

## CPA Series

## 2-6GHz 20W RF Power Amplifier

### Features

- Frequency Range: 2-6GHz
- Small Signal Gain: 55dB
- P<sub>OUT</sub>: +43dBm (20W)
- DC Power: +28V @ 3500mA
- DC Power Reverse Protected
- RF Connector: SMA Female
- GaN RF Power Amplifier
- Class AB Power Amplifier

### Picture



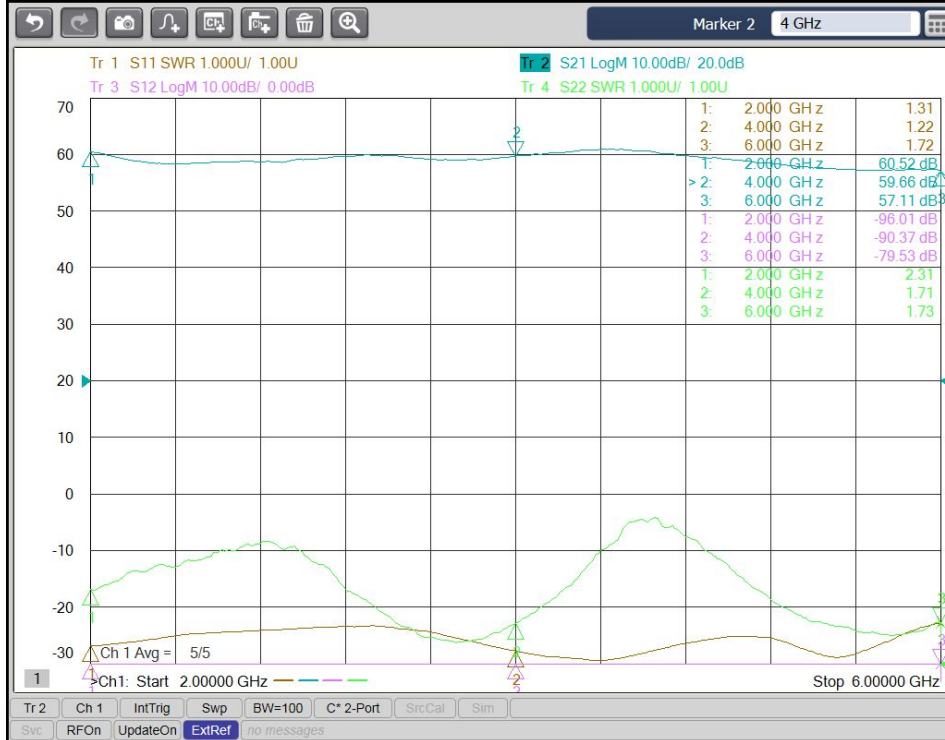
### Electrical Specifications @+25°C, Z<sub>in</sub>=Z<sub>out</sub>=50 Ω, Power Supply = +28VDC

Parameter	Unit	Minimum	Typical	Maximum
Frequency Range	GHz	2		6
Small Signal Gain (S <sub>21</sub> ) P <sub>IN</sub> =-40dBm	dB	50	55	
Gain Flatness	dB		±1.8	±2.5
Output Power P <sub>OUT</sub> @ 4GHz, P <sub>IN</sub> =0dBm	dBm	+43	+44	
Efficiency @ 4GHz, P <sub>IN</sub> =0dBm	%	30	35	
Noise Figure @ 4GHz	dB		6.0	7.0
Isolation (S <sub>12</sub> )	dB	-70	-80	
VSWR Input (S <sub>11</sub> ) @ 4GHz	ratio:1		1.3:1	2.0:1
Output (S <sub>22</sub> ) @ 4GHz	ratio:1		1.7:1	2.5:1
DC Power Supply - voltage	V	24	28	32
DC Power Supply - current	mA		3500	5000
Size (LxWxH)	Inch/mm	6.40"x2.50"x1.05"/162.56x63.53x26.67		
Weight	Oz/gram	15/425		

