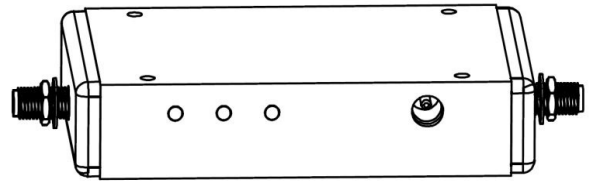

24G Series

1Watt Bi-Directional Amplifier

Features

- TX Power Output 1W Avg, 3.5W Peak
- 802.11b,g,n compatible
- Low Receive Noise Figure
- TX/RX LED indicator
- Automatic gain control
- Internal Lightning Protection
- Thermal and RF input power protection
- SMA / RPSMA Connectors

Picture



Description

The 24G 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 existing wireless radio equipment, 802.11b,g,n AM/FM or video products where higher power is required. The output power 1dB compression point is 3.5 Watts. For high duty cycle applications like Hotspots or IP cameras the amplifier can be fitted with heatsink. The 24G1W-V2 features extended thermal and RF input power protection. Standard connectors: RPSMA socket/ SMA socket.



24G1W-V2

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24G Series

1Watt Bi-Directional Amplifier

Electrical Specifications

Parameter	Unit	Minimum	Typical	Maximum
Frequency Range	GHz	2.4		2.5
Operating Mode		TDD, CW (heatsink model, Note1)		
Receive Gain	dB		12	
Receive Noise figure	dB			2
Transmit Input RF Power	dBm	4		23
Transmit Gain	dB	3	Automatic	20
Gain flatness over band	dB		±0.3	
Average Transmit RF Power (Note 3)	dBm		30.5dBm	
Peak Transmit RF Power	dBm		+35.5dBm	
RX to TX switching time	µs			0.2
Out of the band supression	dB	30		
Receive amplifier 1dB compression point	dBm		0	
ACPR (Note 4)	dBc		-35	
			-57	
Harmonics	2f		-50	
	3f		-50	
DC Power Supply	V	8		12
Receive supply current (Note 6)	mA		0.06	
Transmit supply current (Note 3, 6)	mA		750	
Average supply current (Note 2, 6)	mA		320	
Average supply current (Note 5, 6)	mA	150		180
Lightning Supression		1/4 wavelength short		
DC supply overvoltage-protection		TVS diode		
Thermal Protection	°C			75
RF input power protection	dBm			26
Operating Temperature	°C	-40		+55

Note 1: $T_{HEATSINK} = 70\text{ }^{\circ}\text{C}$, $I_{CC} = 750\text{ mA}$, $P_{OUT} = 30.5\text{ dBm}$. Operation of the amplifier beyond these limits in CW mode will damage the amplifier and void the warranty.

Note 2: Bi-directional operation, using 802.11g Orthogonal Frequency Division Multiplexing Input Signal, Data Rate = 54 Mbps, AP mode.



24G1W-V2

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24G Series

1Watt Bi-Directional Amplifier

Note 3: CW mode.

Note 4: P_{OUT} =31dBm, 802.11b, CH1, P_{OUT} =31dBm, 802.11b, CH2

Note 5: Bi-directional operation, using 802.11b/g/n, client mode.

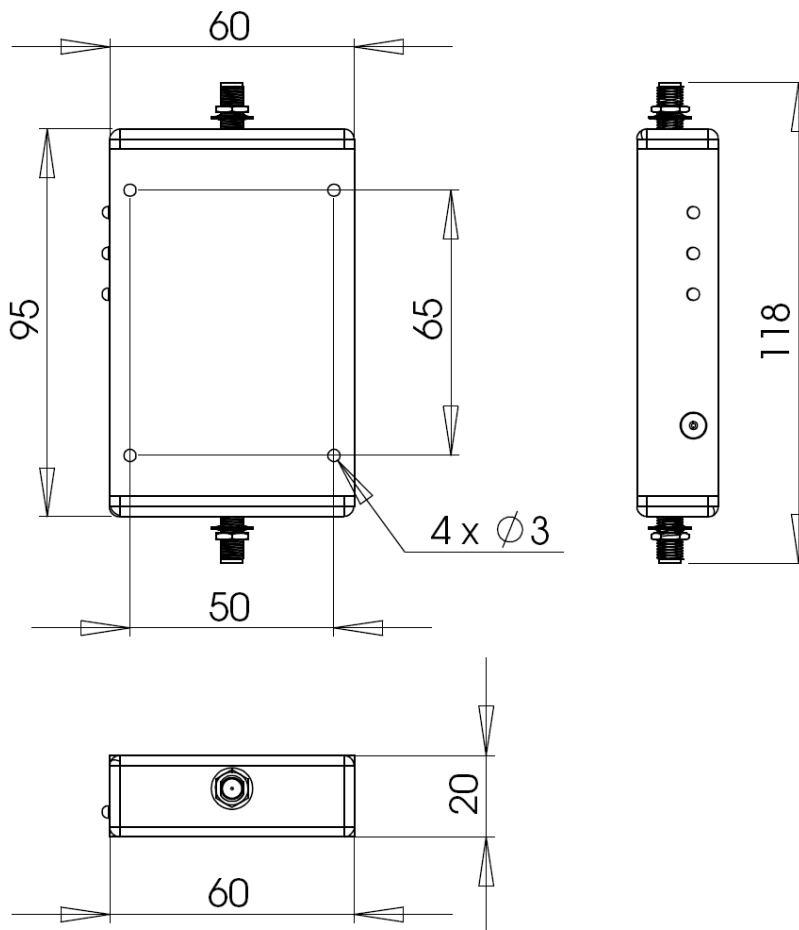
Note 6: @ +12V

Absolute Maximum Ratings

Parameter	Absolute Maximum
RF Input Power	+27dBm (500mW)
RF Input Power Damage Level	+30dBm (1000mW)
Supply Voltage	+14V
Operating Temperature	-40 °C to +70 °C
Storage Temperature	-55 °C to +100 °C

Mechanical Specifications

Parameter	Unit	
LED Indicators		Green for Power On, Red for Transmit, Yellow for Protection
RF Connectors		SMA socket for Radio port, RPSMA socket for antenna port
DC Power Connector		DC Via 2.1mm I.D. (+), 5.5mm O.D. (-)
Chassis		Aluminium, bare or white coat finish
Dimensions	mm	95 x 60 x 20
Weight	kg	0.16



Guaranteed Quality

24G Series is designed and manufactured by GEM Microwave and is backed by GEM Microwave's Limited Warranty.