



TEST REPORT
ON
6 TO 12 GHz
SINGLE POLE SIX THROW
ABSORPTIVE SWITCH MODULE

AMC MODEL No:
MSN-6DT-06-DEC-SP
OPTIONS B05, 612

Serial Numbers: 6MS006142 THRU 6MS006153

DESIGNED
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TESTED
BY
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REPORTED
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April 7, 2005

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ISO9001 : 2000 CERTIFIED

TABLE OF CONTENTS

●	PRODUCT DESCRIPTION AND ELECTRICAL SPECIFICATIONS	PAGE 3
●	PRODUCT FEATURE AND ENVIRONMENTAL SPECIFICATIONS	PAGE 4
●	OUTLINE DRAWING	PAGE 5
●	FUNCTIONAL SCHEMATIC	PAGE 6
●	TEST DATA ON MSN-6DT-06-DEC-SP OPT B05, 612 SERIAL NUMBERS 6MS006142 THRU 6MS006153	PAGE 7
●	TEST DATA FOR MSN-6DT-06-DEC-SP OPT B05, 612 SERIAL NUMBER 6MS006142	PAGE 8
●	TEST DATA FOR MSN-6DT-06-DEC-SP OPT B05, 612 SERIAL NUMBER 6MS006143	PAGE 9
●	TEST DATA FOR MSN-6DT-06-DEC-SP OPT B05, 612 SERIAL NUMBER 6MS006144	PAGE 10
●	TEST DATA FOR MSN-6DT-06-DEC-SP OPT B05, 612 SERIAL NUMBER 6MS006145	PAGE 11
●	TEST DATA FOR MSN-6DT-06-DEC-SP OPT B05, 612 SERIAL NUMBER 6MS006146	PAGE 12
●	TEST DATA FOR MSN-6DT-06-DEC-SP OPT B05, 612 SERIAL NUMBER 6MS006147	PAGE 13
●	TEST DATA FOR MSN-6DT-06-DEC-SP OPT B05, 612 SERIAL NUMBER 6MS006148	PAGE 14
●	TEST DATA FOR MSN-6DT-06-DEC-SP OPT B05, 612 SERIAL NUMBER 6MS006149	PAGE 15
●	TEST DATA FOR MSN-6DT-06-DEC-SP OPT B05, 612 SERIAL NUMBER 6MS006150	PAGE 16
●	TEST DATA FOR MSN-6DT-06-DEC-SP OPT B05, 612 SERIAL NUMBER 6MS006151	PAGE 17

SINGLE POLE SIX THROW ABSORPTIVE SWITCH MODULE AMC MODEL No: MSN-6DT-06-DEC-SP OPT B05, 612

FEATURES:

- **HIGH ISOLATION**
- **HIGH SPEED**
- **LOW INSERTION LOSS**
- **INTEGRAL TTL DRIVER**

SPECIFICATIONS:

- | | |
|----------------------|-------------------------------------------------------------------------------------|
| • FREQUENCY | : 6 TO 12 GHz |
| • INSERTION LOSS | : 2.0 dB TYPICAL, 2.5 dB MAXIMUM |
| • ISOLATION | : 40 dB MINIMUM |
| • VSWR | : 2.0:1 |
| • SPEED | : TURN ON: 20 nS TYPICAL, 30 nS MAXIMUM
: TURN OFF: 20 nS TYPICAL, 30 nS MAXIMUM |
| • CONTROL CONNECTORS | : SOLDER PINS |
| • POWER INPUT | : +10 dBm (HIGH SPEED) |
| • CONTROL | : TTL LOGIC "0"=ON, "1"=OFF |
| • POWER SUPPLY | : +5V @ 300 mA MAXIMUM
: -5V @ 100 mA MAXIMUM |
| • RF CONNECTORS | : SMA FEMALE |
| • SIZE | : 1.50" (L) x 3.50 (W)" x 0.50" (H) |
| • WEIGHT | : 5.5 OZ TYPICAL |



PRODUCT FEATURE

DATE	REVISIONS	DESCRIPTION	DATE	APPROVED
06/14/06		ORIGINAL JOB 003059E-1		

DESCRIPTION:
 AMC MODEL MSN-6DT-06-DEC-SP OPTION 612, B05 IS A HIGH SPEED, SINGLE POLE SIX THRU ABSORPTIVE/NON-REFLECTIVE SWITCH MODULE WITH VERY HIGH ISOLATION, LOW INSERTION LOSS AND WITH INTEGRAL TTL DRIVER, OPTIMIZED FOR THE 6 TO 12 GHz BANDWIDTH.

SPECIFICATIONS:

- FREQUENCY: 6 GHz TO 12 GHz
- INSERTION LOSS: 2.0dB TYP., 2.5dB MAX.
- ISOLATION: 6 GHz TO 12 GHz: 40dB MIN
- VSWR: ABSORPTIVE IN/OUT: 2.0:1
 ABSORPTIVE OUT/OFF: 2.0:1
- SPEEDS: TURNON/TURNOFF 20ns TYP., 30ns MAX
- CONTROL CONNECTORS: SOLDER PINS
- POWER INPUT: +10 dBm (HIGH SPEED)
- CONTROL: TTL LOGIC "0"=ON "1"=OFF
- POWER SUPPLY: +5V @ 300mA MAX.
 -5V @ 100mA MAX.
- RF CONNECTORS: SMA FEMALE
- SIZE: 1.50 (L) X 3.50 (W) X 0.50 (H)
- WEIGHT: 5.5 OUNCES TYPICAL

BLOCK DIAGRAM

ENVIRONMENTAL RATINGS:

