19-4625; Rev 0; 5/09

MAX17102 Evaluation Kit

Evaluates: MAX17102

General Description

The MAX17102 evaluation kit (EV kit) is a fully assembled and tested surface-mount circuit board that provides the voltages and features required for active-matrix, thin-film transistor (TFT), liquid-crystal displays (LCDs). The EV kit contains an SMBus™-compatible interface, a step-up switching regulator, a positive charge pump, a negative charge pump, a VCOM amplifier with a digitally adjustable VCOM calibration device with nonvolatile memory, and seven high-voltage level-shifting buffers.

The MAX17102 EV kit operates from a DC supply voltage from +2.5V to +5.5V. The step-up switching regulator is configured for a +16V output providing at least 450mA from a +4.5V to +5.5V input. The positive charge pump is configured for a +30V output providing 50mA. The negative charge pump is configured for a -10V output providing 50mA. The VCOM calibrator is capable of providing up to ±150mA peak, and features a programmable output voltage initially configured for +7.2V. The high-voltage, level-shifting scan driver buffers seven logic inputs (A2–A8) and shifts them to a desired level (Y2–Y8) for driving TFT-LCD row logic.

The MAX17102 EV kit demonstrates low quiescent current and high efficiency (> 85%) for maximum battery life. Operation at 1.2MHz allows the use of tiny surface-mount components.

Windows® 2000/XP®- and Windows Vista®-compatible software is also available for use with the MAX17102 EV kit and can be downloaded from **www.maxim-ic.com/evkitsoftware**.

Features

- **+2.5V to +5.5V Input Range**
- **Output Voltages**
  - **+16V Output at 450mA (+4.5V to +5.5V Input Step-Up Switching Regulator)**
  - **+30V Output at 50mA (Positive Charge Pump)**
  - **-10V Output at 50mA (Negative Charge Pump)**
  - **±150mA High-Current Op-Amp Output**
- **Resistor-Adjustable Switching Regulator and Op-Amp Output Range**
- **Digitally Programmable VCOM Output Voltage**
- **Seven +35V to -10V High-Voltage Level-Shifting Buffers**
- **> 85% Efficiency (Step-Up Switching Regulator)**
- **1.2MHz Step-Up Switching Frequency**
- **SMBus-Compatible Interface**
- **Windows 2000/XP- and Windows Vista (32-Bit)-Compatible Software**
- **Lead(Pb)-Free and RoHS Compliant**
- **Fully Assembled and Tested**

Ordering Information

PART	TYPE
MAX17102EVKIT+	EV Kit

+Denotes lead(Pb)-free and RoHS compliant.

Component List

DESIGNATION	QTY	DESCRIPTION
C1	0	Not installed, through-hole OS-CON capacitor (OSCON-B)
C2	1	1µF ±20%, 6.3V X5R ceramic capacitor (0402) Murata GRM155R60J105K TDK C1005X5R0J105M
C3, C4	2	10µF ±20%, 6.3V X5R ceramic capacitors (0805) Murata GRM21BR60J106K TDK C2012X5R0J106M
C5, C10	0	Not installed, ceramic capacitors (0603)
C6–C9, C14, C16, C17, C18	8	0.1µF ±10%, 50V X7R ceramic capacitors (0603) Murata GRM188R71H104K TDK C1608X7R1H104K
C11	0	Not installed, ceramic capacitor (1210)
C12, C13	2	10µF ±20%, 25V X5R ceramic capacitors (1210) Murata GRM32DR61E106M TDK C3225X7R1E106M
C15, C19	2	0.47µF ±10%, 25V X5R ceramic capacitors (0603) Murata GRM188R71E474K TDK C1608X5R1E474K

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Windows, Windows XP, and Windows Vista are registered trademarks of Microsoft Corp.

Component List (continued)

DESIGNATION	QTY	DESCRIPTION
C20, C21, C23, C25, C26, C27	0	Not installed, ceramic capacitors (0402)
C22	1	220pF ±10%, 50V X7R ceramic capacitor (0402) Murata GRM155R71H221K Taiyo Yuden UMK105BJ221KW
C24	0	Not installed, ceramic capacitor (0805)
C28, C29, C32, C33, C34, C41, C48, C49	8	0.1µF ±10%, 16V X7R ceramic capacitors (0603) Murata GRM188R71C104K TDK C1608X7R1C104K
C30, C31	2	10pF ±5%, 50V C0G ceramic capacitors (0603) Murata GRM1885C1H100J TDK C1608C0G1H100J
C35	1	0.033µF ±10%, 16V X5R ceramic capacitor (0603) Taiyo Yuden EMK107BJ333KA
C36–C39, C42, C44	6	1µF ±10%, 16V X7R ceramic capacitors (0603) Murata GRM188R71C105K TDK C1608X5R1C105K
C40, C43, C45	3	10µF ±10%, 16V X5R ceramic capacitors (0805) KEMET C0805C106K4PAC
C46, C47	2	22pF ±5%, 50V C0G ceramic capacitors (0603) Murata GRM1885C1H220J or TDK C1608C0G1H220J
C50, C99, C102, C105, C108	5	10pF ±5%, 50V C0G ceramic capacitors (0402) Murata GRM1555C1H100J
C51, C54, C61, C64, C67, C70, C73, C76, C79, C82	10	680pF ±5%, 50V C0G ceramic capacitors (0402) Murata GRM1555C1H681J
C52, C53, C62, C63, C68, C69, C74, C75, C80, C81	10	1800pF ±5, 50V C0G ceramic capacitors (0603) Murata GRM1885C1H182J
C55, C65, C71, C77, C83, C86, C87, C90, C91, C93–C96	13	100pF ±5%, 50V C0G ceramic capacitors (0402) Murata GRM1555C1H101J
C56, C66, C72, C78, C84	5	56pF ±5%, 50V C0G ceramic capacitors (0603) Murata GRM1885C1H560J
C57, C60	2	1.5pF ±0.25pF, 50V C0G ceramic capacitors (0402) Murata GRM1555C1H1R5C
C58, C59	2	3pF ±0.25pF, 50V C0G ceramic capacitors (0402) Murata GRM1555C1H3R0C
C85, C88, C89, C92	4	120pF ±5%, 50V C0G ceramic capacitors (0402) Murata GRM1555C1H121J
C97, C98, C100, C101, C103, C104, C106, C107, C109, C110	10	220pF ±5%, 50V C0G ceramic capacitors (0402) Murata GRM1555C1H221J
D1	1	3.9V, 500mW zener diode (SOD123) Diodes, Inc. BZT52C3V9-7-F
D2, D3	2	30V, 200mA dual diodes (3 SOT23) Zetex BAT54S Fairchild BAT54S
D4	1	30V, 3A Schottky diode (M-Flat) Toshiba CMS02
FB1	1	Ferrite bead (0603) TDK MMZ1608R301A Murata BLM18SG700 TN1
H1	0	Not installed, 2 x 5-pin JTAG header
JU1, JU3–JU11	10	3-pin headers, 0.1in centers
JU2, JU12, JU13, JU16–JU23	11	2-pin headers, 0.1in centers
JU14, JU15	0	Not installed, 2-pin headers
L1	1	2.7µH inductor Sumida CDR6D23MNNP-2R7NC
NTC, OSET, RT, TP1–TP8	11	Miniature test points