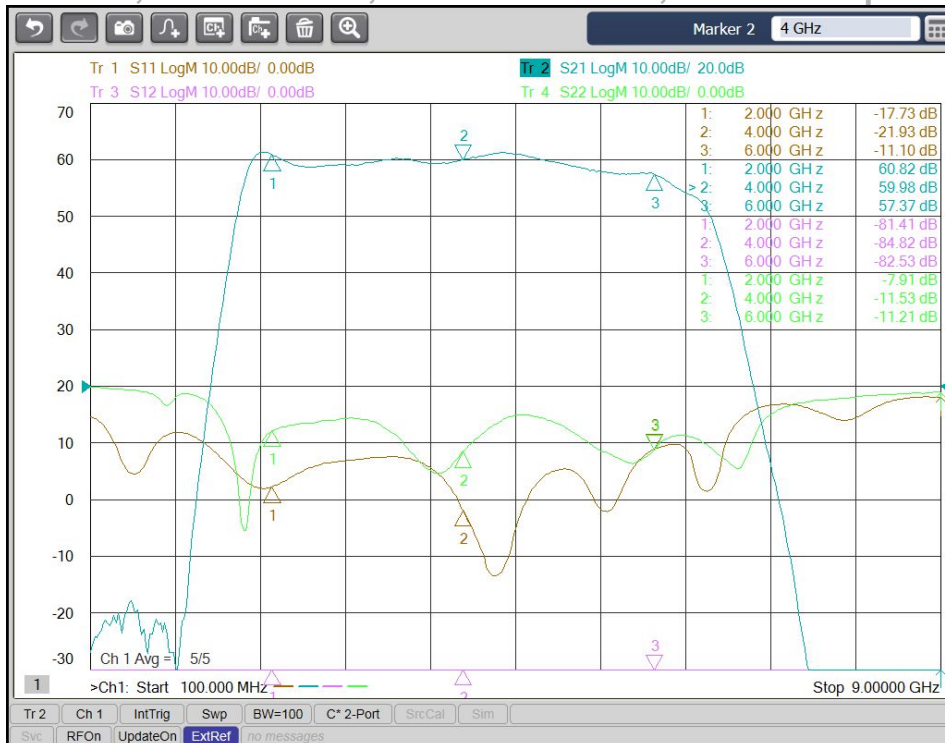
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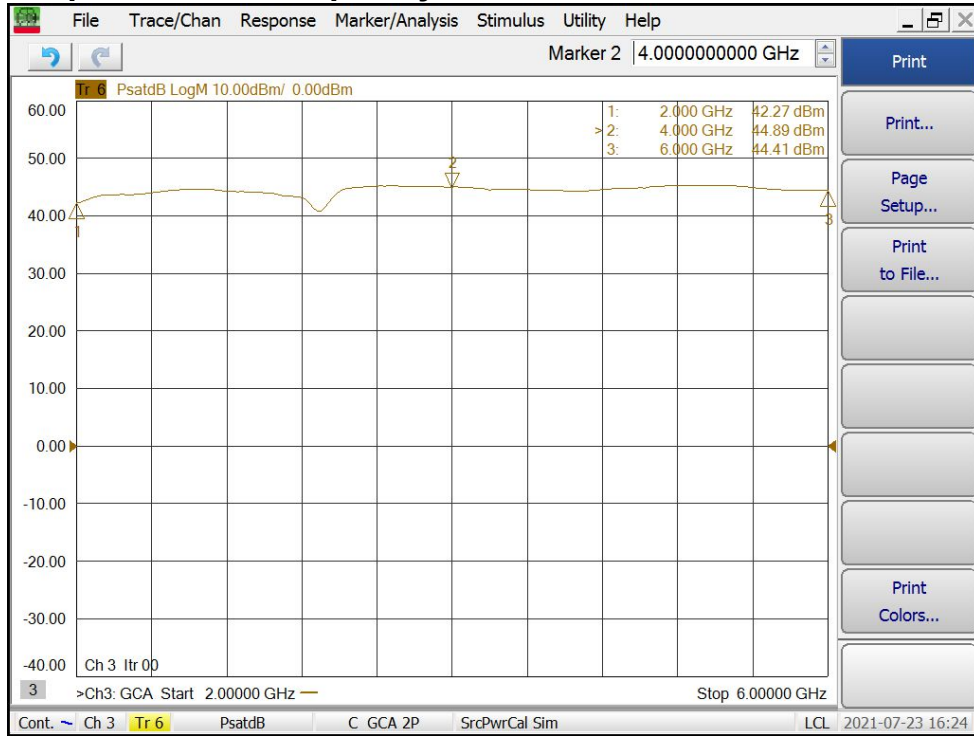
Gain S21, Isolation S12, Return Loss S11, S22 vs Frequency



