

TA1020

5000-5300 MHz 20 W POWER AMPLIFIER

DESCRIPTION

This class A GaAs module is designed for both military and commercial applications. It is capable of supporting any signal type and modulation format, including but not limited to 3-4G telecom, WLAN, OFDM, DVB, and CW/AM/FM. The latest device technologies and design methods are employed to offer high power density, efficiency, and linearity in a small, lightweight package.



FEATURES

Over / Under / Reverse Voltage Protection

High Speed On/Off Control

Optional Heatsink

Manual Gain Control

Temperature Output

Specifications subject to change without notice. Typical performance at +12VDC +25°C, and in a 50Ω system.

RF / ELECTRICAL				
PARAMETER	MIN	TYP.	MAX	UNIT
Operating Frequency	5000		5300	MHz
P1dB Power Output		+43.0		dBm
Gain	24.0	25.0		dB
Gain Flatness		0.7		dB ¹
Input Return Loss	-12	-15		dB
Operating Voltage	+10	+12	+14	VDC
Current Draw		5.0	6.0	A
Switching Time		1.0	2.0	μS

1 – Gain flatness recorded represents a peak-peak measurement across the **entire operating band**. Gain flatness is typically much lower across significant portions of this band. Consult the gain response plots for details if available.

MECHANICAL

PARAMETER	VALUE	UNIT
Dimensions (L x W x H)	5.3 x 3.25 x 0.57	in
RF Connectors (Input / Output)	SMA-F / SMA-F	--
DC / Control Connector	15 Pin Micro-D	--
Cooling	Baseplate Conduction - Optional Heatsink Available	--
Mounting	4-40 Thru Holes	--
Weight	13	oz.
Weight with Heatsink	35	oz.

ENVIRONMENTAL / PROTECTIONS

PARAMETER	MIN	MAX	UNIT
Operating Temp. (Housing Temp.)	-40	+85	°C
Humidity Range	0-100		%
Altitude	0-30,000		ft.
Shock / Vibration	MIL-STD-810 and equivalents		--
Max RF Input	+21		dBm
PA Baseplate Shutoff Temperature	+ 90		°C

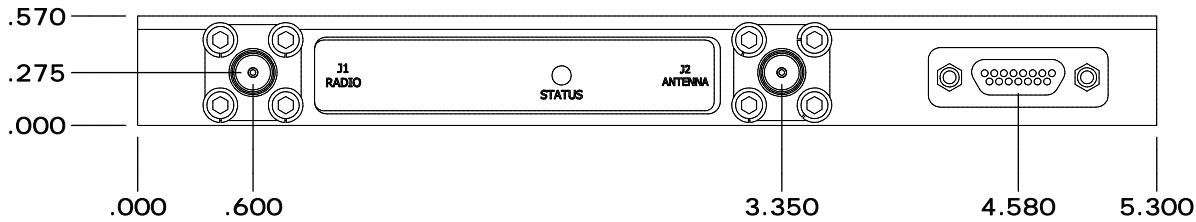
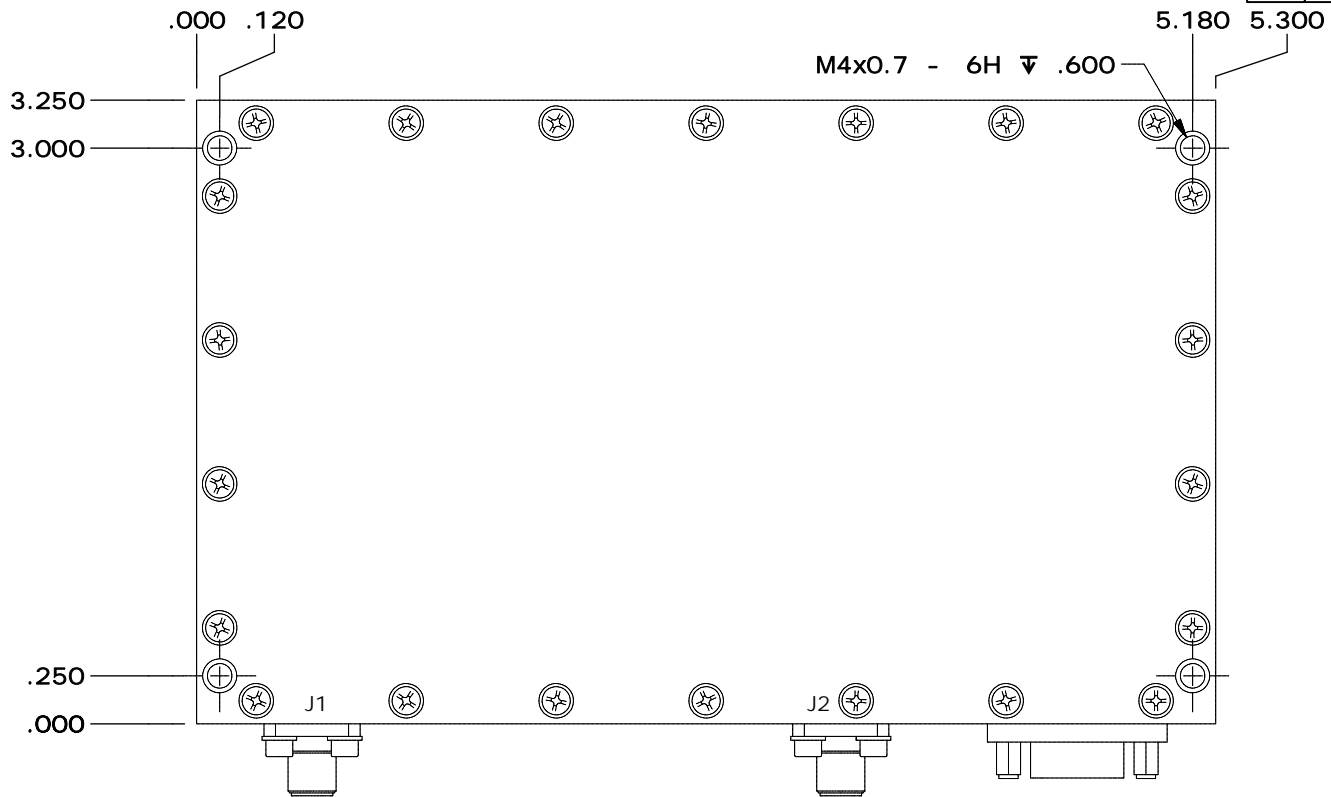
INPUT/OUTPUT PINS

