

## CPA Series

## 2-12GHz 4W RF Power Amplifier

### Features

- Frequency Range: 2-12GHz
- Small Signal Gain: 40dB
- P<sub>SAT</sub>: +36dBm (4W)
- DC Power: +28V @ 1800mA
- RF Connector: SMA Female
- GaN RF Power Amplifier

### Picture



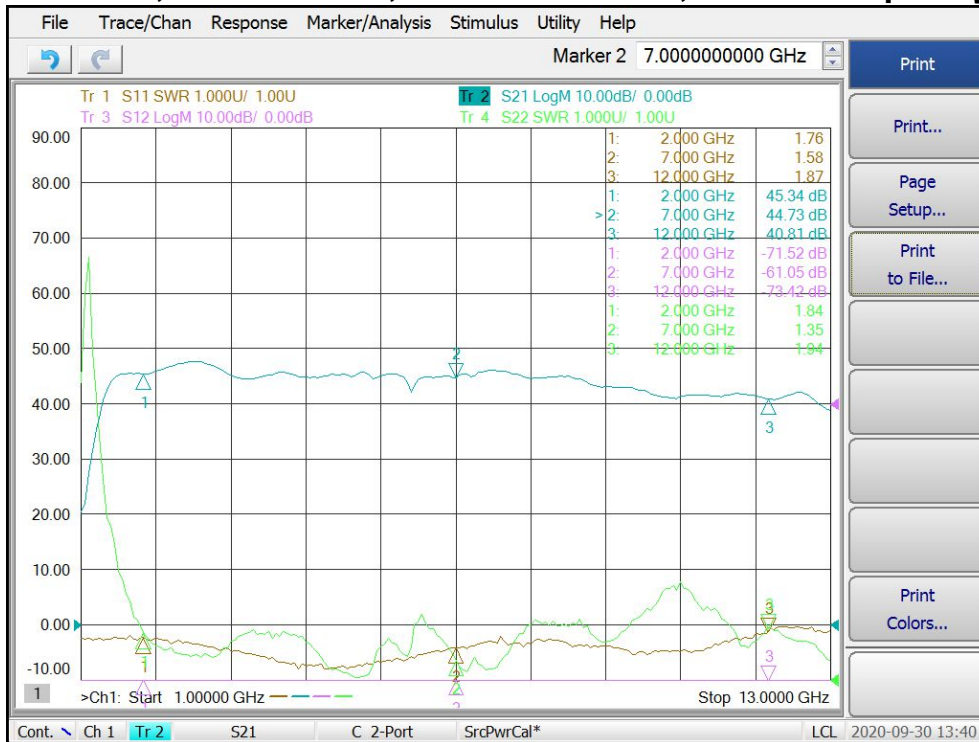
### Electrical Specifications @+25°C, Z<sub>in</sub>=Z<sub>out</sub>=50 Ω, Power Supply = +28VDC

Parameter	Unit	Minimum	Typical	Maximum
Frequency Range	GHz	2		12
Small Signal Gain (S <sub>21</sub> ) P <sub>IN</sub> =-40dBm	dB	40	43	
Gain Flatness	dB		±2.5	±4.0
Output Power P <sub>OUT</sub> @ 7GHz, P <sub>IN</sub> =0dBm	dBm	+36	+37	
Efficiency	%		10	
Noise Figure @ 7GHz	dB		4.0	5.0
Isolation (S <sub>12</sub> )	dB	-55	-60	
VSWR Input (S <sub>11</sub> ) @ 7GHz	ratio:1		1.5:1	2.0:1
Output (S <sub>22</sub> ) @ 7GHz	ratio:1		1.5:1	2.0:1
DC Power Supply - voltage	V	24		28
DC Power Supply - current	mA		1800	2000
Size (LxWxH)	Inch/mm	6.40"x2.50"x1.05"/162.56x63.53x26.67		
Weight	Oz/gram	15/425		