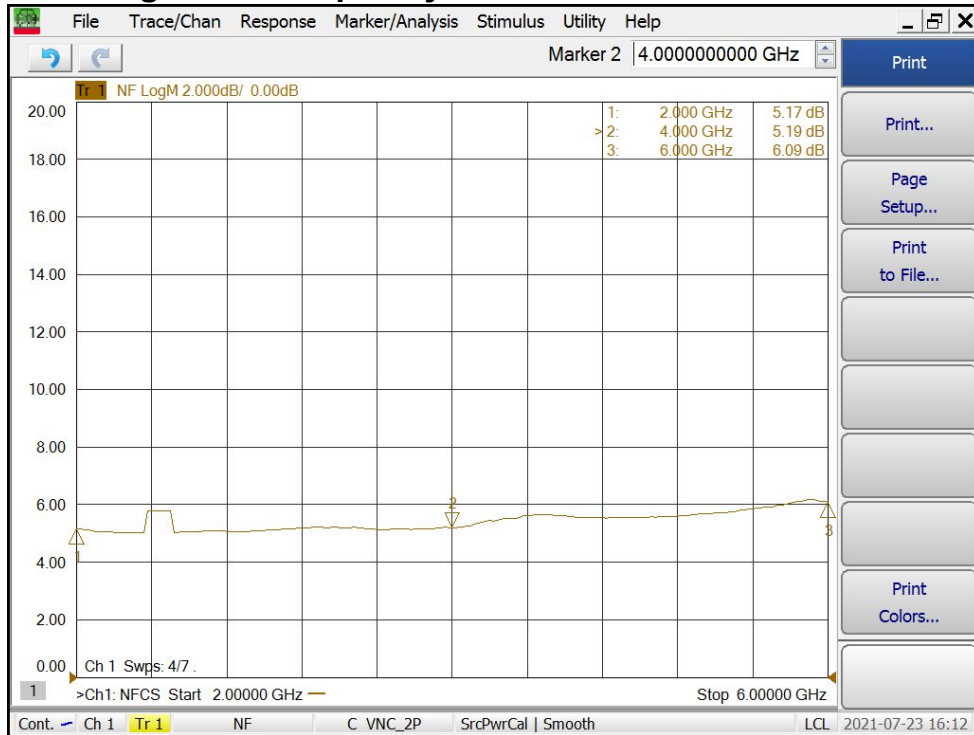
Gain S21, Isolation S12, Return Loss S11, S22 vs Frequency