AMPLIFIER CONNECTOR TYPE:		15 PIN MICRO-D FEMALE
TRIAD CABLE PART NUMBER:		CBL20
PIN NUMBER	LABEL	DESCRIPTION
1-4	+VDC	Supply Voltage - Range Specified in Datasheet
5	Sig. GND	Return for all Signal and CTRL Pins
6	Gain CTRL	High=No Gain Change, Low=Gain Reduced by 3dB
7	Status	TTL Lo = Internal Fault
8	TEMP	Temp Monitor: Temp in DegC = (Vout - 0.5V) *100
9-12	GND	+VDC Supply Return
13-14	N/C	No Connection
15	TX/RX CTRL	Hi = TX, Lo = RX

Configuration Options

Model Number	Description
TA1020	No Heat Sink Included
TA1020 – HS	Standard Heat Sink
TA1020 – HSF	Heat Sink with Integrated Cooling Fan
TA1020 – HSX	Custom Heat Sink Configuration
TA1020 – DOX	Custom Amplifier Configuration (issued by Triad upon customer request)

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
0	INITIAL RELEASE	5/3/15	DMC
1	E18324	6/4/18	SC



DRAWN	DMC	10/3/2013
DESIGNED	DMC	9/6/2013
CHECKED		
ENG APPROVED		
MFG APPROVED		



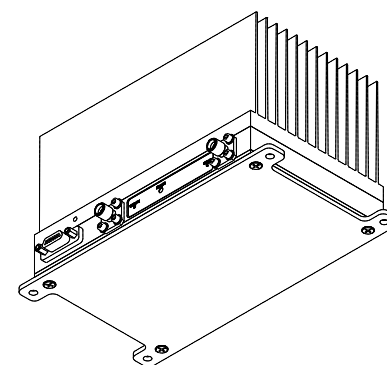
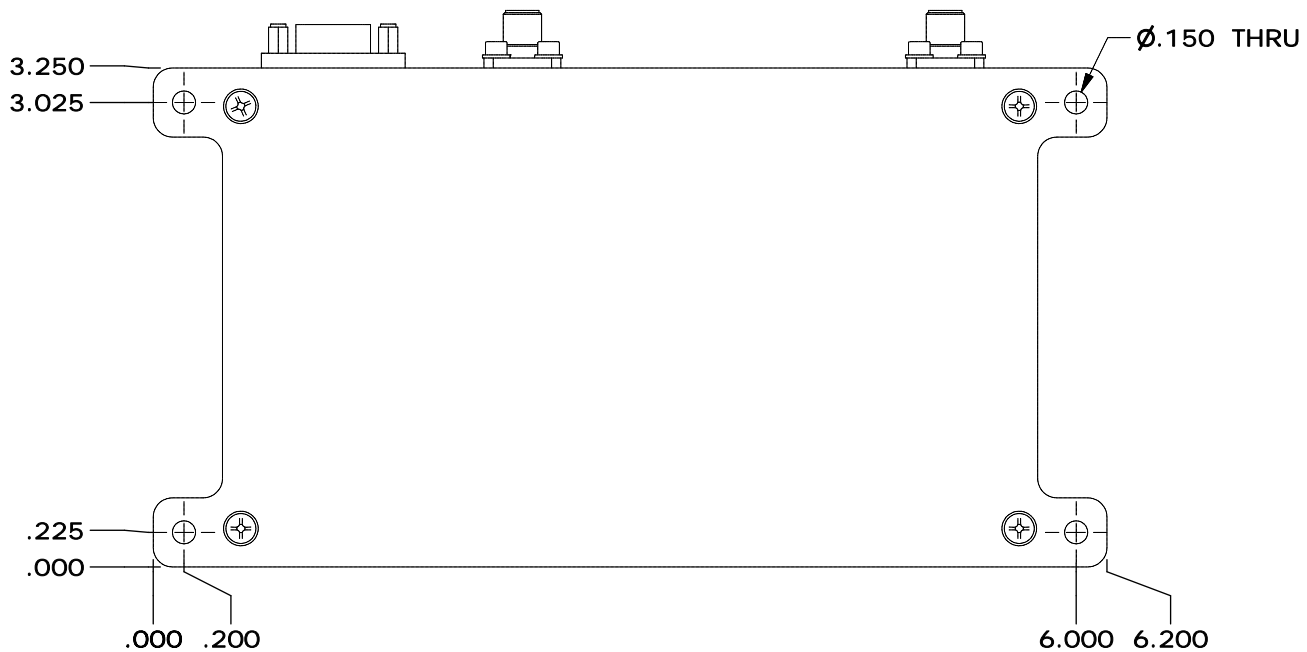
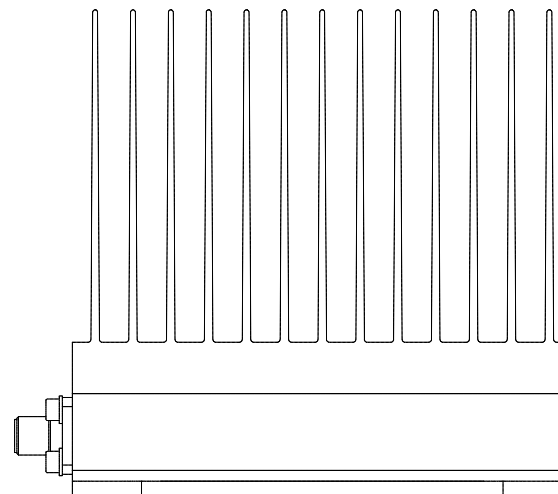
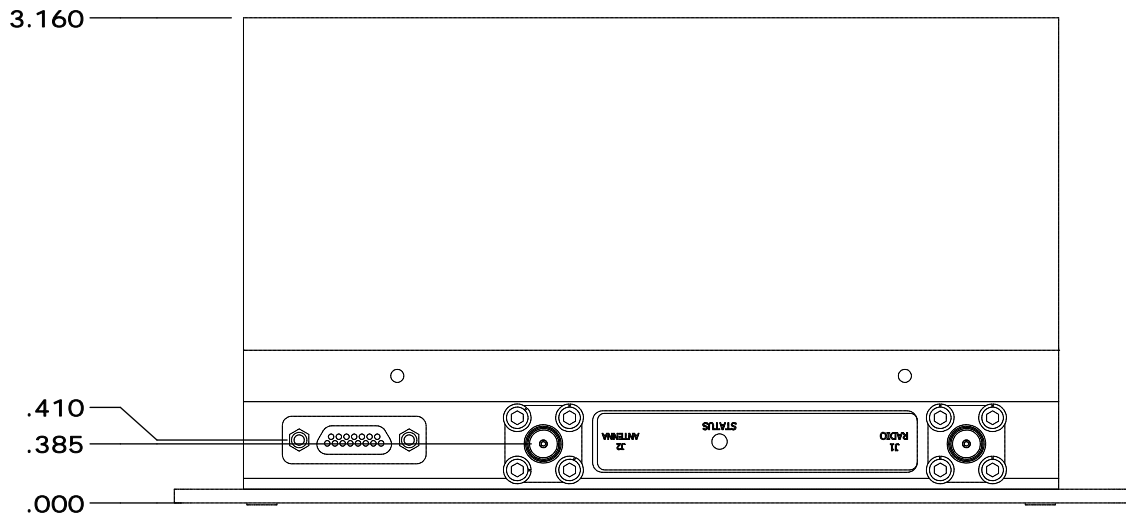
11 HARTS LANE SUITE 1
EAST BRUNSWICK, NJ 08816
855- 558- 1001