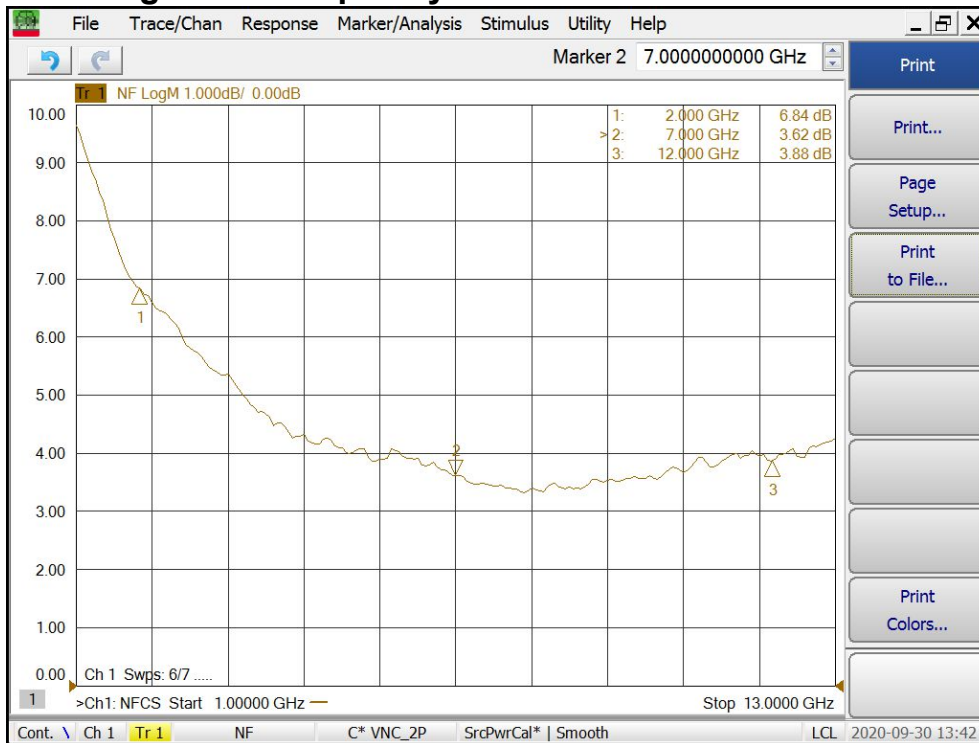
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**Gain S21, Isolation S12, Return Loss S11, S22 vs Frequency**



