TEST REPORT

ON

0.3 TO 18.0 GHz

20 nS HIGH SPEED

SPDT, ABSORPTIVE, SOLID STATE SWITCH

with SMA FEMALE CONTROL

AMC MODEL No:

SWM-0318-2DT

with Options BC & A11

Serial Number:

Designed By
Rene Afable

Tested By

Report By
Peter Wood

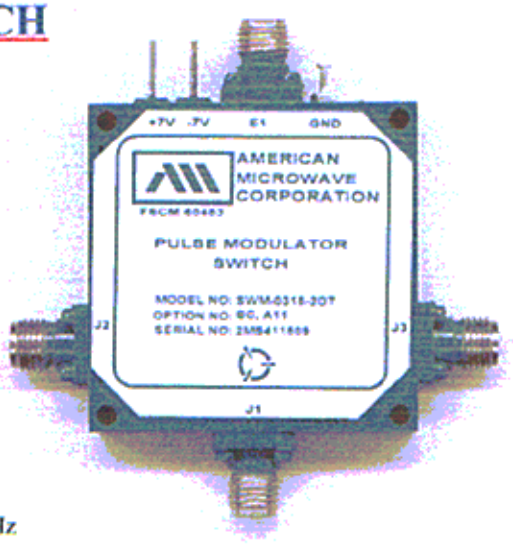
FEBRUARY 7, 2005

AMERICAN MICROWAVE CORPORATION
7311-G Grove Road, Frederick, MD 21704 •USA•
Tel: 301-662-4700 Fax: 301-662-4938 Email: sales@americanmicrowavecorp.com
Website: www.americanmicrowavecorp.com

TABLE OF CONTENTS

AMERICAN MICROWAVE CORPORATION
7311-G Grove Road, Frederick, MD 21704 •USA•
Tel: 301-662-4700 Fax: 301-662-4938 Email: sales@americanmicrowavecorp.com
Website: www.americanmicrowavecorp.com

0.3 to 18.0 GHz, 20 nS HIGH SPEED, 0.5WATT, SPDT, ABSORPTIVE SOLID STATE SWITCH



KEY FEATURES:

- 1.8:1 VSWR
- 20nS HIGH SPEED
- +27dBm TYPICAL INPUT POWER
- 0.3 TO 18.0 GHz FREQUENCY RANGE

SPECIFICATIONS:

FREQUENCY RANGE	:	0.3 TO 18.0 GHz
INSERTION LOSS	:	0.3 TO 2.0 GHz = ≤ 2.0 dB MAXIMUM (1.5 dB TYPICAL)
	:	2.0 TO 18.0 GHz = ≤ 4.0 dB MAXIMUM (3.5dB TYPICAL)
ISOLATION	:	≥ 40 dB MINIMUM
VSWR (IN/OUT)	:	0.3 GHz TO 18.0 GHz: 1.8:1 MAXIMUM
SWITCHING TIME		
○ RISE (10% TO 90% RF)	:	10 nS MAXIMUM, 5 nS TYPICAL
○ FALL (90% TO 10% RF)	:	10 nS MAXIMUM, 5 nS TYPICAL
○ ON (50% TTL TO 90% RF)	:	20 nS MAXIMUM
○ OFF (50% TTL TO 10% RF)	:	20 nS MAXIMUM
POWER HANDLING	:	+26 dBm MAXIMUM, +27 dBm TYPICAL
DC POWER SUPPLY	:	+7VDC TO +18VDC ± 5% @ 5 mA MAXIMUM
	:	-7VDC TO -18VDC ± 5% @ 5 mA MAXIMUM
RF CONNECTORS	:	FIELD REPLACABLE SMA FEMALE
DC CONNECTORS	:	SOLDER PINS
SIZE	:	1.50" X 1.50" X 0.40"

