NETWORK ANALYZER

(THE NOISE FLOOR OF THE SCALAR NETWORK ANALYZER IS ABOUT -70 dBm.)

July 1, 1999

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

SUMMARY TEST DATA

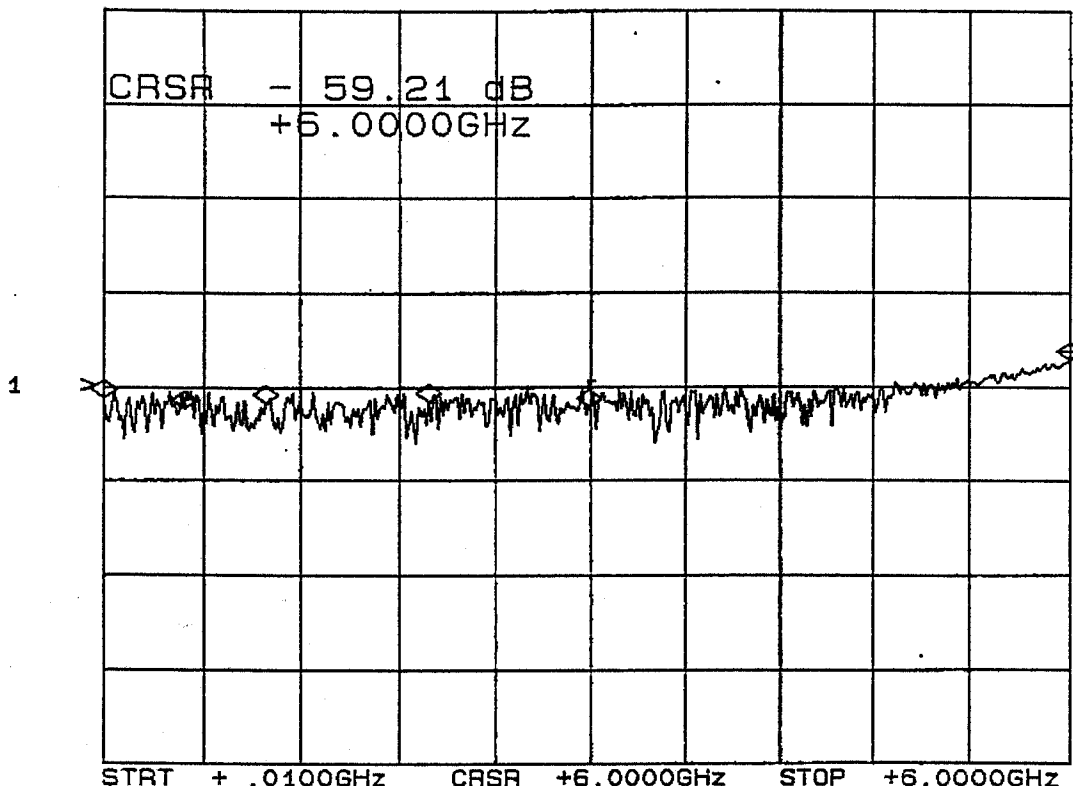


MODEL NUMBER : SWM-6000-1DTU-ECL-GB
SERIAL NUMBER : 1MS905165
ENGINEERS : FRANK RETHMEIER, RENE AFABLE
VOLTAGE & CURRENT DRAW : +5 V, -5.2 V: +13 mA, -41 mA

ISOLATION*

(AS MEASURED ON SCALAR NETWORK ANALYZER HP 8757A)
 J1-J2; CONTROL VOLTAGE: "LOW" (-1.8 V)

CH1: A -M - 59.21 dB
 20.0 dB/ REF - 65.00 dB



FREQUENCY	ISOLATION
10 MHz	67.3 dB
500 MHz	69.3 dB
1.0 GHz	68.4 dB
2.0 GHz	67.9 dB
3.0 GHz	69.2 dB
6.0 GHz	59.2 dB

*J1: INPUT ARM

July 1, 1999

B2

SUMMARY TEST DATA



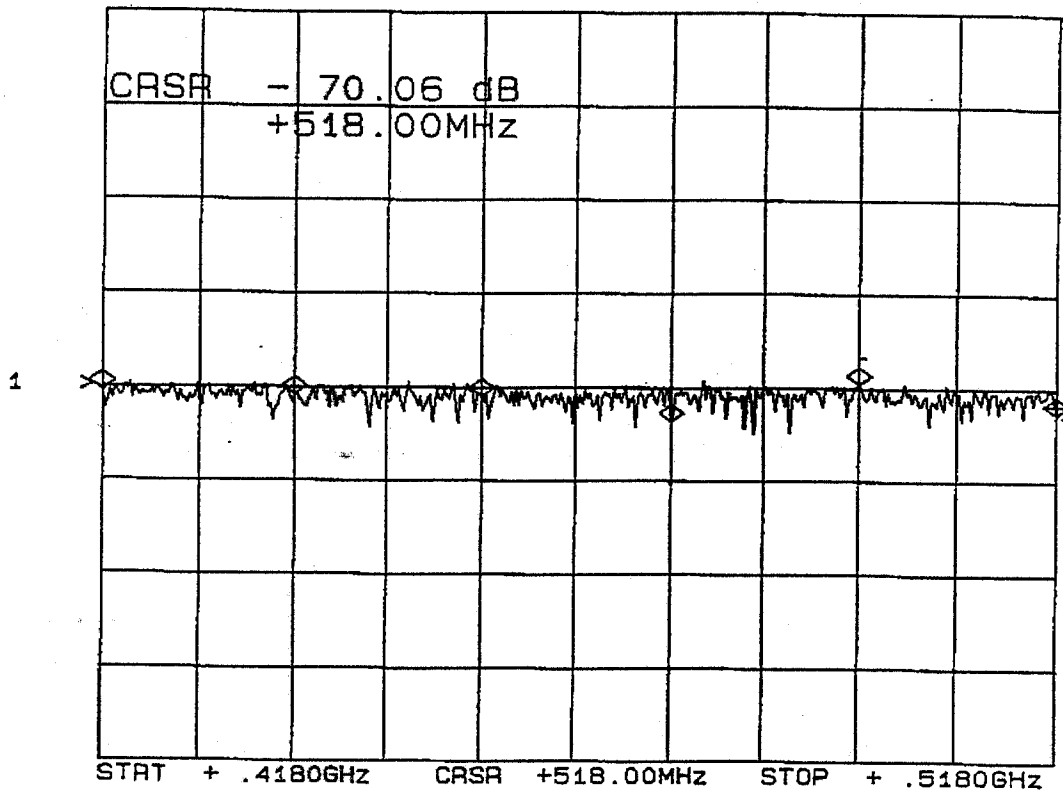
MODEL NUMBER : SWM-6000-1DTU-ECL-GB
SERIAL NUMBER : 1MS905165
ENGINEERS : FRANK RETHMEIER, RENE AFABLE
VOLTAGE & CURRENT DRAW : +5 V, -5.2 V: +13 mA, -41 mA

