



NXP FM stereo IC TEA5763 for portable applications

Add full-featured FM radio functionality in less than 60 mm²

This highly integrated, low-power stereo FM IC is the next generation of the TEA5767, the world's most popular FM radio IC. It uses less than half the number external components and requires less than half the PCB space.

Key features

- ▶ Only 10 external components
- ▶ Small-footprint HVQFN32 package (5 x 5 x 0.85 mm)
- ▶ Complete design in less than 60 mm²
- ▶ Integrated low-noise RF input amplifier for high sensitivity
- ▶ FM mixer for conversion of worldwide FM bands to IF (US, Europe and Japan)
- ▶ RF automatic gain-control circuit
- ▶ Autosearch tuning, 100-kHz grid
- ▶ Preset tuning to receive Japanese TV audio up to 108 MHz, raster 100 kHz
- ▶ LC tuner oscillator operating with one low-cost chip inductor (no need for external varicap)
- ▶ Fully integrated FM IF selectivity and FM demodulator
- ▶ PLL synthesizer tuning system
- ▶ Level detector with 4-bit level information output via control interface
- ▶ Softmute: mute function is signal-level dependent
- ▶ Signal level depending mono/stereo blend (SNC, stereo noise canceling)
- ▶ Adjustment-free stereo decoder
- ▶ Standby mode

Benefits

- ▶ Better performance via channel separation, sensitivity, selectivity, and sound
- ▶ Smaller size (only 5 x 5 mm)
- ▶ Lower bill-of-materials
- ▶ Easier to integrate

The NXP FM stereo IC TEA5763 for portable applications is the next generation version of the TEA5767, the world's most popular FM radio solution, with hundreds of millions of units shipped.

The TEA5763 uses state-of-the-art technology to increase integration and shrink the design footprint. Housed in an HVQFN32 package that measures only 5 x 5 mm, the TEA5763 requires only 10 external components and uses less than 60 mm² of PCB space for the final space.

Compared to the TEA5767, that's less than half the number of external components and less than half the final PCB footprint. It also delivers improved performance, including the industry's best sensitivity, at a lower overall cost.

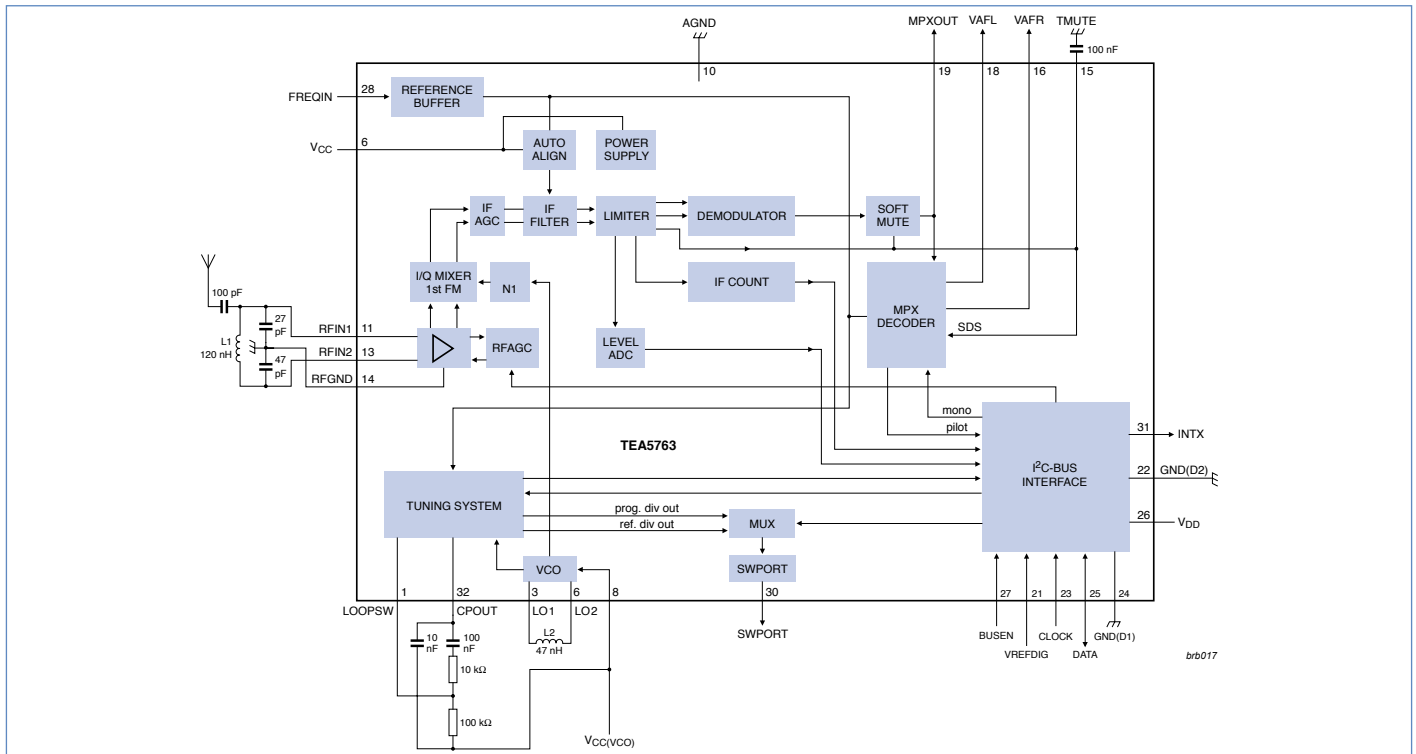
The TEA5763 is capable of tuning to European, US, and Japanese FM bands (76 to 108 MHz), so it doesn't need an external FM discriminator and handles IF selectivity entirely on-chip.

No alignments are required during manufacturing, so the IC delivers increased quality and reliability, in manufacturing and throughout its life in an end application.

All of NXP's FM radio ICs build on more than 25 years in silicon radio and more than 80 years in radio-receiver technologies. We have more than 60 patent families, 35 of them US-granted, for AM/FM reception.

We back each product with free, easy-to-use demo kits and provide a dedicated staff of technical-support engineers. We even offer high-volume production with internal dual-sourcing for a dependable supply.

Selection guide: TEA5767 vs. TEA5763		
Parameter	TEA5767	TEA5763
Package (size)	HVQFN40 (6 x 6 x 0.85 mm)	HVQFN32 (5 x 5 x 0.85 mm)
Required number of external components	25	10
Required PCB area	150 mm ²	< 60 mm ²
Power consumption	36 mW	37.8 mW
Current consumption	12 mA	14 mA
Channel separation	30 dB	40 dB
Ultimate S/N (mono type)	60 dB	57 dB
FM sensitivity (at 26 dB S/N)	2.0 μ V EMF	1.7 μ V EMF
Audio THD (mono max)	1.5%	0.8%
Typical supply voltage	3.0 V	2.7 V
Clock frequency	32.768 kHz, 6.5 MHz, or 13 MHz	32.768 kHz
Interface bus	I ² C-bus or 3-wire	I ² C-bus
Source code	No	Yes



TEA5763 block diagram

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