Evaluates: MAX40242

General Description

The MAX40242 evaluation kit (EV kit) provides a proven design to evaluate the MAX40242 low-input bias current, low-noise operational amplifier (op amp) in an 8-pin μ MAX[®] package. The EV kit circuit is preconfigured as noninverting amplifiers, but can be adapted to other topologies by changing a few components. The component pads accommodate 0805 packages, making them easy to solder and replace. The EV kit comes with a MAX40242ANA+ installed.

Features

- Accommodates Multiple Op-Amp Configurations
- Rail-to-Rail Outputs
- Accommodates Easy-to-Use 0805 Components
- 2.7V to 20V Single Supply or ±1.35V to ±10V Dual Supplies
- Proven PCB Layout
- Fully Assembled and Tested

Ordering Information appears at end of data sheet.

MAX40242 EV Kit Photo

Quick Start

Required Equipment

- MAX40242 EV kit
- +5V, 10mA DC power supply (PS1)
- Two precision voltage sources
- Two digital multimeters (DMMs)

Procedure

The EV kit is fully assembled and tested. Follow the steps below to verify board operation. Caution: Do not turn on power supplies until all connections are completed and turn on V_{DD} , V_{SS} supplies before turning on voltage sources on the input pins.

- 1) Verify that the jumpers are in their default position, as shown in <u>Table 1</u>.
- 2) Connect the positive terminal of the +5V supply to V_{DD} and the negative terminal to GND test points.
- Connect the positive terminal of the precision voltage source to INAP. Connect the negative terminal of the precision voltage source to GND.



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- Connect the positive terminal of the second precision voltage source to the INBP pad. Connect the negative terminal of the precision voltage source to GND.
- 5) Connect the Multimeters to monitor the voltages on OUTA and OUTB. With the $9k\Omega$ feedback resistors and $1k\Omega$ series resistors, the gain of each noninverting amplifier is +10V/V.
- 6) Turn on the +5V power supply.
- Apply 100mV from the precision voltage sources. Observe the output at OUTA and OUTB on the DMMs. Both should read approximately +1V.
- 8) Apply 450mV from the precision voltage sources. Both OUTA and OUTB should read approximately +4.5V.

Once the above steps are confirmed, the EV kit is tested for functionality.

Detailed Description of Hardware

The MAX40242 EV kit provides a proven layout for the MAX40242 low input bias current, low-noise dual op amp.

The IC is a single-supply dual op amp whose primary application is operating in the noninverting configuration; however, the IC can operate with a dual supply as long as the voltage across the V_{DD} and GND pins of the IC do not exceed the absolute maximum ratings. When operating with a single supply, short V_{SS} to GND.

Op-Amp Configurations

The IC is a single-supply dual op amp ideal for differential sensing, noninverting amplification, buffering, and filtering. A few common configurations are shown in the next few sections.

The following sections explain how to configure one of the device's op amps (op-amp A). To configure the device's second op amp (op-amp B), the same equations can be used after modifying the component reference designators. For op-amp B, the equations should be modified by

JUMPER	SHUNT POSITION	DESCRIPTION									
11.14	Installed*	Terminating Inverting input of CHA to GND through Gain Resistor									
JU1	Not Installed	Floating Inverting input of CHA to GND through Gain Resistor									
11.10	Installed*	For Non-Inverting configuration of CHA, apply Input on INAP									
JU2	Not Installed	Floating Non-Inverting input of CHA Resistor									
JU3	1-2*	For Non-Inverting configuration on CHA									
103	2-3	Terminating Non-Inverting input of CHA to GND									
11.14	Install*	Jumper to pass on signal from OUTA pin of CHA to OUTA test point									
JU4	Not Installed	No signal on OUTA test point from OUTA pin									
JU5	Installed*	Terminating Inverting input of CHB to GND through Gain Resistor									
105	Not Installed	Floating Inverting input of CHB to GND through Gain Resistor									
JU6	Installed*	For Non-Inverting configuration of CHB, apply Input on INBP									
100	Not Installed	Floating Non-Inverting input of CHB									
JU7	1-2*	For Non-Inverting configuration on CHB									
307	2-3	Terminating Non-Inverting input of CHB to GND									
11.10	Install*	Jumper to pass on signal from OUTB pin of CHB to OUTB test point									
JU8	Not Installed	No signal on OUTB test point from OUTB pin									
11.10	Install*	Single-supply operation									
JU9	Not Installed	Float V _{SS} pin to enable Split-supply operation									

