

Cascadable Amplifier 1000 to 4000 MHz

Rev. V3

Features

- LOW NOISE FIGURE: 2.0 dB (TYP.)
- MEDIUM OUTPUT POWER: +18.3 dBm (TYP.)
- HIGH EFFICIENCY: 65 mA (TYP.) @ +5 Vdc
- PHEMT AMPLIFIER

Description

The A4011 microwave amplifier is a discrete hybrid design, which uses thin film manufacturing processes for accurate performance and high reliability. This single stage PHEMT feedback amplifier design displays impressive performance characteristics over a broadband frequency range. Both TO-8 and Surface Mount packages are hermetically sealed, and MIL-STD-883 environmental screening is available.

Ordering Information

Part Number	Package
A4011	TO-8
SMA4011	Surface Mount
CA4011 **	SMA Connectorized

** The connectorized version is not RoHs compliant.

Product Image



Electrical Specifications: $Z_0 = 50\Omega$, $V_{CC} = +5 V_{DC}$

Parameter	Units	Typical	Guaranteed	
		25°C	0° to 50°C	-54° to +85°C*
Frequency	GHz	0.8-4.5	1.0-4.0	1.0-4.0
Small Signal Gain (min)	dB	15.5	13.0	12.5
Gain Flatness (max)	dB	±0.4	±0.7	±1.0
Reverse Isolation	dB	16		
Noise Figure (max)	dB	2.0	2.7	3.2
Power Output @ 1 dB comp. (min)	dBm	18.3	16.5	16.0
IP3	dBm	+29		
IP2	dBm	+45		
Second Order Harmonic IP	dBm	+50		
VSWR Input / Output (max)		1.4:1 / 1.4:1	2.0:1 / 1.9:1	2.2:1 / 2.0:1
DC Current @ 5 Volts (max)	mA	65	70	75

Absolute Maximum Ratings

Parameter	Absolute Maximum
Storage Temperature	-62°C to +150°C
Case Temperature	+125°C
DC Voltage	+7 V
Continuous Input Power	+13 dBm
Short Term Input power (1 minute max.)	100 mW
Peak Power (3 μsec max.)	0.25 W
"S" Series Burn-In Temperature (case)	+125°C

Thermal Data: $V_{CC} = +5 V_{DC}$

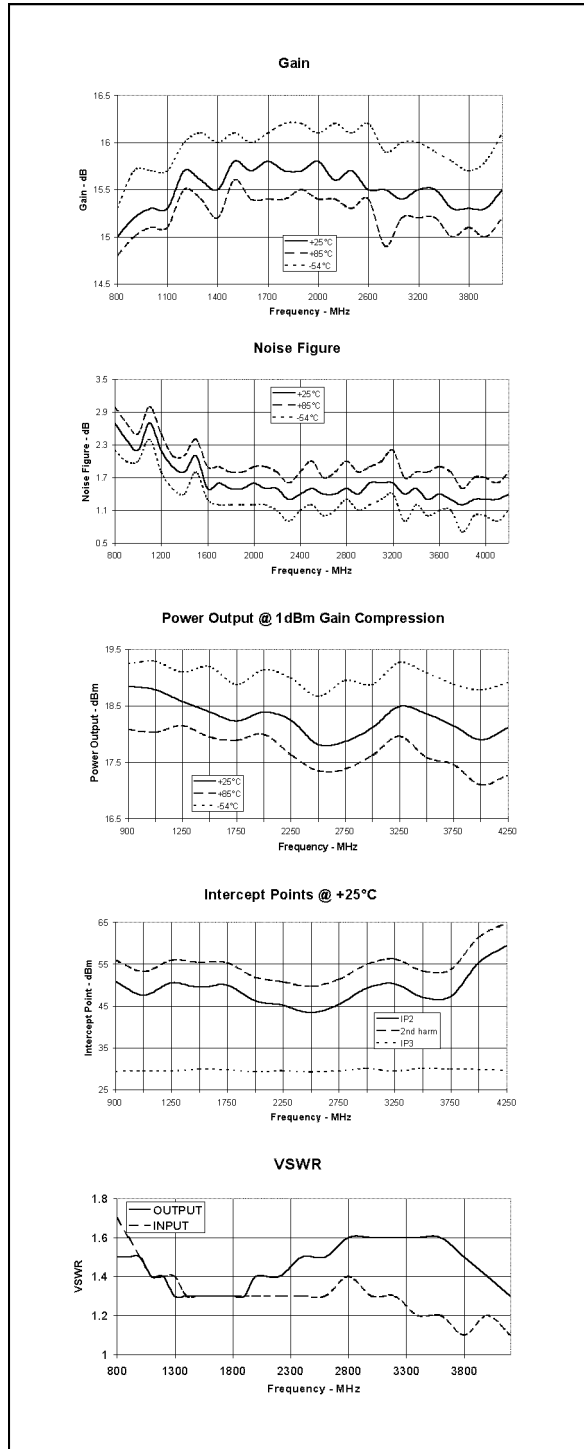
Parameter	Rating
Thermal Resistance θ_{jc}	47°C/W
Transistor Power Dissipation P_d	0.2 W
Junction Temperature Rise Above Case T_{jc}	+9.4°C