Component List (continued)

DESIGNATION	QTY	DESCRIPTION
P1	1	USB type-B right-angle PC-mount receptacle
R1	1	237kΩ ±1% resistor (0402)
R2	1	20kΩ ±1% resistor (0402)
R3–R6	4	68.1kΩ ±1% resistors (0402)
R7	1	30.1kΩ ±1% resistor (0402)
R8	1	80.6kΩ ±1% resistor (0402)
R9–R15, R28–R32	12	100kΩ ±5% resistors (0402)
R16	1	10Ω ±5% resistor (0603)
R17	1	49.9kΩ ±1% resistor (0402)
R18, R33, R35	0	Not installed, resistors (0603)
R19	1	0Ω resistor (0402)
R20	1	2.49kΩ ±1% resistor (0603)
R21	1	16.2kΩ ±1% resistor (0402)
R22	1	47.5kΩ ±1% resistor (0402)
R23	1	100kΩ multiturn potentiometer
R24, R26	2	15kΩ ±1% resistors (0603)
R25	1	25kΩ multiturn potentiometer
R27	1	18.2kΩ ±1% resistor (0603)
R34, R36, R39	3	1.5kΩ ±5% resistors (0603)
R37, R38	2	27Ω ±5% resistors (0603)
R40	1	2.2kΩ ±5% resistor (0603)
R41	1	470Ω ±5% resistor (0603)
R42	1	10kΩ ±5% resistor (0603)
R43–R47	0	Not installed, resistors—short PC trace (0402)
R48	1	169kΩ ±1% resistor (0603)
R49	1	100kΩ ±1% resistor (0402)
R50, R58, R63, R68, R73	5	56Ω ±5%, 1/4W resistors (1206)
R51, R59, R64, R69, R74	5	56Ω ±5% resistors (0805)
R52, R60, R65, R70, R75,	5	56Ω ±5% resistors (0402)
R53, R61, R66, R71, R76	5	130Ω ±5% resistors (0402)
R54, R62, R67, R72, R77	5	240Ω ±5% resistors (0402)
R55, R56, R57	3	10Ω ±5% resistors (0402)
R78–R83	6	180Ω ±5% resistors (0402)
RT1	1	47kΩ ±5% NTC thermistor (0603)
SW1	1	7-position low-profile surface-mount DIP switch
U1	1	Internal switch boost regulator (48 TQFN-EP*) Maxim MAX17102ETM+
U2	1	Microcontroller (68 QFN-EP*) Maxim MAXQ2000-RAX+
U3	1	2.5V LDO regulator (5 SO70) Maxim MAX8511EXK25+
U4	1	Adjustable output LDO regulator (5 SO70) Maxim MAX8512EXK+
U5	1	UART-to-USB converter (32 TQFP) FTDI FT232BL
U6	1	93C46 type (64kx16) 3-wire EEPROM (8 SO) Atmel AT93C46AEN-SH-B
U7, U8	2	Logic-level translators (10 µMAX®) Maxim MAX1840EUB+
Y1	1	16MHz crystal
Y2	1	6MHz crystal
—	22	Shunts
—	1	PCB: MAX17102 EVALUATION KIT+

**EP = Exposed pad.*

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MAX17102 Evaluation Kit

Component Suppliers

SUPPLIER	PHONE	WEBSITE
Diodes, Inc.	805-446-4800	www.diodes.com
Fairchild Semiconductor	888-522-5372	www.fairchildsemi.com
KEMET Corp.	864-963-6300	www.kemet.com
Murata Electronics North America, Inc.	770-436-1300	www.murata-northamerica.com
Sumida Corp.	847-545-6700	www.sumida.com
Taiyo Yuden	800-348-2496	www.t-yuden.com
TDK Corp.	847-803-6100	www.component.tdk.com
Toshiba America Electronic Components, Inc.	949-623-2900	www.toshiba.com/taec
Zetex Semiconductors	631-543-7100	www.zetex.com

Note: *Indicate that you are using the MAX17102 when contacting these component suppliers.*

MAX17102 EV Kit Files

FILE	DESCRIPTION
INSTALL.EXE	Installs the EV kit files on your computer
MAX17102.EXE	Application program
FTD2XX.INF	USB device driver file
UNINST.INI	Uninstalls the EV kit software
USB_Driver_Help.PDF	USB driver installation help file

Quick Start

Recommended Equipment

- MAX17102 EV kit
- +5V power supply
- Voltmeter
- User-supplied Windows 2000/XP or Windows Vista PC with a spare USB port

Note: In the following sections, software-related items are identified by bolding. Text in **bold** refers to items directly from the EV kit software. Text in **bold and underlined** refers to items from the Windows operating system.

Hardware Procedure

The MAX17102 EV kit is fully assembled and tested. Follow the steps below to verify board operation. **Caution: Do not turn on power until all connections are completed.**

1) Verify that all jumpers are configured as listed in the following table.
2) Verify that switch SW1 is configured with all switches in the off position (all actuators in the down position, toward the bottom of the board).

JUMPER	DEFAULT POSITION
JU1, JU3, JU4	1-2
JU2	Installed
JU5–JU11	2-3
JU12, JU13, JU16–JU23	Not installed

3) Connect the +5V power supply to the VIN and PGND pads.
4) Enable the power supply and verify that VMAIN is +16V.
5) Verify that VN is approximately -10V.
6) Verify that VP is approximately +30V.
7) Verify that VCOM is +7.2V.
8) Verify that the output of the high-voltage level-shifting buffers is approximately +30V.