Table 1. Jumper Descriptions (JU1–JU8)

*Default position.

adding 10 to the number portion of the reference designators (e.g., for the noninverting configuration, equation R1 becomes R11 and R5 becomes R15).

Noninverting Configuration

The EV kit comes preconfigured as a noninverting amplifier. The gain is set by the ratio of R5 and R1. The EV kit comes preconfigured for a gain of 10V/V. The output voltage for the noninverting configuration is given by the equation below:

$$V_{\text{OUTA}} = \left(1 + \frac{\text{R5}}{\text{R1}}\right) V_{\text{INAP}}$$

Differential Amplifier

To configure the EV kit as a differential amplifier, replace R1–R3, and R5 with appropriate resistors. When R1 = R2 and R3 = R5, the CMRR of the differential amplifier is determined by the matching of the resistor ratios R1/R2 and R3/R5.

where:

$$GAIN = \frac{R5}{R1} = \frac{R3}{R2}$$

 $V_{OUTA} = GAIN (V_{INAP} - V_{INAM})$

Sallen-Key Filter Configuration

The Sallen-Key filter topology is ideal for filtering sensor signals with a second-order filter and acting as a buffer. Schematic complexity is reduced by combining the filter and buffer operations. The EV kit can be configured in a Sallen-Key topology by replacing and populating a few components. The Sallen-Key topology is typically configured as a unity-gain buffer, which can be done by replacing R1 and R5 with open and 0Ω resistors, respectively and short JU2. The noninverting signal is applied to the INAP test point with JU2 short and short pins 1-2 on JU3 or do the same on the INBP pad similarly. The filter component pads are R2–R4, and R8, where some have to be populated with resistors and others with capacitors. We will go into detail below on these details.

Lowpass Sallen-Key Filter

To configure the Sallen-Key as a lowpass filter, populate the R2 and R8 pads with resistors, and populate the R3 and R4 pads with capacitors. The corner frequency and Q are then given by:

$$f_{C} = \frac{1}{2\pi\sqrt{R_{R2}R_{R8}C_{R3}C_{R4}}}$$
$$Q = \frac{\sqrt{R_{R2}R_{R8}C_{R3}C_{R4}}}{C_{R3}(R_{R2} + R_{R8})}$$

Highpass Sallen-Key Filter

To configure the Sallen-Key as a highpass filter, populate the R3 and R4 pads with resistors and populate the R2 and R8 pads with capacitors. The corner frequency and Q are then given by:

$$f_{C} = \frac{1}{2\pi\sqrt{R_{R3}R_{R4}C_{R2}C_{R8}}}$$
$$Q = \frac{\sqrt{R_{R3}R_{R4}C_{R2}C_{R8}}}{R_{R4}(C_{R2} + C_{R8})}$$

Transimpedance Application

To configure op-amp U1-A as a transimpedance amplifier (TIA), replace R1 with photo-diode with bias accordingly and shunt on pins 2-3 on jumper JU3. The output voltage of the TIA is the input current multiplied by the feedback resistor:

$$V_{OUT} = (I_{IN} + I_{BIAS}) \times R4 + V_{OS}$$

where R4 is installed as a $9k\Omega$ resistor, I_{IN} is defined as the input current source applied by photo-diode or a current source, I_{BIAS} is the input bias current, and V_{OS} is the input offset voltage of the op amp. Use capacitor C8 (and C7, if applicable) to stabilize the op amp by rolling off high-frequency gain due to a large cable capacitance. Similarly, we can configure op-amp U1-B for transimpedance application.