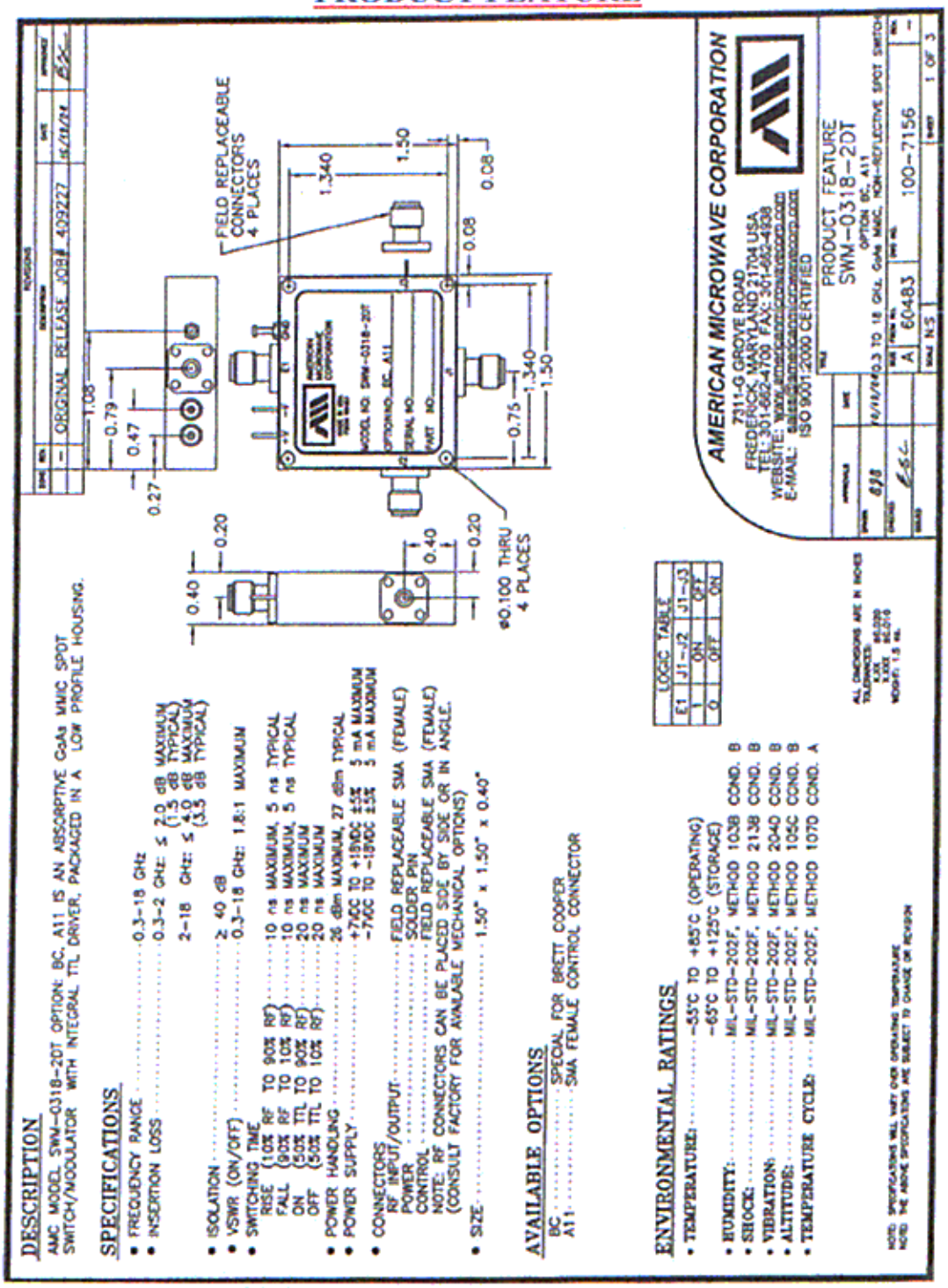
ENVIRONMENTAL RATINGS:

TEMPERATURE	:	-55° C TO +85° C OPERATING / -65° C TO +125° C STORAGE
HUMIDITY	:	MIL-STD-202F, METHOD 103B, CONDITION B
SHOCK	:	MIL-STD-202F, METHOD 213B, CONDITION B
VIBRATION	:	MIL-STD-202F, METHOD 204D, CONDITION B
ALTITUDE	:	MIL-STD-202F, METHOD 105C, CONDITION B