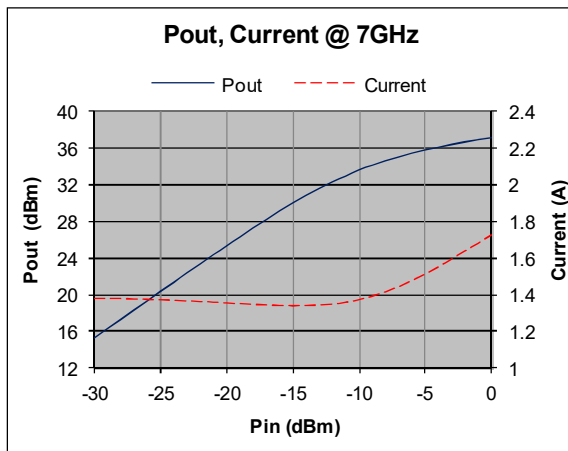
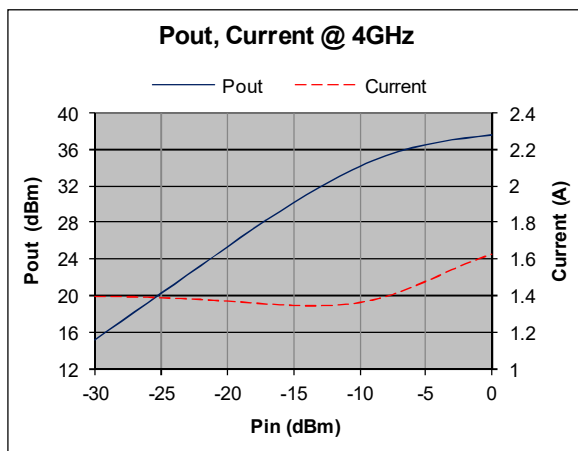
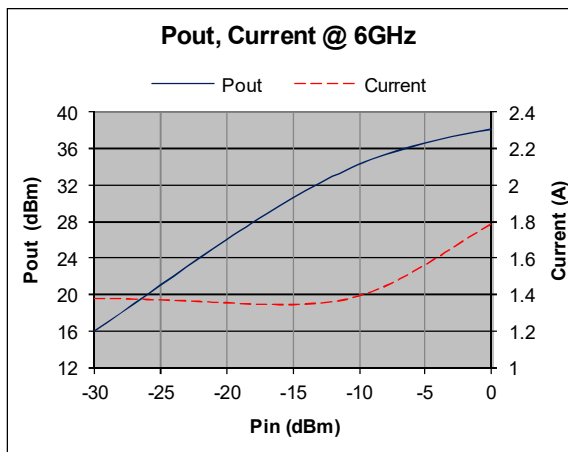
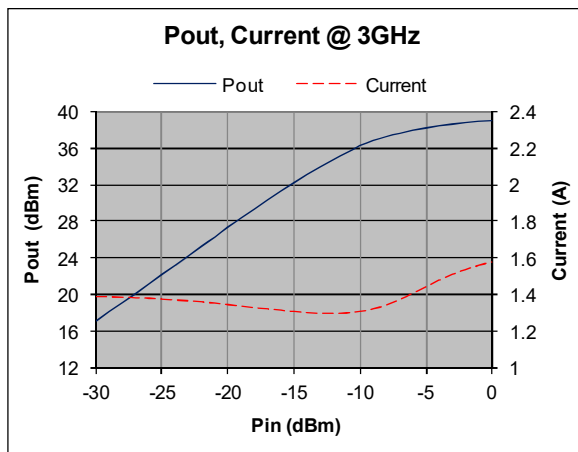
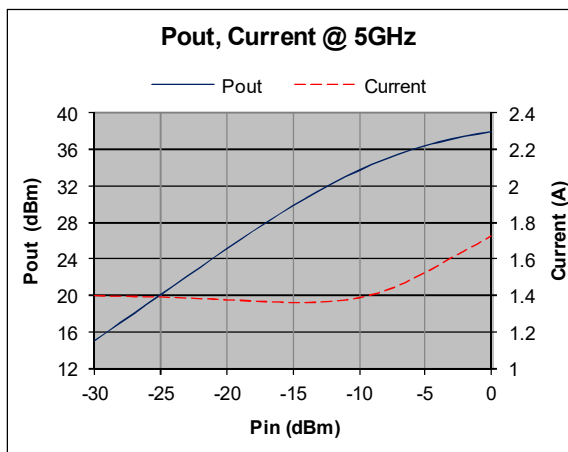
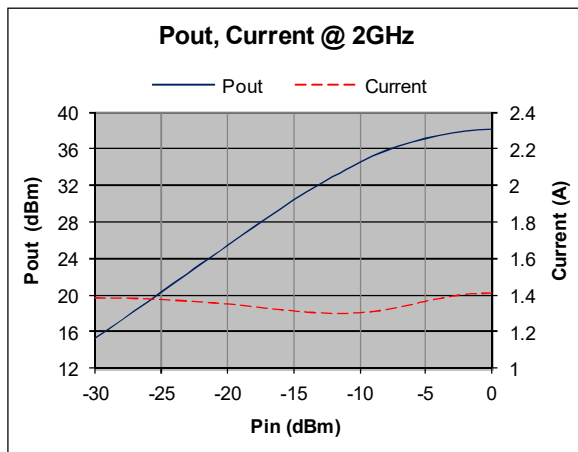
**Noise Figure vs Frequency**



