

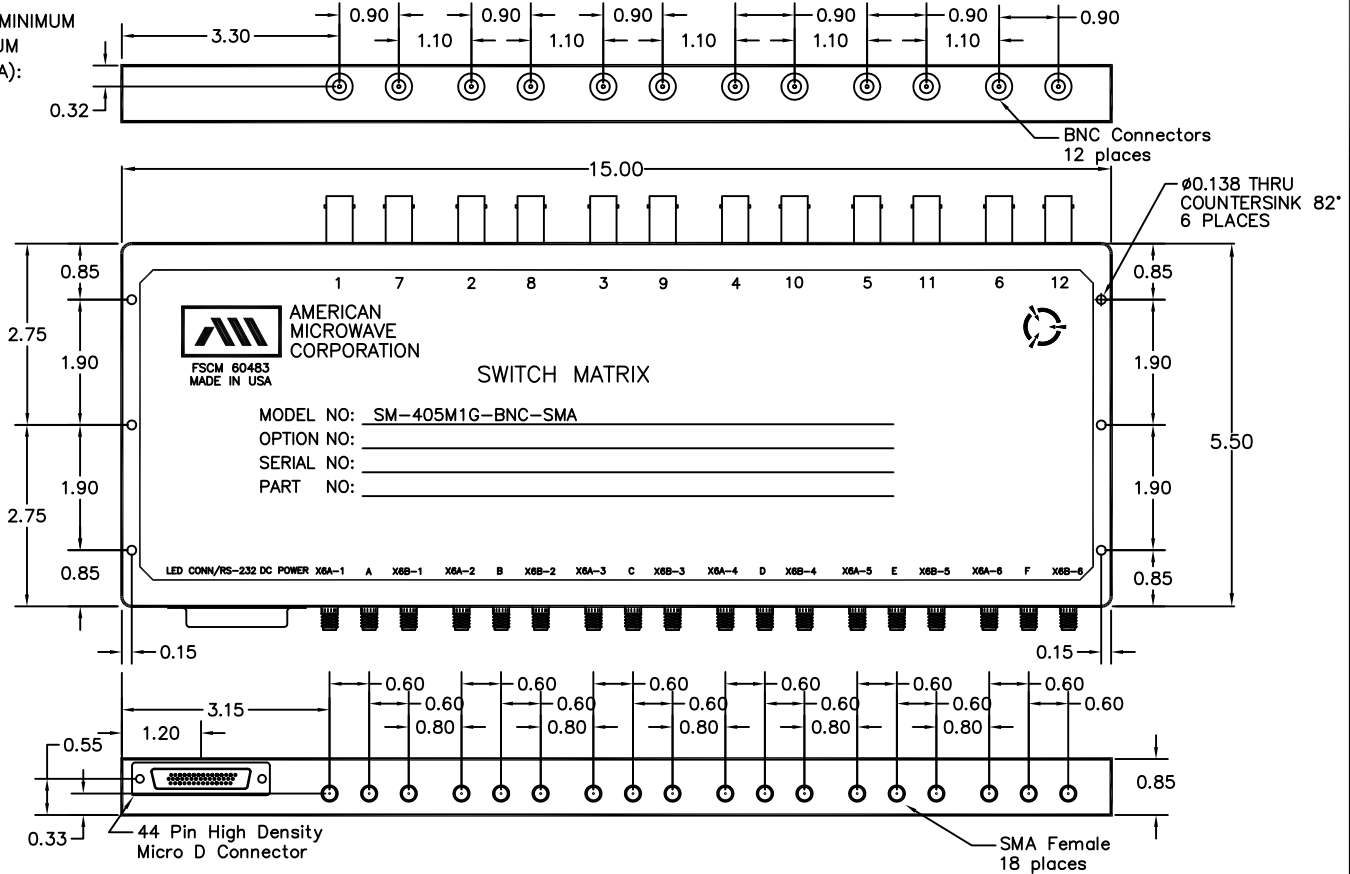
DESCRIPTION

SM-405M1G-BNC-SMA IS AN INTEGRATED SWITCH MATRIX

SPECIFICATIONS

- FREQUENCY RANGE: 450MHz - 1GHz
- INSERTION LOSS: 5.5dB MAXIMUM
- ISOLATION: CHANNEL TO CHANNEL (A TO B): 80dB MINIMUM
ANTENNAE PAIRS (1 TO 7): 80dB MINIMUM
ANTENNAE TO CHANNEL (1 TO A, 7 TO A): 80dB MINIMUM
- VSWR: 14dB MAXIMUM
- COMMUNICATION RATE: 9600 BAUD
- POWER INPUT: (CW)-20 dBm (STANDARD)
- INTERFACE: RS-232
- POWER SUPPLY: +28V @ 1.0A MAXIMUM PER INPUT
12 CHANNELS; 12 AMP MAX
400 mA MAX (SWITCH ASSEMBLY)
- CONNECTORS:
1 - 12: BNC
X6A-1 TO X6A-6: SMA
X6B-1 TO X6B-6: SMA
A - F: SMA
LED, RS-232, DC: 44 PIN HIGH DENSITY MICRO D CONNECTOR
- DISPLAY: 12 LED DISPLAY DRIVERS (2mA EACH)
(LED'S ARE EXTERNAL TO MATRIX)

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	A	SEE ER# 094-10	12/7/10	Rd
	B	SEE ECR# 10-055	12/10/10	Rd
	C	SEE ECR# 11-XXX	1/12/11	Rd
	D	SEE ECR# 011-020	2/9/11	Rd
	E	SEE ECR# 011-038	3/23/2011	Rd
	F	SEE ECR# 011-046	4/15/11	Rd



ENVIRONMENTAL RATINGS:

- TEMPERATURE: 0°C TO +50°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: SPECIFICATIONS WILL VARY OVER OPERATING TEMPERATURE
NOTE: THE ABOVE SPECIFICATIONS ARE SUBJECT TO CHANGE OR REVISION

* Units are designed to meet Environmental ratings but not tested. If Environmental Testing is required, please contact Sales Department.

