

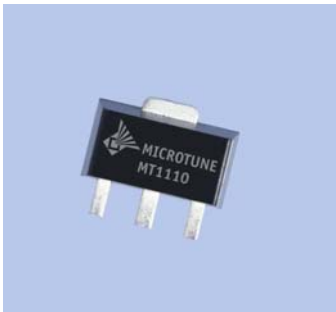


M I C R O T U N E®

## MT1110 RF AMPLIFIER

### PRODUCT BRIEF

The MT1110 RF amplifier is designed for broadband CATV distribution, car TV applications, and infrastructure applications.



*MT1110 RF Amplifier*

### RF SILICON AND SUBSYSTEMS SOLUTIONS FOR BROADBAND COMMUNICATIONS AND AUTOMOTIVE ELECTRONICS

The Microtune MT1110 radio frequency (RF) amplifier is a 75Ω internally matched amplifier designed for broadband CATV distribution, car TV applications, and infrastructure applications.

The MT1110 is built using high-performance silicon-germanium (SiGe) technology and offers 15 dB gain with an industry best noise figure of 3.0 dB. It achieves a third-order intercept point of 80 dBmV while drawing the industry's lowest current, 76 mA, from a single 5V supply.

The MT1110's Darlington circuit topology produces high linearity with very low noise, while maintaining matched input and output impedances. Two AC coupling capacitors, a bias resistor, and an optional inductor are the only external components required.

The MT1110 is available in an SOT-89 package for the extended industrial and automotive temperature range of -40°C to +85°C.

The MT1110 is highly suitable for applications such as car TV antenna amplifiers or splitters for car TV receivers.

### APPLICATIONS

- Set-top box
- Home gateways
- CATV broadband distribution
- Cable splitters
- Laser drivers
- Optical receivers
- Car TV antenna amplifiers
- Splitters for car TV receivers
- Wireless data
- PA driver amplifier
- IF amplifier

### FEATURES

- Cascadable 75Ω gain block
- 15 dB gain
- 3 dB noise figure
- Unconditionally stable
- 20 dB input return loss
- 1 MHz to 1600 MHz 3 dB bandwidth
- Typical OIP3 at 76 mA is 80 dBmV at 850 MHz
- Single 5V supply
- Adjustable current consumption
- SOT-89 package
- Industry standard pin-out for drop-in compatibility

M I C R O T U N E

# MT1110 RF AMPLIFIERS

## PRODUCT BRIEF

### AC ELECTRICAL CHARACTERISTICS

PARAMETER	MIN	TYP	MAX	UNIT
Power gain		15		dB
3 dB gain bandwidth	1		1600	MHz
Noise figure		3		dB
Composite triple beat				
79 channels, output = 25 dBmV/tone		-72		dBc
112 channels, output = 25 dBmV/tone		-71		dBc
132 channels, output = 25 dBmV/tone		-70		dBc
Composite second order (sum)				
79 channels, output = 25 dBmV/tone		-61		dBc
112 channels, output = 25 dBmV/tone		-58		dBc
132 channels, output = 25 dBmV/tone		-53		dBc
Composite second order (difference)				
79 channels, output = 25 dBmV/tone		-54		dBc
112 channels, output = 25 dBmV/tone		-53		dBc
132 channels, output = 25 dBmV/tone		-52		dBc
Cross modulation				
79 channels, output = 25 dBmV/tone		-68		dBc
112 channels, output = 25 dBmV/tone		-65		dBc
132 channels, output = 25 dBmV/tone		-63		dBc

### TYPICAL APPLICATION

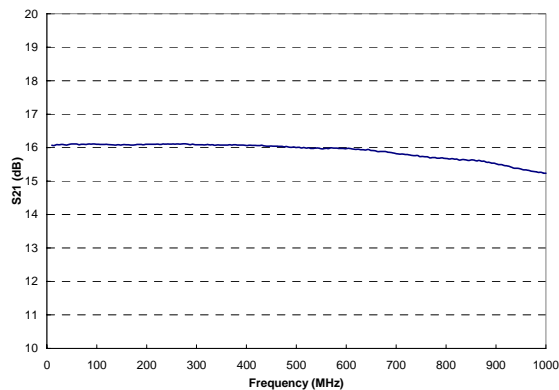
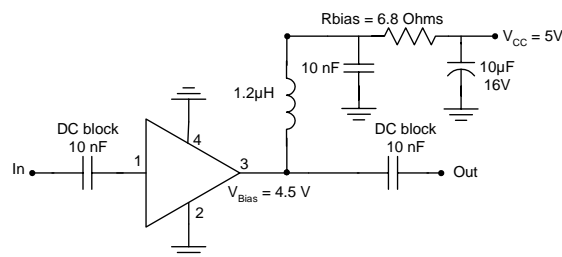


Figure 1 Power Gain vs. Frequency

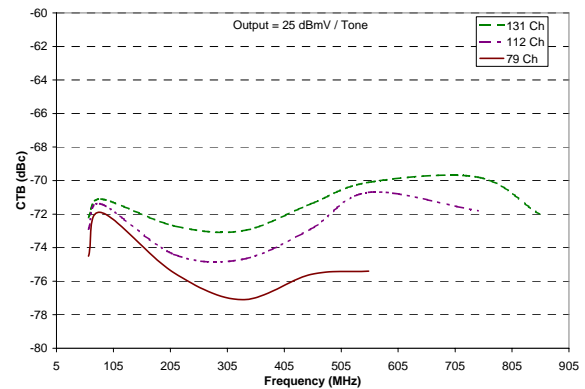


Figure 2 CTB vs. Frequency

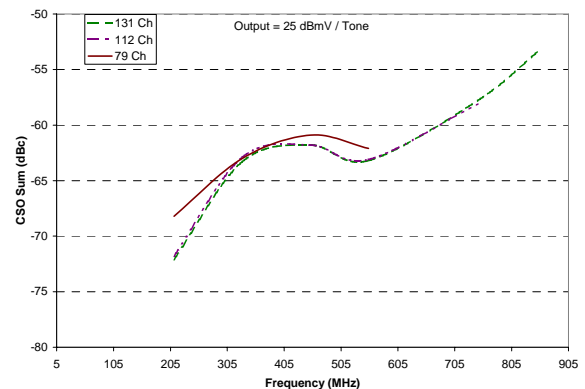


Figure 3 CSO Sum vs. Frequency

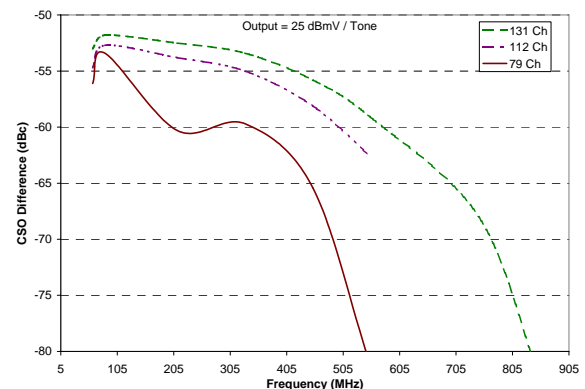


Figure 4 CSO Difference vs. Frequency



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