

ILA1002

758-803MHz 34dBm LTE Power Amplifier

INSPOWER
RF Amplifiers

Description

The Model ILA1002 is designed for LTE applications in APT 700MHz frequency band. This amplifier utilizes LDMOS power devices and Analog Pre-distortion linearization technique to provide excellent efficiency and linearity characteristics. Inpower's high quality design technology makes the amplifier extremely stable within overall environmental temperature range.

Product Features

- Operating Frequency : 758-803MHz
- Bandwidth : 45MHz
- Pout : +34dBm
- Analog Pre-distortion Linearization
- Application : APT LTE700



Electrical Specifications

Parameters		Specifications	Remark	
Operating Frequency		758 ~ 803MHz		
Output Power (Linear)		+34dBm Min		
Small Signal Gain		40dB Min, 41dB Typical, 42dB Max		
Small Signal Gain Flatness		1dBp-p Max		
Gain Variation Over operation Temp		±1 dB		
IMD3 & IMD5 product level @ Pout per Tone= 25dBm to 31dBm		-18dBm	2 tone pacing 0.6-75MHz Band of interest: 1710-1980MHz	
IMD3 & IMD5 product level of -18dBm @ 34dBm Pout composite vs. Tone spacing		2MHz Min , 45MHz Max	Any frequency location for 2tone 2MHz spacing. Any 2 tone spacing 2MHz – 45MHz around band center. IMD3, 5 product band of interest is 703-849MHz	
Spurious emission		-36dBm Max		
LTE @ 34dBm output	EVM	2%	Test Model: E.T.M 3.1 Down Link	
	Frequency Error	±0.01ppm		
	Spectrum Emission Mask		Per ETSI TS 136 106 V11.1.0 (2013-02)	Test EVM and SEM for 5 & 10MHz BW located at center, right edge and left edge of band
	ACPR	±5MHz	35dBc	Test CPR for 5MHz BW located at center, right edge and left edge of band
±10MHz		35dBc		
2 nd Harmonic		- 40dBc		
Input / Output VSWR		1.2:1Typ, 1.5:1Max		
Operating Voltage		+28V	+27V Min, +29V Max	
Supply Current @ Pout = 34dBm / 1CW		1.1A Max		

INSPOWER CO., LTD.

Tel: +82-70-4123-7002 Fax: +82-505-509-7005 sales@inspower.co.kr www.inspower.co.kr

Specification Ver 3.0 2016-10-24

Mechanical Specifications

Parameter	Specifications	Remark
Dimensions (L x W x H)	120 * 110 * 25 mm	
Weight	0.65kg	