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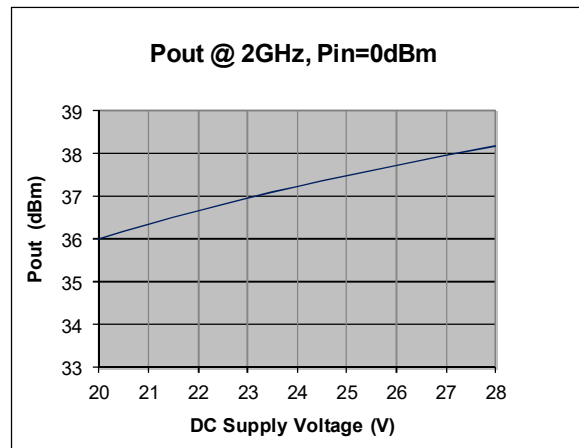
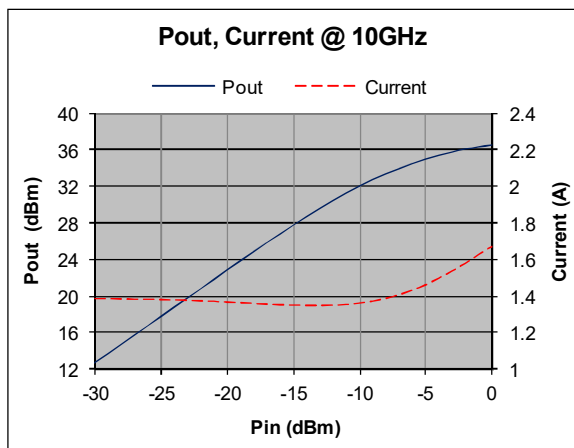
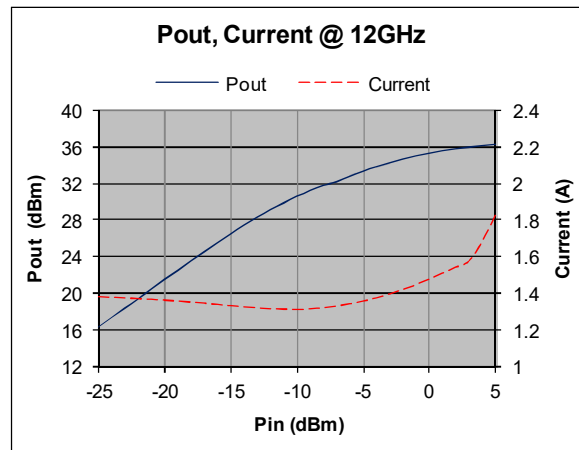
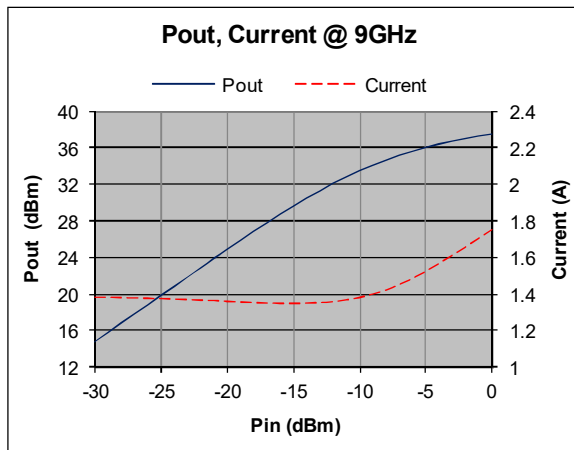
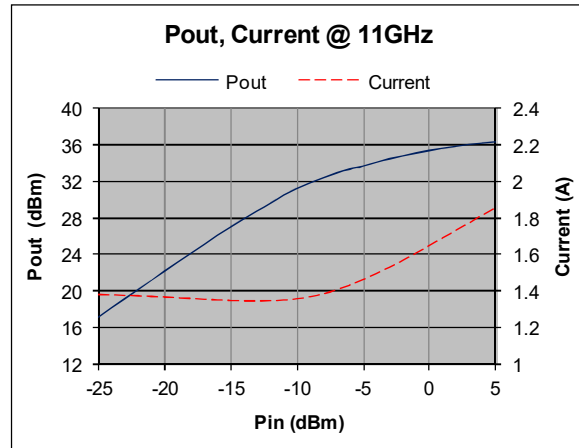
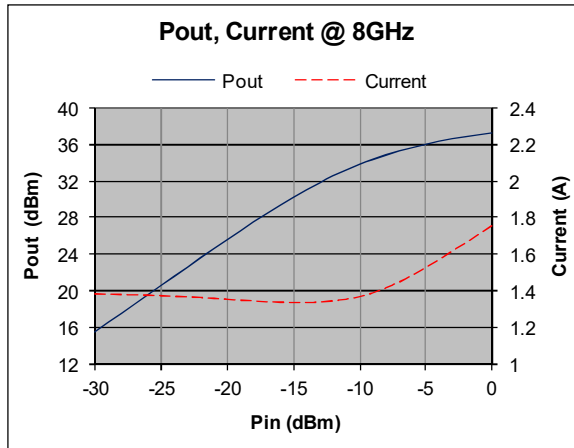
**Typical Performance @ +25 °C**



