TEF7018HN

Scalable advanced background receiver

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Direct downloads

- **Short datasheet (pdf)**
- **No full datasheet available**
- All documentation (zip)
- All documents (5)

Quick ordering

TEF7018HNV102K

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The TEF7016 and TEF7018 are analog single-chip radio background ICs specifically designed for background reception. Both devices support all major global background receiver standards such as Radio Data System (RDS), Radio Broadcast Data System (RBDS), Traffic Message Channel (TMC), DARC (VICS and RTIC) and optional support of digital radio via a co-processor (HD Radio and DRM).

The devices are following the industry-proven background receiver TEF7006 and TEF7007 with improved performance and feature set optimizing the total system costs. They are completing NXP Semiconductors Car Radio portfolio to provide an efficient, high performing application. The TEF701X are housed in a HVQFN32 package designed for two- and multi-layer PCB applications.

The radio receiver includes the AM/FM front-ends, tuning synthesizer, channel filtering, demodulation, weak signal processing, noise blanking in FM mode, RDS and DARC reception and optional FM multipath improvements.

The TEF7018 supports AM and FM, HD Radio and Digital Radio Mondiale (DRM30 and DRM+). The TEF7016 is an FM-only version and supports optionally the digital radio standards FM-HD Radio and DRM+. For both TEF7016 and TEF7018, these digital radio standards are supported when used with NXP Semiconductors' digital radio coprocessors such as SAF356X and SAF360X.

Furthermore the TEF7018 provides the complete feature set including AM IF noise blanking, AM SoftMute on Modulation and the TEF701X provides digital audio output (mono) via I²S.

- Alignment free digital receiver including tuner and software-defined radio processing
- Read information with device and tuning status, reception quality and RDS data
- FM background receiver with a tuning range of 65 MHz to 108 MHz covering Eastern Europe (OIRT), Japan, Europe and US bands
- AM background receiver (TEF7018) receiver covering LW, MW and full SW
- Fully integrated tuning system with low phase noise and fast tuning
- Variable IF bandwidth filtering (FM PACS) and demodulation
- Baseband I²S output supporting digital radio standards
- FM-HD Radio and DRM+ (TEF7018) with external digital radio coprocessor
- HD Radio and DRM (TEF7018) with external digital radio coprocessor
- AM and FM noise blanking, Signal quality detection and weak signal processing
- Advanced RDS and RBDS demodulation and decoding
- Excellent RDS sensitivity performance
- MPX output supporting an external DARC demodulator and RTIC
- Two mono audio DACs: one analog output for FM MPX and mono analog audio output
- Single 3.3 V supply voltage
- Fast mode I²C-bus (400 kHz)
- Configurable GPIO pins for RDS, Quality Status, RDS data available interrupt and generic I²C-bus controlled I/O
- Qualified in accordance with AEC-Q100
- I²S audio output

Applications

The TEF701X is a background receiver that can be used for Radio Data System (RDS), Radio Broadcast Data System (RBDS), Traffic Message Channel (TMC) and background reception for automotive applications. DARC reception is also supported via the MPX output to VICS/RTIC decoders.

When used together with the digital radio coprocessors SAF356X and SAF360X, digital radio standards background reception can be supported.

Additionally, due to a common technology platform, the TEF701X can be combined with the TEF665X, TEF668X, SAF775X and SAF360X for optimal system application through common crystal oscillator sharing.

▸ **Series** TEF701X
Scalable advanced background receiver

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General product disclaimer
Quality and reliability disclaimer

Package

Type number	Package	Outline version	Reflow-/Wave soldering	Packing	Product status	Marking	Orderable part number, (Ordering code (12NC))
TEF7018HNV102	HVQFN32 (SOT617-3)	sot617-3_po	sot617-3_fr	Tray, Bakeable, Multiple in Drypack	Active	Standard Marking	TEF7018HNV102K (9353 026 52557)
				Reel 13" Q1/T1 in Drypack	Active	Standard Marking	TEF7018HNV102Y (9353 026 52518)

Quality, reliability & chemical content

Type number	Orderable part number	Chemical content	RoHS / R6F	Leadfree conversion date	MSL	MSL LF
TEF7018HNV102	TEF7018HNV102K	TEF7018HNV102	EU/CN RoHS COMPLIANT D	Always Pb-free	3	3
TEF7018HNV102	TEF7018HNV102Y	TEF7018HNV102	EU/CN RoHS COMPLIANT D	Always Pb-free	3	3

▸ Quality and reliability disclaimer

Documentation for this product

Download all documentation (zip)

File name	Title	Type	Format	Date
TEF701X_SDS	Scalable advanced background receiver	Short data sheet	pdf	2013-07-30
75017470	NXP DSP-based single-chip background tuners TEF701x	Leaflet	pdf	2013-09-17
SOT617-3_518	HVQFN32; Reel pack; SMD, 13" Q1/T1 Standard product orientation Orderable part number ending ,518 or Y Ordering code (12NC) ending 518	Packing	pdf	2015-04-01
sot617-3_fr	Footprint for reflow soldering SOT617-3	Reflow soldering	pdf	2009-10-08
sot617-3_po	plastic thermal enhanced very thin quad flat package; no leads; 32 terminals; body 5 x 5 x 0.85 mm	Outline drawing	pdf	2002-10-21

Ordering & availability

Type number	Ordering code (12NC)	Orderable part number	Region	Distributor	In stock	Order quantity	Inventory date	Buy online	Samples
TEF7018HNV102	9353 026 52557	TEF7018HNV102K							Order samples
TEF7018HNV102	9353 026 52518	TEF7018HNV102Y							Order samples

Sample
Sample orders normally take 2-4 days for delivery.
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Frequently asked questions and Community discussions

The Frequently asked questions are answers provided by NXP technical experts. The discussions are between users of the Community, these can be NXP technical experts, but also other users.

04-05-2015	TEF7006HNV1,557
04-05-2015	TEF7006HNV1,557
21-03-2015	TEF7000
21-03-2015	Where is the datasheet for the TEF7000
21-03-2015	TEF7000
21-03-2015	Where is the datasheet for the TEF7000

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