

TA1012

1900-2000 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	Thermal Shutdown
Forward Power Measurement	Temp. Monitor Output
High Speed On/Off Control	Optional Heatsink

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	1900		2000	MHz
P1dB Power Output	+41.0	+43.0		dBm
Gain	49.0	50.0		dB
Gain Flatness		1.0		dB ¹
Input Return Loss	-16	-20		dB
Operating Voltage	+11	+12	+13	VDC
Current Draw		5.5	6.0	A
Quiescent Current Draw		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)	6 x 3.5 x 0.693	in
RF Connectors (Input / Output)	SMA-F / SMA-F	--
DC / Control Connector	7W2 Male	--
Cooling	Baseplate Conduction - Optional Heatsink Available	--
Mounting	6-32 Thru Holes	--
Weight	14	oz.
Weight with Heatsink	24	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	-4		dBm
PA Baseplate Shutoff Temperature	+ 90		°C

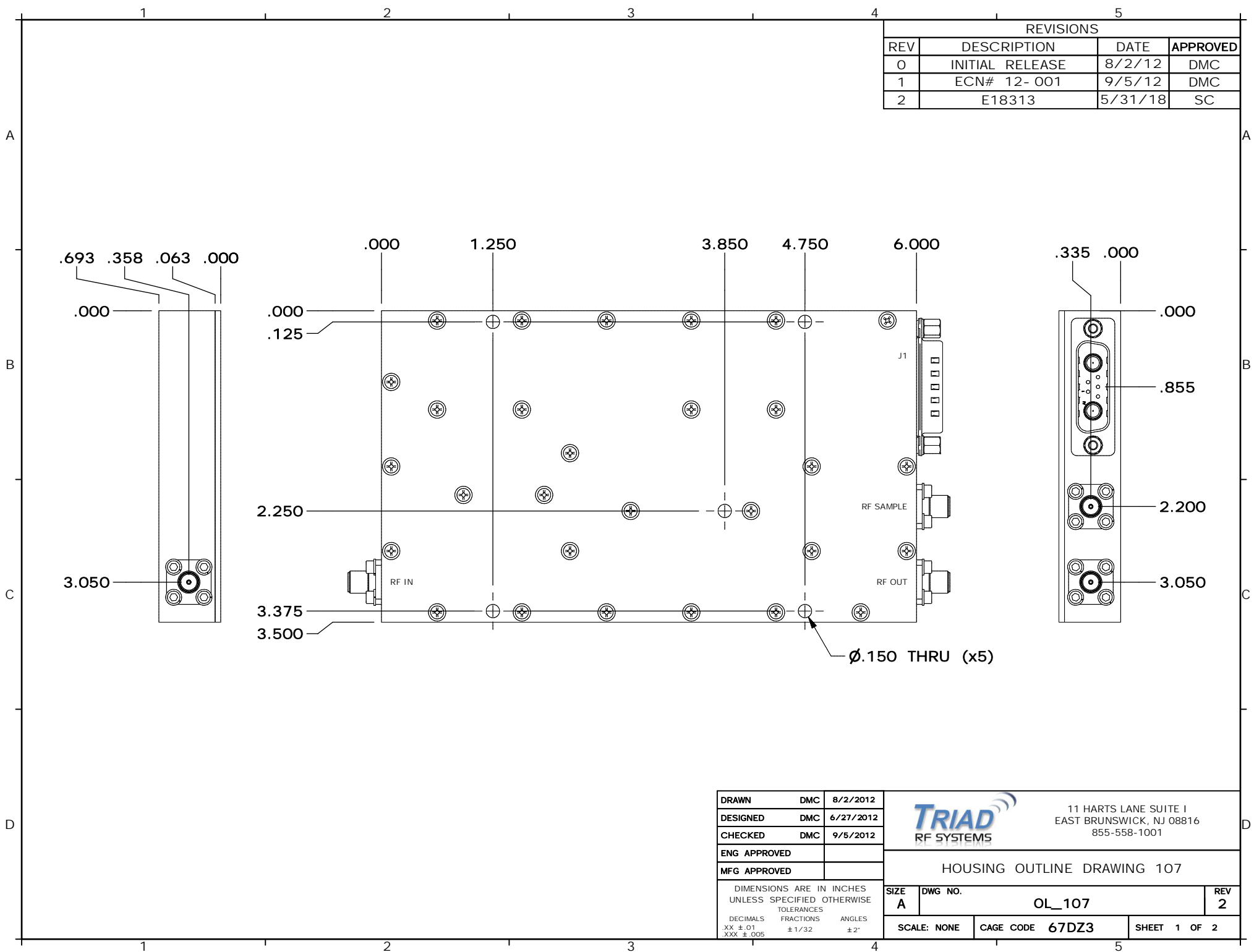
INPUT/OUTPUT PINS

AMPLIFIER CONNECTOR TYPE:		7W2 MALE
TRIAD CABLE PART NUMBER:		CBL23
PIN NUMBER	LABEL	DESCRIPTION
A1	GND	Ground
1	TEMP	Temp Monitor: Temp in DegC = (Vout - 0.5V) *100
2	Amp Enable	TTL Hi or No Connection = Enable, TTL Lo = Disable
3	NC	Not Connected
4	GND	Ground
5	FWD	Forward Power Detection
A2	+VDC	Supply Voltage - Range Specified in Datasheet