Capacitive Loads

Some applications require driving large capacitive loads. To improve the stability of the amplifier, replace R6 (R16 for U1-B) with a suitable resistor value to improve amplifier phase margin. The R6/C9 (R16/C19 for U1-B) filter can also be used as an anti-alias filter, or to limit amplifier output noise by reducing its output bandwidth.

Ordering Information

PART	ТҮРЕ
MAX40242EVKIT#	EV Kit

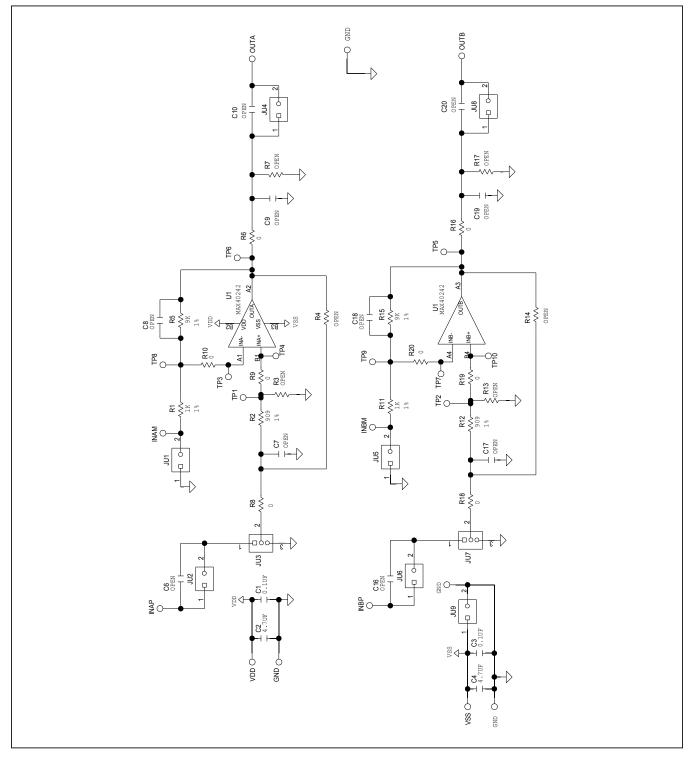
#Denotes ROHS compliant.

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MAX40242 EV Kit Bill of Materials

