

# Solid State Matched Band High Power Amplifier

**5007 - MBM2527KO**
**2.5 - 2.7GHz / 100Watts**

## PRELIMINARY INFORMATION

The MBM2527KO (SKU# 5007) is suitable for high power linear applications in the MMDS and digital wireless cable applications. This amplifier utilizes linear GaAsFET power devices that provide excellent linearity, high gain, and wide dynamic range. Exceptional performance, long term reliability, and high efficiency are achieved by employing advanced broadband matching networks and combining techniques, built-in sequence regulators, EMI/RFI filters, machined housing, and qualified components. Empower RF's ISO9001 Quality Assurance Program assures consistent performance and the highest reliability.

- Solid-state Class A linear design
- Instantaneous broadband
- Small and lightweight
- Suitable for all modulation types
- 50 Ohm Input/Output impedance
- High reliability and ruggedness
- Built in output detector.

## ELECTRICAL SPECIFICATIONS @ +13VDC, 25°C, 50Ω System

Parameter	Symbol	Min	Typ	Max	Unit
Operating Frequency	BW	2.5		2.7	GHz
Power Output CW	P <sub>SAT</sub>	100			Watt
Power Output @ 1dB G.C.P	P <sub>1dB</sub>	80			Watt
Power Output -	P <sub>QAM</sub>		30		Watt
Input Power for nominal Pout	P <sub>IN</sub>		0		dBm
Small Signal Gain @ P1db	SSG	50			dB
Small Signal Gain Flatness	ΔG			±1.0	dB
Gain Changes with Temperature	ΔG <sub>T</sub>			±1.0	dB
Return Loss Input/Output	S11			-10	dB
Noise Figure	NF		7	10	dB
Third Order Intercept Point 2-Tones, 37dBm/tone, Δ = 100KHz	IP3		+60		dBm
Harmonics @ rated 1dB G.C.P	H			-30	dBc
Spurious Signals	Spur		-70	-60	dBc
Operating Voltage	VDC	11	12	13	Volt
Current Consumption @ 100W Output	I <sub>DD</sub>			32	Amp
Test port coupling	TP <sub>SAMPLE</sub>		30		dB

## MECHANICAL SPECIFICATIONS

Parameter	Value	Units	Limits
Dimensions / With Heatsink	8.25 x 7.5 x 1.13	Inch	Max
Weight / With Heatsink	3	lb.	Max
RF Connectors Input / Output	SMA / Type-N female		
DC / Control Interface	D-sub 9-Pins		
Cooling	External Forced Air		

## ENVIRONMENTAL CHARACTERISTICS (Design to Meet)

Parameter	Symbol	Min	Typ	Max	Unit
Operating Case Temperature	T <sub>c</sub>	-25		+60	°C
Storage Temperature	T <sub>stg</sub>	-40		+85	°C
Relative humidity w/o condensation	RH	95			%
Altitude	ALT	13,000	30,000		Feet
Shock / Vibration	SH / VI		Airborne		

# Solid State Matched Band High Power Amplifier

**5007 - MBM2527KO**
**2.5 - 2.7GHz / 100Watts**
**PROTECTIONS**

Load VSWR @ 80W - 5 Seconds	$\Psi$		5:1	-
Thermal Overload	T <sub>OL</sub>	75		°C

**INTERFACE CONNECTOR - Dsub, 7-Pin Hybrid**

Pin #	Description	Specifications
1	Shutdown	Amplifier Enable: TTL "Low" or Open Amplifier Disable: TTL "High"
2	Forward	Fwd. Detect (Analog)
3	Reverse	Rev. Detect (Analog)
4	VSWR Alarm	
5	Temperature SENSE	Temp Alarm 75°C (TTL)
A1	VDD	+12 ± 1VDC
A2	GND	Ground

**OUTLINE DRAWING**