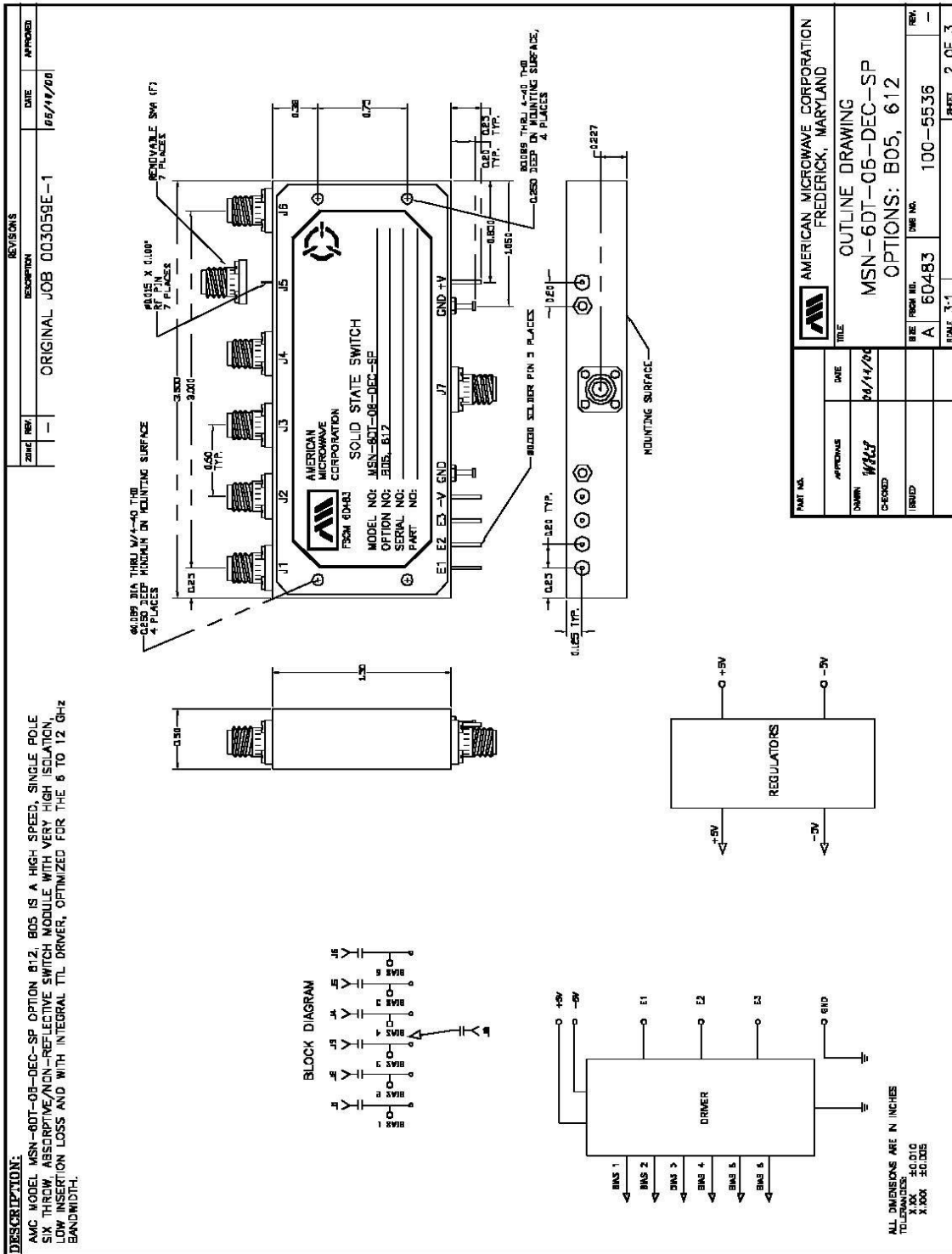
- TEMPERATURE: -55C TO +55C (OPERATING)
 -65C TO +125C (STORAGE)
- HUMIDITY: MIL-STD-202F, METHOD 103B COND. B
- SHOCK: MIL-STD-202F, METHOD 213B COND. B
- VIBRATION: MIL-STD-202F, METHOD 204D COND. B
- ALTITUDE: MIL-STD-202F, METHOD 105C COND. B
- TEMPERATURE CYCLE: MIL-STD-202F, METHOD 107D COND. A

NOTE: THE ABOVE SPECIFICATIONS ARE SUBJECT TO CHANGE OR REVISION

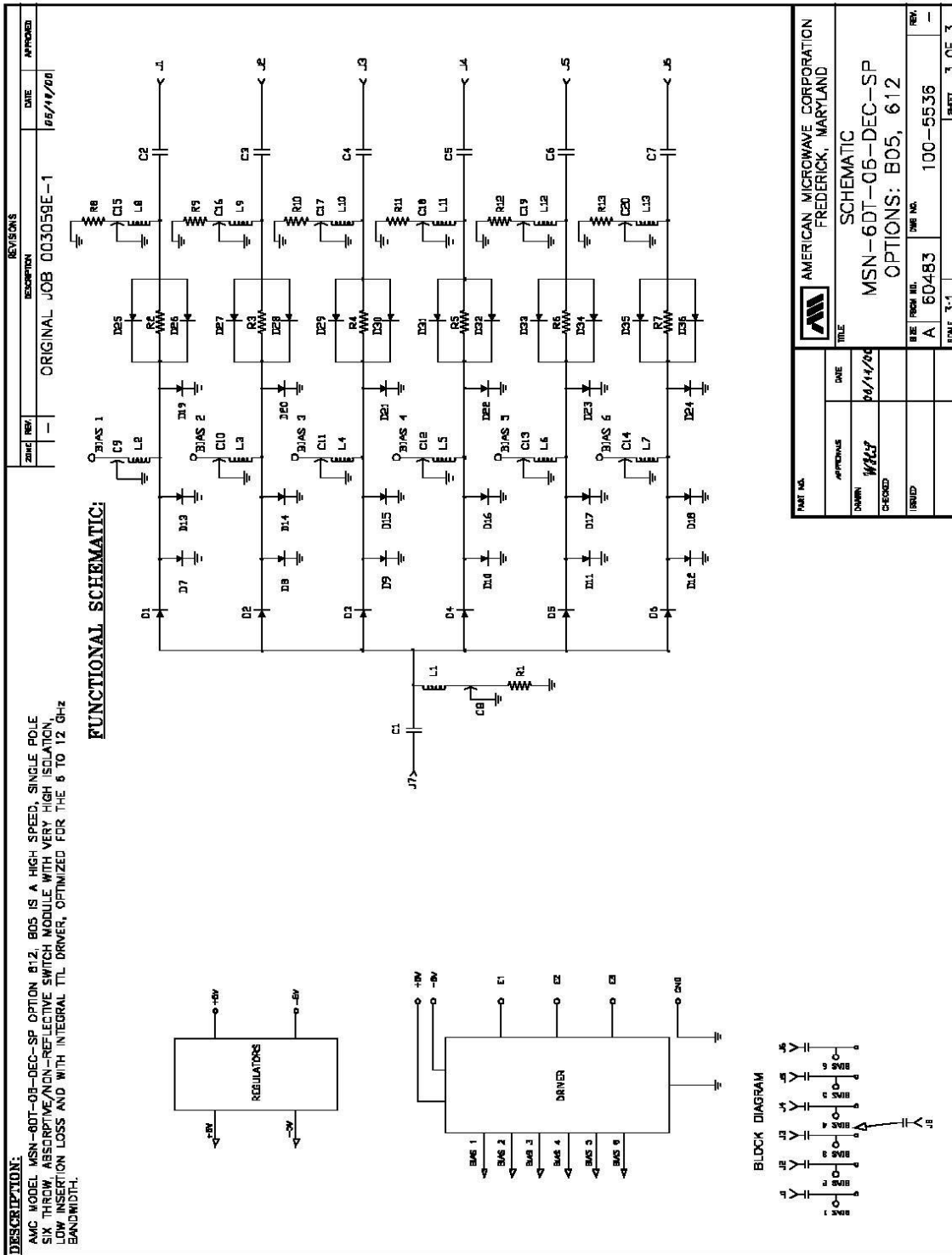
PART NO.		AMERICAN MICROWAVE CORPORATION FREDERICK, MARYLAND	
DATE	06/14/06	TITLE	PRODUCT FEATURE
CHECKED		MODEL	MSN-6DT-06-DEC-SP
DESIGNED		OPTIONS:	B05, 612
REV		PWG NO.	100-5536
FORM 3-1			