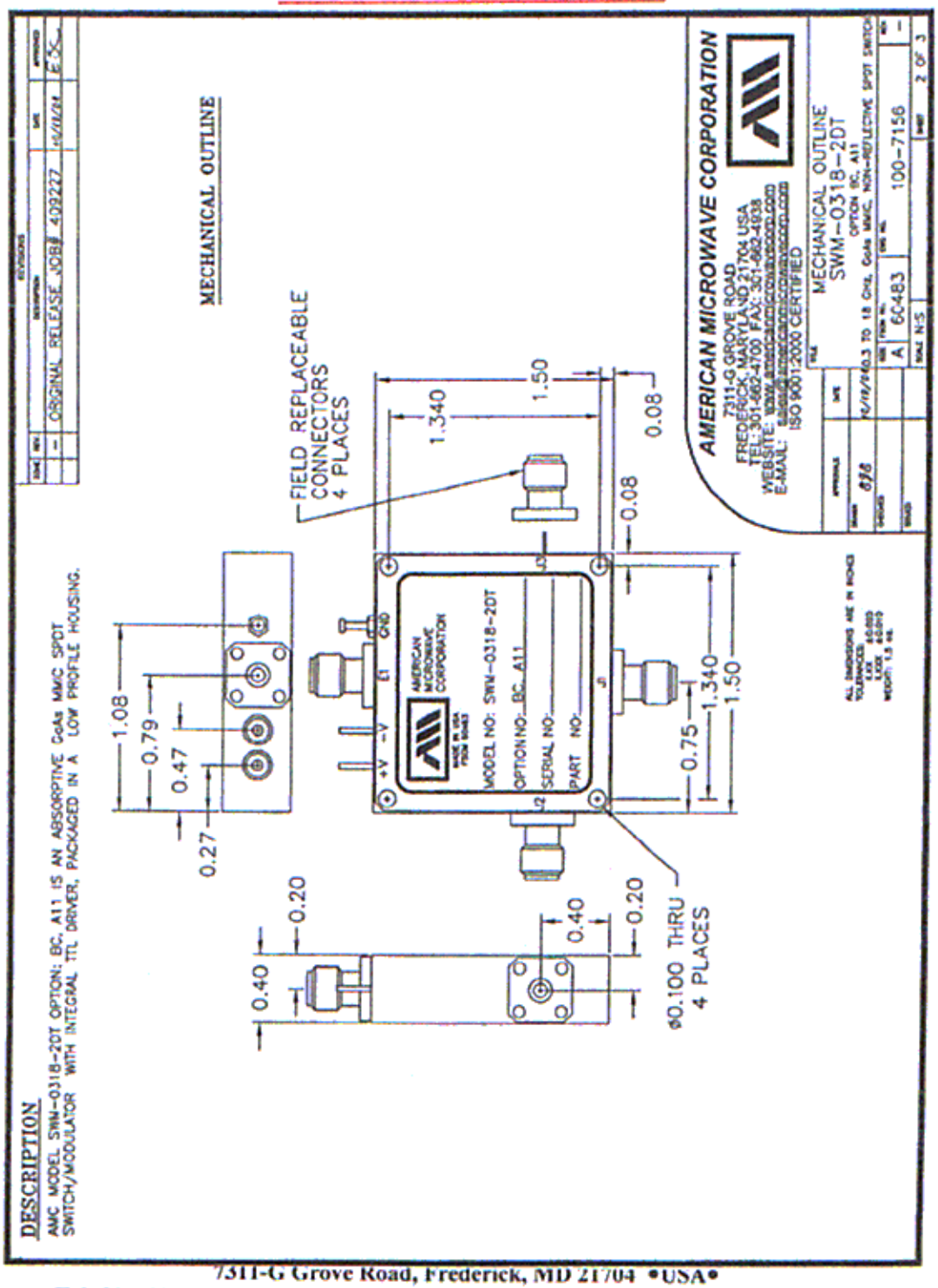
AMERICAN MICROWAVE CORPORATION
7311-G Grove Road, Frederick, MD 21704 •USA•
Tel: 301-662-4700 Fax: 301-662-4938 Email: sales@americanmicrowavecorp.com
Website: www.americanmicrowavecorp.com

- TEMPERATURE CYCLE : MIL-STD-202F, METHOD 107D, CONDITION A

PRODUCT FEATURE



MECHANICAL OUTLINE



TEST DATA AS PRESENTED TO CUSTOMER

FORM: SW-DTA
DATE: February 7, 2005

AMERICAN MICROWAVE CORPORATION
7311-G GROVE RD., FREDERICK MD 21704
TEL: 301-662-4700 FAX: 301-662-4938
WWW.AMERICANMICROWAVECORP.COM
E-MAIL: SALES@AMERICANMICROWAVECORP.COM
ISO 9001:1994 CERTIFIED