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

AMERICAN MICROWAVE CORPORATION

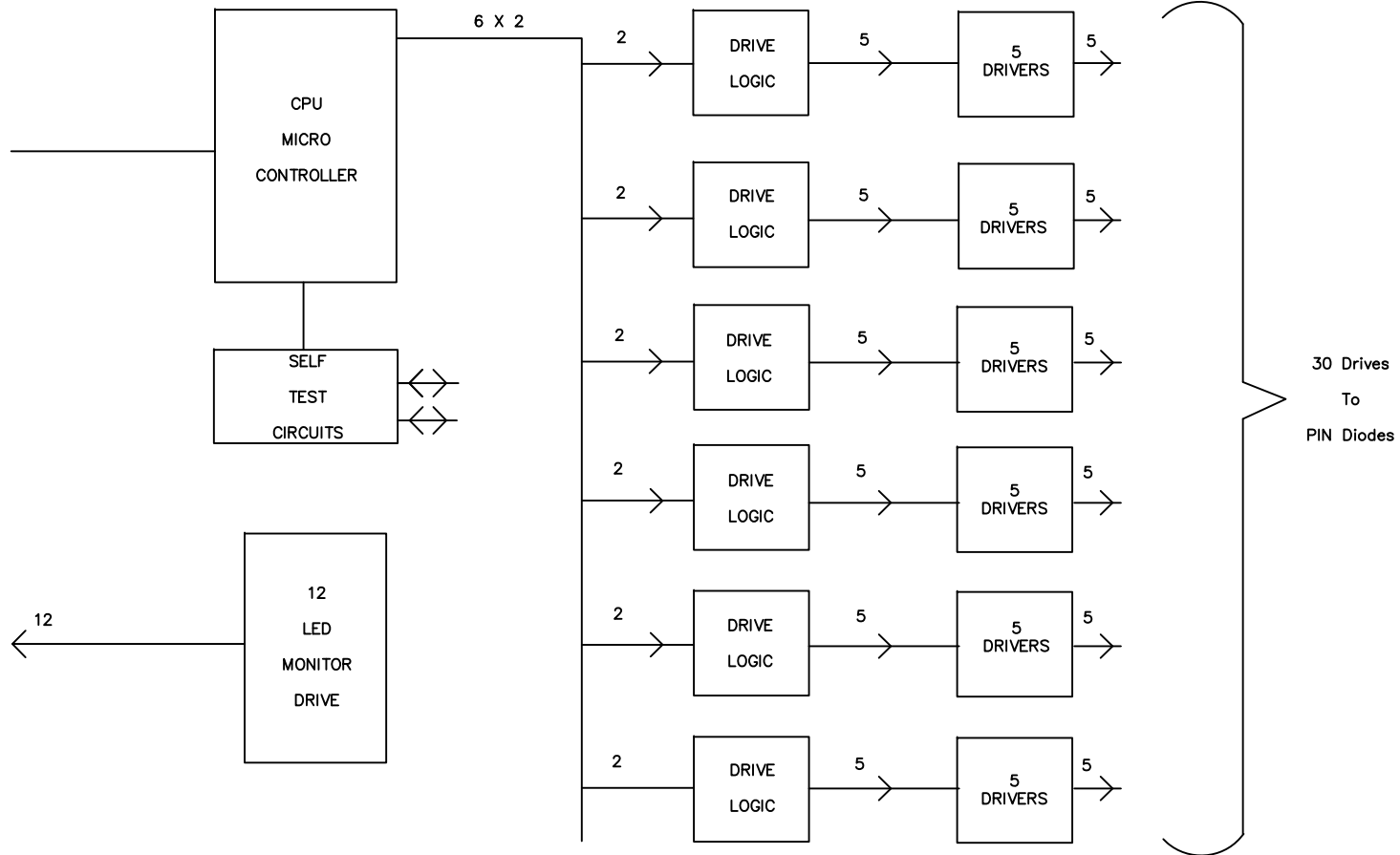
7311-G GROVE ROAD
FREDERICK, MARYLAND 21704 USA
TEL: 301-662-4700 FAX: 301-662-4938
WEBSITE: www.americanmicrowavecorp.com
E-MAIL: sales@americanmicrowavecorp.com
ISO 9001:2000 CERTIFIED



APPROVALS		DATE	TITLE			
DRAWN	<i>K JMM</i>	2/9/11	PRODUCT FEATURE			
ENG	<i>Rd</i>	3/23/11	SM-405M1G-BNC-SMA			
QAE			SIZE	FSCM NO.	DWG NO.	REV.
			A	60483	100-8021	F
			SCALE	N:S		SHEET
					1 OF 4	

BLOCK DIAGRAM

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	A	SEE ECR# 094-10	12/7/10	RA
	B	SEE ECR# 10-055	12/10/10	RA
	C	SEE ECR# 11-XXX	1/12/11	RA
	D	SEE ECR# 011-020	2/9/11	RA
	E	SEE ECR# 011-038	3/23/2011	RA
	F	SEE ECR# 011-046	4/15/11	RA



