

M0738BP80 700 – 3800 MHz / 80 Watts

The M0738BP80 is suitable for broadband mobile Jamming and band specific high power linear applications in the S & C frequency bands. This compact module utilizes high power advanced GaN devices that provide excellent power density, high efficiency, wide dynamic range and low distortions. Exceptional performance, long term reliability and high efficiency are achieved by employing advanced broadband RF matching networks and combining techniques, EMI/RFI filters, machined housings and qualified components. Sungsan's ISO9001 Quality Assurance Program assures consistent performance and the highest reliability.

- Solid-state linear design
- Instantaneous ultra broadband
- Small and lightweight
- Suitable for CW, AM, and FM (Consult factory for other 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	700		3800	MHz
Power Output (CW)	P _{SAT}	80	100		W
Output Power @ 1dB Gain Compression	P _{1dB}		44		dBm
Small Signal Gain	G _p	18	20		dB
Input power for rated P _{1dB}	P _{IN}			36	dBm
Gain Flatness @ Rated P _{Out}	ΔG _p			±1.5	dB
Input / Output Return loss	S ₁₁ / S ₂₂		-10	-8	dB
Noise Figure @ Max Gain	NF			10	dB
Harmonics @ rated P _{1dB}	H		-15		dBc
Third Order Intercept Point 2-Tones @ 36 dBm/Tone, Δ = 250kHz	IP3		+54		dBm
Spurious Signals	Spur		-70	-60	dBc
Operating Voltage	VDC	26	28	30	Volt
Current Consumption @ 80 Watts RF Output	I _{DD}		10	12	Amp
Current Consumption @ Shutdown	I _{SD}		100		mA
Supply Current @ 80 Watts RF Output	I _{DD}		10	12	Amp
Quiescent Current	I _{DQ}		2		Amp
Switching Speed, 1kHz TTL, P _{OUT} = 40W	T _{ON} / T _{OFF}			2.0 / 5.0	μs
Module to Module Gain Tracking @ P _{SAT}	ΔGT			±1.0	dB
Module to Module Phase Tracking @ P _{SAT}	ΔPT			±1.0	DEG

ENVIRONMENTAL CHARACTERISTICS

Parameter	Symbol	Min	Typ	Max	Unit	Limits
Operating Case Temperature	T _c	-20		+80	°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			

PROTECTIONS

Parameter	Value	Limits
Input Overdrive	+36dBm	Max
Load VSWR @ Rated P _{Out} = 80 W	∞ @ all load phase & amplitude for duration of 1 minute 3:1 @ all load phase & amplitude continuous	-
Thermal Overload	Graceful degradation	Typ

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MECHANICAL SPECIFICATIONS

Parameter	Value	Units	Limits
Dimensions	9.5 x 4.9 x 1.0	Inch	Max
Weight	2.0	lb.	Max
RF Connectors In/Out	Type-SMA, Female		
DC Interface Connectors	Hybrid, D-Sub, 9-Pin, Male (7W2)		
Cooling	External Heatsink (Not Supplied)		

DC CONNECTOR- D-Sub, 9Pin, Male

Pin #	Description	Specifications
A1	VDD	+28.0V _{DC} ±2V
A2	GND	Ground
1	N/C	No Connection
2	Current Monitor	Analog voltage relative to I _{DD} @ 25mV/100mA (4V max)
3	Temp Sense	Analog voltage relative to module temperature @ 10mV/°C (4V max)
4	N/C	No Connection
5	Shutdown	Amplifier Disable: TTL Logic High (5V) (Internally Pulled-Low)

Outline Drawing