SHEET 1 of 3

OUTLINE DRAWING



FUNCTIONAL SCHEMATIC



FINAL TEST DATA

FINAL TEST DATA SHEETS

FOR

AMC MODEL NUMBER

MSN-6DT-06-DEC-SP
OPTION B05, 612

Serial Numbers:

6MS006142 THRU 6MS006153

FINAL TEST DATA

AMC MODEL NO: **MSN-6DT-06-DEC OPTIONS B05, 612**, SERIAL NUMBER: **6MS006142**

FORM: 100-5277


 A AMERICAN MICROWAVE CORPORATION
 7311-G GROVE RD., FREDERICK MD. 21704
 TEL: 301-662-4700 FAX: 301-662-4938

DATE: 07/05/00

FINAL TEST DATA
 ON
 MICROWAVE SWITCH

CUSTOMER: LOCKHEED MARTIN

TECHNICIAN: THAES

JOB NO: 003059E-1

OPTION NO: B05, 612

MODEL NO: MSN-6DT-06-DEC-SP

SPECIFICATION: _____

SERIAL NO: 6MS00142

CURRENT DRAW: +5 VDC @ 300mA; -5 VDC @ 40mA FREQUENCY RANGE: 6 - 12 GHz

INSERTION LOSS (WORST CASE)	RETURN LOSS (WORST CASE)					
	INPUT dB	INPUT VSWR	OUTPUT ON dB	OUTPUT ON VSWR	OUTPUT OFF dB	OUTPUT OFF VSWR
J7-J1 2.4 dB	10.5 dB	1.84: 1	10.6 dB	1.83: 1	14.9 dB	1.43: 1
J7-J2 2.0 dB	15.1 dB	1.42: 1	14.6 dB	1.45: 1	13.7 dB	1.51: 1
J7-J3 2.1 dB	13.1 dB	1.56: 1	15.2 dB	1.42: 1	13.0 dB	1.57: 1
J7-J4 2.0 dB	14.4 dB	1.46: 1	15.0 dB	1.43: 1	11.5 dB	1.71: 1
J7-J5 2.1 dB	14.7 dB	1.54: 1	14.7 dB	1.44: 1	15.8 dB	1.38: 1
J7-J6 2.1 dB	12.9 dB	1.57: 1	13.8 dB	1.58: 1	15.3 dB	1.41: 1
	dB	1. : 1	dB	1. : 1	dB	1. : 1
	dB	1. : 1	dB	1. : 1	dB	1. : 1
	dB	1. : 1	dB	1. : 1	dB	1. : 1

ISOLATION	SWITCHING SPEED			
	DELAY ON	RISE TIME	DELAY OFF	FALL TIME
J7-J1 740 dB	16 nS	—— nS	20 nS	—— nS
J7-J2 740 dB	15 nS	—— nS	19 nS	—— nS
J7-J3 740 dB	18 nS	—— nS	16 nS	—— nS
J7-J4 740 dB	16 nS	—— nS	20 nS	—— nS
J7-J5 740 dB	20 nS	—— nS	20 nS	—— nS
J7-J6 740 dB	21 nS	—— nS	20 nS	—— nS
	nS	nS	nS	nS
	nS	nS	nS	nS
	nS	nS	nS	nS

NOTE: Any additional test data on back

TESTED ON: 8757A / 8350B

QA/QC APPROVAL: 

DATED: 6/30/00

FINAL TEST DATA

AMC MODEL NO: MSN-6DT-06-DEC OPTIONS B05, 612, SERIAL NUMBER: 6MS006143

FORM: 100-5277



AMERICAN MICROWAVE CORPORATION
 7311-G GROVE RD., FREDERICK MD. 21704
 TEL: 301-662-4700 FAX: 301-662-4938

DATE: 07/21/00

FINAL TEST DATA
 ON
 MICROWAVE SWITCH

CUSTOMER: LOCKHEED MARTIN TECHNICIAN: THAES
 JOB NO: 003059E-1
 MODEL NO: MSN-6DT-06-DEC-SP OPTION NO: B05, 612
 SERIAL NO: 6MS006143 SPECIFICATION:
 CURRENT DRAW: +5 VDC @ 250mA; -5 VDC @ 45mA FREQUENCY RANGE: 6-12 GHz

INSERTION LOSS (WORST CASE)	RETURN LOSS (WORST CASE)					
	INPUT dB	INPUT VSWR	OUTPUT ON dB	OUTPUT ON VSWR	OUTPUT OFF dB	OUTPUT OFF VSWR
J7-J1 <u>2.2</u> dB	<u>16.0</u> dB	<u>1.78</u> : 1	<u>9.40</u> dB	<u>2.02</u> : 1	<u>11.9</u> dB	<u>1.68</u> : 1
J7-J2 <u>2.1</u> dB	<u>13.5</u> dB	<u>1.53</u> : 1	<u>11.7</u> dB	<u>1.77</u> : 1	<u>9.33</u> dB	<u>2.04</u> : 1
J7-J3 <u>2.4</u> dB	<u>13.1</u> dB	<u>1.56</u> : 1	<u>9.78</u> dB	<u>1.96</u> : 1	<u>10.5</u> dB	<u>1.84</u> : 1
J7-J4 <u>2.0</u> dB	<u>11.4</u> dB	<u>1.73</u> : 1	<u>12.5</u> dB	<u>1.61</u> : 1	<u>9.20</u> dB	<u>2.06</u> : 1
J7-J5 <u>2.3</u> dB	<u>12.7</u> dB	<u>1.60</u> : 1	<u>10.3</u> dB	<u>1.86</u> : 1	<u>12.1</u> dB	<u>1.65</u> : 1
J7-J6 <u>2.3</u> dB	<u>11.5</u> dB	<u>1.71</u> : 1	<u>11.5</u> dB	<u>1.72</u> : 1	<u>11.7</u> dB	<u>1.69</u> : 1
	dB	1. : 1	dB	1. : 1	dB	1. : 1
	dB	1. : 1	dB	1. : 1	dB	1. : 1
	dB	1. : 1	dB	1. : 1	dB	1. : 1

ISOLATION	SWITCHING SPEED			
	DELAY ON	RISE TIME	DELAY OFF	FALL TIME
J7-J1 <u>>40</u> dB	<u>18</u> nS	<u>—</u> nS	<u>18</u> nS	<u>—</u> nS
J7-J2 <u>>40</u> dB	<u>18</u> nS	<u>—</u> nS	<u>16</u> nS	<u>—</u> nS
J7-J3 <u>>40</u> dB	<u>18</u> nS	<u>—</u> nS	<u>16</u> nS	<u>—</u> nS
J7-J4 <u>>40</u> dB	<u>20</u> nS	<u>—</u> nS	<u>16</u> nS	<u>—</u> nS
J7-J5 <u>>40</u> dB	<u>20</u> nS	<u>—</u> nS	<u>18</u> nS	<u>—</u> nS
J7-J6 <u>>40</u> dB	<u>20</u> nS	<u>—</u> nS	<u>18</u> nS	<u>—</u> nS
	nS	nS	nS	nS
	nS	nS	nS	nS
	nS	nS	nS	nS

NOTE: Any additional test data on back

TESTED ON: HP 8757A / 8350B.