Software Procedure

1) Visit **www.maxim-ic.com/evkitsoftware** to download the latest version of the MAX17102 EV kit software, 17102Rxx.ZIP. Save the EV kit software to a temporary folder and uncompress the ZIP file.
2) Install the EV kit software on your computer by running the INSTALL.EXE program inside the temporary folder. The program files are copied and icons are created in the Windows **Start | Programs** menu.
3) Connect the USB cable from the PC to the EV kit board. A **Building Driver Database** window pops up in addition to a **New Hardware Found** message when installing the USB driver for the first time. If a window is not seen that is similar to the one described above after 30s, remove the USB cable from the board and reconnect it. Administrator privileges are required to install the USB device driver on Windows 2000/XP and Windows Vista.

4) Follow the directions of the **Add New Hardware Wizard** to install the USB device driver. Choose the **Search for the best driver for your device** option. Specify the location of the device driver to be **C:\Program Files\MAX17102** (default installation directory) using the **Browse** button. During device driver installation, Windows may show a warning message indicating that the device driver Maxim uses does not contain a digital signature. This is not an error condition and it is safe to proceed with installation. Refer to the *USB_Driver_Help.PDF* document included with the software for additional information.
5) Start the EV kit software by opening its icon in the **Start | Programs** menu. The EV kit software main window appears, as shown in Figure 1.

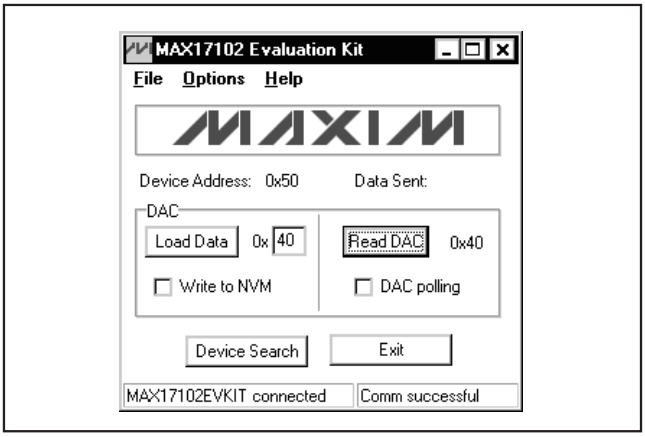

Figure 1. MAX17102 EV Kit Software Main Window

Detailed Description of Software

The MAX17102 device includes a calibrator for adjusting an LCD's backplane voltage (VCOM) in TFT LCD displays. This is accomplished by programming the desired setting into the device's 7-bit internal DAC. The software also facilitates reading of the device and programming of the device's internal nonvolatile memory cell. Refer to the MAX17102 IC data sheet for further details.

Loading 7-Bit DAC Setting

The DAC setting corresponds to a certain sink-current level, which in turn corresponds to a specific VCOM voltage. With the MAX17102 EV kit software, the device's 7-bit internal DAC is configured by inputting an appropriate DAC setting in the **0x** edit box located in the **DAC** group box. The DAC setting can be set from 0x00 ($VCOM_{MIN}$) to 0x7F ($VCOM_{MAX}$). The DAC setting is written to the device by pressing the **Load Data** button.

Reading 7-Bit DAC

The MAX17102 7-bit DAC is read by either pressing the **Read DAC** button or by checking the **DAC polling** checkbox. When checked, the software continuously reads and displays the DAC's current setting.

Programming Nonvolatile Memory

Program the current DAC setting into the device's internal nonvolatile memory (NVM) by checking the **Write to NVM** checkbox before pressing the **Load Data** button. As long as the checkbox is selected, the DAC and NVM are both loaded with the entered value. Each time the device is powered on, the DAC is loaded with the setting stored in the device's NVM. Programming is only possible when AVDD is > +7.3V (typ).

Simple SMBus Commands

There are two methods for communicating with the MAX17102: through the MAX17102 EV kit software main window (Figure 1) or through the **Advanced User Interface** window available by selecting the **Options | Interface (Advanced Users)** menu item from the menu bar. The **Advanced User Interface** window (Figure 2) includes a **2-wire interface** tab that allows for execution of the SMBusWriteByte(), SMBusReceiveByte(), and SMBusQuick() commands. See Table 1 for SMBus command details.

The **Command byte** combo box accepts numeric data in binary, decimal, or hexadecimal. Hexadecimal numbers should be prefixed by $ or 0x. Binary numbers must be exactly eight digits. See Figure 2 for an illustration of this tool.

Detailed Description of Hardware

The MAX17102 EV kit contains an SMBus-compatible interface, a step-up switching regulator, a positive charge pump, a negative charge pump, a VCOM amplifier with a digitally adjustable VCOM calibration device, and seven high-voltage level-shifting buffers. The EV kit operates from a single DC power supply between +2.5V to +5.5V that provides at least 2A.

As configured, the step-up switching regulator (V_{MAIN}) generates a +16V output and provides at least 450mA from a +4.5 to +5.5 input. The step-up switching-regulator output voltage can be adjusted up to +18V with different feedback resistors (see the *Output-Voltage Selection (VMAIN)* section).

The VP consists of two positive charge-pump stages to generate approximately +30V and provides at least 50mA. The VN consists of a negative charge-pump stage to generate approximately -10V and provides at least 50mA. Loading VP and VN beyond 50mA reduces the available VMAIN current proportionally.

Table 1. SMBus Commands

CONTROL	SMBus COMMAND	FORMAT
Load DAC	SMBusWriteByte	Enter the data register address (0x00) into the **Command byte** combo box. Input the access control register value 0x80 and desired 7-bit DAC setting into the **Data Out** edit field. Separate the values with a comma (i.e., “0x80,0x7F”).
Load Data/Write to NVM	SMBusWriteByte	Enter the data register address (0x00) into the **Command byte** combo box. Input the access control register value 0x00 and desired 7-bit DAC setting into the **Data Out** edit field. Separate the values with a comma (i.e., “0x00,0x7F”).
Read DAC	SMBusReceiveByte	Receives 8 bits from the device. The lower 7 bits correspond to the current DAC setting.
Device Search	SMBusQuick	Search for the device address shown in the **Target Device Address** combo box. The MAX17102 device address is set by pins ADR0 (JU12) and ADR1 (JU13).