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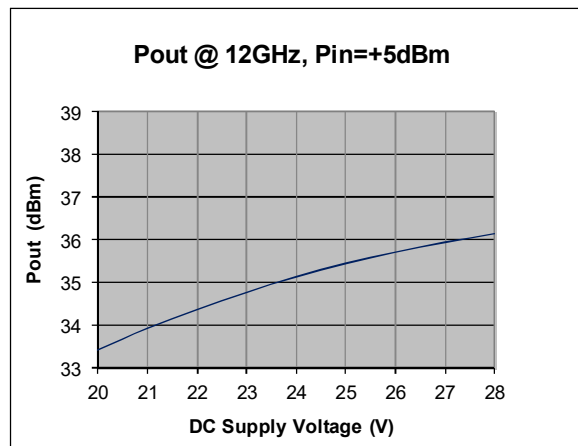
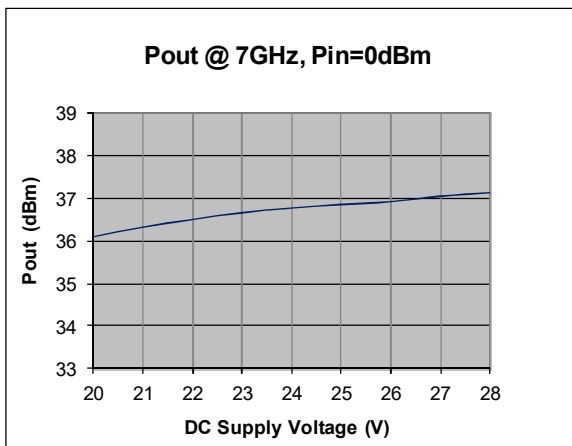
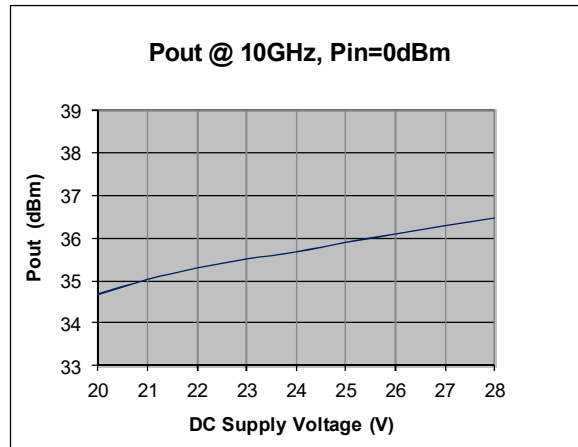
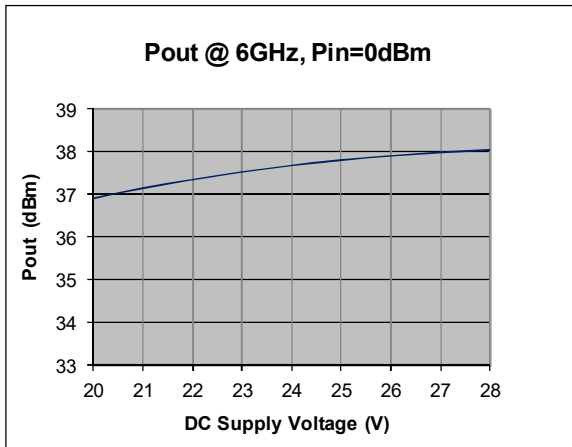
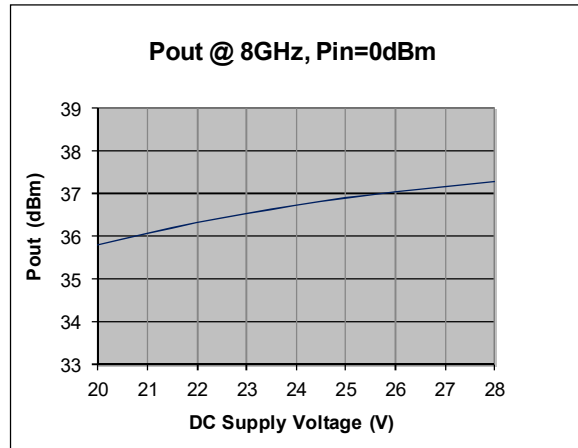
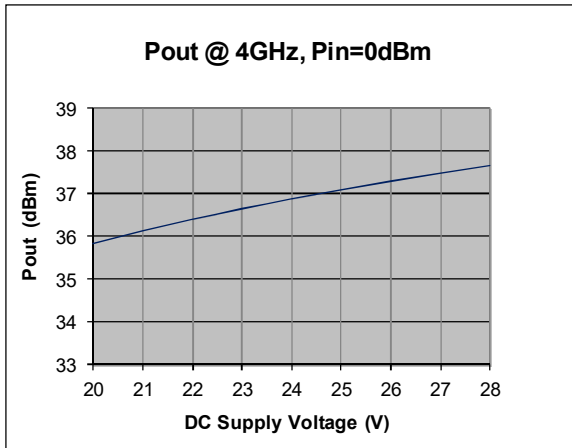
**Typical Performance @ +25 °C**