FINAL TEST DATA ON MICROWAVE SWITCH

CUSTOMER:	NASA	**TECHNICIAN:**	R. ELAD
JOB NO:	409227	**CUSTOMER PART NO:**	
MODEL NO:	SWM-0318-2DT	**OPTION NO:**	BC,A11
SERIAL NO:	2MS411809	**SPECIFICATION:**	MIL-STD-454
CURRENT DRAW:	+ VDC @ mA;- 7 VDC @ 1 mA	**FREQUENCY RANGE:**	0.3 GHz - 18 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
J1-J2	2.26 dB	@ 0.3-2 GHz	16.11 dB	1.37 : 1	14.95 dB	1.44 : 1	17.14 dB	1.32 : 1
J1-J2	3.98 dB	@ 2-18 GHz	11.97 dB	1.67 : 1	11.41 dB	1.74 : 1	8.75 dB	2.15 : 1
J1-J3	2.18 dB	@ 0.3-2 GHz	16.37 dB	1.36 : 1	15.72 dB	1.39 : 1	17.09 dB	1.33 : 1
J1-J3	3.74 dB	@ 2-18 GHz	13.20 dB	1.56 : 1	12.44 dB	1.63 : 1	9.04 dB	2.09 : 1

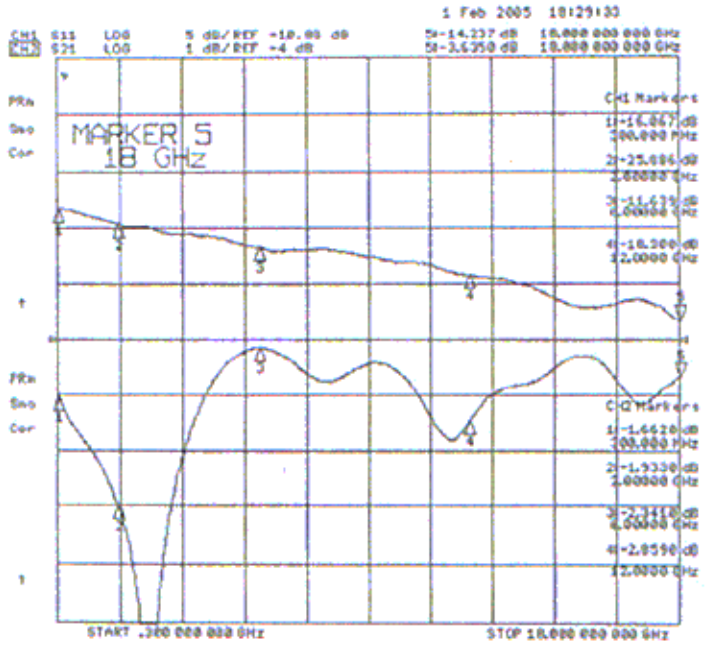
ISOLATION			SWITCHING SPEED			
			DELAY ON	RISE TIME	DELAY OFF	FALLTIME
J1-J2	45.56dB	@ 0.3-2 GHz	35 nS	8 nS	29 nS	5 nS
J1-J2	34.24dB	@ 2-18 GHz	35 nS	8 nS	29 nS	5 nS
J1-J3	46.84dB	@ 0.3-2 GHz	36 nS	9 nS	25 nS	5 nS
J1-J3	34.32dB	@ 2-18 GHz	36 nS	9 nS	25 nS	5 nS