AMERICAN MICROWAVE CORPORATION

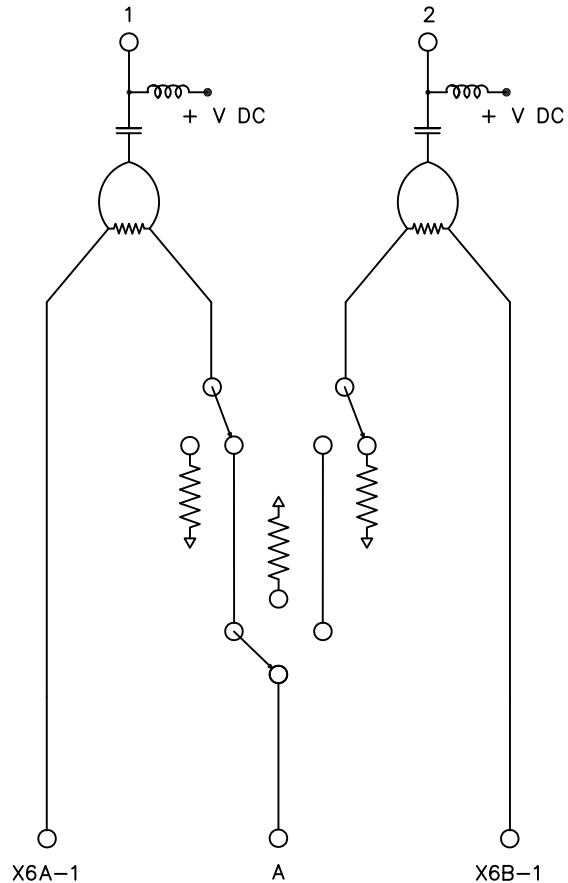
7311-G GROVE ROAD
 FREDERICK, MARYLAND 21704 USA
 TEL: 301-662-4700 FAX: 301-662-4938
 WEBSITE: www.americanmicrowavecorp.com
 E-MAIL: sales@americanmicrowavecorp.com
 ISO 9001:2000 CERTIFIED



APPROVALS		DATE	TITLE		
DRAWN	<i>K. J. M. S.</i>	2/9/11	PRODUCT FEATURE		
ENG	<i>RA</i>	3/23/11	SM-405M1G-BNC-SMA		
QAE			SIZE	FSCM NO.	DWG NO.
			A	60483	100-8021
			SCALE	N:S	SHEET 2 OF 4
					REV. F

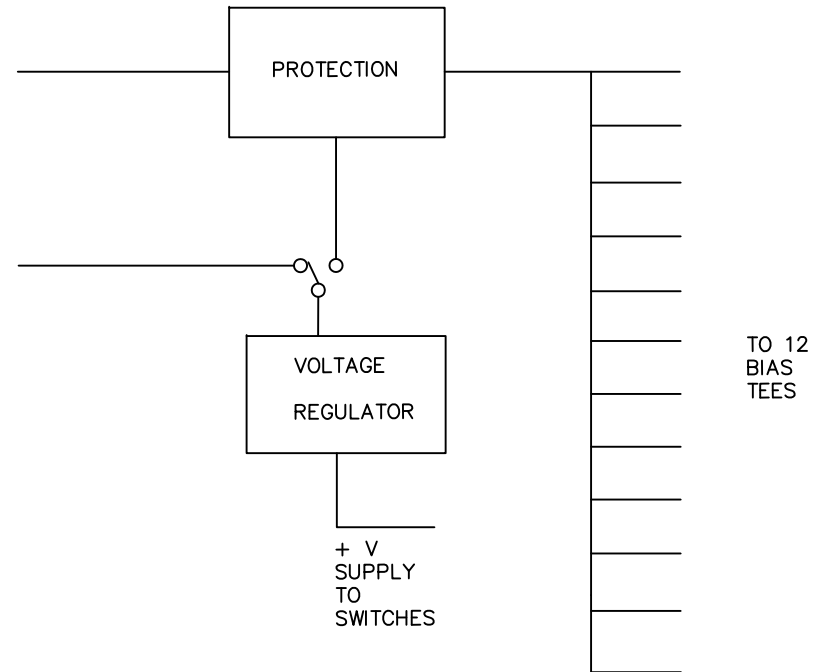
BLOCK DIAGRAM

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	A	SEE ECR# 094-10	12/7/10	RA
	B	SEE ECR# 10-055	12/10/10	RA
	C	SEE ECR# 11-XXX	1/12/11	RA
	D	SEE ECR# 011-020	2/9/11	RA
	E	SEE ECR# 011-038	3/23/2011	RA
	F	SEE ECR# 011-046	4/15/11	RA



+ 28 V
12 AMP +
SWITCH USE

+ 15 V
1 AMP
OPTION TO
REDUCE HEAT



PRELIMINARY

AMERICAN MICROWAVE CORPORATION

7311-G GROVE ROAD
FREDERICK, MARYLAND 21704 USA
TEL: 301-662-4700 FAX: 301-662-4938
WEBSITE: www.americanmicrowavecorp.com
E-MAIL: sales@americanmicrowavecorp.com
ISO 9001:2000 CERTIFIED