**Output Pout vs Frequency**



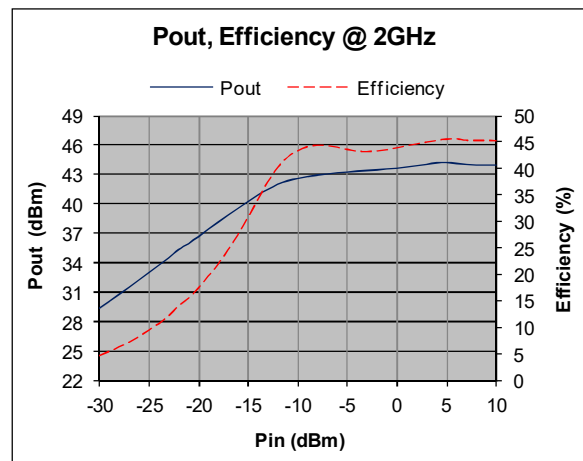
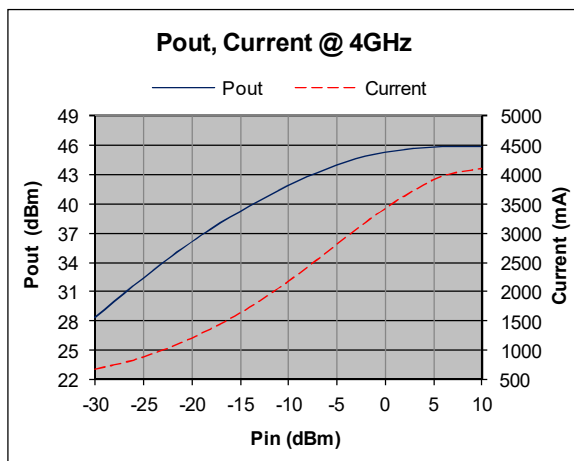
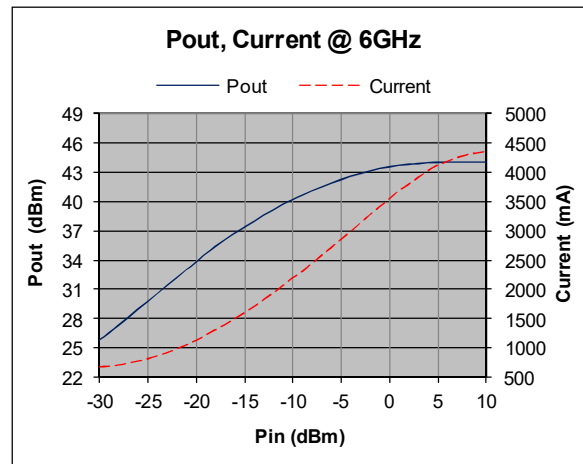
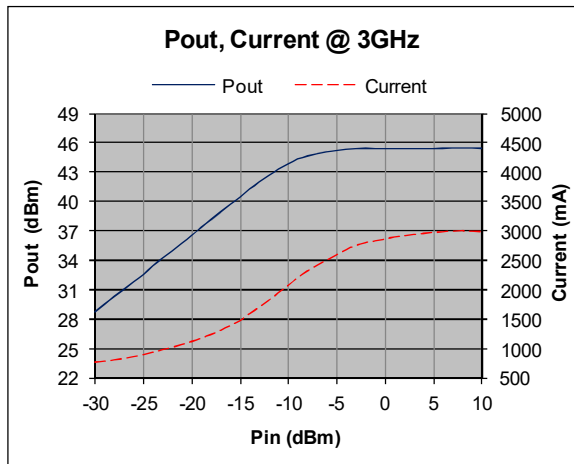
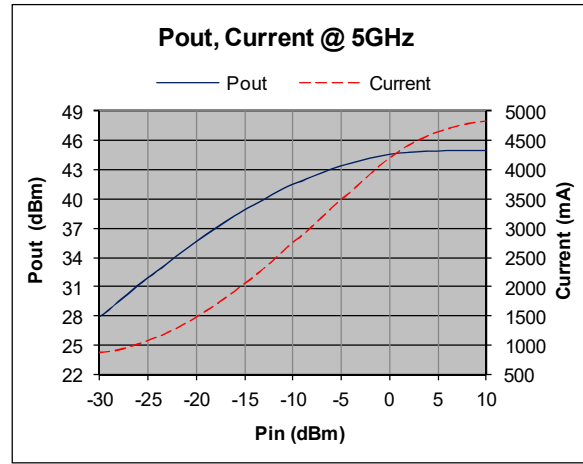
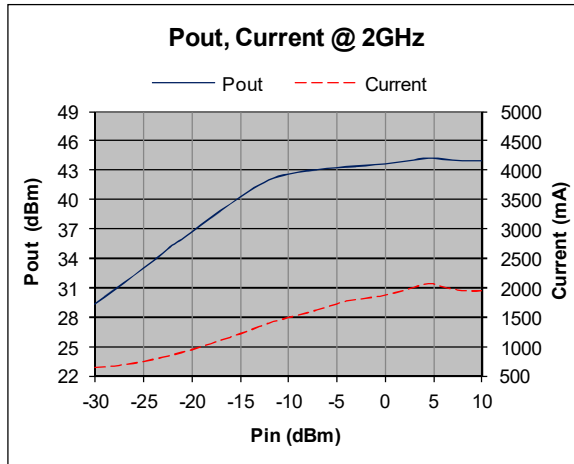
**Noise Figure vs Frequency**



