

Cascadable Amplifier

10 to 500 MHz

Features

- AVAILABLE IN SURFACE MOUNT
- SYMMETRICAL CLIPPING
GOOD EVEN-ORDER SUPPRESSION
- HIGH OUTPUT LEVEL: +17 dBm (TYP.)
- HIGH THIRD-ORDER IP: +28 dBm (TYP.)

Description

The LA88 limiting amplifier is a discrete hybrid design, which uses thin film manufacturing processes for accurate performance and high reliability.

This design uses a Schottky diode limiter circuit at the input, and a single stage bipolar transistor feedback amplifier at the output. An RF choke is used for DC power supply decoupling. Both TO-8 and Surface Mount packages are hermetically sealed, and MIL-STD-883 environmental screening is available.

Ordering Information

Part Number	Package
SMLA88	Surface Mount
CLA88 **	SMA Connectorized

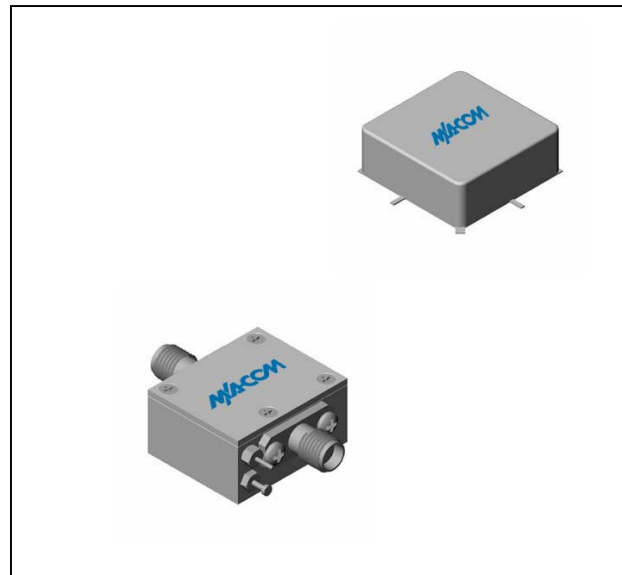
** The connectorized version is not RoHS compliant.

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	MHz	10-600	10-500	10-500
Small Signal Gain (min)	dB	16.5	16.0	15.0
Gain Flatness (max)	dB	±0.2	±0.5	±0.7
Noise Figure (max)	dB	6.0	6.5	7.0
Power Output @ 1 dB comp. (min)	dBm	+17.0	+15.0	+13.0
Output Limiting Level (max) Pin = +20 dBm	dBm	+20.5	+21.0	+22.5
VSWR Input / Output (max)		1.7:1	1.9:1	2.0:1
DC Current @ 15 Volts (max)	mA	89	91	93

* Over temperature performance limits for part number CLA88, guaranteed from 0°C to +50°C only.

