



MAX9730 Evaluation Kit

Evaluates: MAX9730

General Description

The MAX9730 evaluation kit (EV kit) is a fully assembled and tested PCB that uses the MAX9730 Class G power amplifier to drive a bridge-tied-load (BTL) speaker in portable audio applications. Designed to operate from a 2.7V to 5.5VDC power supply, the EV kit accepts a single-ended or differential input signal. The EV kit provides a fully differential output capable of delivering 2.4W into an 8Ω speaker.

Component List

DESIGNATION	QTY	DESCRIPTION
C1–C4	4	0.1μF ±10%, 6.3V X5R ceramic capacitors (0402) Murata GRM155R60J104K
C5, C6	2	1μF ±10%, 6.3V X5R ceramic capacitors (0402) Murata GRM155R60J105K
C7	1	4.7μF ±10%, 6.3V X5R ceramic capacitor (1206) Murata GRM31CR60J475K
C8, C9, C10	3	10μF ±20%, 6.3V X5R ceramic capacitors (0603) Murata GRM188R60J106M
JU1	1	3-pin header
R1–R4	4	10kΩ ±0.5% precision-thick film-chip resistors (0603) Panasonic ERJ3RBD1002V
R5	1	100kΩ ±1% resistor (0603)
U1	1	MAX9730ETI+ (28-pin TQFN, 4mm x 4mm x 0.8mm)
—	1	Shunt
—	1	PCB: MAX9730 evaluation kit

Component Suppliers

SUPPLIER	PHONE	WEBSITE
Murata Mfg. Co., Ltd.	770-436-1300	www.murata.com
Panasonic Corp.	714-373-7366	www.panasonic.com

Note: Indicate that you are using the MAX9730 when contacting these component suppliers.

Features

- ◆ 5V Single-Supply Operation
- ◆ Fully Differential Output
- ◆ Delivers 2.4W into an 8Ω Speaker
- ◆ Configurable Switching Frequency
- ◆ Evaluates the MAX9730 in a 28-Pin TQFN (4mm x 4mm x 0.8mm) Package
- ◆ MAX9730 IC Available in a 20-Bump UCSP (2mm x 2.5mm) Package
- ◆ Fully Assembled and Tested

Ordering Information

PART	TEMP RANGE	IC PACKAGE
MAX9730EVKIT+	0°C to +70°C*	28 TQFN-EP** (4mm x 4mm x 0.8mm)

+ Denotes a lead-free and RoHS-compliant EV kit.

* This limited temperature range is for the EV kit PCB only. The MAX9730 IC temperature range is -40°C to +85°C.

** EP = Exposed paddle.

Quick Start

Recommended Equipment

- 5V, 2A power supply
- Audio source (i.e., CD player, MP3 player, etc.)
- One 8Ω speaker

Procedure

The MAX9730 EV kit is fully assembled and tested. Follow the steps listed below to verify board operation.

Caution: Do not turn on the power supply until all connections are completed.

- 1) Install a shunt across pins 1-2 of jumper JU1 (EV kit ON).
- 2) Connect the 8Ω speaker across the OUT- and OUT+ pads.
- 3) Connect the ground terminal of the power supply to the GND pad and the positive terminal to the VCC pad.
- 4) Connect the positive terminal of the audio source to the IN+ pad.
- 5) Connect the negative terminal of the audio source to the IN- pad. Connect the IN- pad to the GND pad if the audio source is single-ended.
- 6) Connect the ground terminal of the audio source to the GND pad.
- 7) Turn on the audio source.
- 8) Turn on the power supply.

MAX9730 Evaluation Kit

Detailed Description

The MAX9730 EV kit features the MAX9730 Class G power amplifier IC, designed to drive a dynamic speaker in BTL configuration. The EV kit operates from a DC power supply that provides 2.7V to 5.5V and 2A of current. The EV kit accepts single-ended or differential audio input and provides a fully differential output. The audio input source is amplified to drive 2.4W into an 8Ω speaker with a 5V power supply.

Customizing the Gain

The MAX9730 EV kit is shipped with a gain of +12dB and is set by resistors R1–R4. Change resistors R1–R4 to reconfigure the gain of the EV kit. Refer to the MAX9730 IC data sheet for more detail.

Charge-Pump Frequency Set Resistor

The charge-pump frequency is set by resistor R5. The charge pump's normal operation frequency is 330kHz. Change R5 to change the charge-pump frequency. Refer to the MAX9730 IC data sheet for more information.

Jumper Selection

Shutdown Mode (SHDN)

Jumper JU1 controls the shutdown pin (SHDN) of the MAX9730 IC. The shutdown pin can also be controlled by an external logic controller connected to the EV kit SHDN pad. Remove the shunt from jumper JU1 before connecting an external controller to the SHDN pad. See Table 1 for shunt positions.