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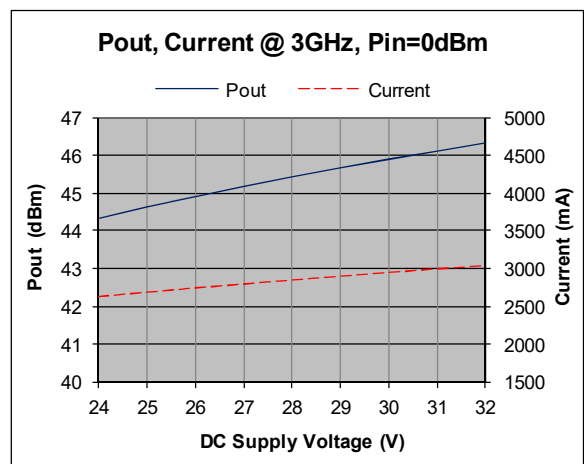
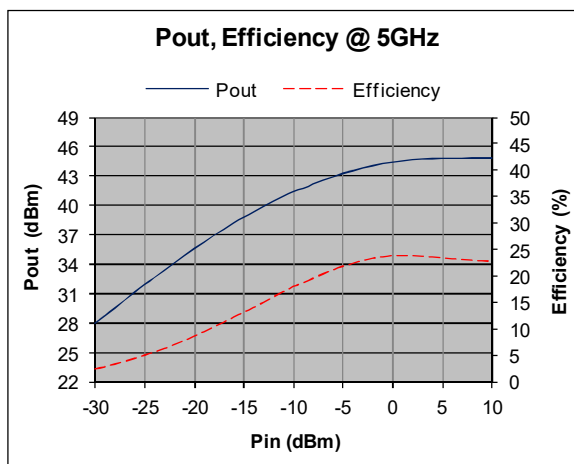
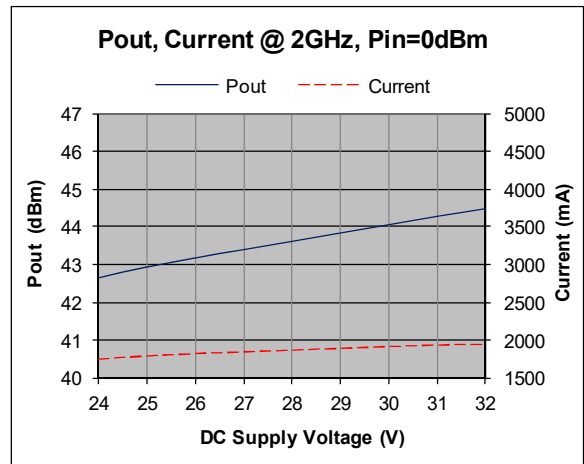
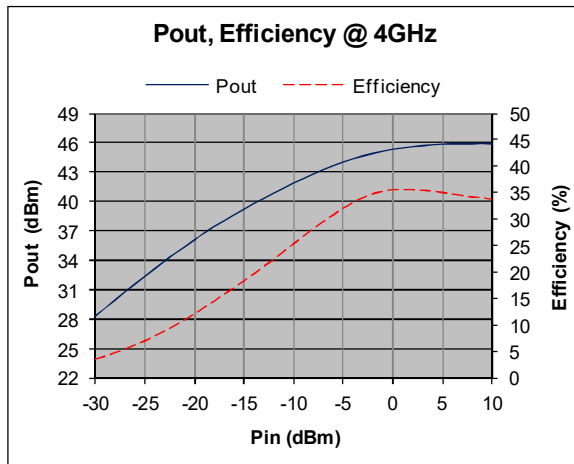
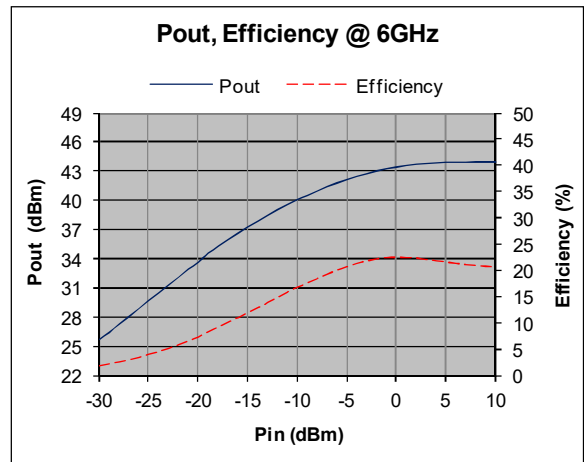
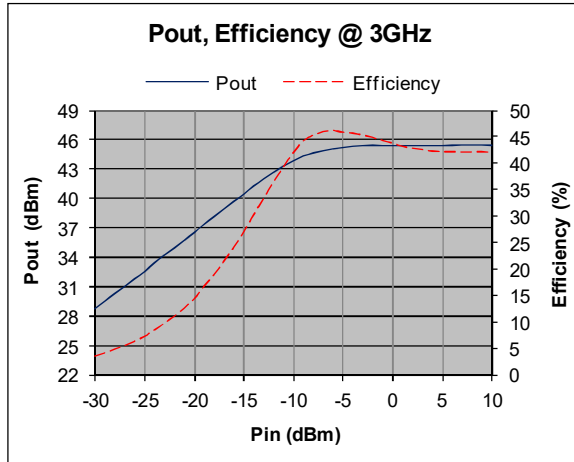
**Typical Performance @ +25 °C**



