

M0520BP200 500 – 2000 MHz / 200 Watts

The M0520BP200 is suitable for multi-octave bandwidth high power CW, modulated, and pulse applications. This amplifier utilizes high power GaN devices that provide wide frequency response and dynamic range, high gain, high efficiency, and good linearity. Exceptional performance, long-term reliability, and high efficiency are achieved by employing advanced broadband RF matching networks and combining techniques, built in high quality power supply, EMI/RFI filters, machined housing, and qualified components. Sungsan's ISO9001 Quality Assurance Program assures consistent performance and the highest reliability.

- 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 @ +28 VDC, 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		dB
Input Power for Rated P _{SAT}	P _{IN}		-3		dBm
Small Signal Gain Flatness @ P _{IN} = -10dBm (BW= 1000MHz,500-1500MHz)	ΔG _P			±1.0	dB
Small Signal Gain Flatness @ P _{IN} = -10dBm (BW= 500MHz,1500-2000MHz)	ΔG _P			±1.5	dB
Phase Tracking @ P _{SAT} (All module)	ΔP _T			±10	Deg
Gain Tracking @ P _{SAT} (All module)	ΔG _T			±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	RF 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		A
Current Consumption @ Mute – Pin 4	I _{SD}		1.0		A
Current Consumption @ RF OFF – Pin 5	I _{RF_OFF}		1.5		A

ENVIRONMENTAL CHARACTERISTICS

Parameter	Symbol	Min	Typ	Max	Unit	Limits
Operating Case Temperature	T _C	-20		+75	°C	
Storage Temperature	T _{STG}	-20		+75	°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

Parameter	Value	Limits
Input RF drive level without damage	+5dBm	Max
Load VSWR @ POUT = 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

MECHANICAL SPECIFICATIONS

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

DC CONNECTOR- Hybrid, D-sub 7-Pin, Male

Pin #	Description	Specifications
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 module's temperature @ 10mV/°C - 500mV offset
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