QA/QC APPROVAL: [Signature]

DATED: 7/21/00



FINAL TEST DATA

AMC MODEL NO: MSN-6DT-06-DEC OPTIONS B05, 612, SERIAL NUMBER: 6MS006144

FORM: 100-5277



A. JCAN MICROWAVE CORPORATION
 7311-G GROVE RD., FREDERICK MD. 21704
 TEL: 301-662-4700 FAX: 301-662-4938

DATE: 4/30/00

FINAL TEST DATA
 ON
 MICROWAVE SWITCH

CUSTOMER: LOCKHEED MARTIN TECHNICIAN: RA
 JOB NO: 003059E-1
 MODEL NO: MSN-6DT-06-DEC-SP OPTION NO: B05, 612
 SERIAL NO: 6MS006144 SPECIFICATION:
 CURRENT DRAW: +5 VDC @ 283mA; -5 VDC @ 46mA FREQUENCY RANGE: 6 - 12 GHz

INSERTION LOSS (WORST CASE)	RETURN LOSS (WORST CASE)					
	INPUT dB	INPUT VSWR	OUTPUT ON dB	OUTPUT ON VSWR	OUTPUT OFF dB	OUTPUT OFF VSWR
J7-J1 <u>2.38</u> dB	<u>11.77</u> dB	<u>1.70</u> : 1	<u>10.53</u> dB	<u>1.85</u> : 1	<u>10.69</u> dB	<u>1.83</u> : 1
J7-J2 <u>2.50</u> dB	<u>11.52</u> dB	<u>1.75</u> : 1	<u>11.05</u> dB	<u>1.78</u> : 1	<u>12.81</u> dB	<u>1.59</u> : 1
J7-J3 <u>3.00</u> dB	<u>11.81</u> dB	<u>1.69</u> : 1	<u>13.78</u> dB	<u>1.51</u> : 1	<u>11.21</u> dB	<u>1.76</u> : 1
J7-J4 <u>1.75</u> dB	<u>15.81</u> dB	<u>1.39</u> : 1	<u>13.82</u> dB	<u>1.51</u> : 1	<u>23.39</u> dB	<u>1.16</u> : 1
J7-J5 <u>2.18</u> dB	<u>13.60</u> dB	<u>1.53</u> : 1	<u>14.01</u> dB	<u>1.50</u> : 1	<u>11.46</u> dB	<u>1.73</u> : 1
J7-J6 <u>2.47</u> dB	<u>17.68</u> dB	<u>1.30</u> : 1	<u>13.02</u> dB	<u>1.57</u> : 1	<u>9.67</u> dB	<u>1.28</u> : 1
	dB	1. : 1	dB	1. : 1	dB	1. : 1
	dB	1. : 1	dB	1. : 1	dB	1. : 1
	dB	1. : 1	dB	1. : 1	dB	1. : 1

ISOLATION	SWITCHING SPEED			
	DELAY ON	RISE TIME	DELAY OFF	FALL TIME
J7-J1 <u>>40</u> dB	<u>16</u> nS	nS	<u>24</u> nS	nS
J7-J2 <u>>40</u> dB	<u>15</u> nS	nS	<u>18</u> nS	nS
J7-J3 <u>>40</u> dB	<u>19</u> nS	nS	<u>17</u> nS	nS
J7-J4 <u>>40</u> dB	<u>16</u> nS	nS	<u>18</u> nS	nS
J7-J5 <u>>40</u> dB	<u>20</u> nS	nS	<u>20</u> nS	nS
J7-J6 <u>>40</u> dB	<u>20</u> nS	nS	<u>18</u> nS	nS
	nS	nS	nS	nS
	nS	nS	nS	nS
	nS	nS	nS	nS

NOTE: Any additional test data on back

TESTED ON: Wiltron 37347A

QA/QC APPROVAL:

DATED: 4/30/00

FINAL TEST DATA

AMC MODEL NO: MSN-6DT-06-DEC OPTIONS B05, 612, SERIAL NUMBER: 6MS006145

FORM: 100-5277



AMERICAN MICROWAVE CORPORATION
 7311-G GROVE RD., FREDERICK MD. 21704
 TEL: 301-662-4700 FAX: 301-662-4938

DATE: 07/21/00

FINAL TEST DATA
 ON
 MICROWAVE SWITCH

CUSTOMER: LOCKHEED MARTIN TECHNICIAN: THACJ

JOB NO: 003059E-1

MODEL NO: MSN-6DT-06-DEC-SP

OPTION NO: B05, 612

SERIAL NO: 6MS006145

SPECIFICATION:

CURRENT DRAW: +5 VDC @ 200 mA; -5 VDC @ 40 mA FREQUENCY RANGE: 6 - 12 GHz

INSERTION LOSS (WORST CASE)	RETURN LOSS (WORST CASE)					
	INPUT dB	INPUT VSWR	OUTPUT ON dB	OUTPUT ON VSWR	OUTPUT OFF dB	OUTPUT OFF VSWR
J7-J1 <u>2.4</u> dB	<u>12.8</u> dB	<u>1.58</u> : 1	<u>10.3</u> dB	<u>1.87</u> : 1	<u>10.6</u> dB	<u>1.83</u> : 1
J7-J2 <u>2.2</u> dB	<u>10.4</u> dB	<u>1.86</u> : 1	<u>11.5</u> dB	<u>1.71</u> : 1	<u>14.2</u> dB	<u>1.49</u> : 1
J7-J3 <u>2.2</u> dB	<u>12.2</u> dB	<u>1.64</u> : 1	<u>12.2</u> dB	<u>1.64</u> : 1	<u>12.0</u> dB	<u>1.66</u> : 1
J7-J4 <u>2.3</u> dB	<u>12.1</u> dB	<u>1.65</u> : 1	<u>11.2</u> dB	<u>1.75</u> : 1	<u>11.98</u> dB	<u>1.67</u> : 1
J7-J5 <u>2.5</u> dB	<u>13.9</u> dB	<u>1.50</u> : 1	<u>12.0</u> dB	<u>1.66</u> : 1	<u>12.3</u> dB	<u>1.63</u> : 1
J7-J6 <u>2.5</u> dB	<u>11.2</u> dB	<u>1.75</u> : 1	<u>12.3</u> dB	<u>1.63</u> : 1	<u>12.8</u> dB	<u>1.59</u> : 1
	dB	1. : 1	dB	1. : 1	dB	1. : 1
	dB	1. : 1	dB	1. : 1	dB	1. : 1
	dB	1. : 1	dB	1. : 1	dB	1. : 1

ISOLATION	SWITCHING SPEED			
	DELAY ON	RISE TIME	DELAY OFF	FALL TIME
J7-J1 <u>>40</u> dB	<u>18</u> nS	<u>——</u> nS	<u>16</u> nS	<u>——</u> nS
J7-J2 <u>>40</u> dB	<u>18</u> nS	<u>——</u> nS	<u>16</u> nS	<u>——</u> nS
J7-J3 <u>>40</u> dB	<u>20</u> nS	<u>——</u> nS	<u>16</u> nS	<u>——</u> nS
J7-J4 <u>>40</u> dB	<u>18</u> nS	<u>——</u> nS	<u>16</u> nS	<u>——</u> nS
J7-J5 <u>>40</u> dB	<u>18</u> nS	<u>——</u> nS	<u>16</u> nS	<u>——</u> nS
J7-J6 <u>>40</u> dB	<u>20</u> nS	<u>——</u> nS	<u>16</u> nS	<u>——</u> nS
	nS	<u>——</u> nS	nS	nS
	nS	nS	nS	nS
	nS	nS	nS	nS

