

## General Description

The MAX14699 evaluation kit (EV kit) is a fully assembled and tested circuit board that demonstrates the MAX14699 high-accuracy, surge-protected overvoltage protector device. The EV kit comes with the MAX14699EWC+ installed.

## Features

- 2.1V to 28V Operating Voltage Range
- $\overline{\text{ACOK}}$  LED Reading
- Proven PCB Layout
- Fully Assembled and Tested

## EV Kit Contents

- EV Kit Board Containing a MAX14699

[Ordering Information](#) appears at end of data sheet.

## Quick Start

### Required Equipment

- MAX14699 EV kit
- 15V power supply
- Multimeter

### Procedure

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

- 1) Connect 5V on IN. Verify OUT is 5V and LED1 is on.
- 2) Install shunt on JU1. The OUT voltage goes down.
- 3) Remove shunt on JU1. OUT is 5V.
- 4) Increase IN voltage. Verify OUT voltage follows IN voltage.
- 5) The switch turns off, OUT voltage goes down, and LED1 turns off when IN voltage goes up to about 13.75V.

## Detailed Description

The MAX14699 EV kit is a fully assembled and tested circuit board demonstrating the MAX14699 high accuracy, surge protected overvoltage protector device in a 12-bump wafer-level package (WLP).

### LED Indicator

The EV kit features LED1 that indicates  $\overline{\text{ACOK}}$  is asserted.

### Enable Pin

Use jumper JU1 and JU2 to set  $\overline{\text{EN}}$  pin connection. ([Table 1](#))

### OVLO

Use jumper JU3 to choose OVLO pin connection. ([Table 2](#))

### Digital Voltage

Use jumper JU4 to power digital voltage from  $V_{\text{IN}}$ . ([Table 3](#))

**Table 1. JU1, JU2 Jumper Setting**

JUMPER	SHUNT POSITION	DESCRIPTION
JU1	Installed	$\overline{EN}$ is pulled up.
	Not installed*	$\overline{EN}$ is pulled down.
JU2	Installed	$\overline{EN}$ is connected to TP8 (external control).
	Not installed*	$\overline{EN}$ is not connected to TP8.

\*Default position.

**Table 2. JU3 Jumper Setting**

JUMPER	SHUNT POSITION	DESCRIPTION
JU3	Installed*	OVLO is connected to ground. Internal OVLO threshold is used.
	Not installed	OVLO is connected to external resistor divider. Adjustable OVLO threshold is used.

\*Default position.

**Table 3. JU4 Jumper Setting**

JUMPER	SHUNT POSITION	DESCRIPTION
JU4	Installed*	U2 is powered from $V_{IN}$ .
	Not installed	U2 is not powered from $V_{IN}$ . Please disconnect U2 from $V_{IN}$ when testing high/surge voltage.

\*Default position.