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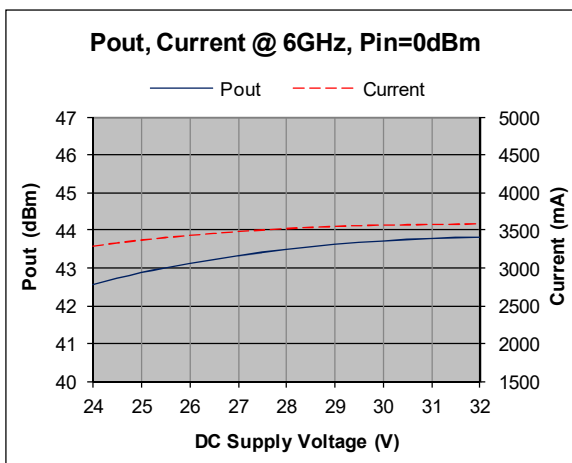
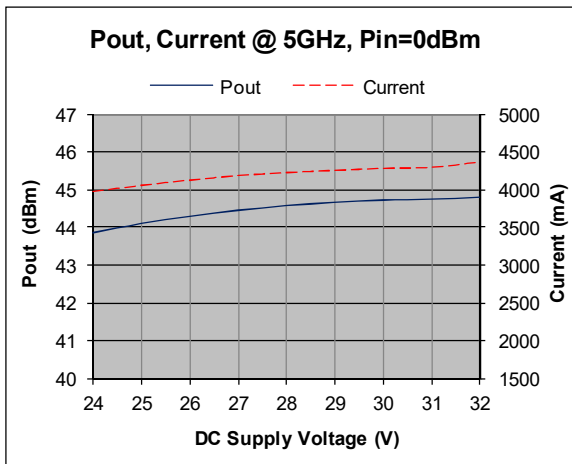
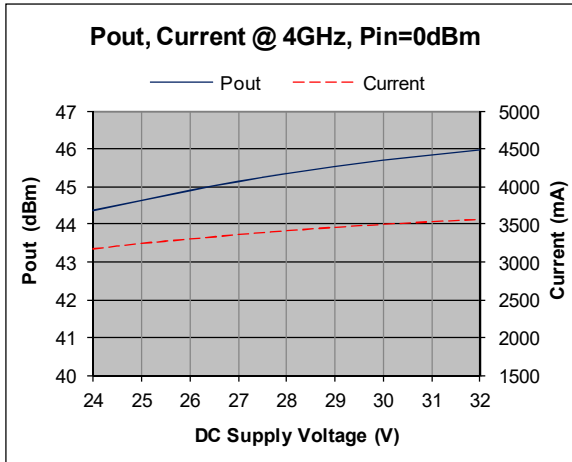
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**Absolute Maximum Ratings**