Environmental Characteristics

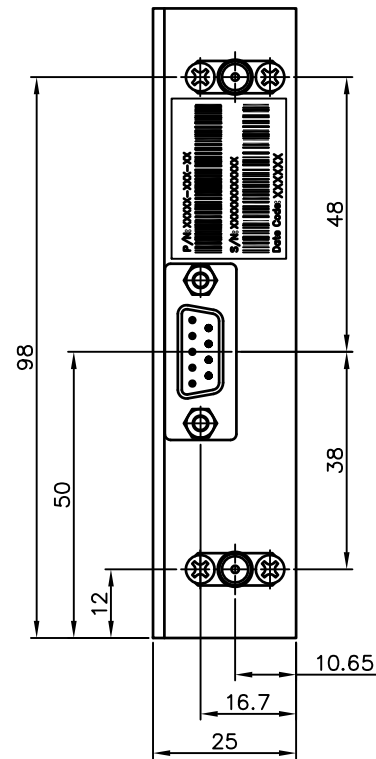
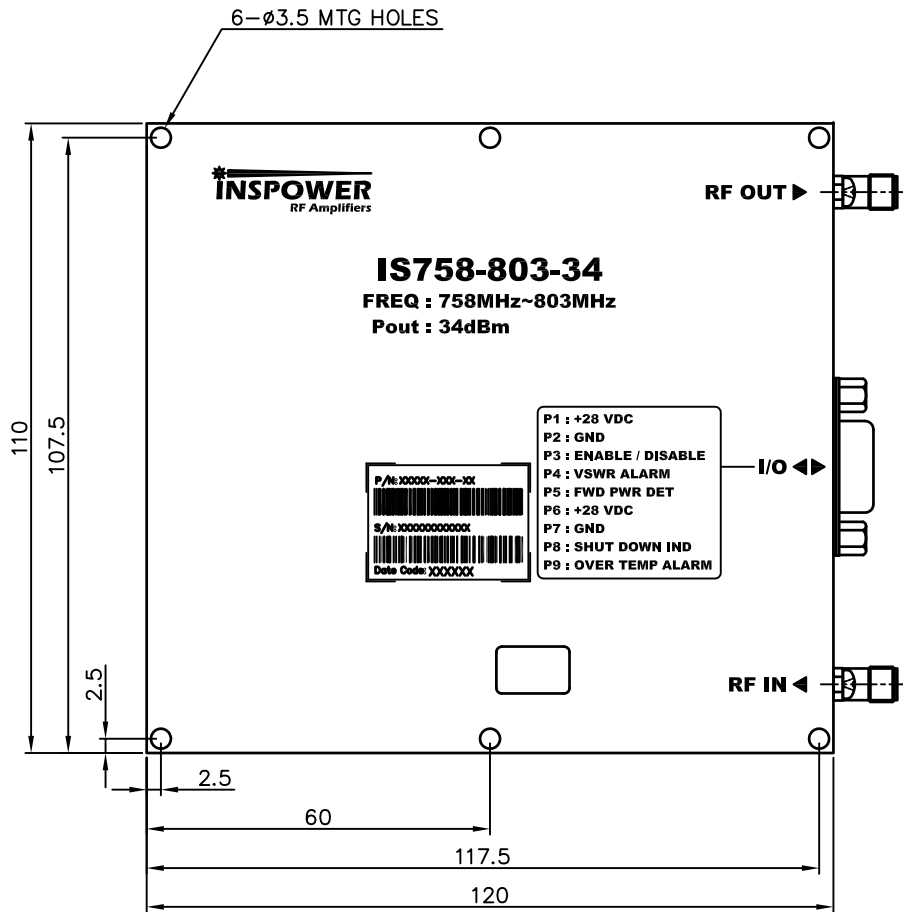
Parameters	Specifications	Remark
Case Temperature for operating without damage	-40°C to +85°C	
Case Temperature for operating with full performance	-30°C to +80°C	
Storage Temperature	-40°C to +85°C	
MTBF	220000Hr (25years)	

I/O Interface (D-sub 9pin Female)

Pin No	Pin Description	Specifications	Remark
1	+28V DC Input		
2	GND		
3	Enable : Low Disable : High or Open		
4	VSWR Alarm	Alarm "High" at VSWR event	
5	Forward Power Detector	4.0V@ 33dBm CW 1FA, 100mv/dB	
6	+28V DC Input	See pin 1	
7	GND		
8	PA Shut Down Indicator	Alarm "High" PA Shut Down	Open Drain
9	Over Temperature Alarm	Alarm "High" at Over temperature event – Measured on PA case.	

Protection

Item	Specifications for Activation	Remark
Over Power Shutdown	40 - 41dBm	Min
VSWR Auto-Shutdown/Recover	2.32:1 (R.L = 8dB)	Max
Over Temp Alarm	80°C±2	
Thermal Overload	85°C±2 shutdown & 75°C Auto-recover	Max



APPROVED S.K.Kim 2016.9.02	MATERIAL A6061	PART NAME OUTSIDE DRAWING	
	FINISH White-CHROMATE(Cr ³⁺) DIC 555 SILK SCREEN	DWG NO.	SHEET 1 OF 1
CHECKED	THIRD ANGLE PROJECTION 	UNIT: mm	SCALE: CAD=1/1 PLOT=N/S
	DESIGNED K.M.Jang 2016.9.02	SIZE A3	Q'TY:
MODEL/TITLE IS758-803-34		INSPower RF Amplifiers	