

58G Series

1Watt Bi-Directional Amplifier PoE

Features

- TX Power Output 1W Avg, 4W Peak
- 802.11a,ac compatible
- Low Receive Noise Figure
- TX/RX LED indicator
- Internal Lightning Protection
- N Connectors
- Two parallel PoE ports

Picture



Description

The 58G series Bi-Directional Amplifiers will significantly improve link reliability and operating range by providing Low Noise Amplification during Receive, and Spectrally Clean Power Amplification during Transmit. These amplifiers feature a rugged construction to ensure years of reliable operation and are available in either indoor or outdoor models. Designed for use with 5GHz wireless equipment where 1 Watt RF power is desired and the existing radio runs on power over Ethernet. Two parallel PoE ports allow multiple devices on PoE. The output power 1dB compression point is 4 Watts. For high duty cycle applications like Hotspots or IP cameras the amplifier can be fitted with heatsink. The 58G1W-Poe features extended thermal and RF input power protection. PoE ports are 10/100/1000Base-T (Mode A, B) compatible. The amplifier also features an additional DC port that enables usage without PoE.



58G1W-PoE

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Parameter	Sym.	Units	Condition	Min.	Typ.	Max.
Mechanical Specifications						
Chassis	Material		Aluminium			
	Size	mm	138 x 78.5 x 21.5			
	Weight	kg		0.4		
	Mounting holes		4 x Ø3.5			
Connectors	DC power		DC jack (5.5mm OD. 2.1mm ID.) and 2 x RJ45(PoE)			
	Radio port		N_female			
	Antenna port		N_female			
Power Supply	V_{CC}	V	+48V (PoE)			
PoE Operation			802.3af compliant, 10/100/1000Base-T Mode A, Mode B			
Indicators	Power		Green			
	Transmit		Red			
	Protection		None			
Absolute maximum ratings						
Supply Voltage	V_{CC}	V		36	48	57
Operating Temperature	T	°C		-40		70
RF Input Power	P_{IN}	dBm	"Radio" port, if $A_{TX} = 20dB$, avg.		10	
Demage RF Input Power		dBm	"Radio" port, if $A_{TX} = 20dB$, avg.		21	



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Parameter	Sym.	Units	Condition	Min.	Typ.	Max.
Electrical Specifications						
Frequency Range	f	MHz		5150		5850
Receive Gain	A_{RX}	dB		12		
Receive Noise figure	NF	dB				2
Out of the band suppression		dB		30		
Receive amplifier 1dB compression point	P_{1dB}	dBm			0	
Transmit Input RF Power	P_{IN}	dBm		3		15
Transmit Gain	A_{TX}	dB			18	20
Peak Transmit RF Output Power		dBm			36	
Supply current	I_{CC}	A	Bi-directional operation, using 802.11a Orthogonal Frequency Division Multiplexing Input Signal, Data Rate = 54 Mbps, master mode, $V_{CC} = +48V$	0.06		0.12
			Receive mode, $V_{CC} = +48V$		0.03	
Average Transmit RF Power	P_{OUT}	dBm	$EVM = 3\%$, 54 Mbps OFDM		30	
Harmonics	$2f$	dBm/MHz	$P_{OUT} = 30$ dBm			-45
	$3f$					-45



58G1W-PoE

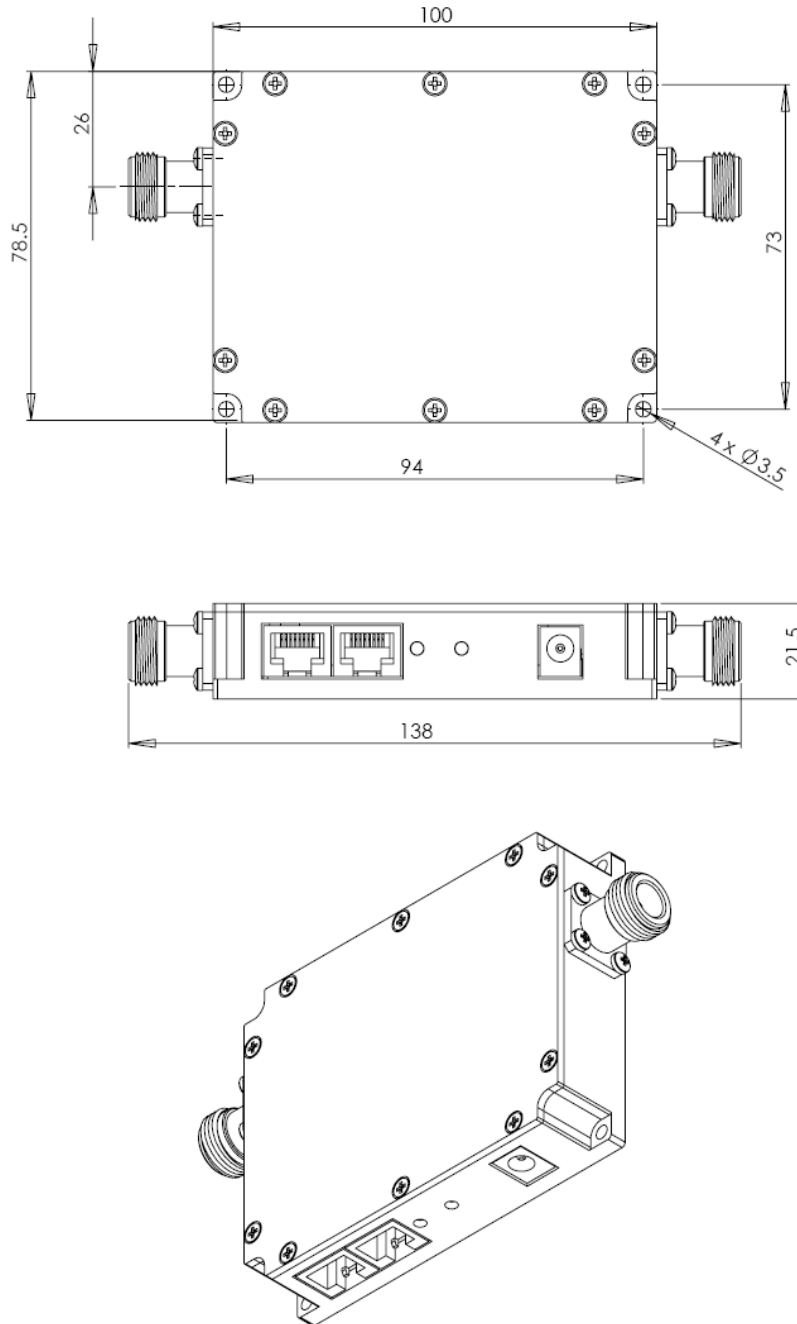
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Parameter	Sym.	Units	Condition	Min.	Typ.	Max.
Electrical Specifications (contd.)						
Transient voltage protection			Antenna	$\lambda/4$		
			PoE	TVS		
			DC power	TVS		
Input power protection		dBm			none	
Thermal protection		°C			none	

Drawing





58G1W-PoE

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Guaranteed Quality

58G Series is designed and manufactured by GEM Microwave and is backed by GEM Microwave's Limited Warranty.