Parameter	Absolute Maximum
Supply Voltage	+33V
RF Input Power	+13dBm
Operating Temperature	-20 °C to +65 °C
Storage Temperature	-55 °C to +125 °C

**ESD Sensitive Material**

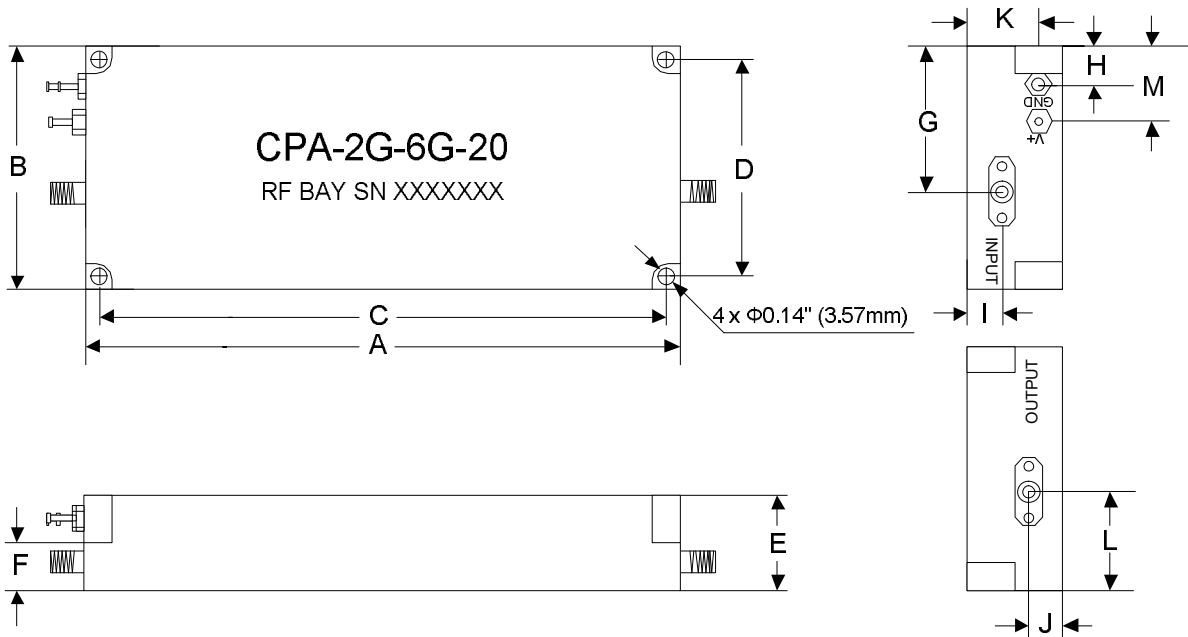


**WARNING:** 1) **MUST USE HEAT SINK AND COOLING FAN TO MAINTAIN THE BASE TEMPERATURE BELOW 65 °C.**  
2) **LOAD MUST BE CONNECTED TO AMPLIFIER OUTPUT AT ALL TIME IF DC POWER IS ON.**

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**Outline**



Mounting screws recommended to use hex socket head cap #6x3/4"

	A	B	C	D	E	F	G	H	I
<b>Inch</b>	6.40	2.50	6.05	2.17	1.05	0.54	1.40	0.30	0.30
<b>mm</b>	162.56	63.50	153.67	55.12	26.67	13.72	35.56	7.62	7.62
	J	K	L	M					
<b>Inch</b>	0.30	0.75	1.10	0.70					
<b>mm</b>	7.62	19.05	27.94	17.78					