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**Absolute Maximum Ratings**

Parameter	Absolute Maximum
Supply Voltage	+29V
RF Input Power	+10dBm
Operating Temperature	-40 °C to +85 °C
Storage Temperature	-55 °C to +125 °C

**ESD Sensitive Material**

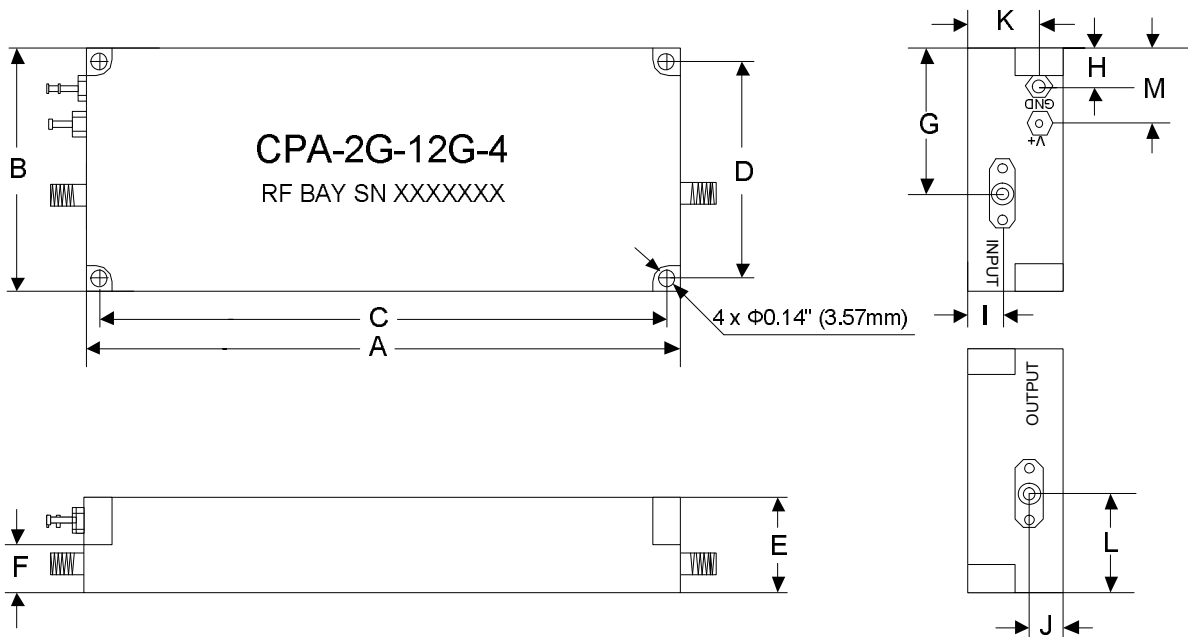


**WARNING:** 1) **MUST USE HEAT SINK. COOLING FAN RECOMMENDED.**  
2) **LOAD MUST BE CONNECTED TO AMPLIFIER OUTPUT AT ALL TIME IF DC POWER IS ON.**

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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					