1 * Over temperature performance limits for part number CA4011, guaranteed from 0°C to +50°C only.

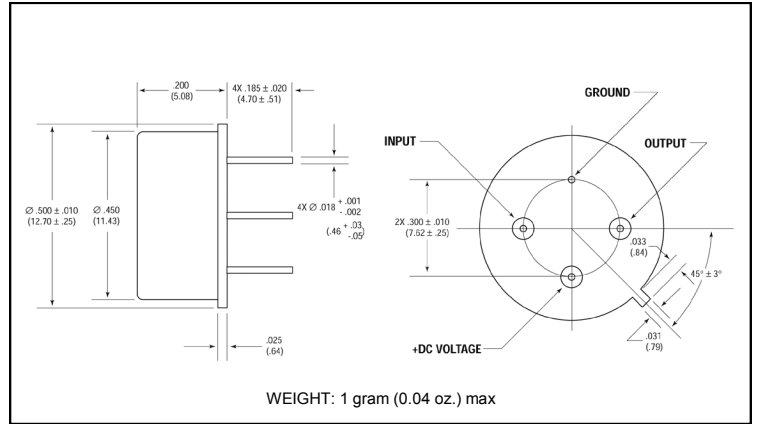
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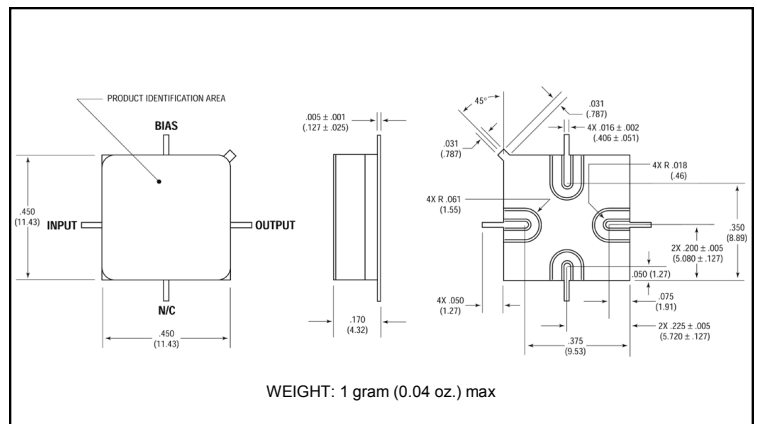
Typical Performance Curves at +25°C



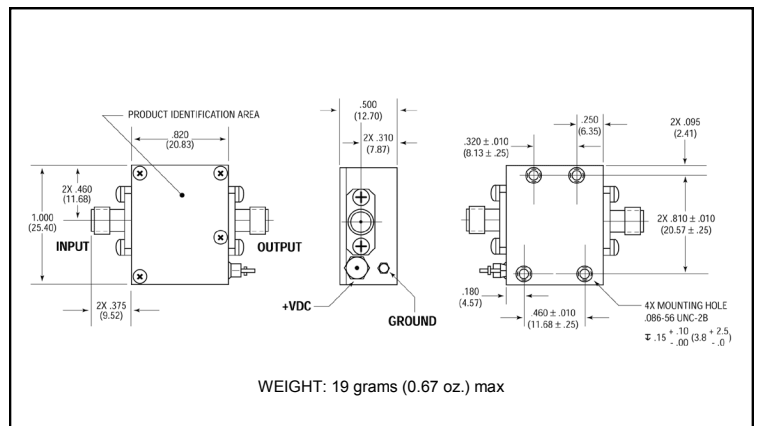
Outline Drawing: TO-8 *



Outline Drawing: Surface Mount *



Outline Drawing: SMA Connectorized *



* Dimensions are inches (millimeters) ±0.015 (0.38) unless otherwise specified.

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