MAX606/MAX607 Evaluation Kit

Features

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valuates: MAX606/MAX607

- Type 1 Layout (1.35mm max height) Types 2 and 3 Layout (2.50mm max height)
- + 5V (MAX607), 12V (MAX606), or Adjustable Voltage
- ±4%-Accurate Output
- Guaranteed 60mA Output Current
- ♦ 3V to 5.5V Input Voltage Range
- 150µA Quiescent Current (MAX607)
- 1µA IC Shutdown Current
- 1MHz Switching Frequency (MAX606)
- Fully Assembled and Tested

Ordering Information

PART	TEMP. RANGE	BOARD TYPE
MAX606EVKIT-MM	0°C to +70°C	Surface Mount

Component Suppliers

SUPPLIER	PHONE	FAX
Marcon/United Chemi-Con	(708) 696-2000	(708) 518-9985
Sprague	(508) 339-8900	(508) 339-5063
Dale Inductors	(605) 668-4131	(605) 665-1627
Sumida USA	(708) 956-0666	(708) 956-0702
Sumida Japan	(03) 607-5111	(03) 607-5144
Motorola	(602) 244-3576	(602) 244-4015

Quick Start

The MAX606/MAX607 EV kit is a fully assembled and tested surface-mount board. Follow the steps below to verify board operation. Do not turn on the power supply until all connections are completed.

- 1) Connect a 3V to 5.5V power supply to the pad marked VIN. The ground connects to the GND pad.
- 2) Connect a voltmeter and load (if any) to the VOUT pad.
- 3) Place the shunts on JU12 and JU22 across pins 1 and 2.
- 4) Turn on the power and verify that the output voltage is 12V (MAX606) and 5V (MAX607).
- 5) Refer to the section Other Output Voltages to modify the board for different output voltages.

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General Description

The MAX606/MAX607 evaluation kit (EV kit) provides a regulated 12V output voltage (MAX606) and 5V output voltage (MAX607) while operating from 3V to 5.5V input voltages. The MAX606 circuit fits Type 1 flash memory and PC (PCMCIA) cards. The MAX607 circuit fits Type 2 and Type 3 cards.

The MAX606/MAX607 EV kit is a fully assembled and tested surface-mount printed circuit board. It comes with a MAX606 set to 12V and a MAX607 set to 5V, but it can also be used to evaluate other output voltages between VIN and 12.5V. Additional pads are provided on the board's solder side to accommodate the external components used in the adjustable mode.

DESIGNATION	QTY	DESCRIPTION	MAX HEIGHT* (mm)
C11, C17, (C14, 2 in parallel)	4	0.68µF ceramic capacitors Marcon THCR20E1E684Z	1.25
C21	1	2.2µF ceramic capacitor Marcon THCR30E1E225Z	1.50
C24	1	4.7µF ceramic capacitor Marcon THCR40E1E475Z	2.00
C12, C22	2	0.1µF ceramic capacitors	1.25
C16, C26†	2	22µF, 10V tantalum capacitors Sprague 592D226X0010C2T	N/A
C13, C23	2	10nF ceramic capacitors	1.25
U11	1	MAX606 (8-pin µMAX) Maxim MAX606EUA	1.11
U21	1	MAX607 (8-pin µMAX) Maxim MAX607EUA	1.11
L11	1	5µH, 1A inductor Dale ILS-3825-XX	1.19
L21	1	10µH, 700mA inductor Sumida CLS62B-100	2.40
D11, D21	2	Schottky diodes Motorola MBR0520L	1.35
None	1	MAX606/MAX607 PC board	N/A
None	1	MAX606/MAX607 data sheet	N/A

These specifications are the maximum heights guaranteed by

inductance of the external power supplies. They would not be needed in the production circuit (refer to the data sheet for

† These capacitors are used to reduce ringing caused by lead

the respective manufacturers' data sheets.

Component List

more information).

MAX606/MAX607 Evaluation Kit

Detailed Description

Jumper Selection

The 3-pin header JU12 selects the shutdown mode for MAX606 and JU22 selects the shutdown mode for MAX607. Tables 1 and 2 list jumper options.

Other Output Voltages

The MAX606/MAX607 output voltage is pin programmable to 5V and 12V, and also adjustable to voltages between V_{IN} and 12.5V. It comes with the MAX606 output voltage set at 12V through a cuttable trace between JU11 pins 2 and 3. If a 5V output is desired from the MAX606 circuit, cut the trace between JU11 pins 2 and 3, and install a jumper between JU11 pins 1 and 2. The only other modification is to add capacitors in C18 (two 0.68µF capacitors in parallel) locations.

The MAX607 output voltage is set at 5V through a cuttable trace between JU21 pins 1 and 2. If a 12V output is desired from the MAX607 circuit, cut the trace between JU21 pins 1 and 2, and install a jumper between JU21 pins 2 and 3.

If an adjustable output voltage is desired from either circuit, remove/cut the jumper/trace from JU11 pins or JU21 pins. Add the voltage divider resistors R11, R12, and C15 located on the board's solder side for the MAX606 circuit, or R21, R22, and C25 for the MAX607 circuit.

The *Output Voltage Selection* section in the MAX606/ MAX607 data sheet gives instructions for calculating R11, R12, R21, and C15, or R22 and C25 values. Tables 3 and 4 list jumper options.

Table 1. Jumper JU12 Functions

SHUNT LOCATION	SHDN PIN	MAX606 OUTPUT
1 & 2	Connected to VIN	MAX606 enabled, V _{OUT} = 12V
2 & 3	Connected to GND	Shutdown mode, V _{OUT} = V _{IN} - V _D

Table 2. Jumper JU22 Functions

SHUNT LOCATION	SHDN PIN	MAX607 OUTPUT
1 & 2	Connected to VIN	MAX607 enabled, V _{OUT} = 5V
2 & 3	Connected to GND	Shutdown mode, V _{OUT} = V _{IN} - V _D

Table 3. Jumper JU11 Functions

SHUNT LOCATION	FB PIN	MAX606 OUTPUT
1 & 2	Connected to VIN	$V_{OUT} = 5V$
2&3	Connected to GND	$V_{OUT} = 12V$
Open	Connected to resistor dividers R11 and R12	Adjustable mode

Table 4. Jumper JU21 Functions

SHUNT LOCATION	FB PIN	MAX607 OUTPUT
1 & 2	Connected to VOUT	Vout = 5V
2 & 3	Connected to GND	$V_{OUT} = 12V$
Open	Connected to resistor divider R21 and R22	Adjustable mode

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Figure 2. MAX607 EV Kit Schematic

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MAX606/MAX607 Evaluation Kit



Figure 3. MAX606/MAX607 EV Kit Component Placement Guide



Figure 5. MAX606/MAX607 EV Kit PC Board Layout— Solder Side



Figure 4. MAX606/MAX607 EV Kit PC Board Layout— Component Side



Figure 6. MAX606/MAX607 EV Kit PC Board Layout— Bottom Silkscreen

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