

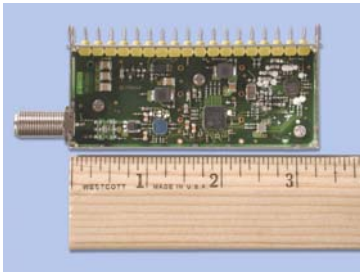


M I C R O T U N E®

RF SILICON AND SUBSYSTEMS SOLUTIONS  
FOR BROADBAND COMMUNICATIONS AND AUTOMOTIVE ELECTRONICS

## MT5100 VIDEOCASTER™ SINGLE-CHANNEL UPCONVERTER MICROMODULE PRODUCT BRIEF

The MT5100 VideoCaster is a single-channel upconverter designed to reduce space, power and costs for Video-on-Demand (VOD), Satellite Master Antenna Television networks (SMATV) and low-cost upconverter solutions.



The Microtune® MT5100 VideoCaster is a high-quality, fully tested, frequency agile upconverter solution designed specifically for high-density and low-cost upconverter systems.

The subsystem converts an IF signal with a bandwidth of up to 16 MHz (two adjacent IF signals) and centered at an intermediate frequency of 36.125 MHz or 44.00 MHz to any RF output frequency between 50 MHz and 860 MHz. The output level can be adjusted in step sizes of 0.1 dB between 45 dBmV and 58 dBmV.

The VideoCaster micromodule reduces development time for designers by providing a fully-tested upconverter module and reference control software that can simplify integration into new or existing networks.

## APPLICATIONS

- Video On Demand (VOD) and other digital on-demand content
- SMATV solutions for hospitals, hotels, apartments and other closed circuit broadband systems
- Low-cost upconverter solutions
- IF-to-RF converter solutions

## FEATURES

- IF input selectable between 36.125 MHz and 44.00 MHz
- Fully programmable via 2-wire serial interface
- 50 MHz to 860 MHz output programmable in 12.5 kHz steps
- Output power adjustable from 45 dBmV to 58 dBmV in 0.1 dB steps
- Built-in fault detection ensures robust system operation
- Built-in, factory calibrated power detector allows accurate setting and monitoring of the output level via 2-wire serial control interface
- Capable of converting two adjacent IF channels of up to 8 MHz bandwidth each
- Scalable solution
- Conserves space, power and cost
- Reduces development time

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# MT5100 VIDEOCASTER

## PRODUCT BRIEF

### OPERATING CHARACTERISTICS

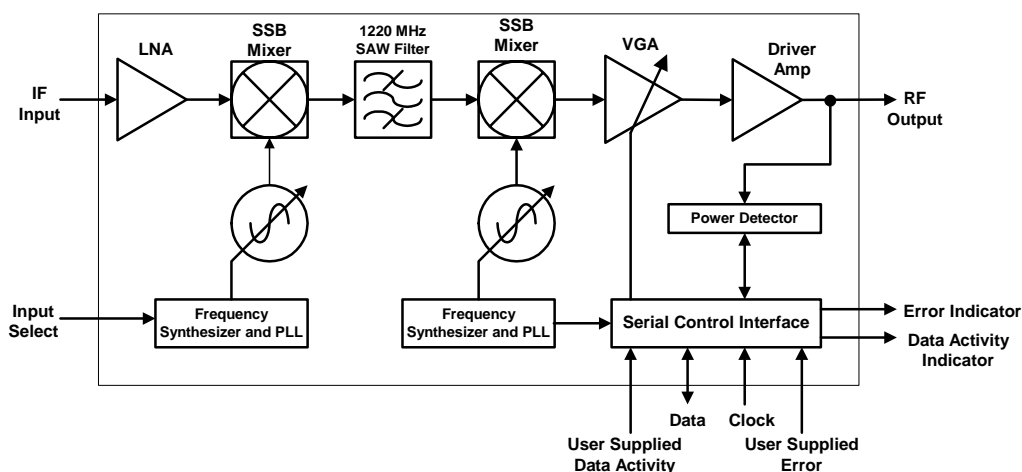
| PARAMETER                         | MIN   | TYP | MAX   | UNIT |
|-----------------------------------|-------|-----|-------|------|
| Power supply voltage              | 5.8   | 6   | 6.2   | V    |
| Power from supply                 |       |     | 7.2   | W    |
| Ambient operating temperature     | 0     |     | 90    | °C   |
| Airflow over module               |       | .5  |       | m/s  |
| ESD protection, human body model  | -1000 |     | +1000 | V    |
| 2-wire serial bus input voltage   |       |     | 3.3   | V    |
| 2-wire serial bus input frequency |       |     | 100   | kHz  |

### ABSOLUTE MAXIMUM RATINGS

| PARAMETER                 | MIN | TYP | MAX | UNIT |
|---------------------------|-----|-----|-----|------|
| Supply voltage            |     |     | 6.5 | V    |
| Storage temperature range | -40 |     | +85 | °C   |

### SPECIFICATIONS

| PARAMETER                 | MIN  | TYP    | MAX | UNIT |
|---------------------------|------|--------|-----|------|
| Input frequency           |      | 44.00  |     | MHz  |
| Alternate input frequency |      | 36.125 |     | MHz  |
| Input impedance           |      | 75     |     | Ω    |
| Output frequency          | 50   |        | 860 | MHz  |
| Output impedance          |      | 75     |     | Ω    |
| Max. Gain                 | 21   | 23     | 25  | dB   |
| Frequency step size       | 12.5 |        |     | kHz  |



MT5100 Block Diagram



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