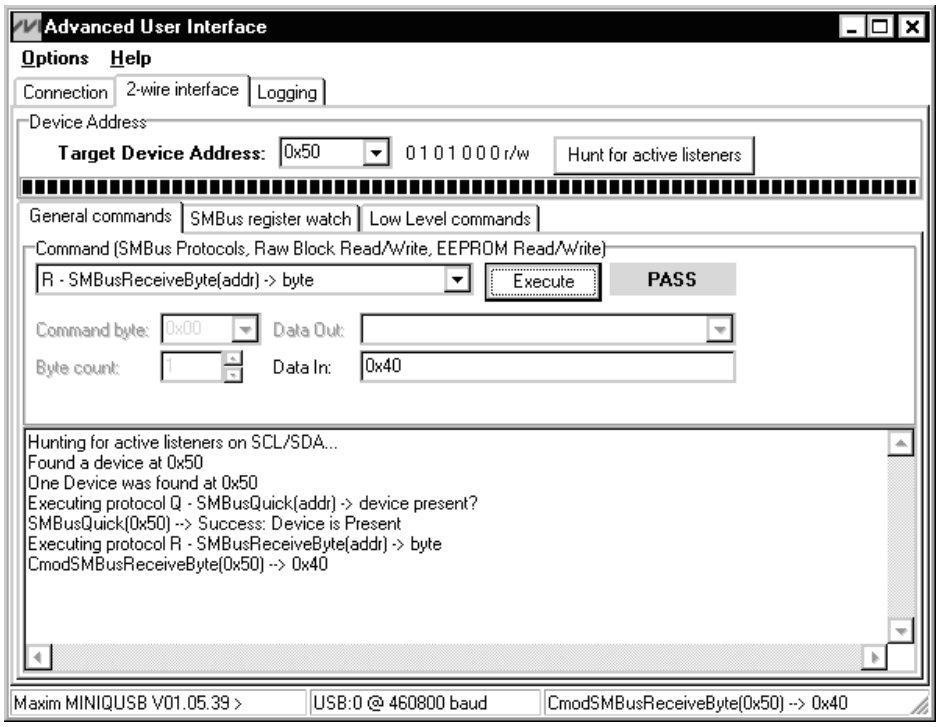

Figure 2. Advanced User Interface Window

The op-amp output (VCOM) is SMBus programmable and configured for an output-voltage range of +6.3V to +8V with the default component values on the board. The VCOM amplifier can source or sink peak current up to 150mA. The output-voltage range can be reconfigured to other voltages with voltage-divider resistors R16 and R17. Refer to the *Setting the VCOM Adjustment Range* section in the MAX17102 IC data sheet for more details.

The seven logic-level to high-voltage level-shifting scan drivers buffer the seven logic inputs (A2–A8) and shift them to a desired level (Y2–Y8) to drive TFT LCD row logic. Each buffer outputs the voltage on the GOFF pin

when its respective input is logic-low. Y2, Y3, and Y4 output the voltage on GON1 when its respective input is logic-high. Similarly, Y5/Y6 output the voltage on GON2 and Y7/Y8 output the voltage on GON3.

For testing purposes, the seven switches within SW1 are used to set the logic levels of the scan-driver inputs (A2–A8) and the JU16–JU23 jumpers are used to connect resistive/capacitive loads to the scan-driver outputs (YDCHG and Y2–Y8).

Switching Frequency (JU1)

The MAX17102 EV kit incorporates jumper JU1 to configure the switching frequency to one of three preconfigured values, 450kHz or 1.2MHz. Adjust the switching frequency from 400kHz to 1.2MHz by installing alternate resistors R7 and R8. Use the following equation to determine the appropriate resistor values for the desired switching frequency. See Table 2 for jumper JU1 functions.

$$f_{SW} = 15 \times R$$

where R is the R7 or R8 resistor in kilohms.

Enable (JU2)

The MAX17102 EV kit incorporates jumper JU2 to control the EN pin. See Table 3 for jumper JU2 functions.

Table 2. Jumper JU1 Functions

SHUNT POSITION	FREQ PIN	DESCRIPTION
1-2*	Connected to AGND through R8	Switching frequency (f_{SW}) = 1.2MHz
2-3	Connected to AGND through R7	Switching frequency (f_{SW}) = 450kHz
Not installed	Unconnected	Switching frequency (f_{SW}) = 600kHz

**Default position.*

Table 3. Jumper JU2 Functions

SHUNT POSITION	EN PIN	DESCRIPTION
Installed*	Connected to VIN	Outputs enabled (VMAIN = +16V)
Not installed	Connected to AGND through R32	Outputs disabled (VMAIN ≈ VIN)

**Default position.*

GON Supply Configuration (JU3, JU4)

The gate-on supplies (GON2 and GON3) are the positive supplies for the level-shifter outputs (Y5/Y6 and Y7/Y8, respectively). The GON2 and GON3 supplies can be configured to draw power from the positive charge pump (VP) or from an external supply connected to the GON2 or GON3 PCB pad. See Table 4 for jumpers JU3 and JU4 functions.

Device Address (JU12, JU13)

The MAX17102 device address can be configured to one of four addresses by configuring jumpers JU12 and JU13. See Table 5 for jumpers JU12 and JU13 functions.

Scan Driver

The MAX17102 includes a scan driver that buffers inputs A2–A8 and level shifts them to outputs Y2–Y8. The scan driver also provides a discharge output, YDCHG. To facilitate evaluation, the MAX17102 EV kit provides an input network for the level-shifter inputs (A2–A8) and resistive/capacitive loads for the level-shifter outputs (YDCHG and Y2–Y8).

Table 4. GON2 and GON3 Power Source Selection (JU3, JU4)

SHUNT POSITION	GON2/GON3 PINS	DESCRIPTION
1-2*	Connected to VP	Output positive rail = VP (+30V)
2-3	Connected to GON_ pad	Output positive rail = external supply (+12V to +35V)

**Default position.*

Table 5. Jumper JU12 and JU13 Functions

JUMPER POSITION		DEVICE ADDRESS
JU12	JU13	
Not installed*	Not installed*	0x50
Not installed	Installed	0x52
Installed	Not installed	0x54
Installed	Installed	0x56

**Default position.*

Table 6. Logic Input Configuration (JU5–JU11)

SHUNT POSITION	SW1 POSITION	A_ INPUT LOGIC LEVEL
1-2	N/A	Signal applied at A2–A8 PCB pad
2-3*	Off	Low
	On	High

**Default position.*

Input Logic Level (JU5–JU11)

Jumpers JU5–JU11 configure the MAX17102 EV kit's A2–A8 inputs to accept either a DC voltage or a square-wave input signal. Install a shunt across pins 1-2 of the individual channels to use a square-wave signal applied between the A2–A8 and PGND PCB pads. The square wave should have a +2V to +5.5V logic-high level. **When applying a square-wave signal at the A2–A8 PCB pad, place scope probes across the shunts installed at jumpers JU5–JU11 for proper evaluation of the MAX17102 scan-driver outputs.**

Install a shunt across pins 2-3 of the individual channels to configure the inputs to static logic-low or logic-high DC levels. DIP switch SW1 sets the buffer inputs to a logic-high using the input voltage (VIN). See Table 6 for jumpers JU5–JU11 configurations.