## Ordering Information

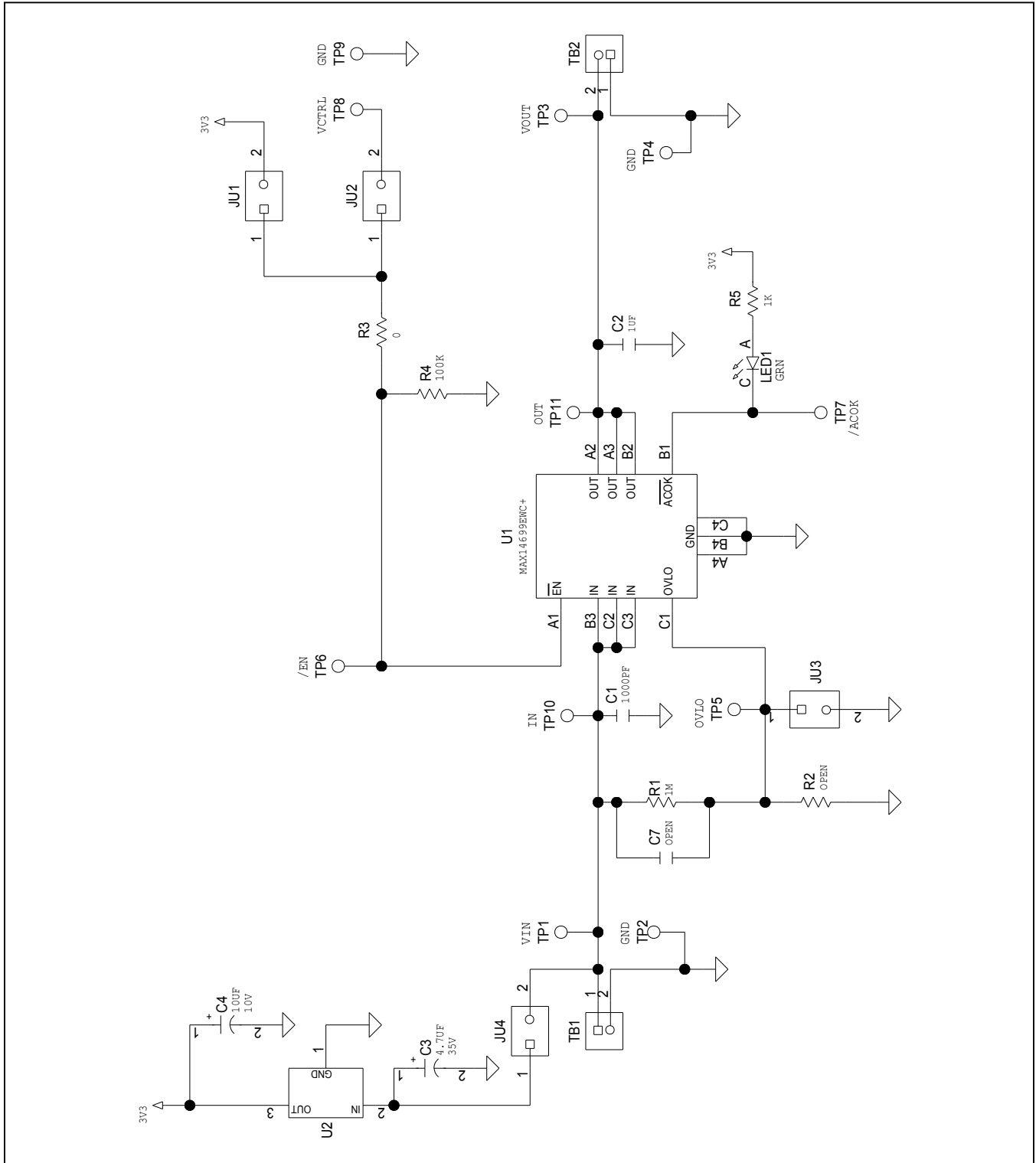
PART	TYPE
MAX14699EVKIT#	EVKIT

#Denotes RoHS compliant.

