

## Product Features

- GaAs Push Pull
- Extremely Low Distortion
- Guaranteed Broadband Power Gain
- Heat Sink 99.9% Copper, & Gold Plated
- Excellent Thermal Conductivity
- Single Supply Voltage @ 24V
- Low DC Power Consumption
- Optimal Reliability

## Application

- CATV Trunk Amplifier
- Optical Drive Amplifier



Package Type: SOT-115J

## Description

Hybrid Push Pull amplifier for CATV Systems up to 870MHz in frequency.

This hybrid amplifier module operates with a single voltage supply of 24V (DC), and use GaAs MMIC technology.

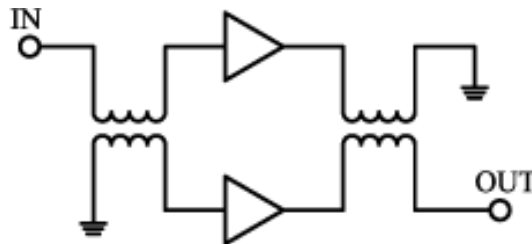
## Quick Reference Data

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
$G_p$	Power Gain	F = 50 MHz	18.5	19.5	dB
		F = 870 MHz	19.5	21	dB
$I_{tot}$	Total Current Consumption (DC)	$V_{cc} = 24V$	-	240	mA

## Limiting Values

SYMBOL	PARAMETER	MIN.	MAX.	UNIT
$V_i$	RF Input Voltage (Single Tone)	-	+70	dBmV
V	DC Supply Over Voltage (5 minutes)		28	V
$T_{stg}$	Storage Temperature	-40	+100	°C
$T_{mb}$	Operating Mounting Base Temperature	-20	+100	°C

## Functional Diagram



## CHARACTERISTICS

Bandwidth 45 to 870MHz;  $V_{CC} = 24V$ ;  $T_{case} = 25^{\circ}C$ ;  $Z_S = Z_L = 75\Omega$

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
$G_p$	Power Gain	f = 45 MHz	18.5	-	19.5	dB
		f = 870 MHz	19.5	-	21.0	dB
SL	Slope Cable Equivalent	f = 45 to 870 MHz	-	1.0	-	dB
FL	Flatness of Frequency Response	f = 45 to 870 MHz	-	-	0.5	dB
$S_{11}$	Input Return Loss	f = 45 to 80 MHz	20.0	-	-	dB
		f = 80 to 160 MHz	20.0	-	-	dB
		f = 160 to 320 MHz	19.0	-	-	dB
		f = 320 to 640 MHz	18.0	-	-	dB
		f = 640 to 870 MHz	16.0	-	-	dB
$S_{22}$	Output Return Loss	f = 45 to 80 MHz	20.0	-	-	dB
		f = 80 to 160 MHz	20.0	-	-	dB
		f = 160 to 320 MHz	19.0	-	-	dB
		f = 320 to 640 MHz	18.0	-	-	dB
		f = 640 to 870 MHz	16.0	-	-	dB
F	Noise Figure	f = 45 MHz	-	4.5	-	dB
		f = 550 MHz	-	5.2	-	dB
		f = 750 MHz	-	5.8	-	dB
		f = 870 MHz	-	6.0	-	dB
$I_{tot}$	Total Current Consumption (DC)		200	220	240	mA

## DISTORTION

Bandwidth 45 to 870MHz;  $V_{CC} = 24V$ ;  $T_{case} = 25^{\circ}C$ ;  $Z_S = Z_L = 75\Omega$

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
CTB	Composite Triple Beat	135 channel flat; $V_o = 40dBmV$	-	-60	-57	dBc
XMOD	Cross Modulation	135 channel flat; $V_o = 40dBmV$	-	-55	-53	dBc
CSO	Composite Second Order Distortion	135 channel flat; $V_o = 40dBmV$	-	-62	-58	dBc

Notes;

135 Channels, NTSC frequency raster: 55.25MHz to 859.25MHz, +40dBmV flated output level.

CTB, XMOD, CSO definitions follow NCTA definition

## ESD PROTECTION

Gallium Arsenide Integrated Circuits are sensitive to electrostatic discharge (ESD) and can be damaged by static electricity. Proper ESD control techniques should be used when handling these devices. Some of the precautions recommended are;

- Person at a workbench should be earthed via a wrist strap and a resistor.
- All mains-powered equipment should be connected to the mains via an earth-leakage switch.
- Equipment cases should be grounded.
- Relative humidity should be maintained between 40% and 50%.
- An ionizer is recommended.
- Keep static materials, such as plastic envelopes and plastic trays etc. away from the workbench.