NOTE: Any additional test data on back

TESTED ON: 8757A / 8350B

QA/QC APPROVAL: [Signature] DATED: 7/21/00

FINAL TEST DATA

AMC MODEL NO: MSN-6DT-06-DEC OPTIONS B05, 612, SERIAL NUMBER: 6MS006146

FORM: 100-5277



AMERICAN MICROWAVE CORPORATION
 7311-G GROVE RD., FREDERICK MD. 21704
 TEL: 301-662-4700 FAX: 301-662-4938

DATE: PA 6/30/00

FINAL TEST DATA
 ON
 MICROWAVE SWITCH

CUSTOMER:	<u>LOCKHEED MARTIN</u>	TECHNICIAN:	<u>PA</u>
JOB NO:	<u>003059E-1</u>	OPTION NO:	<u>B05, 612</u>
MODEL NO:	<u>MSN-6DT-06-DEC-SP</u>	SPECIFICATION:	
SERIAL NO:	<u>6MS006146</u>	FREQUENCY RANGE:	<u>6 - 12 GHz</u>
CURRENT DRAW:	<u>+5 VDC @ 322 mA; -5 VDC @ 50 mA</u>		

INSERTION LOSS (WORST CASE)	RETURN LOSS (WORST CASE)					
	INPUT dB	INPUT VSWR	OUTPUT ON dB	OUTPUT ON VSWR	OUTPUT OFF dB	OUTPUT OFF VSWR
J7-J1 2.55 dB	12.89 dB	1.59 : 1	12.20 dB	1.65 : 1	12.38 dB	1.63 : 1
J7-J2 2.42 dB	12.49 dB	1.62 : 1	14.16 dB	1.49 : 1	15.36 dB	1.41 : 1
J7-J3 2.44 dB	11.22 dB	1.76 : 1	10.70 dB	1.82 : 1	11.79 dB	1.69 : 1
J7-J4 2.34 dB	14.44 dB	1.47 : 1	16.93 dB	1.33 : 1	12.58 dB	1.61 : 1
J7-J5 2.42 dB	12.79 dB	1.60 : 1	12.58 dB	1.61 : 1	15.33 dB	1.41 : 1
J7-J6 2.66 dB	12.32 dB	1.64 : 1	14.99 dB	1.43 : 1	16.23 dB	1.37 : 1
	dB	1. : 1	dB	1. : 1	dB	1. : 1
	dB	1. : 1	dB	1. : 1.	dB	1. : 1
	dB	1. : 1	dB	1. : 1	dB	1. : 1

ISOLATION	SWITCHING SPEED			
	DELAY ON	RISE TIME	DELAY OFF	FALL TIME
J7-J1 >40 dB	16 nS	nS	20 nS	nS
J7-J2 >40 dB	15 nS	nS	19 nS	nS
J7-J3 >40 dB	18 nS	nS	19 nS	nS
J7-J4 >40 dB	16 nS	nS	20 nS	nS
J7-J5 >40 dB	20 nS	nS	20 nS	nS
J7-J6 >40 dB	19 nS	nS	19 nS	nS
	nS	nS	nS	nS
	nS	nS	nS	nS
	nS	nS	nS	nS

NOTE: Any additional test data on back

TESTED ON: Wilson 37347A

QA/QC APPROVAL: [Signature]

DATED: 6/30/00



FINAL TEST DATA

AMC MODEL NO: MSN-6DT-06-DEC OPTIONS B05, 612, SERIAL NUMBER: 6MS006147

FORM: 100-5277



AMERICAN MICROWAVE CORPORATION
 7311-G GROVE RD., FREDERICK MD. 21704
 TEL: 301-662-4700 FAX: 301-662-4938

DATE: 07/27/00

FINAL TEST DATA
 ON
 MICROWAVE SWITCH

CUSTOMER: LOCKHEED MARTIN TECHNICIAN: THACS
 JOB NO: 003059E-1
 MODEL NO: MSN-6DT-06-DEC-SP OPTION NO: B05, 612
 SERIAL NO: 6MS006147 SPECIFICATION:
 CURRENT DRAW: ±5 VDC @ 30 mA; -5 VDC @ 40 mA FREQUENCY RANGE: 6 - 12 GHz

INSERTION LOSS (WORST CASE)	RETURN LOSS (WORST CASE)					
	INPUT dB	INPUT VSWR	OUTPUT ON dB	OUTPUT ON VSWR	OUTPUT OFF dB	OUTPUT OFF VSWR
J7-J1 <u>2.46</u> dB	<u>10.0</u> dB	<u>1.80</u> : 1	<u>11.4</u> dB	<u>1.73</u> : 1	<u>12.4</u> dB	<u>1.62</u> : 1
J7-J2 <u>2.29</u> dB	<u>11.4</u> dB	<u>1.73</u> : 1	<u>11.0</u> dB	<u>1.78</u> : 1	<u>10.5</u> dB	<u>1.84</u> : 1
J7-J3 <u>2.10</u> dB	<u>10.1</u> dB	<u>1.90</u> : 1	<u>13.8</u> dB	<u>1.51</u> : 1	<u>14.6</u> dB	<u>1.45</u> : 1
J7-J4 <u>2.04</u> dB	<u>12.8</u> dB	<u>1.59</u> : 1	<u>11.9</u> dB	<u>1.67</u> : 1	<u>11.2</u> dB	<u>1.75</u> : 1
J7-J5 <u>2.17</u> dB	<u>11.1</u> dB	<u>1.76</u> : 1	<u>10.8</u> dB	<u>1.80</u> : 1	<u>10.8</u> dB	<u>1.80</u> : 1
J7-J6 <u>2.52</u> dB	<u>11.7</u> dB	<u>1.69</u> : 1	<u>10.8</u> dB	<u>1.88</u> : 1	<u>12.8</u> dB	<u>1.59</u> : 1
	dB	1. : 1	dB	1. : 1	dB	1. : 1
	dB	1. : 1	dB	1. : 1	dB	1. : 1
	dB	1. : 1	dB	1. : 1	dB	1. : 1

ISOLATION	SWITCHING SPEED			
	DELAY ON	RISE TIME	DELAY OFF	FALL TIME
J7-J1 <u>>40</u> dB	<u>18</u> nS	<u>——</u> nS	<u>18</u> nS	<u>——</u> nS
J7-J2 <u>>40</u> dB	<u>18</u> nS	<u>——</u> nS	<u>18</u> nS	<u>——</u> nS
J7-J3 <u>>40</u> dB	<u>20</u> nS	<u>——</u> nS	<u>19</u> nS	<u>——</u> nS
J7-J4 <u>>40</u> dB	<u>18</u> nS	<u>——</u> nS	<u>18</u> nS	<u>——</u> nS
J7-J5 <u>>40</u> dB	<u>20</u> nS	<u>——</u> nS	<u>20</u> nS	<u>——</u> nS
J7-J6 <u>>40</u> dB	<u>19</u> nS	<u>——</u> nS	<u>19</u> nS	<u>——</u> nS
	nS	nS	nS	nS
	nS	nS	nS	nS
	nS	nS	nS	nS

