tyco Electronics

MACOM

Cascadable Amplifier
5 to 1500 MHz

A25 / SMA25

V2

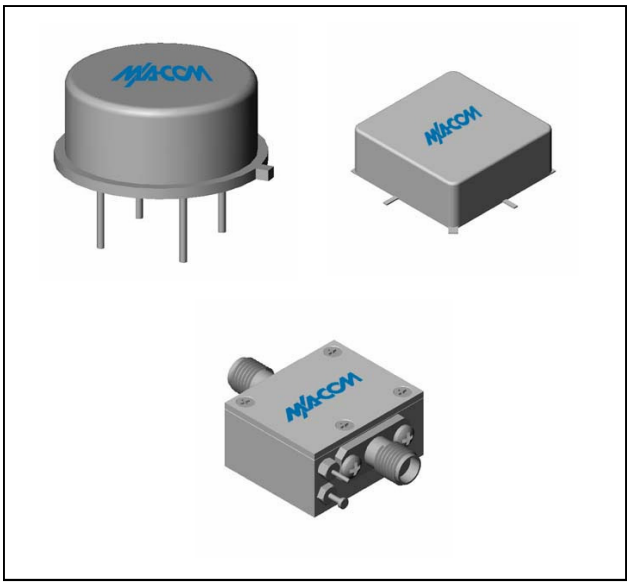
Features

- MEDIUM OUTPUT LEVEL: +9 dBm (TYP.)
- WIDE POWER SUPPLY RANGE: +8 TO +15 VOLTS

Description

The A25 RF amplifier is a discrete hybrid design, which uses thin film manufacturing processes for accurate performance and high reliability.
This single stage bipolar transistor feedback amplifier design displays impressive performance over a broadband frequency range. Both TO-8 and Surface Mount packages are Hermetically sealed, and MIL-STD-883 environmental screening is available.

Product Image



Ordering Information

Part Number	Package
A25	TO-8
SMA25	Surface Mount
CA25	SMA Connectorized

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

Parameter	Units	Typical	Guaranteed	
		25ºC	0º to 50ºC	-54º to +85ºC*
Frequency	MHz	1-1600	5-1500	5-1500
Small Signal Gain (min)	dB	10.0	9.0	8.0
Gain Flatness (max)	dB	±0.3	±0.6	±1.0
Reverse Isolation	dB	20		
Noise Figure (max)	dB	6.0	7.5	8.0
Power Output @ 1 dB comp. (min)	dBm	9.0	7.0	6.5
IP3	dBm	+21		
IP2	dBm	+33		
Second Order Harmonic IP	dBm	+38		
VSWR Input / Output (max)		1.5:1 / 1.5:1	2.0:1 / 2.0:1	2.1:1 / 2.1:1
DC Current @ 15 Volts (max)	mA	24	27	29

Absolute Maximum Ratings

Parameter	Absolute Maximum
Storage Temperature	-62ºC to +125ºC
Case Temperature	+125ºC
DC Voltage	+17 V
Continuous Input Power	+13 dBm
Short Term Input power (1 minute max.)	50 mW
Peak Power (3 µsec max.)	0.5 W
"S" Series Burn-In Temperature (case)	+125ºC

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

Parameter	Rating
Thermal Resistance θ_{jc}	45ºC/W
Transistor Power Dissipation P_d	0.183 W
Junction Temperature Rise Above Case T_{jc}	+8ºC

* Over temperature performance limits for part number CA25, guaranteed from 0°C to +50°C only.

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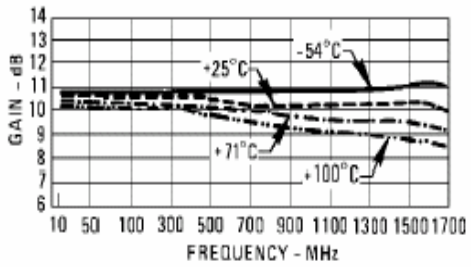
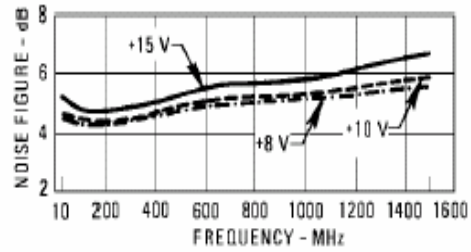
5 to 1500 MHz

Typical Performance Curves at +25°C

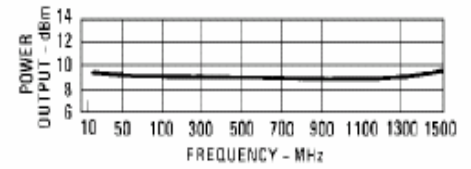
Gain



Noise Figure

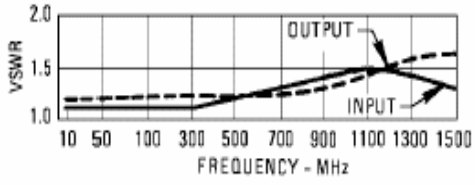


Power Output*

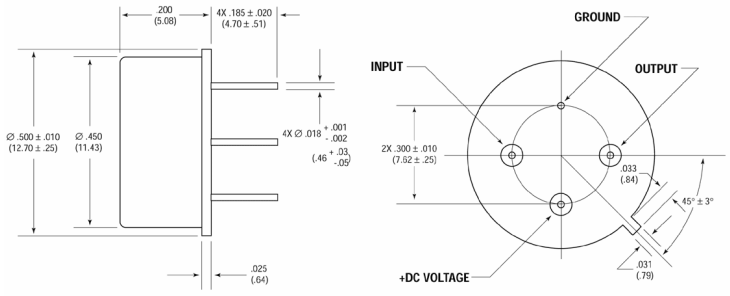


* at 1 dB Gain Compression

VSWR

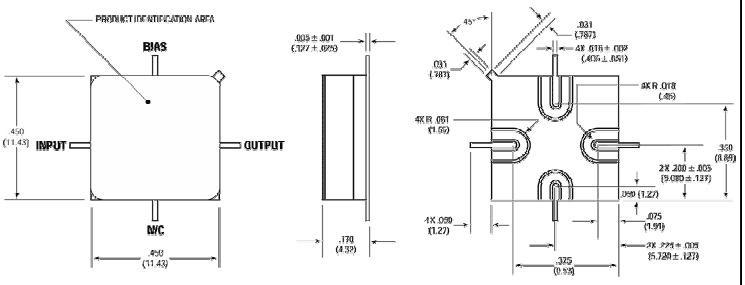


Outline Drawing: TO-8 *



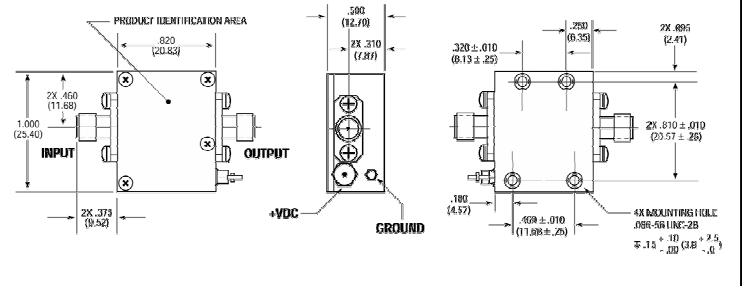
WEIGHT: 1 gram (0.04 oz.) max

Outline Drawing: Surface Mount *



WEIGHT: 1 gram (0.04 oz.) max

Outline Drawing: SMA Connectorized *



WEIGHT: 19 grams (0.67 oz.) max

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

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