Output Loads (JU16–JU23)

The MAX17102 EV kit provides resistive/capacitive loads for each output channel to mimic TFT LCD panel-load models. Install shunts on jumpers JU16–JU23 to connect the RC loads to the scan-driver outputs. The TP1–TP8 test points can be used to monitor the loaded buffer outputs when applying static DC voltages at the A_ inputs. **When applying a square-wave signal at A2–A8 PCB pad, place scope probes across the shunts installed at jumpers JU16–JU23 for proper evaluation of the MAX17102 buffers.** See Table 7 for jumpers JU16–JU23 configurations and Figure 3b for an illustration of the RC load networks.

Table 7. Output Load Configuration (JU16–JU23)

SHUNT POSITION	YDCHG, Y2–Y8 OUTPUTS	DESCRIPTION
Installed	Connected to on-board RC load	Outputs monitored at shunts
Not installed*	Disconnected from RC load	No-load condition for scan drivers

**Default position.*

Output-Voltage Selection (VMAIN)

The MAX17102 EV kit's step-up switching-regulator output (VMAIN) is set to +16V by feedback resistors R2 and R3. To generate output voltages other than +16V (up to +18V), select different external voltage-divider resistors (R1 and R2). Refer to the *Output-Voltage Selection* section in the MAX17102 IC data sheet for instructions on selecting resistors R1 and R2.

Note that changing the VMAIN voltage setting changes the VN and VP charge-pump output voltages. The voltage range on VN is limited to -10V and the voltage range on VP is limited to +35V. Adjusting the VMAIN voltage requires reconfiguring the charge pumps to avoid exceeding +35V on VP and -10V on VN.

Op-Amp Output Voltage (VCOM)

The MAX17102 EV kit's op amp is configured as an unity-gain buffer (NEG connected to VCOM). The voltage at the noninverting input (POS) is set to half of VMAIN by voltage-divider resistors R3 and R4. To set VCOM to other voltages (up to VMAIN), select different divider resistors.

The EV kit also provides potentiometers R23 and R25 to adjust the VCOM temperature compensation. Refer to the *VCOM Temperature Compensation* section in the IC data sheet for more details.

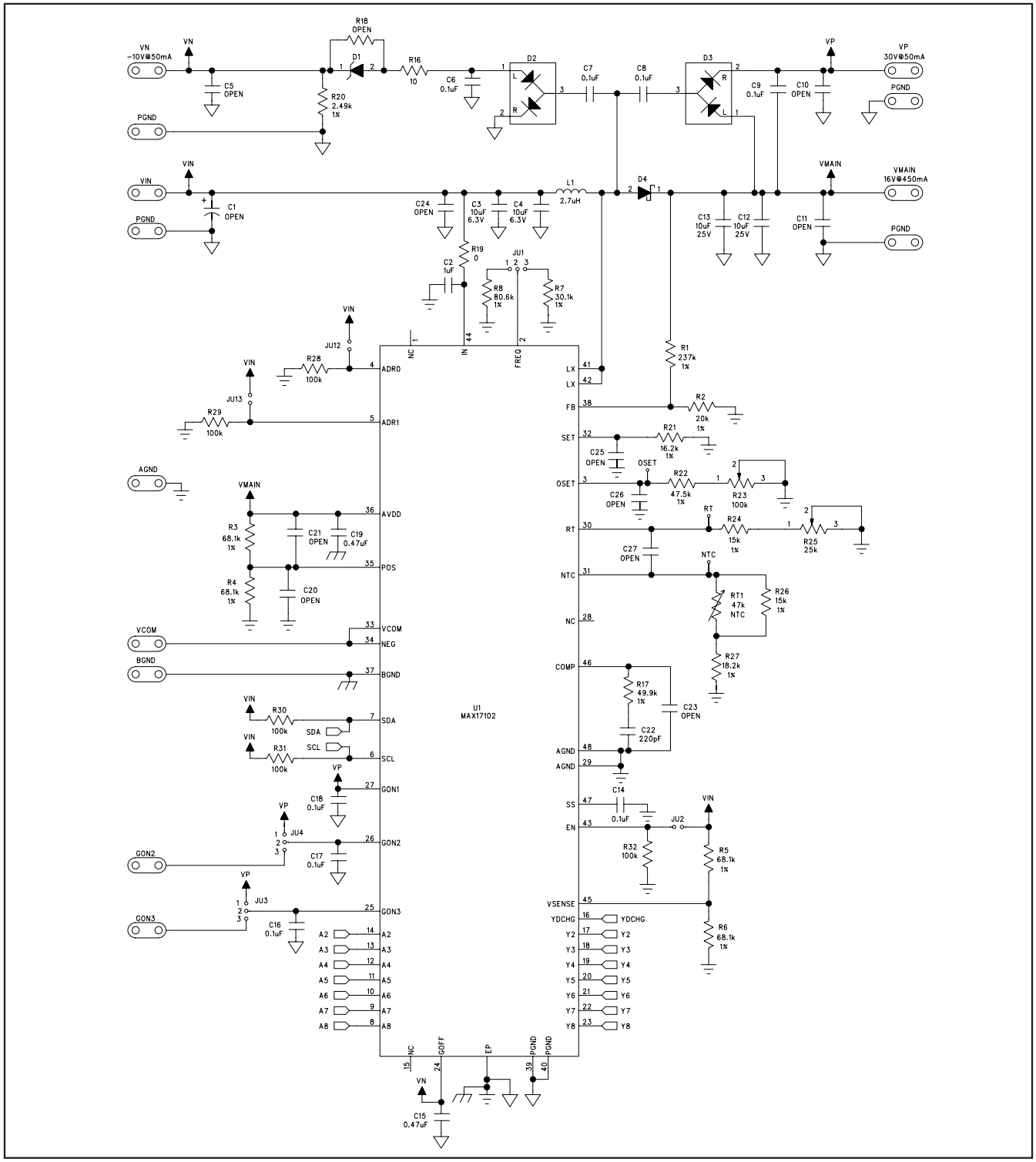

Figure 3a. MAX17102 EV Kit Schematic (Sheet 1 of 3)