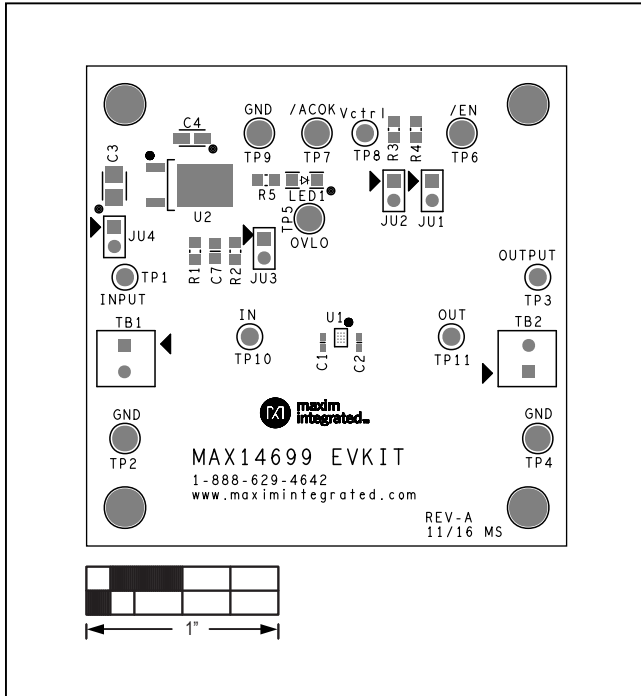
MAX14699 EV Kit Bill of Materials

ITEM	REF_DES	DN/DNP	QTY	MFG PART #	MANUFACTURER	VALUE	DESCRIPTION	COMMENTS
1	C1	-	1	06035C102KAT2A	AVX	1000PF	CAPACITOR; SMT (0603); CERAMIC CHIP; 1000PF; 50V; TOL=10%; TG=-55 DEGC TO +125 DEGC; TC=X7R	
2	C2	-	1	C0603C105K3PAC; GRM188R61E105KA12; 06033D105KAT2A	KEMET; MURATA; AVX	1UF	CAPACITOR; SMT (0603); CERAMIC CHIP; 1UF; 25V; TOL=10%; TG=-55 DEGC TO +85 DEGC;	
3	C3	-	1	TAJ475M035RNU	AVX	4.7UF	CAPACITOR; SMT (3528); TANTALUM CHIP; 4.7UF; 35V; TOL=20%; TG=-55 DEGC TO +125 DEGC; AUTO	
4	C4	-	1	TPSA106M010R0900; T491A106M010AT	AVX; KEMET	10UF	CAPACITOR; SMT (3216); TANTALUM CHIP; 10UF; 10V; TOL=20%	
5	JU1-JU4	-	4	68001-202HLF	FCI/CONNECT	68001-202HLF	CONNECTOR; MALE; THROUGH HOLE; BERGSTIK BREAKAWAY HEADER; STRAIGHT; 2PINS	
6	LED1	-	1	LG N971-KN-1	OSRAM	LG N971-KN-1	DIODE; LED; SMT (1206); PV=2.6V; IF=0.025A; -30 DEGC TO +85 DEGC; GREEN	
7	R1	-	1	RCRW08051M00FK; RC0805FR-071ML	VISHAY DALE/YAGEO PHICOMP	1M	RESISTOR; 0805; 1M; 1%; 100PPM; 0.125W; THICK FILM	
8	R3	-	1	RC0805JR-070RL	YAGEO/PHYCOMP	0	RESISTOR; 0805; 0 OHM; 5%; JUMPER; 0.125W; THICK FILM	
9	R4	-	1	RCRW0805100KFK; RK73H2ATTD1003; ERJ-6ENF1003V	VISHAY DALE/KOA SPEER/PANASONIC	100K	RESISTOR; 0805; 100K; 1%; 100PPM; 0.125W; THICK FILM	
10	R5	-	1	RCRW08051K00FK; ERJ-6ENF1001V; MCR10EZH1001; RC0805FR-071KL	VISHAY DALE; PANASONIC; ROHM; YAGEO	1K	RESISTOR; 0805; 1K; 1%; 100PPM; 0.125W; THICK FILM	
11	SU1-SU4	-	4	STC02SYAN	SULLINS ELECTRONICS CORP.	STC02SYAN	TEST POINT; JUMPER; STR; TOTAL LENGTH=0.256IN; BLACK; INSULATION=PBT CONTACT=PHOSPHOR BRONZE; COPPER PLATED TIN OVERALL	
12	TB1, TB2	-	2	393570002	MOLEX	393570002	CONNECTOR; FEMALE; THROUGH HOLE; 0.3MM PITCH BEAU EUROSTYLE FIXED MOUNT PCB TERMINAL BLOCK; RIGHT ANGLE; 2PINS	
13	TP1, TP3, TP8, TP10, TP11	-	5	5010	KEYSTONE	N/A	TESTPOINT WITH 1.80MM HOLE DIA, RED, MULTIPURPOSE;	
14	TP2, TP4, TP9	-	3	5011	KEYSTONE	N/A	TEST POINT; PIN DIA=0.125IN; TOTAL LENGTH=0.445IN; BOARD HOLE=0.063IN; BLACK; PHOSPHOR BRONZE WIRE SILVER PLATE FINISH;	
15	TP5-TP7	-	3	5013	KEYSTONE	N/A	TEST POINT; PIN DIA=0.125IN; TOTAL LENGTH=0.445IN; BOARD HOLE=0.063IN; ORANGE; PHOSPHOR BRONZE WIRE SILVER PLATE FINISH;	
16	U1	-	1	MAX14699EWC+	MAXIM	MAX14699EWC+	EVKIT PART-IC; PROT; HIGH ACCURACY; SURGE-PROTECTED OVERVOLTAGE PROTECTOR; WLP12 1.98X1.28	
17	U2	-	1	LD1086DT33	ST MICROELECTRONICS	LD1086DT33	IC; VREG; 1.5A FIXED LOW DROP POSITIVE VOLTAGE REGULATOR; DPAK	
18	C7	DNP	0	N/A	N/A	OPEN	PACKAGE OUTLINE 0805 NON-POLAR CAPACITOR	
19	R2	DNP	0	N/A	N/A	OPEN	PACKAGE OUTLINE 0805 RESISTOR	
20	PCB	-	1	MAX14699	MAXIM	PCB	PCB Board:MAX14699 EVALUATION KIT	
TOTAL			33					