Table 1. JU1 Jumper Selection (Shutdown Mode)

SHUNT POSITION	SHDN PIN CONNECTED TO	EV KIT FUNCTION
1-2*	VDD	EV kit enabled
2-3	GND	Shutdown mode
None	External logic controller	SHDN driven by external logic controller. Shutdown is active-low and is 1.8V logic compliant.

*Default position.

MAX9730 Evaluation Kit

Evaluates: MAX9730

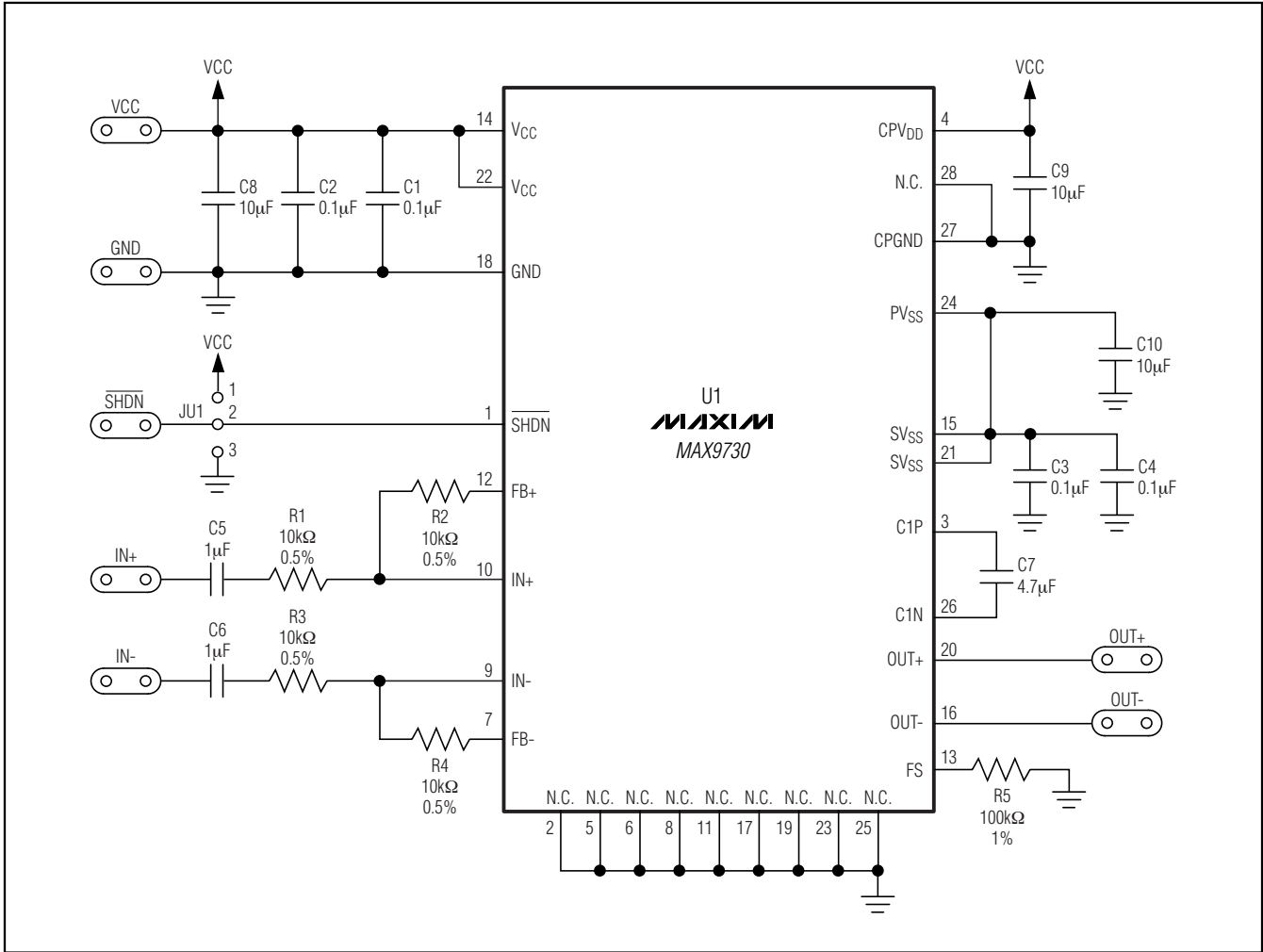


Figure 1. MAX9730 EV Kit Schematic

MAX9730 Evaluation Kit

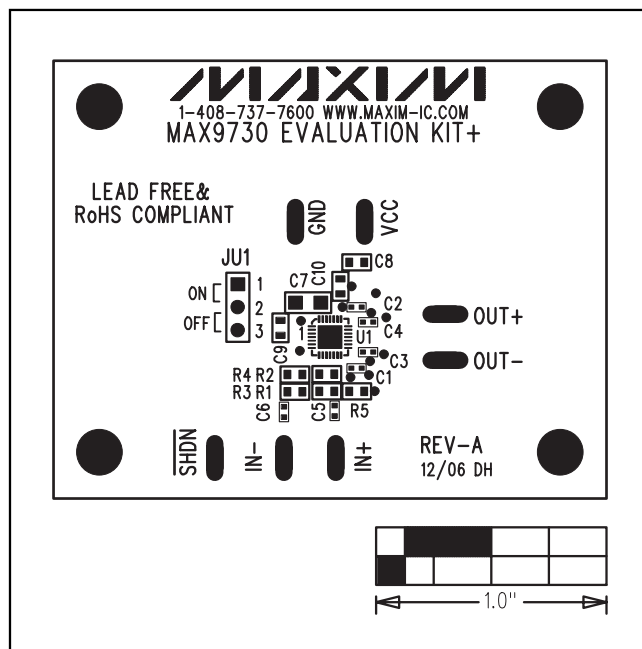


Figure 2. MAX9730 EV Kit Component Placement Guide—Component Side

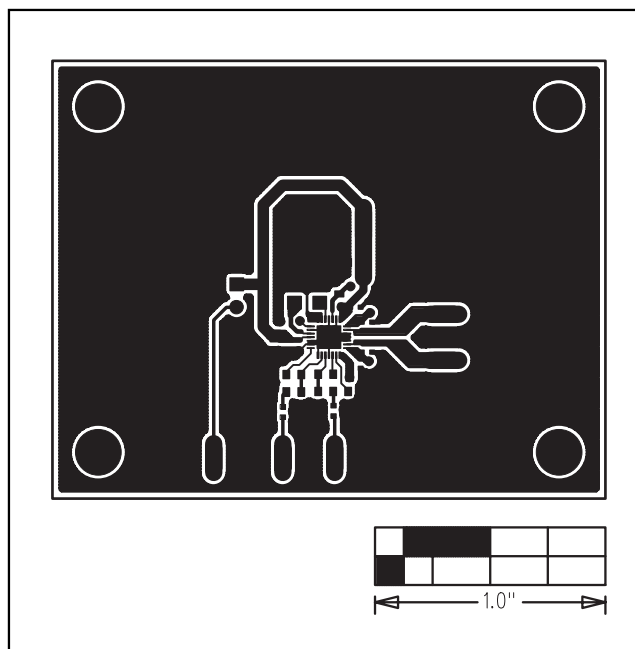


Figure 3. MAX9730 EV Kit PCB Layout—Component Side

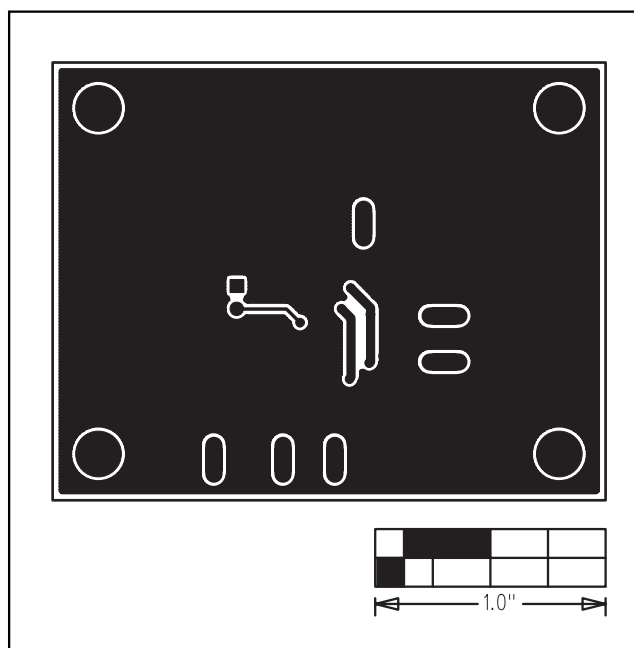


Figure 4. MAX9730 EV Kit PCB Layout—Solder Side

Maxim cannot assume responsibility for use of any circuitry other than circuitry entirely embodied in a Maxim product. No circuit patent licenses are implied. Maxim reserves the right to change the circuitry and specifications without notice at any time.

4 _____ **Maxim Integrated Products, 120 San Gabriel Drive, Sunnyvale, CA 94086 408-737-7600**

© 2007 Maxim Integrated Products

MAXIM is a registered trademark of Maxim Integrated Products, Inc.



Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помощь Конструкторского отдела:

- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



Как с нами связаться

Телефон: 8 (812) 309 58 32 (многоканальный)

Факс: 8 (812) 320-02-42

Электронная почта: org@eplast1.ru

Адрес: 198099, г. Санкт-Петербург, ул. Калинина, дом 2, корпус 4, литера А.