NOTE: Any additional test data on back

TESTED ON: HP 8757A / 8350B

QA/QC APPROVAL: [Signature]

DATED: 7/27/00

FINAL TEST DATA

AMC MODEL NO: MSN-6DT-06-DEC OPTIONS B05, 612, SERIAL NUMBER: 6MS006148

FORM: 100-5277



JCAN MICROWAVE CORPORATION
 7311-G GROVE RD., FREDERICK MD. 21704
 TEL: 301-662-4700 FAX: 301-662-4938

DATE: 7/31/00

FINAL TEST DATA
 ON
 MICROWAVE SWITCH

CUSTOMER: LOCKHEED MARTIN TECHNICIAN: K. Mason
 JOB NO: 003059E-1
 MODEL NO: MSN-6DT-06-DEC-SP OPTION NO: B05, 612
 SERIAL NO: 6MS 006148 SPECIFICATION:
 CURRENT DRAW: +5 VDC @ 320 mA; -5 VDC @ 70 mA FREQUENCY RANGE: 6 - 12 GHz

INSERTION LOSS (WORST CASE)	RETURN LOSS (WORST CASE)					
	INPUT dB	INPUT VSWR	OUTPUT ON dB	OUTPUT ON VSWR	OUTPUT OFF dB	OUTPUT OFF VSWR
J7-J1 2.39 dB	12.10 dB	1.66 : 1	11.61 dB	1.71 : 1	10.30 dB	1.88 : 1
J7-J2 2.06 dB	11.18 dB	1.76 : 1	12.01 dB	1.67 : 1	13.77 dB	1.52 : 1
J7-J3 1.91 dB	14.04 dB	1.50 : 1	12.94 dB	1.58 : 1	12.90 dB	1.59 : 1
J7-J4 1.75 dB	16.42 dB	1.36 : 1	12.87 dB	1.57 : 1	12.49 dB	1.62 : 1
J7-J5 2.01 dB	16.25 dB	1.36 : 1	15.01 dB	1.43 : 1	12.46 dB	1.63 : 1
J7-J6 2.53 dB	12.07 dB	1.66 : 1	13.03 dB	1.57 : 1	10.82 dB	1.81 : 1
	dB	1. : 1	dB	1. : 1	dB	1. : 1
	dB	1. : 1	dB	1. : 1	dB	1. : 1
	dB	1. : 1	dB	1. : 1	dB	1. : 1

ISOLATION	SWITCHING SPEED			
	DELAY ON	RISE TIME	DELAY OFF	FALL TIME
J7-J1 >40 dB	< 20 nS	nS	< 20 nS	nS
J7-J2 >40 dB	< 20 nS	nS	< 20 nS	nS
J7-J3 >40 dB	< 20 nS	nS	< 20 nS	nS
J7-J4 >40 dB	< 20 nS	nS	< 20 nS	nS
J7-J5 >40 dB	< 20 nS	nS	< 20 nS	nS
J7-J6 >40 dB	< 20 nS	nS	< 20 nS	nS
	nS	nS	nS	nS
	nS	nS	nS	nS
	nS	nS	nS	nS

NOTE: Any additional test data on back

TESTED ON: HP8720B

QA/QC APPROVAL: [Signature]

DATED: 8/1/00



FINAL TEST DATA

AMC MODEL NO: MSN-6DT-06-DEC OPTIONS B05, 612, SERIAL NUMBER: 6MS006149

FORM: 100-5277



AMERICAN MICROWAVE CORPORATION
 7311-G GROVE RD., FREDERICK MD. 21704
 TEL: 301-662-4700 FAX: 301-662-4938

DATE: 07/27/00

FINAL TEST DATA
 ON
 MICROWAVE SWITCH

CUSTOMER: LOCKHEED MARTIN TECHNICIAN: THAcS
 JOB NO: 003059E-1
 MODEL NO: MSN-6DT-06-DEC-SP OPTION NO: B05, 612
 SERIAL NO: 6MS006149 SPECIFICATION:
 CURRENT DRAW: +5 VDC @ 200mA; -5 VDC @ 40 mA FREQUENCY RANGE: 6 - 12 GHz

INSERTION LOSS (WORST CASE)	RETURN LOSS (WORST CASE)					
	INPUT dB	INPUT VSWR	OUTPUT ON dB	OUTPUT ON VSWR	OUTPUT OFF dB	OUTPUT OFF VSWR
J7-J1 <u>2.51</u> dB	<u>10.6</u> dB	<u>1.82</u> : 1	<u>11.7</u> dB	<u>1.89</u> : 1	<u>12.7</u> dB	<u>1.59</u> : 1
J7-J2 <u>2.73</u> dB	<u>11.4</u> dB	<u>1.72</u> : 1	<u>12.1</u> dB	<u>1.65</u> : 1	<u>10.8</u> dB	<u>1.85</u> : 1
J7-J3 <u>2.23</u> dB	<u>9.88</u> dB	<u>1.94</u> : 1	<u>12.9</u> dB	<u>1.57</u> : 1	<u>12.2</u> dB	<u>1.64</u> : 1
J7-J4 <u>2.26</u> dB	<u>10.1</u> dB	<u>1.90</u> : 1	<u>12.7</u> dB	<u>1.60</u> : 1	<u>9.36</u> dB	<u>2.03</u> : 1
J7-J5 <u>2.56</u> dB	<u>10.8</u> dB	<u>1.81</u> : 1	<u>14.3</u> dB	<u>1.49</u> : 1	<u>14.1</u> dB	<u>1.48</u> : 1
J7-J6 <u>2.54</u> dB	<u>10.9</u> dB	<u>1.78</u> : 1	<u>11.0</u> dB	<u>1.77</u> : 1	<u>9.79</u> dB	<u>1.95</u> : 1
	dB	1. : 1	dB	1. : 1	dB	1. : 1
	dB	1. : 1	dB	1. : 1	dB	1. : 1
	dB	1. : 1	dB	1. : 1	dB	1. : 1

ISOLATION	SWITCHING SPEED			
	DELAY ON	RISE TIME	DELAY OFF	FALL TIME
J7-J1 <u>740</u> dB	<u>18</u> nS	<u> </u> nS	<u>16</u> nS	<u> </u> nS
J7-J2 <u>740</u> dB	<u>19</u> nS	<u> </u> nS	<u>14</u> nS	<u> </u> nS
J7-J3 <u>740</u> dB	<u>20</u> nS	<u> </u> nS	<u>18</u> nS	<u> </u> nS
J7-J4 <u>740</u> dB	<u>20</u> nS	<u> </u> nS	<u>16</u> nS	<u> </u> nS
J7-J5 <u>740</u> dB	<u>20</u> nS	<u> </u> nS	<u>19</u> nS	<u> </u> nS
J7-J6 <u>740</u> dB	<u>20</u> nS	<u> </u> nS	<u>18</u> nS	<u> </u> nS
	nS	<u> </u> nS	nS	nS
	nS	<u> </u> nS	nS	nS
	nS	<u> </u> nS	nS	nS