Product Image



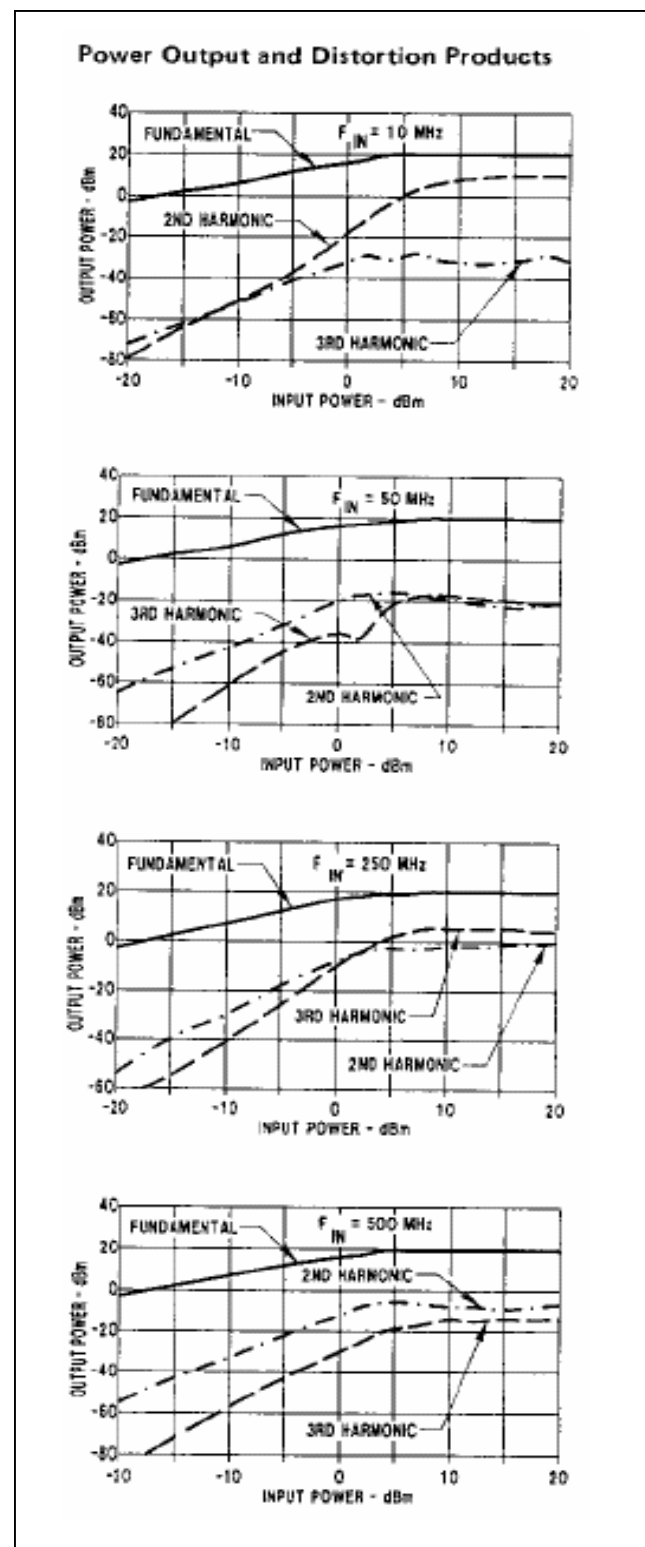
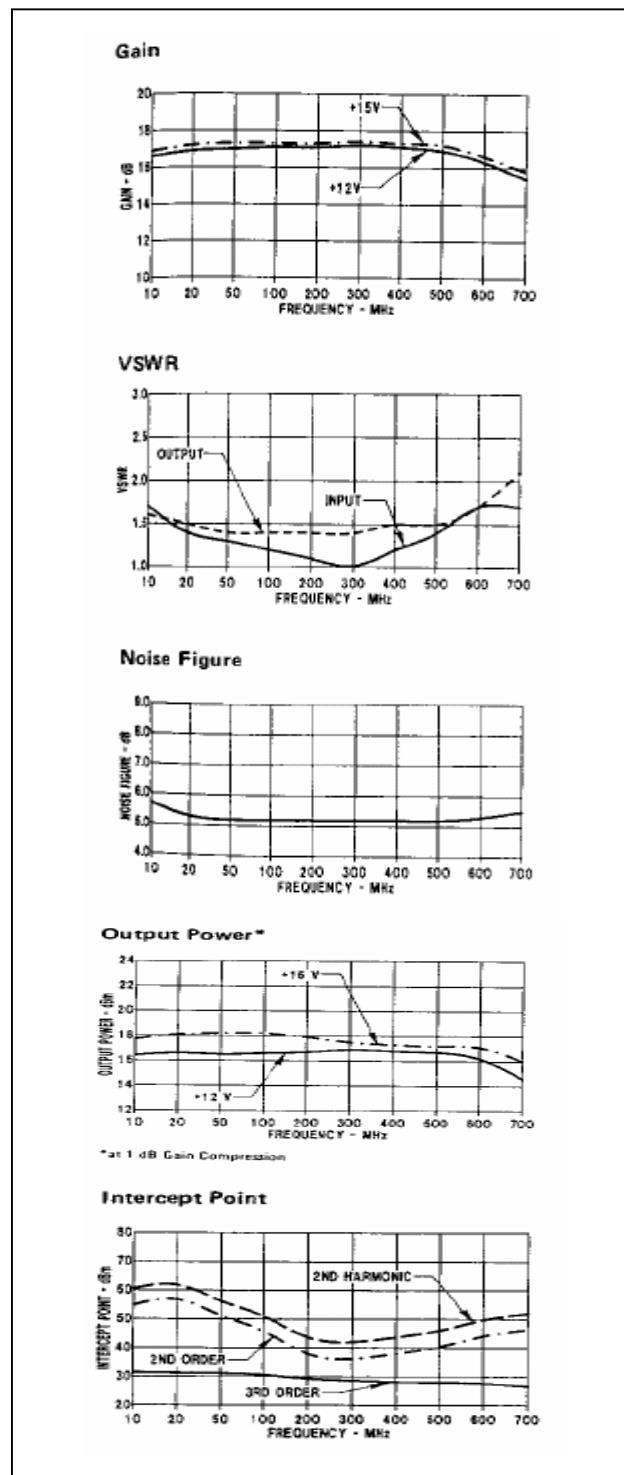
Absolute Maximum Ratings