Configuration Options

Model Number	Description
TA1012	No Heat Sink Included
TA1012 – HS	Standard Heat Sink
TA1012 – HSF	Heat Sink with Integrated Cooling Fan
TA1012 – HSX	Custom Heat Sink Configuration
TA1012 – DOX	Custom Amplifier Configuration (issued by Triad upon customer request)

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
0	INITIAL RELEASE	8/2/12	DMC
1	ECN# 12- 001	9/5/12	DMC
2	E18313	5/31/18	SC



DRAWN	DMC	8/2/2012
DESIGNED	DMC	6/27/2012
CHECKED	DMC	9/5/2012
ENG APPROVED		
MFG APPROVED		

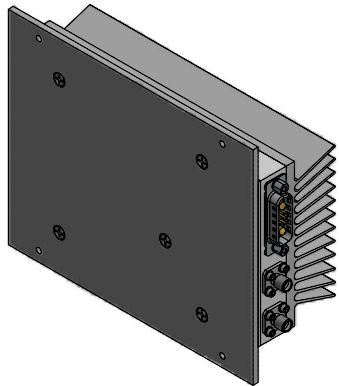
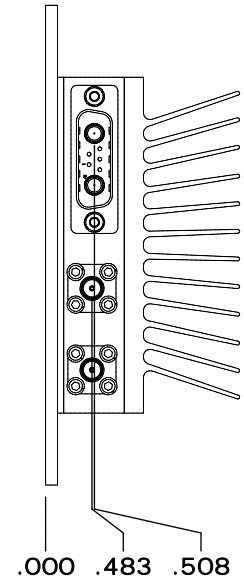
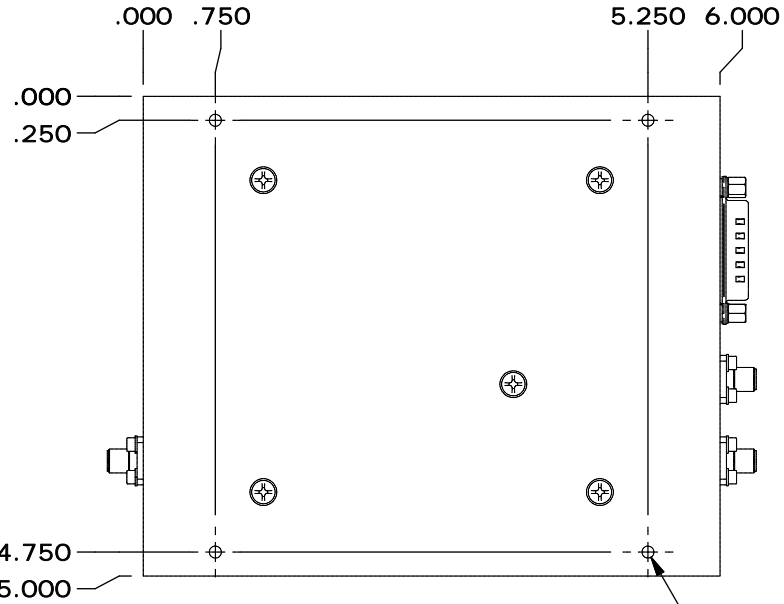
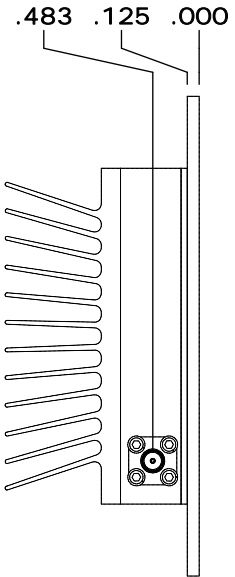
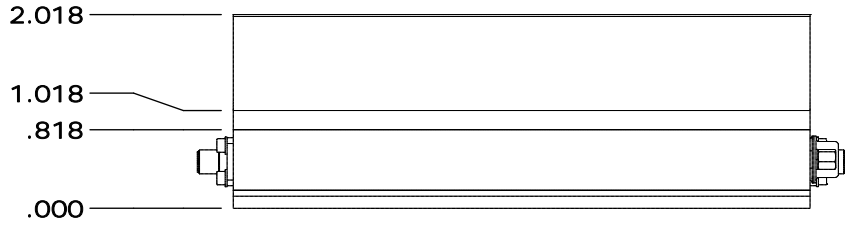


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HOUSING OUTLINE DRAWING 107

DIMENSIONS ARE IN INCHES UNLESS SPECIFIED OTHERWISE TOLERANCES			SIZE	DWG NO.	REV
DECIMALS	FRACTIONS	ANGLES	A	OL_107	2
XX ±.01	± 1/32	± 2°	SCALE: NONE	CAGE CODE 67DZ3	SHEET 1 OF 2
.XXX ±.005					

HEATSINK



DRAWN	DMC	8/2/2012	HOUSING OUTLINE DRAWING 107		
DESIGNED	DMC	6/27/2012			
CHECKED	DMC	9/5/2012	SIZE	DWG NO.	REV
ENG APPROVED			A	OL_107	2
MFG APPROVED			SCALE: NONE	CAGE CODE 67DZ3	SHEET 2 OF 2