NOTE: Any additional test data on back

TESTED ON: HP8757A / 8350B

QA/QC APPROVAL: [Signature]

DATED: 7/27/00



FINAL TEST DATA

AMC MODEL NO: MSN-6DT-06-DEC OPTIONS B05, 612, SERIAL NUMBER: 6MS006150

FORM: 100-5277



JCAN MICROWAVE CORPORATION
 7311-G GROVE RD., FREDERICK, MD. 21704
 TEL: 301-662-4700 FAX: 301-662-4938

DATE: 07/05/00

FINAL TEST DATA
 ON
 MICROWAVE SWITCH

CUSTOMER: LOCKHEED MARTIN TECHNICIAN: THACS
 JOB NO: 003059E-1
 MODEL NO: MSN-6DT-06-DEC-SP OPTION NO: B05, 612
 SERIAL NO: 6MS006150 SPECIFICATION:
 CURRENT DRAW: +5 VDC @300mA; -5 VDC @45mA FREQUENCY RANGE: 6 - 12 GHz

INSERTION LOSS (WORST CASE)	RETURN LOSS (WORST CASE)					
	INPUT dB	INPUT VSWR	OUTPUT ON dB	OUTPUT ON VSWR	OUTPUT OFF dB	OUTPUT OFF VSWR
J7-J1 <u>2.4</u> dB	<u>10.3</u> dB	<u>1.87</u> : 1	<u>10.2</u> dB	<u>1.89</u> : 1	<u>13.4</u> dB	<u>1.54</u> : 1
J7-J2 <u>2.1</u> dB	<u>12.4</u> dB	<u>1.62</u> : 1	<u>10.9</u> dB	<u>1.78</u> : 1	<u>11.7</u> dB	<u>1.70</u> : 1
J7-J3 <u>2.0</u> dB	<u>13.9</u> dB	<u>1.50</u> : 1	<u>12.2</u> dB	<u>1.65</u> : 1	<u>13.1</u> dB	<u>1.56</u> : 1
J7-J4 <u>2.0</u> dB	<u>14.1</u> dB	<u>1.48</u> : 1	<u>11.8</u> dB	<u>1.68</u> : 1	<u>12.4</u> dB	<u>1.62</u> : 1
J7-J5 <u>2.7</u> dB	<u>9.5</u> dB	<u>2.00</u> : 1	<u>9.81</u> dB	<u>1.95</u> : 1	<u>18.8</u> dB	<u>1.25</u> : 1
J7-J6 <u>2.3</u> dB	<u>12.9</u> dB	<u>1.58</u> : 1	<u>13.0</u> dB	<u>1.57</u> : 1	<u>13.9</u> dB	<u>1.50</u> : 1
	dB	1. : 1	dB	1. : 1	dB	1. : 1
	dB	1. : 1	dB	1. : 1	dB	1. : 1
	dB	1. : 1	dB	1. : 1	dB	1. : 1

ISOLATION	SWITCHING SPEED			
	DELAY ON	RISE TIME	DELAY OFF	FALL TIME
J7-J1 <u>740</u> dB	<u>20</u> nS	<u>—</u> nS	<u>22</u> nS	<u>—</u> nS
J7-J2 <u>740</u> dB	<u>17</u> nS	<u>—</u> nS	<u>21</u> nS	<u>—</u> nS
J7-J3 <u>740</u> dB	<u>20</u> nS	<u>—</u> nS	<u>20</u> nS	<u>—</u> nS
J7-J4 <u>740</u> dB	<u>18</u> nS	<u>—</u> nS	<u>21</u> nS	<u>—</u> nS
J7-J5 <u>740</u> dB	<u>19</u> nS	<u>—</u> nS	<u>22</u> nS	<u>—</u> nS
J7-J6 <u>740</u> dB	<u>20</u> nS	<u>—</u> nS	<u>21</u> nS	<u>—</u> nS
	nS	nS	nS	nS
	nS	nS	nS	nS
	nS	nS	nS	nS

NOTE: Any additional test data on back

TESTED ON: 8757A / 8350B

QA/QC APPROVAL: [Signature]

DATED: 6/30/00



FINAL TEST DATA

AMC MODEL NO: MSN-6DT-06-DEC OPTIONS B05, 612, SERIAL NUMBER: 6MS006151

FORM: 100-5277



AMERICAN MICROWAVE CORPORATION
 7311-G GROVE RD., FREDERICK, MD. 21704
 TEL: 301-662-4700 FAX: 301-662-4938

DATE: 6/30/00

FINAL TEST DATA
 ON
 MICROWAVE SWITCH

CUSTOMER: LOCKHEED MARTIN TECHNICIAN: RA
 JOB NO: 003059E-1
 MODEL NO: MSN-6DT-06-DEC-SP OPTION NO: B05, 612
 SERIAL NO: 6MS006151 SPECIFICATION:
 CURRENT DRAW: +5 VDC @ 295mA; -5 VDC @ 46mA FREQUENCY RANGE: 6 - 12 GHz

INSERTION LOSS (WORST CASE)	RETURN LOSS (WORST CASE)					
	INPUT dB	INPUT VSWR	OUTPUT ON dB	OUTPUT ON VSWR	OUTPUT OFF dB	OUTPUT OFF VSWR
J7-J1 2.47 dB	13.64 dB	1.53 : 1	14.24 dB	1.44 : 1	12.52 dB	1.62 : 1
J7-J2 2.37 dB	13.52 dB	1.53 : 1	12.79 dB	1.60 : 1	10.85 dB	1.80 : 1
J7-J3 2.23 dB	15.57 dB	1.40 : 1	16.43 dB	1.36 : 1	15.27 dB	1.42 : 1
J7-J4 2.24 dB	13.72 dB	1.52 : 1	15.93 dB	1.38 : 1	12.79 dB	1.60 : 1
J7-J5 2.57 dB	10.62 dB	1.83 : 1	11.99 dB	1.68 : 1	13.34 dB	1.55 : 1
J7-J6 2.48 dB	12.00 dB	1.67 : 1	12.72 dB	1.60 : 1	10.19 dB	1.90 : 1
	dB	1. : 1	dB	1. : 1	dB	1. : 1
	dB	1. : 1	dB	1. : 1	dB	1. : 1
	dB	1. : 1	dB	1. : 1	dB	1. : 1

ISOLATION	SWITCHING SPEED			
	DELAY ON	RISE TIME	DELAY OFF	FALL TIME
J7-J1 >40 dB	16 nS	nS	20 nS	nS
J7-J2 >40 dB	15 nS	nS	20 nS	nS
J7-J3 >40 dB	20 nS	nS	20 nS	nS
J7-J4 >40 dB	16 nS	nS	19 nS	nS
J7-J5 >40 dB	20 nS	nS	20 nS	nS
J7-J6 >40 dB	18 nS	nS	19 nS	nS
	nS	nS	nS	nS
	nS	nS	nS	nS
	nS	nS	nS	nS