HOUSING OUTLINE DRAWING 103

DIMENSIONS ARE IN INCHES
UNLESS SPECIFIED OTHERWISE
TOLERANCES
DECIMALS FRACTIONS ANGLES
XX ±.01 ± 1/32 ± 2°
.XXX ±.005

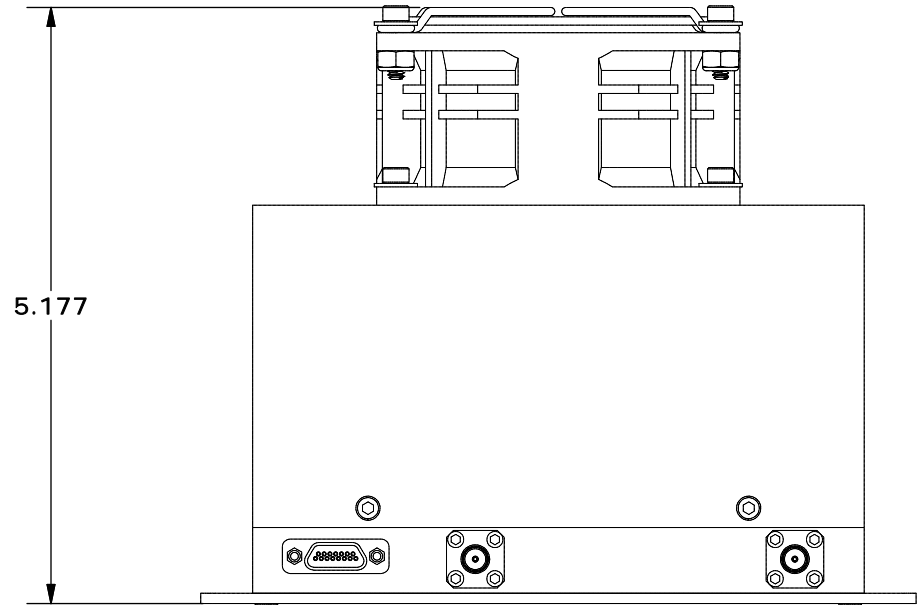
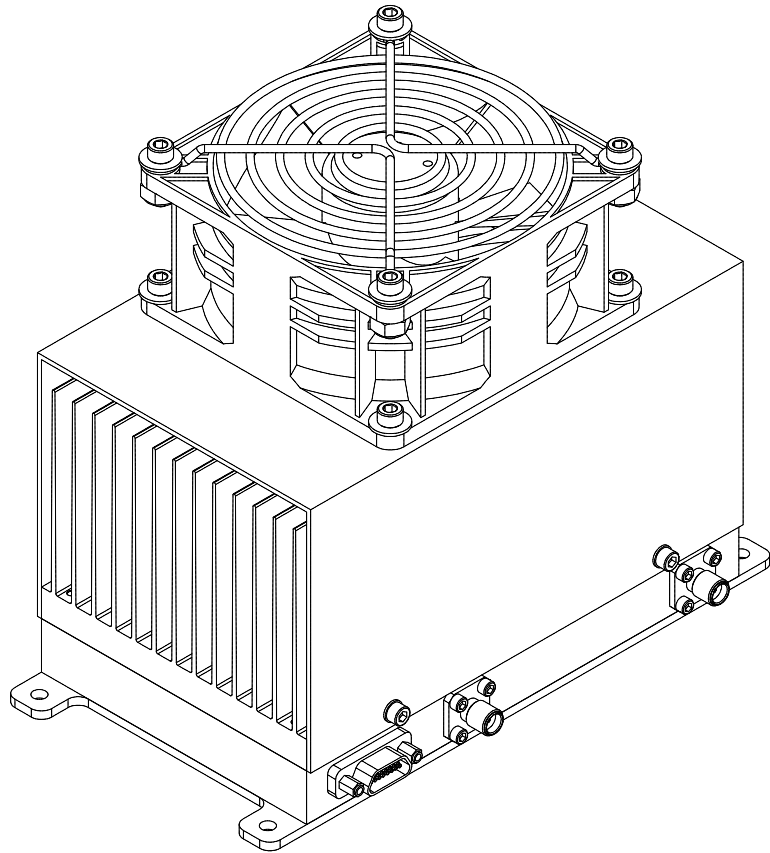
SIZE A	DWG NO. OL_103	REV 1
SCALE: NONE	CAGE CODE 67DZ3	SHEET 1 OF 4