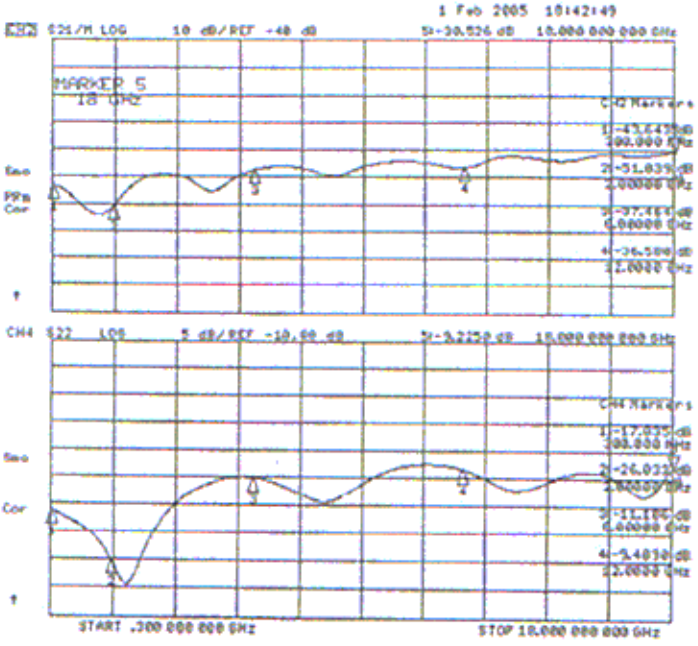
* DENOTES A FAILURE

TESTED ON: HEWLETT PACKARD,8720D,0,7.64
QA/QC APPROVAL: _____ **DATED:** 2/8/05

AMERICAN MICROWAVE CORPORATION
7311-G Grove Road, Frederick, MD 21704 •USA•
Tel: 301-662-4700 Fax: 301-662-4938 Email: sales@americanmicrowavecorp.com
Website: www.americanmicrowavecorp.com

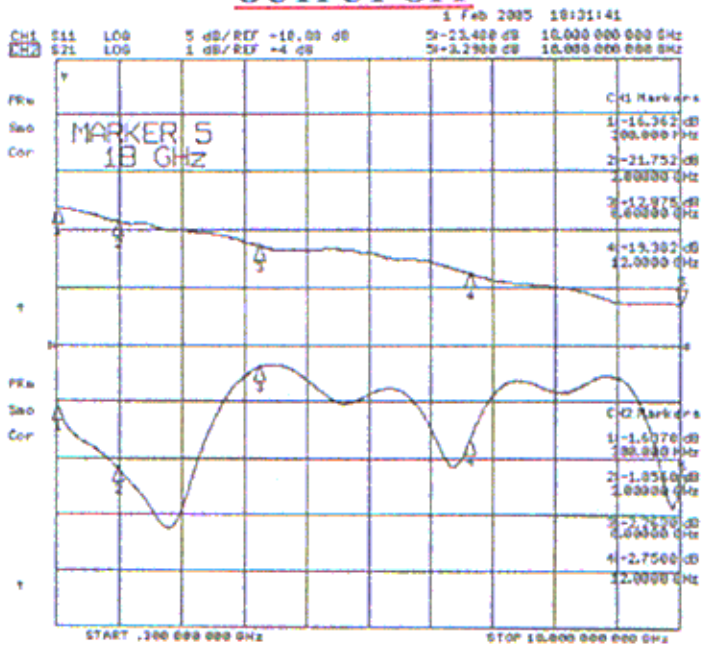
J1 TO J2 INSERTION LOSS, RETURN LOSS, ISOLATION & OUTPUT OFF

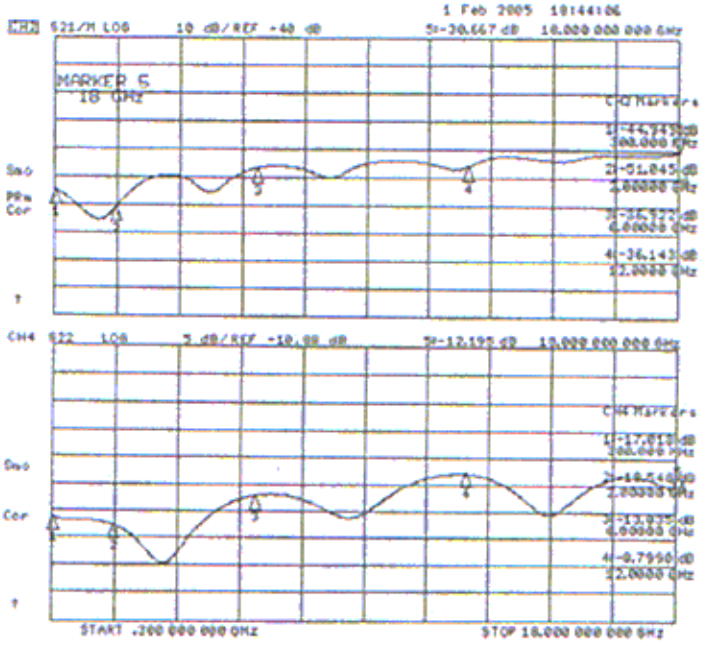




AMERICAN MICROWAVE CORPORATION
7311-G Grove Road, Frederick, MD 21704 •USA•
Tel: 301-662-4700 Fax: 301-662-4938 Email: sales@americanmicrowavecorp.com
Website: www.americanmicrowavecorp.com