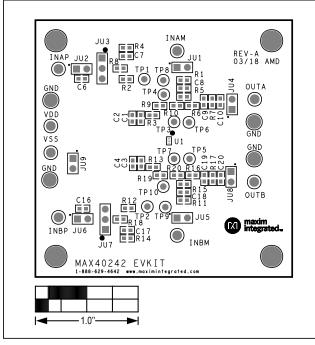
	5degC; +/	bdegC; +/I DEGC TO	<												
CAPACITOR; SMT; 0603; CERAMIC; 0.1uF; 25V; 10%; X7R; -55degC to + 125degC; 15% from -55deaC to +125deaC:		CAPACITOR: SMT (0603); CERAMIC CHIP; 4.7UF; 25V; TOL=10%; TG=-55 DEGC TO +85 DEGC; TC=X5R	ZAPACITOR: SMT (0603); CERAMIC CHIP: 4.7UF; 25V; TOL=10%; TG=-55 DEGC TO 85 DEGC; TC=X5R TESTPOINT; PINDIA=0.125IN; TOTALLENGTH=0.445IN;BOARDHOLE=0.063IN;BLACK PHOSPHORBRONZEWIRESILVERPLATEFINISH:	/; TOL=10%; TG=-55 DEGC (;BOARDHOLE=0.063IN;BL/ RPOSE;	CAPACITOR: SMT (0603); CERAMIC CHIP; 4.7UF; 25V; TOL=10%; TG=55 DEGC +85 DEGC; TC=X5R TESTPOINT; PINDIA=0.155N; TOTALLENGTH=0.445IN; BOARDHOLE=0.0631N; BLA PHOSPHORBRONZEWIRESILVERPLATEFINISH; TESTPOINT WITH 1.80MM HOLE; BREAKAWAY; STRAIGHT THROUGH; ZONNESTOR; MALE: 114ROUGH HOLE; BREAKAWAY; STRAIGHT THROUGH; ZPINS; -65 DEGC TO +125 DEGC	CAPACITOR: SMT (0603), CERAMIC CHIP: 4.7UF; 25V; TOL=10%, TG=55 DEGC +85 DEGC; TC=X5R TESTPOINT; PINDIA=0.125IN;TOTALLENGTH=0.445IN;BOARDHOLE=0.063IN;BLA PHOSPHORBRONZEWIRESIL VERPLATEFINISH; FESTPOINT WITH 1.80MM HOLE DIA, RED, MULTIPURPOSE; CONNECTOR; MALE; THROUGH HOLE; BREAKAWAY; STRAIGHT THROUGH; 2PINS: 45 DEGC TO +125 DEGC CONNECTOR; MALE; THROUGH HOLE; BREAKAWAY; STRAIGHT THROUGH; 3PINS: 45 DEGC TO +125 DEGC	/, TOL=10%; TG=-55 DEGC (BOARDHOLE=0.063IN;BL/ (BPOSE) r; STRAIGHT THROUGH; r; STRAIGHT THROUGH; r; STRAIGHT THROUGH;	/; TOL=10%; TG=-55 DEGC (BOARDHOLE=0.0631N;BL/ (BPOSE: r; STRAIGHT THROUGH; r; STRAIGHT THROUGH; r; STRAIGHT THROUGH; r; STRAIGHT THROUGH;	/; TOL=10%; TG=-55 DEGC (BOARDHOLE=0.0631N;BL/ (BPOSE; r; STRAIGHT THROUGH; r; STRAIGHT THROUGH; r; STRAIGHT THROUGH; r; STRAIGHT THROUGH; r; STRAIGHT THROUGH; r; STRAIGHT THROUGH;	/; TOL=10%; TG=-55 DEGC (BOARDHOLE=0.0631N;BL/ (BPOSE: /; STRAIGHT THROUGH; /; STRAIGHT THROUGH;	/; TOL=10%; TG=-55 DEGC ;BOARDHOLE=0.0631N;BLA ;BOARDHOLE=0.0631N;BLA ;RPOSE; RPOSE; ;STRAIGHT THROUGH; /; STRAIGHT THROUGH; /; STRAIGHT THROUGH; /; SLACK; /; BLACK; ; BLACK; ; BLACK; ; BLACK;	 XARCITOR; SKIT (1603); CERAMIC CHIP; 4.7UF; 25V; TOL=10%; TG=-55 DEGC -65 DEGC; TC=-X5R EESTPOINT WITH 1.6003); CERAMIC CHIP; 4.7UF; 25V; TOL=10%; TG=-55 DEGC -65 DEGC; TC=-X5R PHOSPHORBRONZEWIRESILVERPLATEFINISH: FESTPOINT WITH 1.80MM HOLE DIA, RED, MULTIPURPOSE; DONNECTOR; MALE; THROUGH HOLE; BREAKAWAY; STRAIGHT THROUGH; PINN: -65 DEGC TO +125 DEGC PINN: -66 DEGC TO +125 DEGC PINN: -65 DEGC TO +125 DEGC PINN: -11KK FILM RESISTOR: 0603; 0 OHM: 0.1%; 1701XL LENGTH=0.241N; BLACK; NESISTOR: 0603; 0 OHM; 