

PA2010 / SMPA2010

Cascadable Amplifier
200 to 2000 MHz

Rev. V2

Features

- HIGH OUTPUT POWER: +25.5 dBm (TYP.)
- HIGH THIRD ORDER IP³: +33 dBm (TYP.)
- MODERATE NOISE FIGURE: 5.0 dBm (TYP.)
- LOW VSWR: 1.5:1 (TYP.)

Description

The PA2010 power amplifier is a discrete hybrid design, which uses thin film manufacturing processes for accurate performance and high reliability.

This single stage GaAs FET 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
PA2010	TO-8
SMPA2010	Surface Mount
MAAP-008326-CP2010	SMA Connectorized **

** The connectorized version is not RoHs compliant.

Product Image



Electrical Specifications: $Z_0 = 50\Omega$, $V_{CC} = +15 V_{DC}$

Parameter	Units	Typical	Guaranteed	
		25°C	0° to 50°C	-54° to +85°C*
Frequency	GHz	0.2-2.4	0.2-2.0	0.2-2.0
Small Signal Gain (min)	dB	10.0	9.0	8.5
Gain Flatness (max)	dB	±0.3	±0.7	±1.0
Reverse Isolation	dB	20		
Noise Figure (max)	dB	5.5	6.5	7.0
Power Output @ 1 dB comp. (min)	dBm	25.5	23.5	23.0
IP3	dBm	+33		
IP2	dBm	+50		
Second Order Harmonic IP	dBm	+55		
VSWR Input / Output (max)		1.8:1 / 1.5:1	1.9:1 / 1.7:1	2.0:1 / 1.8:1
DC Current @ 15 Volts (max)	mA	179	187	189

Absolute Maximum Ratings

Parameter	Absolute Maximum
Storage Temperature	-62°C to +150°C
Case Temperature	+85°C
DC Voltage	+17 V
Continuous Input Power	+17 dBm
Short Term Input power (1 minute max.)	100 mW
Peak Power (3 μsec max.)	0.5 W
"S" Series Burn-In Temperature (case)	+85°C

Thermal Data: $V_{CC} = +15 V_{DC}$

Parameter	Rating
Thermal Resistance θ_{jc}	50°C/W
Transistor Power Dissipation P_d	1.25 W
Junction Temperature Rise Above Case T_{jc}	+63°C

* Over temperature performance limits for part number CPA2010, guaranteed from 0°C to +50°C only.

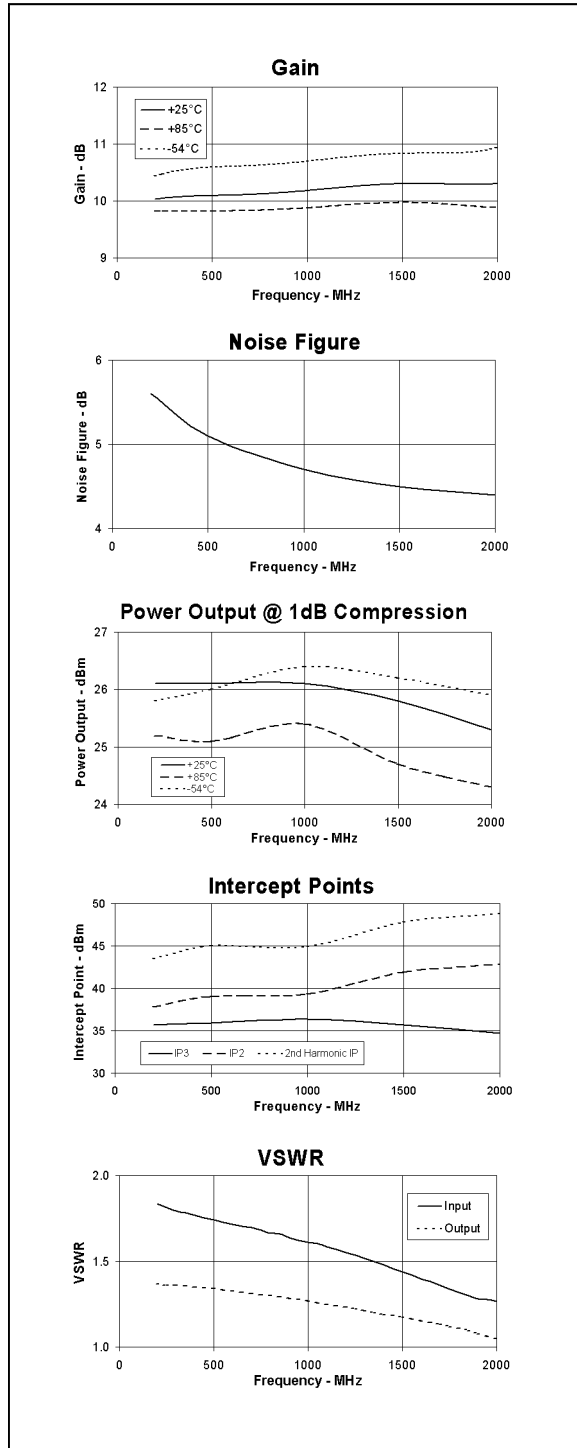
ADVANCED: Data Sheets contain information regarding a product M/A-COM Technology Solutions is considering for development. Performance is based on target specifications, simulated results, and/or prototype measurements. Commitment to develop is not guaranteed.

