Philips Semiconductors

Based on a revolutionary concept, the TDA827x single-chip tuner family simplifies the design of cable receivers, freeing engineers from many of the constraints of traditional tuner design.
Supporting DOCSIS, EURODOCSIS, DVB-C and OpenCable, these PAL/NTSC-compliant ICs meet the requirements of all cable modem and analog/digital TV solutions.

TDA827x cable silicon tuner IC

Single-chip 3.3 V silicon tuner IC

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Applications

- Cable modem
- Set-top box
- Cable analog TV
- Cable digital TV
- VoIP
- Cable broadband internet
- Out-of-band tuner
- PC-TV add-on cards
- PDA

Key features

- Single-chip 3.3 V cable tuner
- Single supply voltage
- Low power consumption
- Supports all world Cable standards
- PAL/NTSC compliant
- RF splitter for loop-through and out-of-band functions
- Combination of wideband and in-band automatic gain control
- Symmetrical IF output for direct connection to channel decoder
- Fully integrated oscillators with no external components
- Fully integrated selectivity
- Crystal oscillator output buffer to drive channel decoder
- I²C bus protocol compatible with 1.8 V, 2.5 V, 3.3 V and 5 V microcontrollers
- Operating range from –40°C to +85°C for outdoor applications
- Integrated IF amplifier

Based on Philips Semiconductors' new 'Silicon Tuner' concept, the TDA827x family simplifies front-end designs for mainstream cable reception. It supports all world cable standards and is ideal for cable broadcast applications including both analog and digital TV, as well as cable modems in high speed internet devices. Delivering efficient, robust performance the TDA827x family uses a specific proprietary architecture to convert RF inputs into low IF signals for channel decoding. Patented technology and a highly innovative architecture has enabled a reduction in external components resulting in an extremely cost effective tuner solution.

The input signal is amplified in the on-chip low noise amplifier (also used as splitter) before being filtered and passed to the image rejection mixer, where the RF signal is downconverted to a low IF signal which is then filtered again (on-chip channel selectivity) before being delivered to the channel decoder. Through an optimal partitioning of functionalities within the system, there is NO need for external SAW filters and IF amplifier to ensure selectivity.
The VCO is also fully integrated, with no external tank component; and does not need a high voltage to tune the oscillator. Programming the TDA827x is accomplished via an I²C bus.

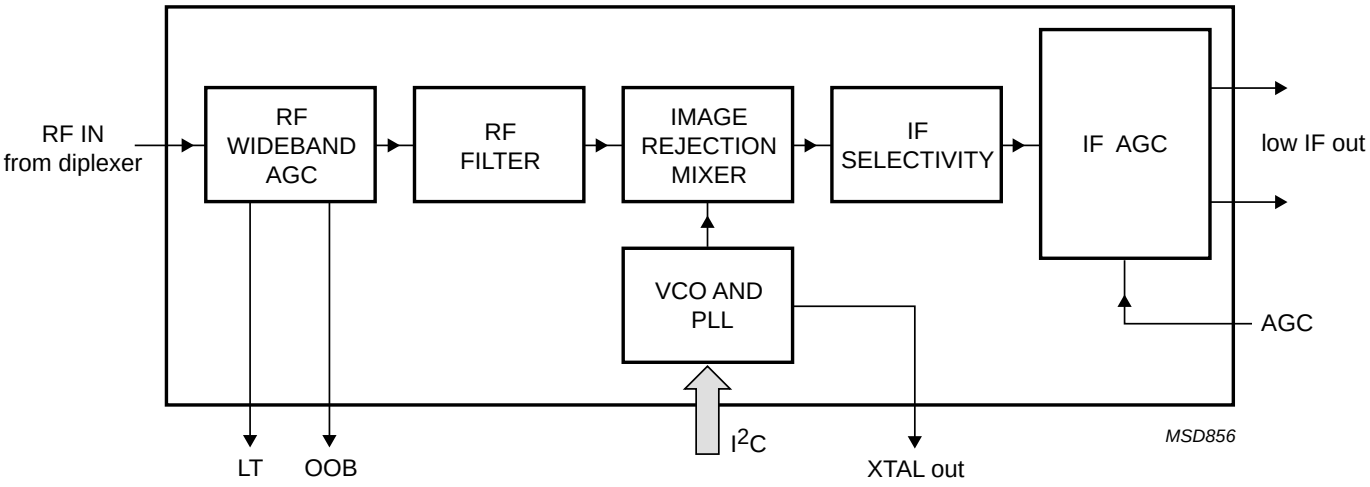
Revolutionizing tuner design
Revolutionizing the design and implementation of front-ends in consumer equipment, the single tuner IC concept can be used in many broadcast areas. Dedicated to cable broadcast and cable modem applications, the TDA827x is the first in a series of silicon tuner devices aimed at addressing all consumer markets.
This provides a 'one application for all' solution that removes the need for expensive system development usually required to match RF front-ends to specific platforms or applications.

The TDA8270 silicon tuner (6MHz, digital only for cable modems) will be followed by the TDA8271 (multi-standard, digital only for cable STB) and the TDA8272 (multi-standard, NTSC/PAL compliant for cable STB).

Let's make things better.

PHILIPS

TDA827x cable silicon tuner IC



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You can also visit our website http://www.semiconductors.philips.com/sales or contact any of the following sales offices by phone or mail:

North America

Philips Semiconductors C.R.M. Center
2800 Wells Branch Parkway
Mailstop P-411
Austin, Texas 78728
United States

Tel. +1 800 234 7381
Fax +1 800 943 0087

Europe, Africa, Middle East and South America

Philips Semiconductors International
Fulfillment and Sales Support Center
P.O. Box 366
2700 AJ Zoetermeer
The Netherlands

Fax +31 79 3685126

Asia Pacific

Philips Semiconductors Asia Pacific
Market Response Management Center
P.O. Box 68115
Kowloon East Post Office
Hong Kong

Fax +852 2756 8271

Japan

Philips Semiconductors
Philips Building 13-37
Kohnan 2-chome
Minato-ku,
Tokyo 108-8507

Tel. +81 3 3740 5130
Fax +81 3 3740 5057

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