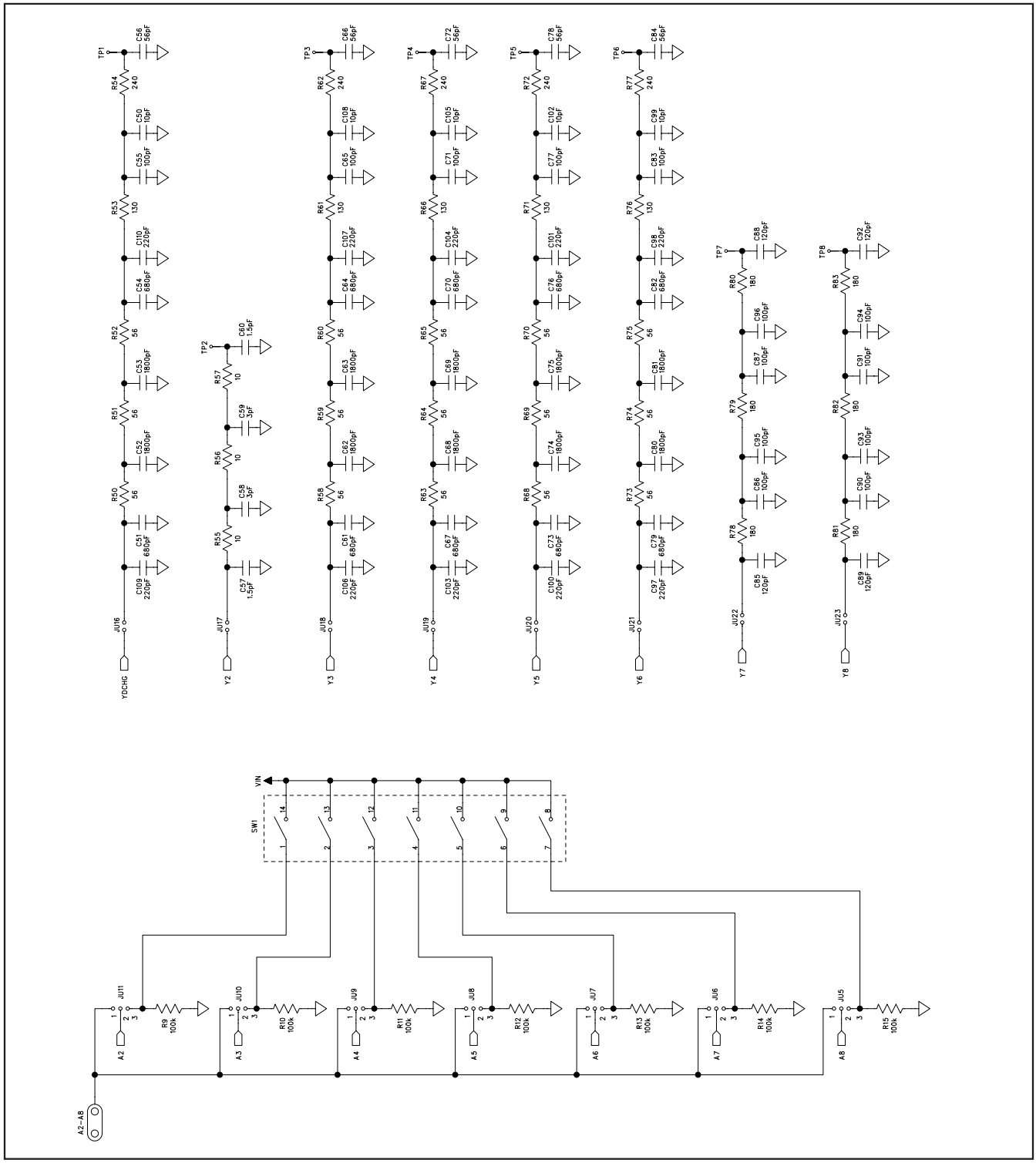

Figure 3b. MAX17102 EV Kit Schematic (Sheet 2 of 3)