ISOLATION*

(AS MEASURED ON SCALAR NETWORK ANALYZER HP 8757A)

J1-J2; CONTROL VOLTAGE: "LOW" (-1.8 V)

CH1: A -M - 70.06 dB
 20.0 dB/ REF - 65.00 dB



FREQUENCY	ISOLATION
418 MHz	65.6 dB
438 MHz	66.3 dB
458 MHz	66.6 dB
478 MHz	72.1 dB
498 MHz	63.9 dB
518 MHz	70.1 dB

*J1: INPUT ARM

July 1, 1999

B4

SUMMARY TEST DATA



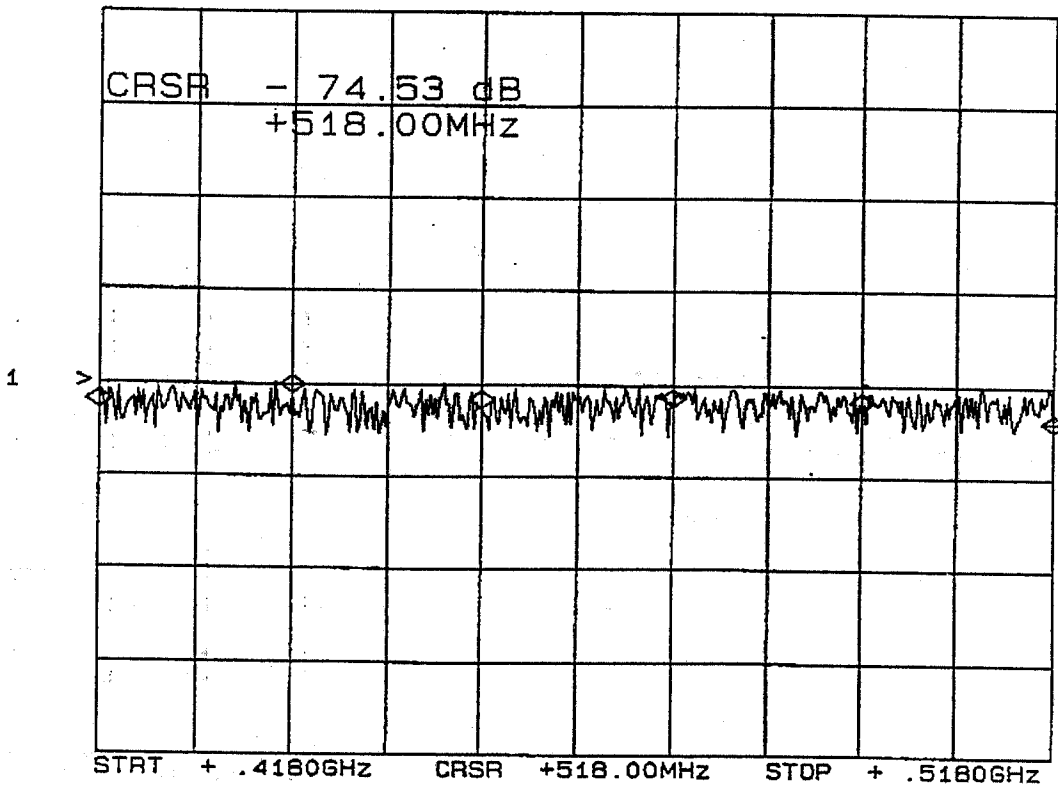
MODEL NUMBER : SWM-6000-1DTU-ECL-GB
SERIAL NUMBER : 1MS905165
ENGINEERS : FRANK RETHMEIER, RENE AFABLE
VOLTAGE & CURRENT DRAW : +5 V, -5.2 V: +13 mA, -41 mA

ISOLATION*

(AS MEASURED ON SCALAR NETWORK ANALYZER HP 8757A)

J2-J1; CONTROL VOLTAGE: "LOW" (-1.8 V)

CH1: A -M - 74.53 dB
 20.0 dB/ REF - 65.00 dB



FREQUENCY	ISOLATION
418 MHz	70.2 dB
438 MHz	66.6 dB
458 MHz	69.6 dB
478 MHz	69.3 dB
498 MHz	70.3 dB
518 MHz	74.5 dB

*J2: INPUT ARM

July 1, 1999

B5