PRELIMINARY: Data Sheets contain information regarding a product M/A-COM Technology Solutions has under development. Performance is based on engineering tests. Specifications are typical. Mechanical outline has been fixed. Engineering samples and/or test data may be available. Commitment to produce in volume is not guaranteed.

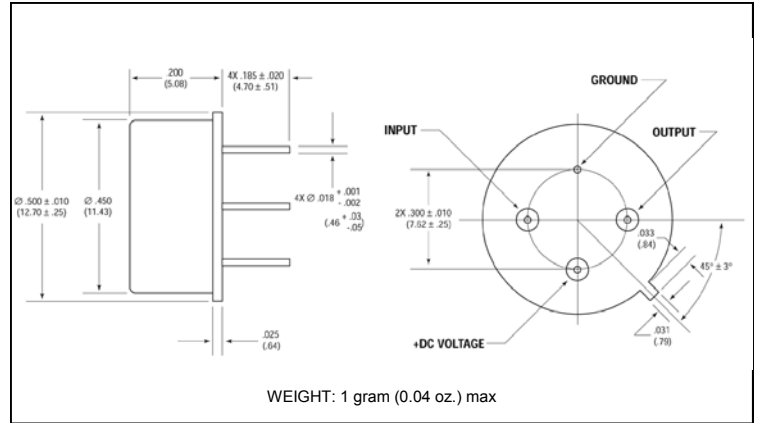
• **North America** Tel: 800.366.2266 • **Europe** Tel: +353.21.244.6400
 • **India** Tel: +91.80.4155721 • **China** Tel: +86.21.2407.1588
 Visit www.macomtech.com for additional data sheets and product information.

M/A-COM Technology Solutions Inc and its affiliates reserve the right to make changes to the products and information contained herein without notice.

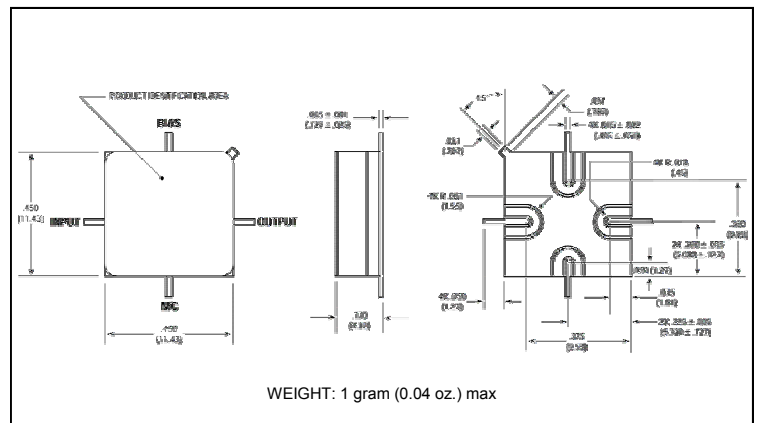
Typical Performance Curves at +25°C



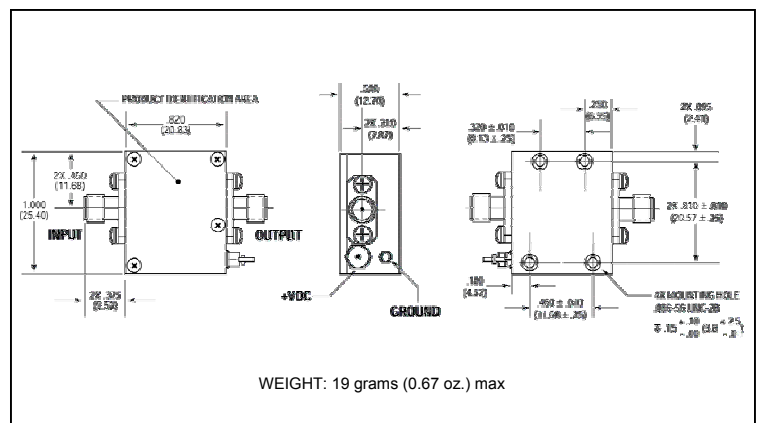
Outline Drawing: TO-8 *



Outline Drawing: Surface Mount *



Outline Drawing: SMA Connectorized *



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

ADVANCED: Data Sheets contain information regarding a product M/A-COM Technology Solutions is considering for development. Performance is based on target specifications, simulated results, and/or prototype measurements. Commitment to develop is not guaranteed.
PRELIMINARY: Data Sheets contain information regarding a product M/A-COM Technology Solutions has under development. Performance is based on engineering tests. Specifications are typical. Mechanical outline has been fixed. Engineering samples and/or test units may be available. Commitment to produce in volume is not guaranteed.

• **North America** Tel: 800.366.2266 • **Europe** Tel: +353.21.244.6400
 • **India** Tel: +91.80.4155721 • **China** Tel: +86.21.2407.1588
 Visit www.macomtech.com for additional data sheets and product information.

M/A-COM Technology Solutions and its affiliates reserve the right to make changes to the products and information contained herein without notice.