



MAX2180A

AM/FM Car Antenna Low-Noise Amplifier

Industry-Leading AM/FM LNA with Adjustable Gain Control Saves Space, Cost and Improves Functionality

Overview	Design Resources	Ordering Info	Related Products	User Comments (0)	All
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Status

Active: In Production.

Data Sheet

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NDA Required

Description

The MAX2180A is a highly integrated AM/FM variable-gain low-noise amplifier ideal for use in automotive active antenna applications. The device features separate AM and FM signal paths, each providing 30dB of gain range, controlled by individual on-chip power detectors. The AM signal path covers a 148kHz to 30MHz input frequency range, while the FM signal path covers 65MHz to 162.5MHz.

The device integrates a voltage regulator and pass transistor, allowing operation using battery voltages in the +6V to +24V range. On-chip thermal protection automatically limits junction temperatures during extreme thermal conditions.

The device is available in a small, 4mm x 4mm, TQFN package and operates over the extended industrial temperature range (-40°C to +85°C).

Key Features

- +6V to +24V Supply Voltage Range
- Integrated AGC Function Eliminates External Pin Diodes
- High Dynamic Range
- Low-Noise Sub 3dB Noise Figure
- Low External BOM
- Integrated Thermal Protection
- Small Package (4mm x 4mm TQFN)
- Integrated Loss Device and Linear Regulator
- Integrated Power Detector Integrated Antenna Sense

Applications/Uses

- Automotive Active Antenna

Key Specifications:

Low-Noise Amplifiers								
Part Number	RF Freq. (MHz)	RF Freq. (MHz)	Noise Figure (dB)	Gain (dB)	ISUPPLY (mA)	Footprint (mm x mm)	Industry Qualified	Package/Pins
	min	max						
MAX2180A	0.148	162.5	2.75	30	75	4.0 x 4.0	Automotive - General	TQFN/24
See All Low-Noise Amplifiers (36)								
Pricing Notes: This pricing is BUDGETARY, for comparing similar parts. Prices are in U.S. dollars and subject to change. Quantity pricing may vary substantially and international prices may differ due to local duties, taxes, fees, and exchange rates. For volume-specific prices and delivery, please see the price and availability page or contact an authorized distributor.								

Technical Documents

Product Guide 5166 [Automotive](#)
Tutorial 5100 [General Layout Guidelines for RF and Mixed-Signal PCBs](#)

Product Guides

[Automotive](#) (PDF)

Reliability Reports

Show FIT data for: MAX2180A

Request Reliability Report for: MAX2180A

Ordering Information

Filters: Part NumberPackage: AnyTemperature: AnyTape and ReelSample

Part Number	Free Sample	Buy	Status	Package: TYPE PINS FOOTPRINT DRAWING CODE/VAR *	Temp	RoHS/Lead-Free? Materials Analysis
MAX2180AETG+			Active	TQFN;24 pin;16.8 mm² Outline Drawing: 21-0139 (PDF) Land Pattern: 90-0021 (PDF) Use pkgcode/variation: T2444+3*	-40°C to +85°C	RoHS/Lead-Free: Lead Free Materials Analysis
MAX2180AETG/V+			Active	TQFN;24 pin;16.8 mm² Outline Drawing: 21-0139 (PDF) Land Pattern: 90-0021 (PDF) Use pkgcode/variation: T2444+3*	-40°C to +85°C	RoHS/Lead-Free: Lead Free Materials Analysis
MAX2180AETG/V+T			Active	TQFN;24 pin;16.8 mm² Outline Drawing: 21-0139 (PDF) Land Pattern: 90-0021 (PDF) Use pkgcode/variation: T2444+3*	-40°C to +85°C	RoHS/Lead-Free: Lead Free Materials Analysis
MAX2180AEVKIT#			Active	KIT; Land Pattern: Not Available		See data sheet

Notes:

- Other options and links for purchasing parts are listed at: <http://www.maximintegrated.com/sales>.
- [Didn't Find What You Need?](#) Ask our applications engineers. Expert assistance in finding parts, usually within one business day.
- Part number suffixes: T or T&R = tape and reel; + = RoHS/lead-free; # = RoHS/lead-exempt; -D = drypack; -U/+U on DS parts = cut tape. More: See [Full Data Sheet](#) or [Maxim Product Naming Conventions](#).
- * Some packages have variations, listed on the drawing. "PkgCode/Variation" tells which variation the product uses. Note that "+", "#", "-" in the part number suffix describes RoHS status. Package drawings may show a different suffix character.

Similar Products by Function

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Products with Similar Part Numbers

[MAX2180](#) AM/FM Car Antenna Low-Noise Amplifier

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