NOTE: Any additional test data on back

TESTED ON: William 37347A

QA/QC APPROVAL: at

DATED: 6/30/00

FINAL TEST DATA

AMC MODEL NO: MSN-6DT-06-DEC OPTIONS B05, 612, SERIAL NUMBER: 6MS006152

FORM: 100-5277



AMERICAN MICROWAVE CORPORATION
 7311-G GROVE RD., FREDERICK MD. 21704
 TEL: 301-662-4700 FAX: 301-662-4938

DATE: 07/21/00

FINAL TEST DATA
 ON
 MICROWAVE SWITCH

CUSTOMER: LOCKHEED MARTIN
 JOB NO: 003059E-1
 MODEL NO: MSN-6DT-06-DEC-SP
 SERIAL NO: 6MS006152
 CURRENT DRAW: +5 VDC @ 20 mA; -5 VDC @ 40 mA

TECHNICIAN: THACS
 OPTION NO: B05, 612
 SPECIFICATION:

FREQUENCY RANGE: 6 - 12 GHz

INSERTION LOSS (WORST CASE)	RETURN LOSS (WORST CASE)					
	INPUT dB	INPUT VSWR	OUTPUT ON dB	OUTPUT ON VSWR	OUTPUT OFF dB	OUTPUT OFF VSWR
J7-J1 <u>1.46</u> dB	<u>15.1</u> dB	<u>1.42</u> : 1	<u>17.4</u> dB	<u>1.31</u> : 1	<u>16.8</u> dB	<u>1.33</u> : 1
J7-J2 <u>2.20</u> dB	<u>15.0</u> dB	<u>1.42</u> : 1	<u>15.5</u> dB	<u>1.40</u> : 1	<u>15.9</u> dB	<u>1.37</u> : 1
J7-J3 <u>2.3</u> dB	<u>14.5</u> dB	<u>1.40</u> : 1	<u>16.2</u> dB	<u>1.36</u> : 1	<u>20.2</u> dB	<u>1.21</u> : 1
J7-J4 <u>2.4</u> dB	<u>11.5</u> dB	<u>1.71</u> : 1	<u>12.0</u> dB	<u>1.67</u> : 1	<u>15.6</u> dB	<u>1.39</u> : 1
J7-J5 <u>2.2</u> dB	<u>14.2</u> dB	<u>1.48</u> : 1	<u>14.2</u> dB	<u>1.47</u> : 1	<u>14.6</u> dB	<u>1.49</u> : 1
J7-J6 <u>2.3</u> dB	<u>13.3</u> dB	<u>1.55</u> : 1	<u>16.5</u> dB	<u>1.34</u> : 1	<u>18.9</u> dB	<u>1.25</u> : 1
	dB	1. : 1	dB	1. : 1	dB	1. : 1
	dB	1. : 1	dB	1. : 1	dB	1. : 1
	dB	1. : 1	dB	1. : 1	dB	1. : 1
ISOLATION	SWITCHING SPEED					
	DELAY ON		RISE TIME	DELAY OFF	FALL TIME	
J7-J1 <u>740</u> dB	<u>18</u> nS	_____ nS	<u>18</u> nS	_____ nS		
J7-J2 <u>740</u> dB	<u>18</u> nS	_____ nS	<u>18</u> nS	_____ nS		
J7-J3 <u>740</u> dB	<u>18</u> nS	_____ nS	<u>16</u> nS	_____ nS		
J7-J4 <u>740</u> dB	<u>18</u> nS	_____ nS	<u>20</u> nS	_____ nS		
J7-J5 <u>740</u> dB	<u>20</u> nS	_____ nS	<u>20</u> nS	_____ nS		
J7-J6 <u>740</u> dB	<u>20</u> nS	_____ nS	<u>16</u> nS	_____ nS		
	nS	nS	nS	nS		
	nS	nS	nS	nS		
	nS	nS	nS	nS		

NOTE: Any additional test data on back

TESTED ON: 8757A / 8350B

QA/QC APPROVAL: _____

DATED: 7/21/00



FINAL TEST DATA

AMC MODEL NO: MSN-6DT-06-DEC OPTIONS B05, 612, SERIAL NUMBER: 6MS006153

FORM: 100-5277

AMERICAN MICROWAVE CORPORATION
 7311-G GROVE RD., FREDERICK MD, 21704
 TEL: 301-662-4700 FAX: 301-662-4938

DATE: 6/30/00

FINAL TEST DATA
 ON
 MICROWAVE SWITCH

CUSTOMER: LOCKHEED MARTIN TECHNICIAN: RA
 JOB NO: 003059E-1
 MODEL NO: MSN-6DT-06-DEC-SP OPTION NO: B05, 612
 SERIAL NO: 6MS006153 SPECIFICATION:
 CURRENT DRAW: +5 VDC @ 290mA; -5 VDC @ 45mA FREQUENCY RANGE: 6 - 12 GHz

INSERTION LOSS (WORST CASE)	RETURN LOSS (WORST CASE)					
	INPUT dB	INPUT VSWR	OUTPUT ON dB	OUTPUT ON VSWR	OUTPUT OFF dB	OUTPUT OFF VSWR
J7-J1 2.56 dB	18.03 dB	1.29 : 1	12.44 dB	1.63 : 1	23.72 dB	1.14 : 1
J7-J2 2.44 dB	11.11 dB	1.77 : 1	12.90 dB	1.59 : 1	18.81 dB	1.26 : 1
J7-J3 2.98 dB	10.40 dB	1.87 : 1	9.76 dB	1.96 : 1	12.42 dB	1.63 : 1
J7-J4 2.68 dB	11.99 dB	1.67 : 1	11.68 dB	1.70 : 1	11.49 dB	1.73 : 1
J7-J5 2.27 dB	10.52 dB	1.85 : 1	10.80 dB	1.81 : 1	13.27 dB	1.68 : 1
J7-J6 3.04 dB	10.42 dB	1.86 : 1	10.59 dB	1.84 : 1	11.68 dB	1.70 : 1
	dB	1. : 1	dB	1. : 1	dB	1. : 1
	dB	1. : 1	dB	1. : 1	dB	1. : 1
	dB	1. : 1	dB	1. : 1	dB	1. : 1

ISOLATION	SWITCHING SPEED			
	DELAY ON	RISE TIME	DELAY OFF	FALL TIME
J7-J1 >40 dB	16 nS	nS	20 nS	nS
J7-J2 >40 dB	15 nS	nS	18 nS	nS
J7-J3 >40 dB	20 nS	nS	19 nS	nS
J7-J4 >40 dB	16 nS	nS	20 nS	nS
J7-J5 >40 dB	19 nS	nS	20 nS	nS
J7-J6 >40 dB	20 nS	nS	20 nS	nS
	nS	nS	nS	nS
	nS	nS	nS	nS
	nS	nS	nS	nS

NOTE: Any additional test data on back

TESTED ON: Wiltron 37347A

QA/QC APPROVAL: RA

DATED: 6/30/00