

# Solid State Broadband High Power Amplifier

**1028-BBM1C3KAJ**
**1 - 500MHz / 10Watt**

The BBM1C3KAJ (SKU # 1028) is suitable for broadband high power linear applications. This amplifier utilizes Silicon push-pull MOSFET power devices that provide high gain, wide dynamic range, low distortions, and good linearity. 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. Empower RF'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 all modulation standards
- 50 Ohm Input/Output impedance
- High reliability and ruggedness
- Built-in control, monitoring and protection circuits

## ELECTRICAL SPECIFICATIONS @ +28VDC; 25°C, 50Ω System

Parameter	Symbol	Min	Typ	Max	Unit
Operating Frequency	BW	1		500	MHz
Power Output CW	P <sub>SAT</sub>	10	15		Watt
Power Output @ 1dB G.C.P	P <sub>1dB</sub>	8	10		Watt
Power Gain @ 1dB G.C.P	G <sub>1dB</sub>	40			dB
Input Power for Rated Output	P <sub>IN</sub>		0		dBm
Small Signal Gain Flatness	ΔG		±1.0	±1.5	dB
Gain Adjustment Range (VGC: 0 – 5VDC)	VVA	25			dB
Input Return Loss	S11			-10	dB
Noise Figure	NF		7	10	dB
2-Tones Third Order Intercept Point Pout = 27dBm/Tone, Δ = 100KHz	IP3		+49		dBm
Harmonics @ 1dB G.C.P	H		-25		dBc
Spurious Signals	Spur		-70	-60	dBc
Operating Voltage	VDC	24	28	32	Volt
Supply Current @ nominal Pout	IDD		2.0	2.5	Amp

## ENVIRONMENTAL CHARACTERISTICS

Parameter	Symbol	Min	Typ	Max	Unit
Operating Case Temperature	T <sub>c</sub>	0		+50	°C
Storage Temperature	T <sub>stg</sub>	-40		+85	°C
Relative humidity w/o condensation	RH	95			%
Altitude	ALT	10,000	30,000		Feet
Shock & Vibration	SH / VI		Airborne		

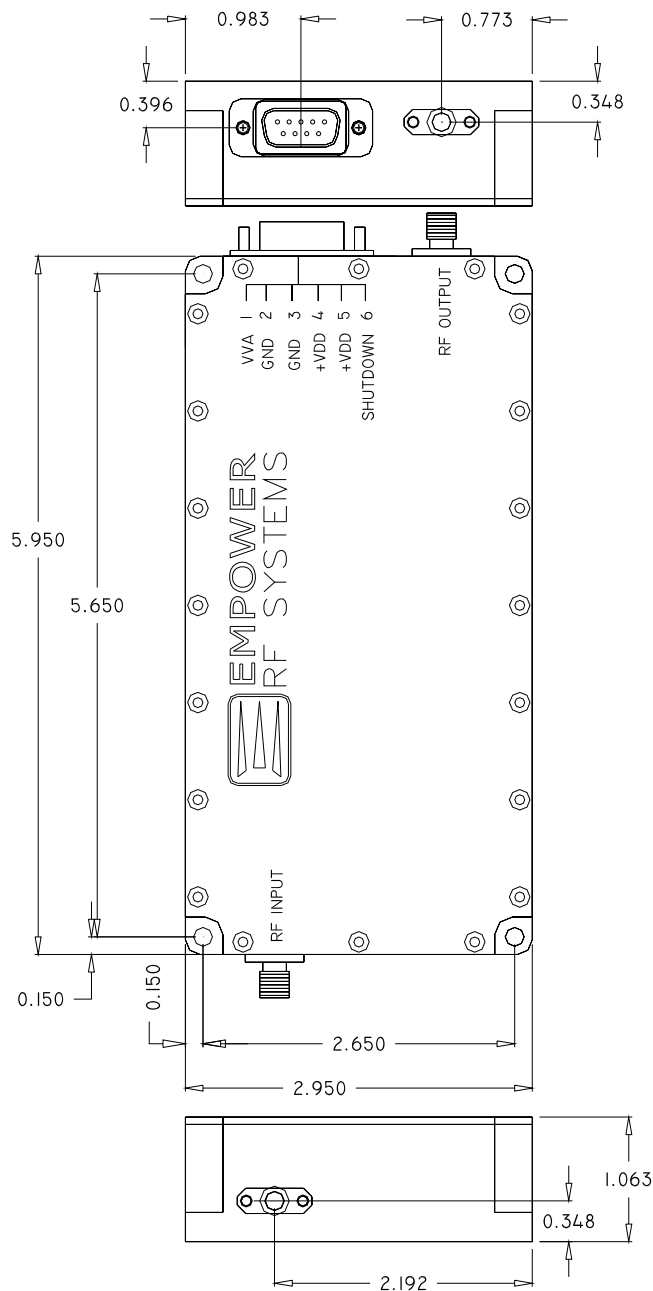
## MECHANICAL SPECIFICATIONS

Parameter	Value	Units	Limits
Dimensions (excluding heatsink)	6.0 x 3.0 x 1.0	Inch	Max
Weight without HS / with HS	1.0 / 2.5	lb.	Max
RF Connectors In/Out	SMA female		
DC Connectors	D-Sub 9 Pin		
Cooling	External Heatsink		

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**PROTECTIONS**

Input Overdrive	$P_{OD}$	+10 dBm	Max
Load VSWR	$\Psi$	Infinite @ all load phase & amplitude	Nom
Thermal Overload	$T_{OD}$	85°C shutdown	Max

**OUTLINE DRAWING**


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**INTERFACE CONNECTOR D-Sub, 9-Pin**

Pin #	Description	Specifications
1	VVA	Continuous Analog 0-5VDC levels Maximum Gain: 5VDC Minimum Gain: 0VDC
2	GND	Ground
3	GND	Ground
4	VDD	+28 Volts
5	VDD	+28 Volts
6	Shutdown	Enable: TTL "Low" or Open Disable: TTL "High"
7	Not Assigned	Not Assigned
8	Not Assigned	Not Assigned
9	Not Assigned	Not Assigned