APPROVALS		DATE	TITLE			
DRAWN <i>K JMM</i>		2/9/11	PRODUCT FEATURE SM-405M1G-BNC-SMA			
ENG <i>RA</i>		3/23/11	SIZE A	FSCM NO. 60483	DWG NO. 100-8021	REV. F
QAE			SCALE N:S		SHEET 3 OF 4	

PIN OUTS AND CONTROL

44 pin High Density D Sub Connector
PIN NUMBERS FUNCTION

	16 GND	
31 GND	17 +VHI	1 GND
32 +VHI	18 +VHI	2 +VHI
33 +VHI	19 +VHI	3 +VHI
34 +VHI	20 GND	4 +VHI
35 GND	21 +VLO	5 GND
36 GND	22 GND	6 +VLO
37 LED1	23 LED2	7 GND
38 LED4	24 LED5	8 LED3
39 LED7	25 LED8	9 LED6
40 LED10	26 LED11	10 LED9
41 LEDpower	27 LEDprocessor	11 LED12
42 RS232in	28 RS232out	12 GND
43 RESET	29 Reserved1	13 GND
44 Reserved3	30 Reserved4	14 Reserved2
		15 Reserved5

+VHI 28V
+VLO 15V OPTIONAL LOW VOLTAGE TO REDUCE WASTE HEAT
LEDn LED drive set to 2mA (5 V through 1.6k into about 1.6V for LED)
RS232in Incoming RS232 data line
RS232out Outgoing RS232 data line
Reserved USED FOR TESTING, DO NOT CONNECT

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	A	SEE ECR# 094-10	12/7/10	RA
	B	SEE ECR# 10-055	12/10/10	RA
	C	SEE ECR# 11-XXX	1/12/11	RA
	D	SEE ECR# 011-020	2/9/11	RA
	E	SEE ECR# 011-038	3/23/2011	RA
	F	SEE ECR# 011-046	4/15/11	RA

COMMAND NOTES

c	<p>c0 Hello Command Reply "c0 " " IMT Switch Matrix. " "American Microwave Corporation" "Smx2" "Software Last Edit Date 2010 February 2 " "File Ref : ABCD23DE"</p>
c	<p>c1XN SET CHANNEL COMMAND Where c1 is the key to the command. X = { A,B,C,D,E,F } OR { a,b,c,d,e,f } not sensitive to case. N= { 0,1,2 } X: A..F is CHANNEL identification N: 0 => BOTH OFF N: 1 => LEFT ON { 1,2,3,4,5,6 } N: 2 => RIGHT ON { 7,8,9,10,11,12 } Reply " c1XN " (leading and trailing space)</p>
c	<p>c2X READ CHANNEL COMMAND Where c2 is the key to the command. X = { A,B,C,D,E,F } OR { a,b,c,d,e,f } not sensitive to case. " c2XN " " (leading and trailing space) X and N are the same as in c1 command</p>
c	<p>cnXXXXXX Other optional commands such as self test, sequences or diagnostic tools</p>
	Communication to be at 9600 BAUD and commands terminated with a carriage return.
A	<p>Wake up echo Reply is ?A? Version Date NOTE: These commands are being added into an existing system which has been in operation for more than 10 years. Written in 8051 assembler.</p>

PRELIMINARY

AMERICAN MICROWAVE CORPORATION

7311-G GROVE ROAD
FREDERICK, MARYLAND 21704 USA
TEL: 301-662-4700 FAX: 301-662-4938
WEBSITE: www.americanmicrowavecorp.com
E-MAIL: sales@americanmicrowavecorp.com
ISO 9001:2000 CERTIFIED



APPROVALS		DATE	TITLE			
DRAWN	<i>K JMM</i>	2/9/11	PRODUCT FEATURE			
ENG	<i>RA</i>	3/23/11	SM-405M1G-BNC-SMA			
QAE			SIZE	FSCM NO.	DWG NO.	REV.
			A	60483	100-8021	F
			SCALE	N:S		SHEET
					4 OF 4	