## **Evaluates: MAX5048C**

### **General Description**

**Component List** 

C3

The MAX5048C evaluation kit (EV kit) allows evaluation of the MAX5048C high-speed, low-side MOSFET driver that can source up to a 3A peak current and sink up to a 7A peak current. The EV kit uses a 4V to 14V input supply. The EV kit uses the device to drive a 4700pF capacitor that mimics the gate capacitance of an external nMOSFET. The EV kit demonstrates the MAX5048CAUT+ (6-pin SOT23). It is highly recommended that the EV kit layout be followed to ensure reliable driver operation and first-pass design success.

#### **Features**

- 4V to 14V Single Power-Supply Range
- 3A/7A Peak Source/Sink Drive Current
- TTL Logic Level Inverting and Noninverting Inputs
- Independent Source and Sink Outputs
- Proven PCB Layout
- Fully Assembled and Tested

Ordering Information appears at end of data sheet.

DESIGNATION	QTY	DESCRIPTION
C1	1	10μF ±20%, 25V electrolytic capacitor (4.30mm x 4.30mm SMD) Panasonic EEEFK1E100R
C2	1	1µF ±10%, 25V X7R ceramic capacitor (0805) Murata GRM21BR71E105K

DESIGNATION	QTY	DESCRIPTION
R1, R2	2	0Ω resistors (0603)
U1	1	High-speed MOSFET driver (6 SOT23) Maxim MAX5048CAUT+
	1	PCB: MAX5048C EVALUATION KIT

### **Component Suppliers**

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SUPPLIER	PHONE	WEBSITE
Murata Electronics North America, Inc.	770-436-1300	www.murata-northamerica.com
Panasonic Corp.	800-344-2112	www.panasonic.com

Note: Indicate that you are using the MAX5048C when contacting these component suppliers.

4700pF ±10%, 50V X7R ceramic

Murata GRM188R71H472K

capacitor (0603)



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### **Quick Start**

#### **Required Equipment**

- MAX5048C EV kit
- 4V to 14V DC power supply

#### Procedure

The EV kit is fully assembled and tested. Follow the steps below to verify board operation. Caution: Do not turn on the power supply until all connections are completed.

- Connect the positive terminal of the power supply to the V+ PCB connector and the negative terminal to the nearest GND PCB connector on the EV kit.
- 2) Set the V+ power supply to 5V.
- 3) Drive IN+, IN-, and verify states per Table 1.
- 4) Repeat accordingly for the other circuits.

### **Detailed Description of Hardware**

The MAX5048C EV kit operates on a 4V to 14V wideinput voltage range and sources 3A peak current/sinks 7A peak current.

#### Inverting (IN-) and Noninverting (IN+) Logic Inputs

The EV kit has independent inverting and noninverting TTL logic inputs. These inputs control the P\_OUT and N\_OUT states, as shown in Table 1.

#### Power-Supply Input (V+)

The EV kit operates from 4V to +14V power supply.

#### Table 1. Truth Table

IN+	IN-	P_OUT	N_OUT
L	L	Off	On
L	Н	Off	On
Н	L	On	Off
Н	Н	Off	On



Figure 1. MAX5048C EV Kit Schematic

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Figure 2. MAX5048C EV Kit Component Placement— Component Side



Figure 3. MAX5048C EV Kit PCB Layout—Component Side



Figure 4. MAX5048C EV Kit PCB Layout—Solder Side

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# **Ordering Information**

PART	ТҮРЕ
MAX5048CEVKIT#	EV Kit

#Denotes RoHS compliant.

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### **Revision History**

REVISION	REVISION	DESCRIPTION	PAGES
NUMBER	DATE		CHANGED
0	1/13	Initial release	_

For pricing, delivery, and ordering information, please contact Maxim Direct at 1-888-629-4642, or visit Maxim Integrated's website at www.maximintegrated.com.

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