Parameter	Absolute Maximum
Storage Temperature	-62°C to +125°C
Maximum Case Temperature	125°C
Maximum DC Voltage	+17 V
Maximum Continuous Input Power	+23 dBm
Maximum Short Term Input power (1 minute max.)	400 mW
Maximum Peak Power (3 µsec max.)	1 W
"S" Series Burn-In Temperature (case)	+125°C

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

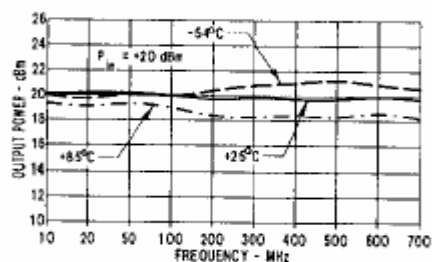
Parameter	Rating
Thermal Resistance θ_{jc}	°C/W
Transistor Power Dissipation P_d	W
Junction Temperature Rise Above Case T_{jc}	°C

Typical Performance Curves at +25°C

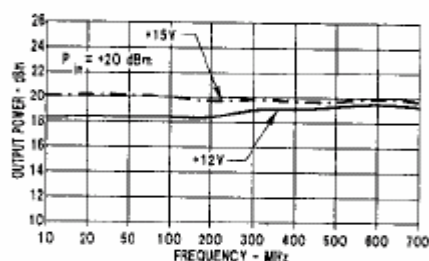


Typical Performance Curves at +25°C

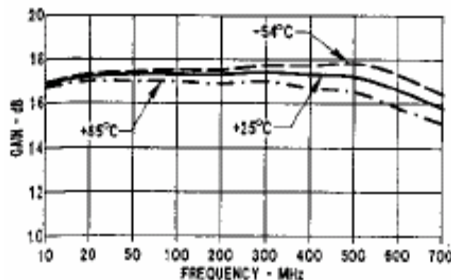
Maximum Limiting vs. Temperature



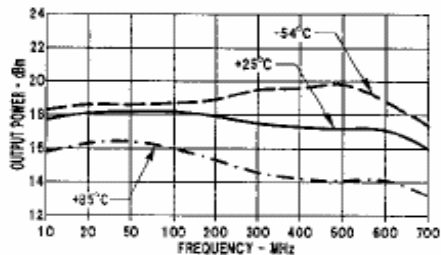
Maximum Limiting Level



Gain vs. Temperature

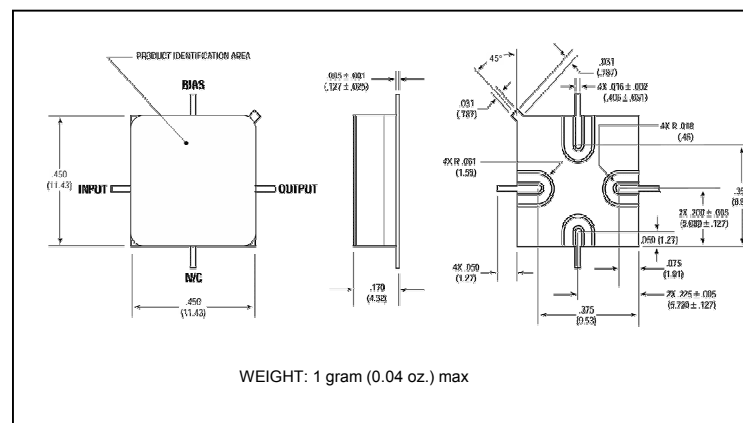


Output Power vs. Temperature*

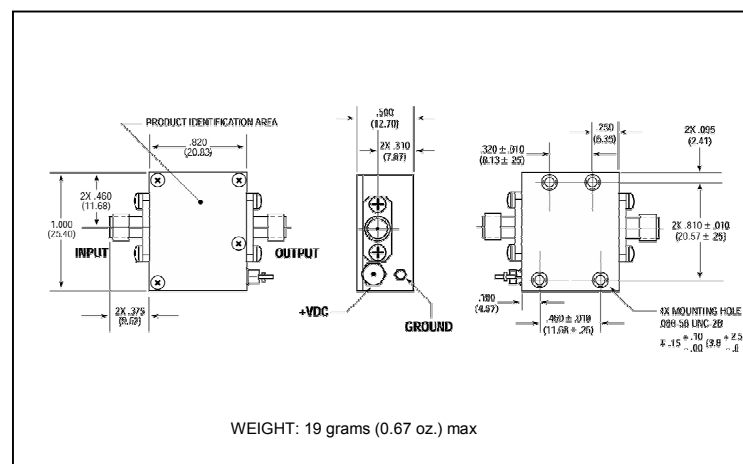


*at 1 dB Gain Compression

Outline Drawing: Surface Mount *



Outline Drawing: SMA Connectorized *



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