HEATSINK



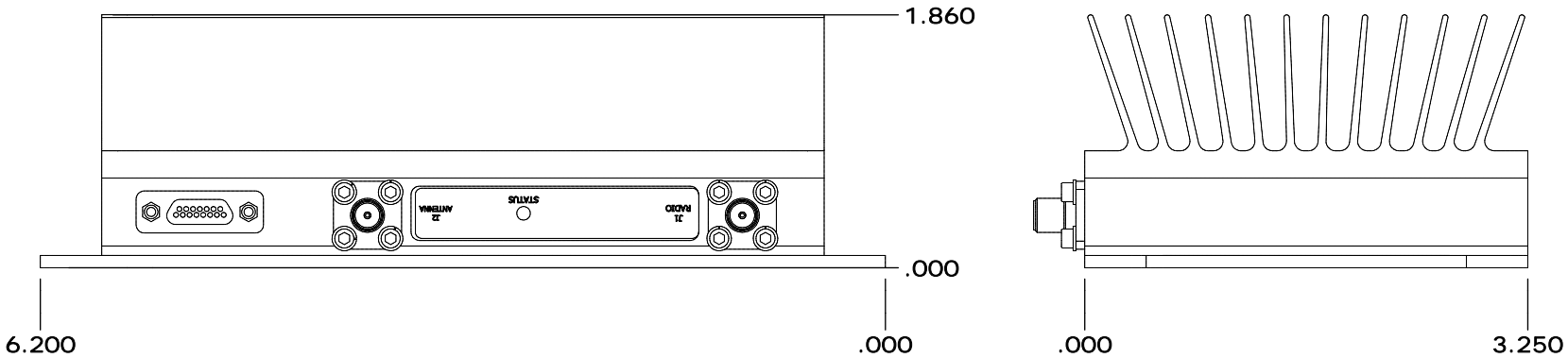
DRAWN	DMC	10/3/2013	HOUSING OUTLINE DRAWING 103		
DESIGNED	DMC	9/6/2013	SIZE	DWG NO.	REV
CHECKED			A	OL_103	1
ENG APPROVED			SCALE: NONE	CAGE CODE	67DZ3
MFG APPROVED				SHEET	2 OF 4

HEATSINK AND FAN



DRAWN	DMC	10/3/2013	HOUSING OUTLINE DRAWING 103		
DESIGNED	DMC	6/11/2015	SIZE	DWG NO.	REV
CHECKED			A	OL_103	1
ENG APPROVED			SCALE: NONE	CAGE CODE 67DZ3	SHEET 3 OF 4
MFG APPROVED					

LOW PROFILE HEATSINK OPTION
 CONTACT TRIAD FOR SAFE OPERATING
 CONDITIONS REQUIRED FOR USE OF LOWER
 HEIGHT HEATSINK



DRAWN	DMC	10/3/2013	HOUSING OUTLINE DRAWING 103		
DESIGNED	DMC	9/6/2013			
CHECKED			SIZE	DWG NO.	REV
ENG APPROVED			A	OL_103	1
MFG APPROVED			SCALE: NONE	CAGE CODE 67DZ3	SHEET 4 OF 4