

TA1160

5500-8500 MHz 20 W POWER AMPLIFIER

DESCRIPTION

This class AB GaN 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
 Versatile DC Supply (VDS) +9V to +36V Optional Heatsink
 RF Sample Port

Specifications subject to change without notice. Typical performance at +28VDC +25°C, and in a 50Ω system.

RF / ELECTRICAL				
PARAMETER	MIN	TYP.	MAX	UNIT
Operating Frequency	5500		8500	MHz
PSat Power Output	+41.0	+43.0		dBm
Gain		60.0		dB
Gain Flatness		5.0		dB ¹
Input Return Loss		-15		dB
Operating Voltage	+ 9	+28	+36	VDC
Current Draw		2.3	3.0	A
Quiescent Current Draw		0.75		A
Switching Time		1.0	2.0	uS

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 2.5 x 1.06	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	17	oz.
Weight with Heatsink	27	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	-15		dBm
PA Baseplate Shutoff Temperature	+ 90		°C

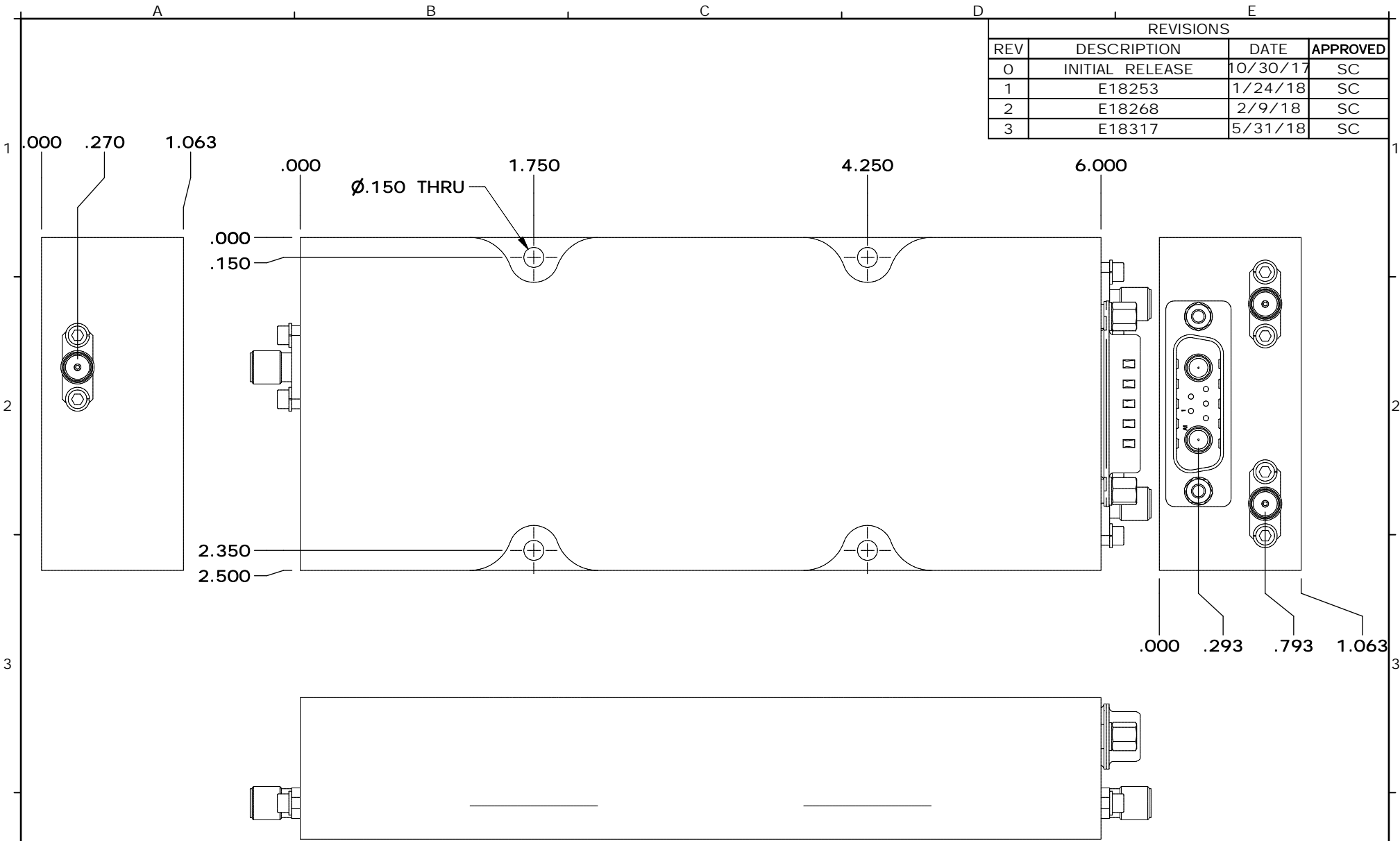
INPUT/OUTPUT PINS

AMPLIFIER CONNECTOR TYPE:		7W2 MALE
TRIAD CABLE PART NUMBER:		CBL21
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	REV	Reverse Power Detection
4	SGND	Signal Ground
5	FWD	Forward Power Detection
A2	+VDC	Supply Voltage - Range Specified in Datasheet

Configuration Options

Model Number	Description
TA1160	No Heat Sink Included
TA1160 – HS	Standard Heat Sink
TA1160 – HSF	Heat Sink with Integrated Cooling Fan
TA1160 – HSX	Custom Heat Sink Configuration
TA1160 – DOX	Custom Amplifier Configuration (issued by Triad upon customer request)

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
0	INITIAL RELEASE	10/30/17	SC
1	E18253	1/24/18	SC
2	E18268	2/9/18	SC
3	E18317	5/31/18	SC



DRAWN	scopp	10/30/2017
DESIGNED	DMC	12/6/2012
CHECKED		
ENG APPROVED		
MFG APPROVED		

TRIAD RF SYSTEMS
 11 HARTS LANE SUITE I
 EAST BRUNSWICK, NJ 08816
 855- 558- 1001

HOUSING OUTLINE DRAWING 130

DIMENSIONS ARE IN INCHES UNLESS SPECIFIED OTHERWISE TOLERANCES			SIZE	DWG NO.	REV
DECIMALS	FRACTIONS	ANGLES	A	OL_130	3
XX ±.01	± 1/32	± 2°	SCALE: NONE	CAGE CODE 67DZ3	SHEET 1 OF 1
.XXX ±.005					

Power Output Measurements (Psat)					
Freq (GHz)	5.5	6	7	8	8.5
Power Out (dBm)	43.1	44.1	42.5	41	41
Power Out (W)	20.4	25.7	17.8	12.6	12.6

Small Signal S11 / S21 Measurements

