

RoHS Compliant



PA38-2/SMPA38-2

V3

Cascadable Amplifier 200 to 2600 MHz

Features

• WIDE BANDWIDTH: 200-2800 MHz (TYP.)

• HIGH OUTPUT LEVEL: +23.5 dBm (TYP.)

GaAs FET AMPLIFIER

• HIGH THIRD ORDER I.P.: +33 dBm (TYP.)

Description

The PA38-2 RF amplifier is a discrete hybrid design, which uses thin film manufacturing processes for accurate performance and high reliability.

This two 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	
PA38-2	TO-8	
SMPA38-2	Surface Mount	
CPA38-2 **	SMA Connectorized	

^{**} The connectorized version is not RoHs compliant.

Product Image



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

Doromotor	Units	Typical	Guaranteed	
Parameter		25°C	0° to 50°C	-54° to +85°C*
Frequency	GHz	0.2-2.8	0.2-2.6	0.2-2.6
Small Signal Gain (min)	dB	8.5	7.5	7.0
Gain Flatness (max)	dB	±0.2	±0.7	±1.0
Reverse Isolation	dB	16		
Noise Figure (max)	dB	4.5	5.5	6.0
Power Output @ 1 dB comp. (min)	dBm	23.5	22.0	21.4
IP3	dBm	+33		
IP2	dBm	+50		
Second Order Harmonic IP	dBm	+55		
VSWR Input / Output (max)		1.2:1 / 1.5:1	1.9:1 / 1.9:1	2.0:1 / 2.0:1
DC Current @ 15 Volts (max)	mA	150	158	160

Absolute Maximum Ratings

Parameter	Absolute Maximum	
Storage Temperature	-62°C to +125°C	
Case Temperature	85°C	
DC Voltage	+16 V	
Continuous Input Power	+17 dBm	
Short Term Input power (1 minute max.)	100 mW	
Peak Power (3 µsec max.)	1 W	
"S" Series Burn-In Temperature (case)	85°C	

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

Parameter	Rating	
Thermal Resistance θ_{jc}	125°C/W	
Transistor Power Dissipation P _d	0.578 W	
Junction Temperature Rise Above Case T _{jc}	72°C	

^{*} Over temperature performance limits for part number CPA38-2, guaranteed from 0°C to +50°C only.

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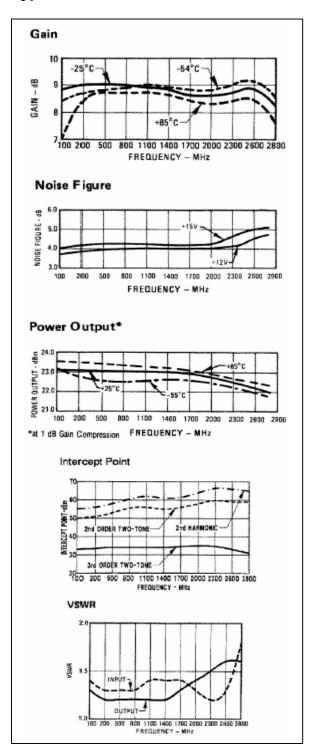
RoHS Compliant



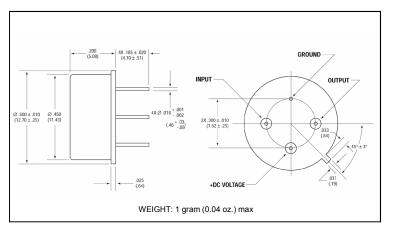
Cascadable Amplifier 200 to 2600 MHz

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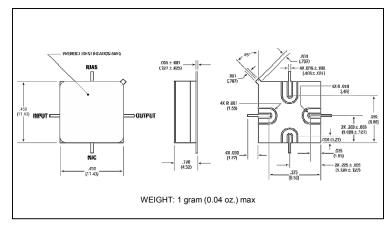
Typical Performance Curves at +25°C



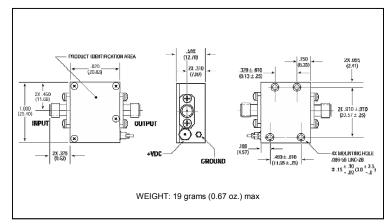
Outline Drawing: TO-8 *



Outline Drawing: Surface Mount



Outline Drawing: SMA Connectorized *



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