

Solid State Broadband High Power Amplifier

1203 - BBM3K5ANQ
500 – 2000 MHz / 200 Watts

- Solid-state Class AB linear design
- Instantaneous ultra broadband
- Small and lightweight
- Suitable for most modulation types
- 50 ohm input/output impedance
- High reliability and ruggedness
- Built-in control, monitoring and protection circuits

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

Parameter	Symbol	Min	Typ	Max	Unit
Operating Frequency	BW	500		2000	MHz
Power Output CW	P _{SAT}	200			Watt
Output Power @ 1dB Gain Compression	P _{1dB}		80		Watt
Small Signal Gain @ P _{IN} = -10dBm	G _{SS}	55	59		dB
Input Power for Rated P _{SAT}	P _{IN}		-4	0	dBm
Small Signal Gain Flatness @ P _{IN} = -10dBm (BW= 1000MHz,500-1500MHz)	ΔG _{SS}			±1.0	dB
Small Signal Gain Flatness @ P _{IN} = -10dBm (BW= 500MHz,1500-2000MHz)	ΔG _{SS}			±1.5	dB
Phase Tracking @ P _{SAT} (All module)	ΔPT			±10	Deg
Gain Tracking @ P _{SAT} (All module)	ΔGT			±1.0	dB
Input Return Loss	S ₁₁			-10	dB
Third Order Intercept Point 2-Tone @ 40dBm/Tone, 1MHz Spacing	IP3		+55		dBm
Harmonics @ P _{OUT} = 80W	H	-15			dBc
RF Noise when RF Off	N _{RF}			-35	dBm/MHz
RF ON/OFF Switching Time @ 100kHz TTL, P _{IN} = 0dBm	T _{ON/T_OFF}			1.0	uSec
Mute Control Switching Time @ 1kHz TTL, P _{IN} = 0dBm	T _{ON/T_OFF}		2.0	5.0	uSec
Spurious Signals	Spur		-70	-60	dBc
Operating Voltage	V _{DC}	26	28	30	Volt
Current Consumption @ P _{OUT} = 200W CW	I _{DD}		20	25	Amp
Quiescent Current	I _{DQ}		2.5		Amp
Current Consumption @ Mute – Pin 4	I _{MUTE}		1.5		Amp
Current Consumption @ RF OFF – Pin 5	I _{RF_OFF}		1.5		Amp

MECHANICAL SPECIFICATIONS

Parameter	Value	Unit
Dimensions	10.0 x 6.0 x 1.1	Inch
Weight	4.5	Pound
RF Connectors Input / Output	Type-SMA, Female / Type-N, Female	
DC Interface Connector	Hybrid, D-sub 7-Pin, Male	
Cooling	External Heatsink (not supplied)	

ENVIRONMENTAL CHARACTERISTICS

Parameter	Symbol	Min	Typ	Max	Unit
Operating Case Temperature	T _C	-20		+75	°C
Storage Temperature	T _{STG}	-40		+85	°C
Relative Humidity (non-condensing)	RH			95	%
Altitude (MIL-STD-810F Method 500.4)	ALT			30,000	Feet
Vibration / Shock MIL-STD-810F - Method 514.5/516.5 – Proc I	VI / SH		Airborne		

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LIMITS

Input RF drive level without damage	+5dBm	Max
Load VSWR @ P _{OUT} = 80W	∞ @ all load phase & amplitude for duration of 1 minute 3:1 load @ all phase and amplitude continuous	-
Thermal Overload	95°C Graceful Degradation	Typ

DC INTERFACE CONNECTOR – Hybrid, D-sub 7-pin, Male

Pin #	Description	Specification
A1	VDD	26.0-30.0V _{DC}
A2	GND	Ground
1	N/C	No Connection
2	Current Sensor	Analog voltage relative to module's I _{DD} @ 10mV/100mA
3	Temp Sensor	Analog voltage relative to unit's temperature @ 10mV/°C (0.50V _{OFFSET}) Formula: (V _{MEASURED} - 0.5)/0.01= °C, Example: (0.75V-0.5)/0.01= 25°C
4	Mute	Amplifier Disable: TTL Logic High (5V) (Internally Pulled-Low)
5	RF ON/OFF	TTL Logic Low: RF ON TTL Logic High: RF OFF

OUTLINE DRAWING