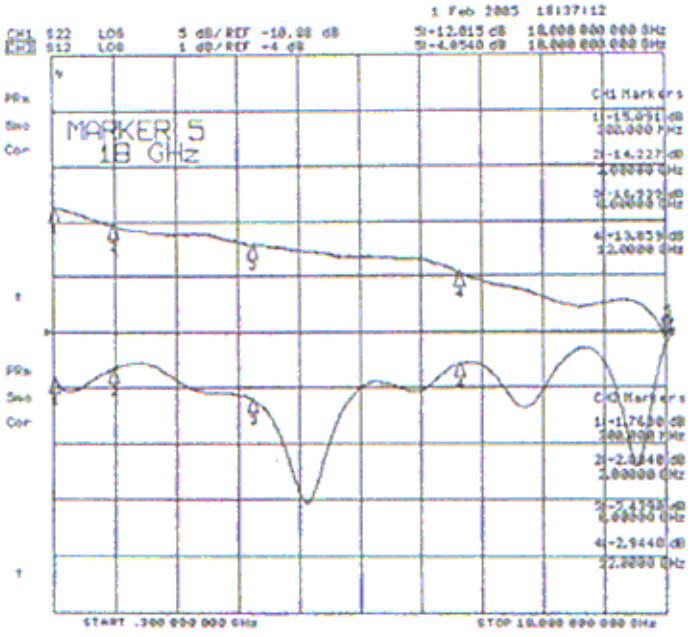
J1 TO J3 INSERTION LOSS, RETURN LOSS, ISOLATION & OUTPUT OFF



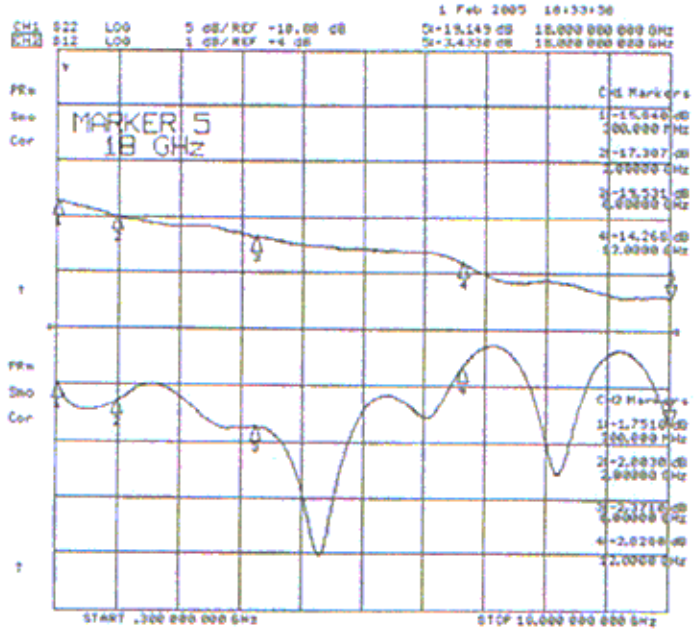


AMERICAN MICROWAVE CORPORATION
7311-G Grove Road, Frederick, MD 21704 •USA•
Tel: 301-662-4700 Fax: 301-662-4938 Email: sales@americanmicrowavecorp.com
Website: www.americanmicrowavecorp.com

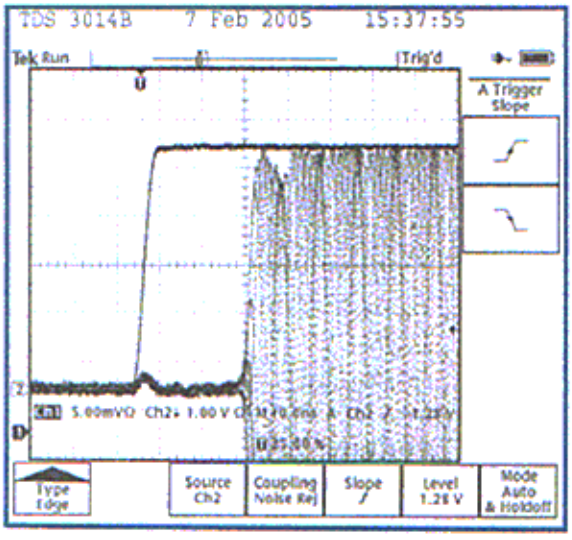
J1 TO J2 REVERSE INSERTION LOSS---OUTPUT RETURN LOSS