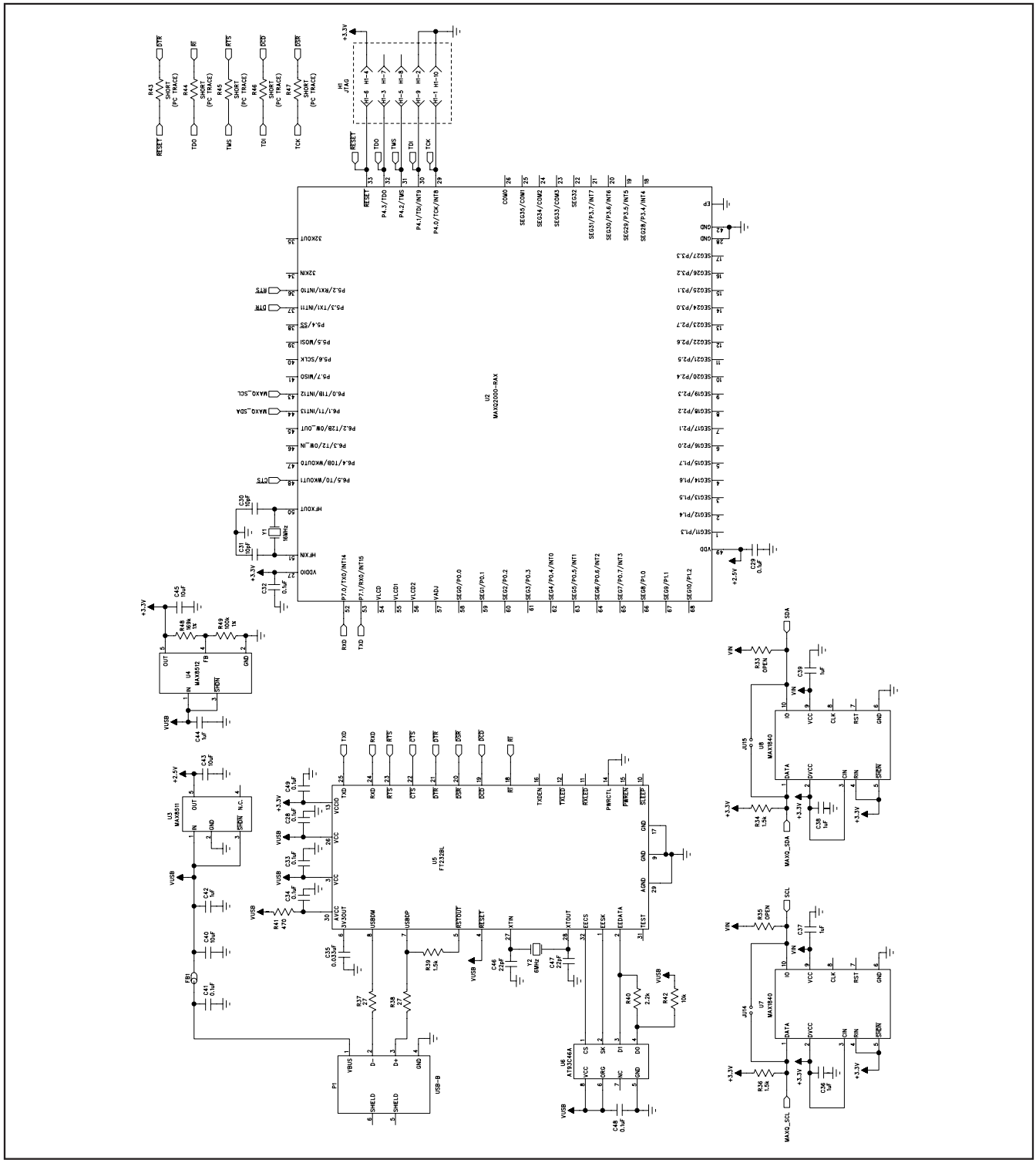

Figure 3c. MAX17102 EV Kit Schematic (Sheet 3 of 3)

