

Shanghai Tuyue Electronics Co. Ltd.

Solid State Broadband High Power Amplifier



BPA1030 – 50M

1000 – 3000 MHz, 50 Watts

The BPA1030-50M is suitable for broadband mobile jamming and band-specific high power linear application in the P/L/S frequency bands. This compact module utilizes high power advanced GaN devices that provide excellent power density, high efficiency, wide dynamic range and low distortion. Exceptional performance, long term reliability and high efficiency are achieved by employing advanced broadband RF matching networks and combining techniques, EM/RFI filters, machined housings and qualified components.



- Solid-state Class AB linear design
- Extremely wide instantaneous bandwidth
- Compact and lightweight
- Built-in control, monitoring and protection circuits
- Suitable for CW, AM, and FM (for other modulation types, contact factory)
- 50 ohm input/output impedance
- Highly rugged and reliable

ELECTRICAL SPECIFICATIONS @ +28V_{DC}, 25 °C, 50 Ω System

Parameter	Symbol	Min	Typ	Max	Unit
Operating Frequency	BW	1000		3000	MHz
Power Output (CW)	P _{SAT}	50			Watt
Output Power @ P _{1dB} Gain Compression	P _{1dB}	20			Watt
Small Signal Gain	G _{SS}	47	50	53	dB
Input Power for Rated P _{OUT}	P _{IN}		0		dBm
Small Signal Gain Flatness	ΔG		±1.5	±2.0	dB
Input Return Loss	S ₁₁			-10	dB
Noise Figure	NF			10	dB
Third Order Intercept Point 2-Tone @ 34dBm/Tone, Δ = 1MHz	IP3	+50			dBm
Harmonics @ Rated P _{1dB} = 20W	2 nd / 3 rd			-17/-20	dBc
Spurious Signals	Spur		-70	-60	dBc
Operating Voltage	V _{DC}	26	28	30	Volt
Current Consumption Rated P _{SAT} = 50W	I _{DD}		5.5	7.0	Amp
Quiescent Current	I _{DQ}		2.0		Amp
Switching Speed (10% to 90%)	T _{SW}		2.0	5.0	μs

ENVIRONMENTAL CHARACTERISTICS (Design to Meet)

Parameter	Symbol	Min	Typ	Max	Unit
Operating Case Temperature	T _C	-20		+85	°C
Storage Temperature	T _{STG}	-40		+85	°C
Relative humidity w/o condensation	RH			95	%
Altitude (MIL-STD-810F Method 500.4)	ALT		10,000	30,000	Feet
Shock/Vibration (MIL-STD-810F Method 516.5)	SH/VI		Airborne		-

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