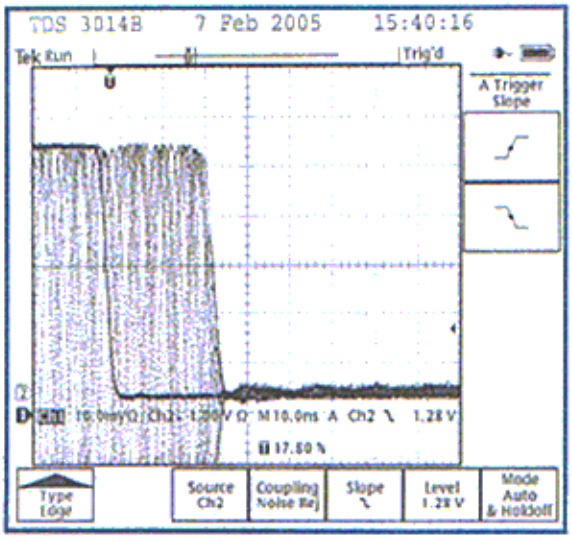
J1 TO J3 REVERSE INSERTION LOSS---OUTPUT RETURN LOSS



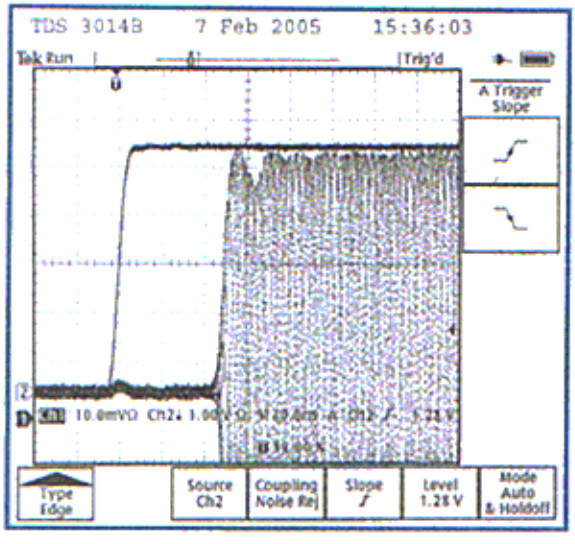
J1 TO J2 RISE/FALL & ON/OFF



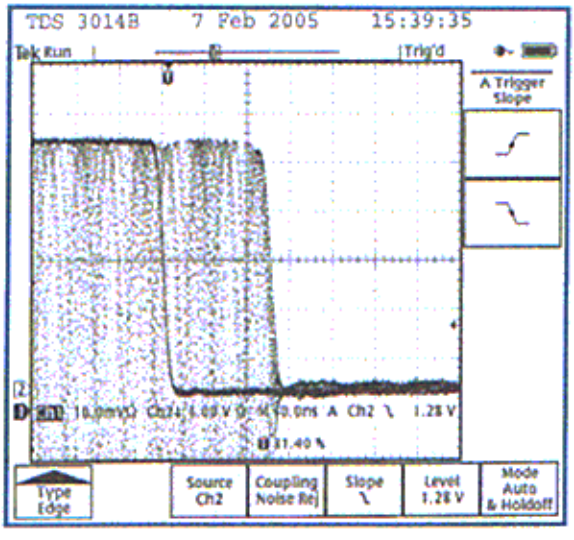
J1 to J2 Rise Time @ 6 GHz — 8nS—



J1 to J2 Fall Time @ 6 GHz — 5nS—

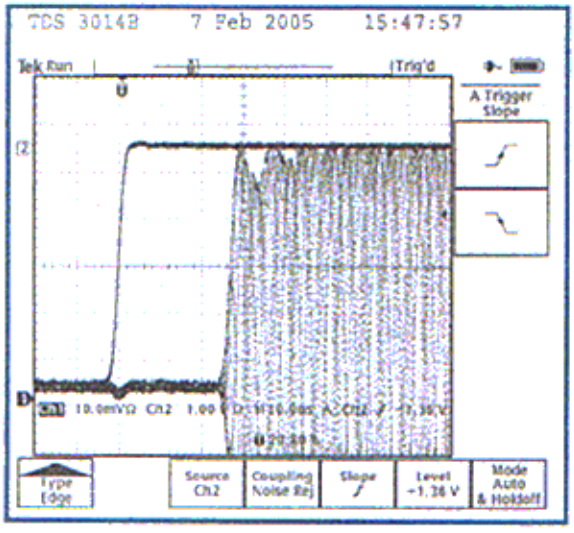


J1 to J2 Delay On @ 6 GHz — 35nS—