MAX17102 Evaluation Kit

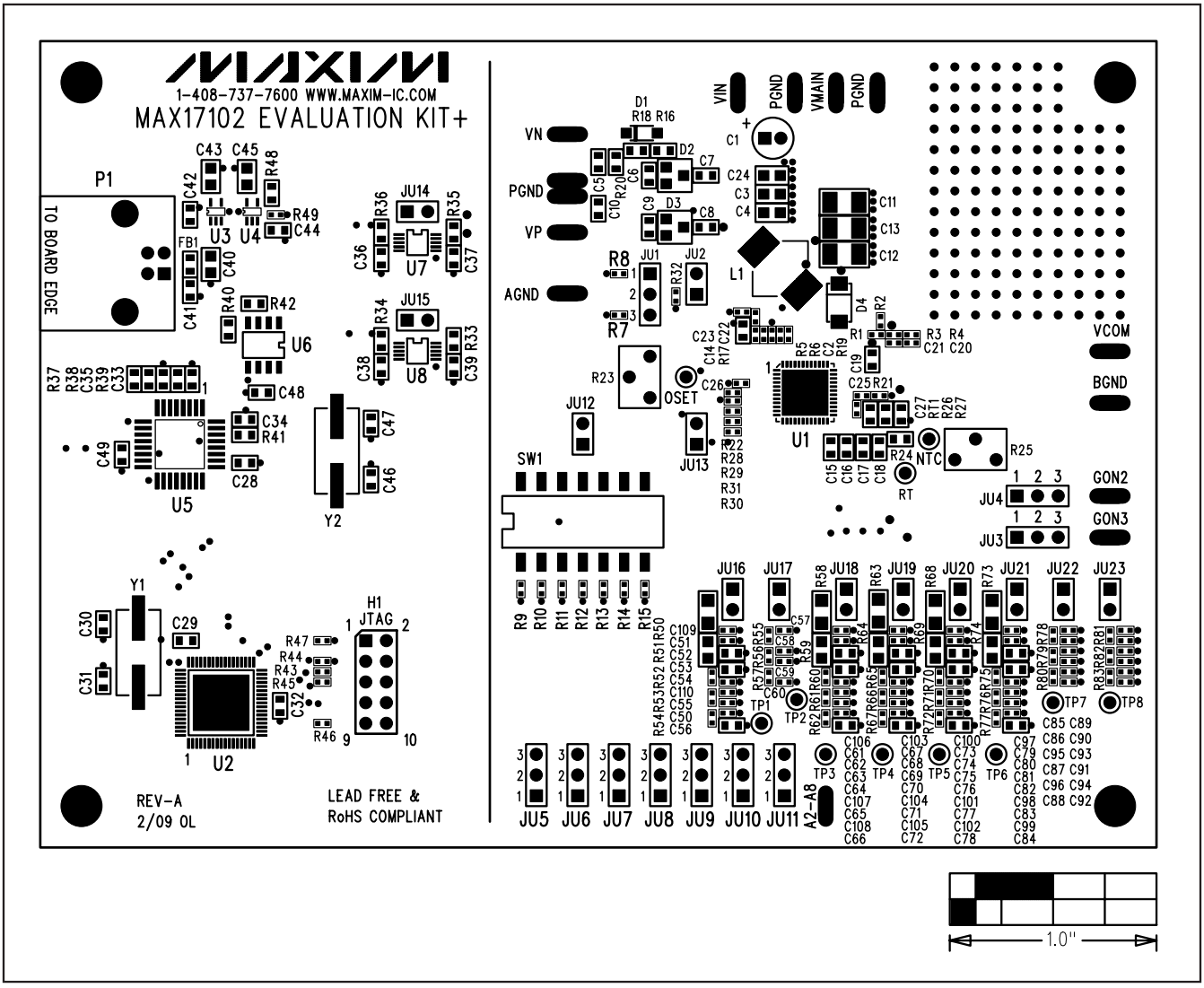

Figure 4. MAX17102 EV Kit Component Placement Guide—Component Side

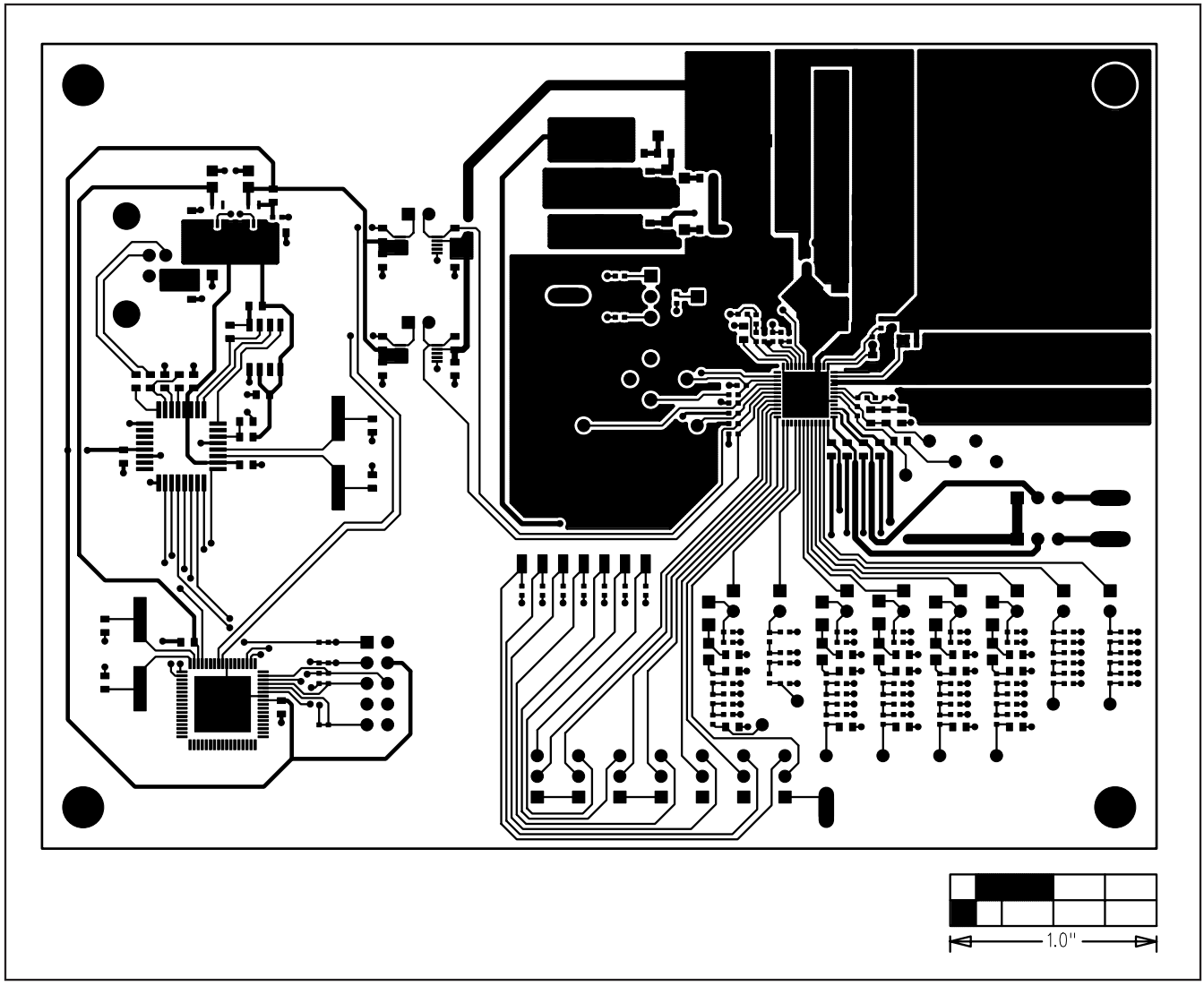

Figure 5. MAX17102 EV Kit PCB Layout—Component Side

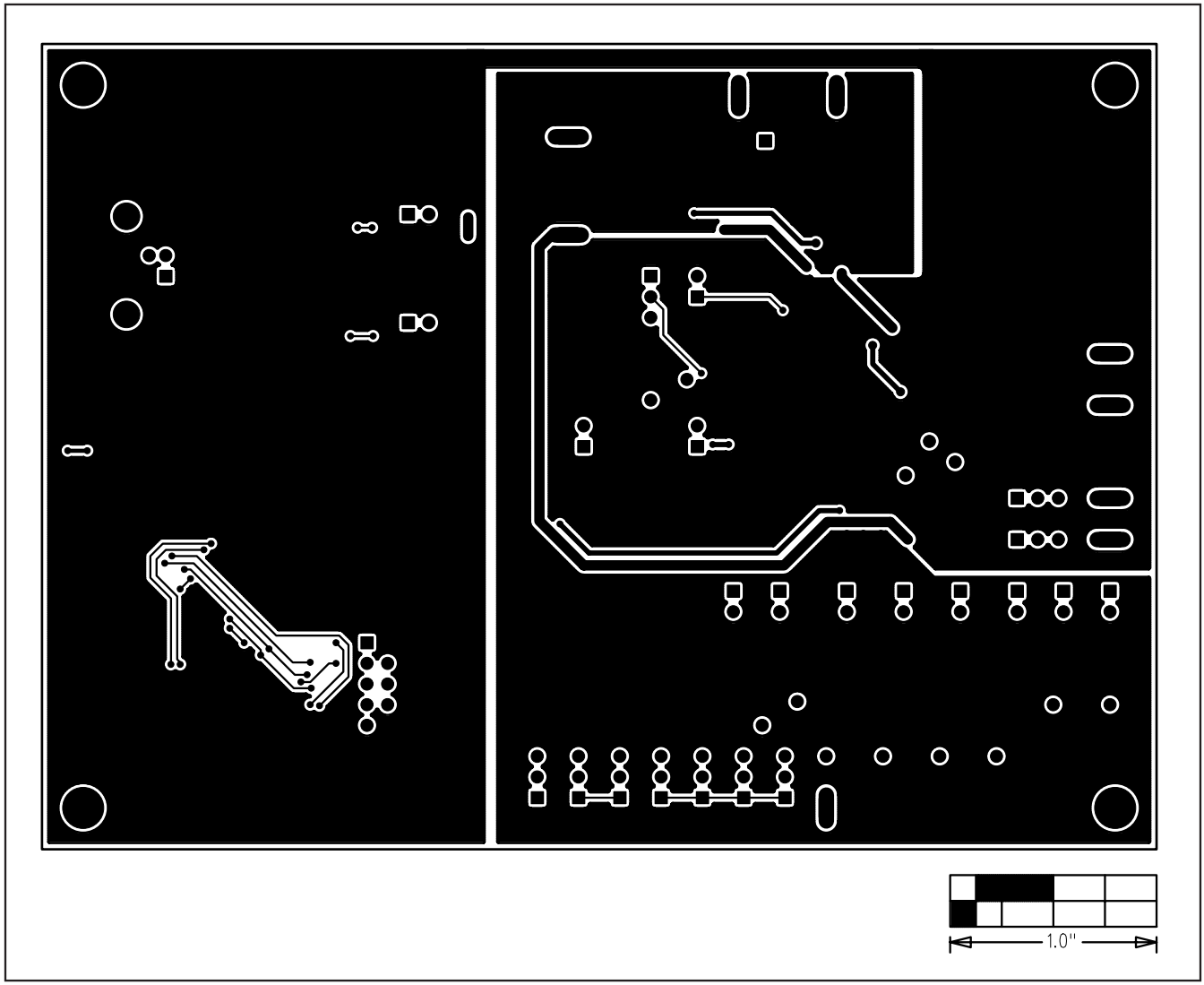

Figure 6. MAX17102 EV Kit PCB Layout—Solder Side

Стандарт Электрон Связь

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