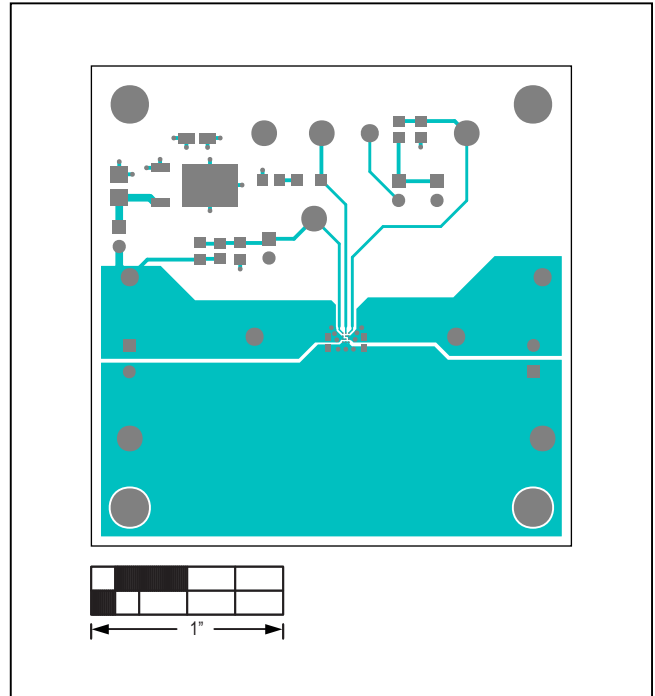
MAX14699 EV Kit Schematic



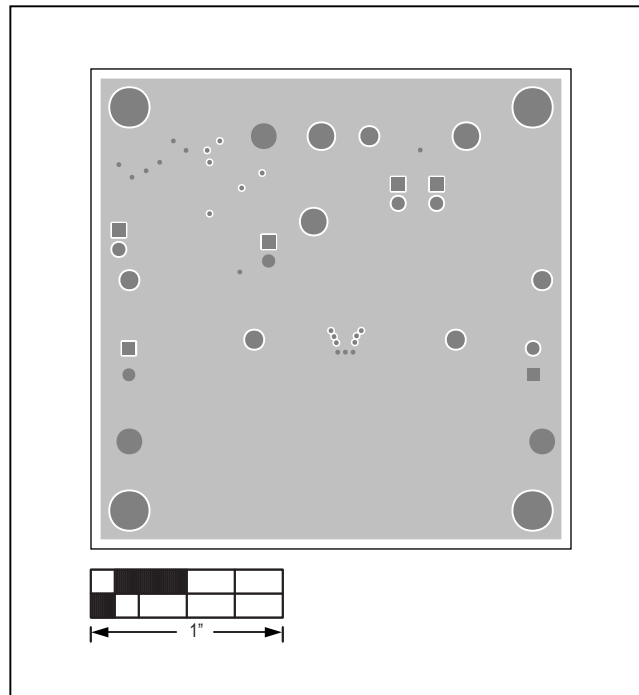
MAX14699 EV Kit PCB Layout Diagrams



MAX14699 EV Kit—Top Silkscreen

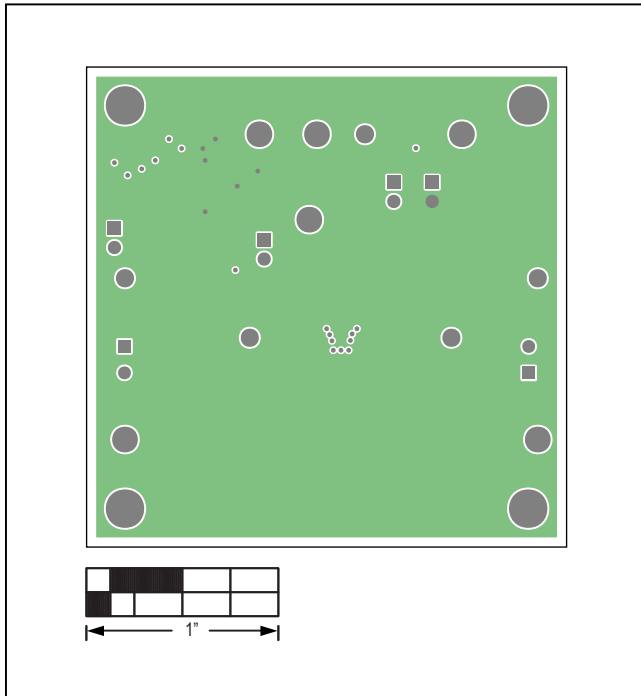


MAX14699 EV Kit—Top

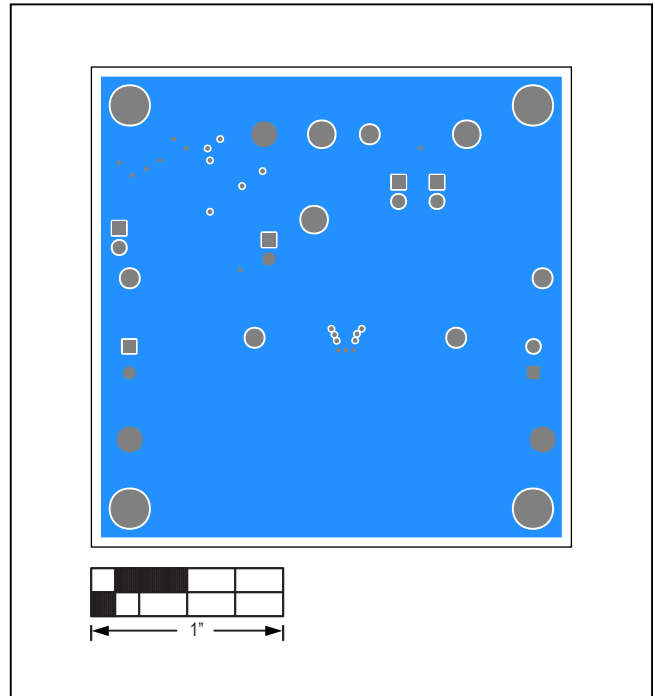


MAX14699 EV Kit—Layer 2 GND

MAX14699 EV Kit PCB Layout Diagrams (continued)



MAX14699 EV Kit—Layer 3 Power



MAX14699 EV Kit—Bottom

### Revision History

REVISION NUMBER	REVISION DATE	DESCRIPTION	PAGES CHANGED
0	11/16	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](http://www.maximintegrated.com).

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