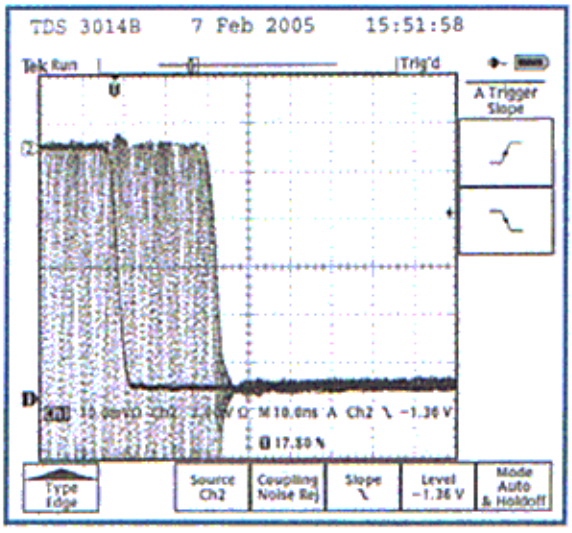


J1 to J2 Delay Off @ 6 GHz — 29nS—

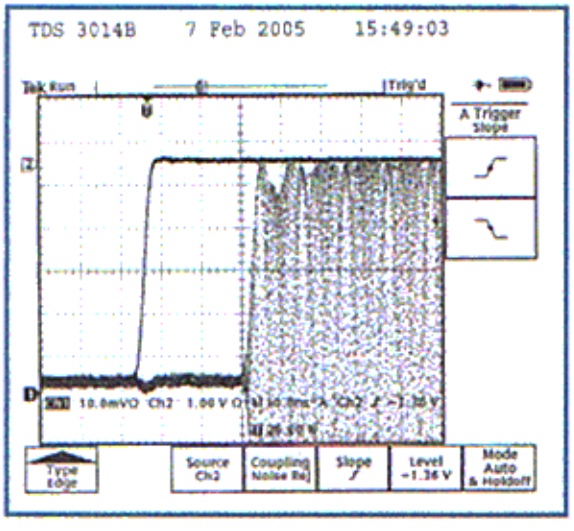
J1 TO J3 RISE/FALL & ON/OFF



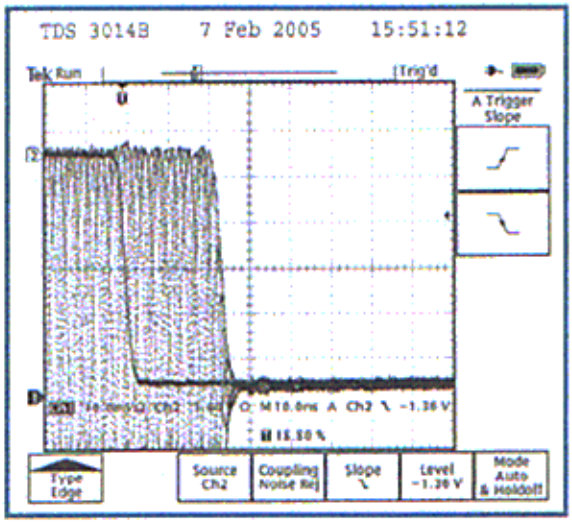
J1 to J3 Rise Time @ 6 GHz —9nS—



J1 to J3 Fall Time @ 6 GHz —5nS—



J1 to J3 Delay On @ 6 GHz —36nS—



J1 to J3 Delay Off @ 6 GHz —25nS—