5%; JUMPER; 0 10W; THICK FILM RESILVER PLATE FINISH; RESULATION=BDT;PHOSPHOR BRONZE KONTACT=600L PLATED HOSPHONZE WIRE SILVER PLATE FINISH; 	CAPACITOR: SMT (8603); CERAMIC CHIP: 4.7 UF; 25V; TOL=10%; TG=55 DEGC 1 485 DEGC; TC=X5R TESTPOINT; PINDIA=0.125IN;TOTALLENGTH=0.445IN;BOARDHOLE=0.063IN;BLA FIESTPOINT WITH 1,80MM HOLE DIA, RED, MULTIPURPOSE; CONNECTOR: MALE; THROUGH HOLE; BREAKAWAY; STRAIGHT THROUGH; 2PINS; -65 DEGC TO 1+125 DEGC CONNECTOR: MALE; THROUGH HOLE; BREAKAWAY; STRAIGHT THROUGH; 3PINS; -65 DEGC TO 1+125 DEGC 3PINS; -65 DEGC TO 1+125 DEGC RESISTOR, 0603; 10 CHM; 0.10W; THICK FILM RESISTOR; 0603; 0 CHM; 0.17%; 5PPM; 0.10W; THICK FILM RESISTOR; 0603; 0 CHM; 0.10W; THICK FILM RESISTOR; 0603; 0 CHM; 5, 5PPM; 0.10W; THICK FILM RESISTOR; 0503; 0 CHM; 5, 5PPM; 0.10W; T	/; TOL=10%; TG==55 DEGC (BOARDHOLE=0.063IN:BL/ A; STRAIGHT THROUGH; /; STRAIGHT STRAIGH; /; STRAIGH	(; TOL=10%; TG=-55 DEGC BOARDHOLE=0.063IN;BLA RPOSE; ; STRAIGHT THROUGH; ; STRAIGHT THROUGH; ; STRAIGHT THROUGH; ; STRAIGHT THROUGH; CSUD PLATED BOARD HOLE=0.041N; RED BOARD HOLE=0.041N; RED BOARD HOLE=0.041N; RED
C; 0.1uF; 25V; 10%; X7R	C CHIP: 4 7UF: 25V. TO		ALLENGTH=0.445IN;BOA	 45 DEGC: TG=X5R 45 DEGC: TG=X5R 45 DEGC: TG=X5R 44 Sin BOARD 44 Sin BOARD 45 Sin BOARD	LLENGTH=0.445IN;BO/ KPLATEFINISH: MULTIPURPO OLE: BREAKAWAY; ST	LLENGTH=0.45IN;BO/ RPLATEFINISH, JA, RED, MULTIPUBPO FOLE; BREAKAWAY; ST FOLE; BREAKAWAY; ST	+65 DEGC; TC-X5R TESTPOINT; PINUA=0.125IN; TOTALLENGTH=0.445IN; BOARD PHOSPHORBRONZEWIRESIL VERPLATEFINISH; FESTPOINT WITH 1.80MM HOLE DIA, RED, MULTIPURPOSE; CONNECTOR; MALE; THROUGH HOLE; BREAKAWAY; STRAI 2PINS; -65 DEGC TO +125 DEGC CONNECTOR; MALE; THROUGH HOLE; BREAKAWAY; STRAI 3PINS; -65 DEGC TO +125 DEGC BREAKAWAY; STRAI 3PINS; -65 DEGC TO +125 DEGC	+65 DEGC; TC-X;R TESTPOINT;PINIDA=0.125IN;TOTALLENGTH=0.445IN;BOARC FESTPOINT;PINIDA=0.125IN;TOTALLENGTH=0.445IN;BOARC FESTPOINT WITH 1.80MM HOLE DIA, RED, MULTIPURPOSE: TESTPOINT WITH 1.80MM HOLE DIA, RED, MULTIPURPOSE: CONNECTOR; MALE; THROUGH HOLE; BREAKAWAY; STRA 2PINS: -65 DEGC TO +125 DEGC CONNECTOR; MALE; THROUGH HOLE; BREAKAWAY; STRA 3PINS: -65 DEGC TO +125 DEGC RESISTOR, 0603, 1K OHM, 0.1%, 25PPM; 0.10W; THICK FILM RESISTOR, 0603, 909OHMS, 1%, 100PPM, 0.10W; THICK FILM	465 DEGC; TC-X5R TESTPOINT; FNIDIA=0126IN; TOTALLENGTH=0.448IN; BOA FESTPOINT; WITH 1, 80,MM HOLE DIA, RED MULTIPURPOS TESTPOINT WITH 1, 80,MM HOLE DIA, RED MULTIPURPOS CONNECTOR; MALE; THROUGH HOLE; BREAKAWAY; STI 2018; -65 DEGC TO +125 DEGC CONNECTOR; MALE; THROUGH HOLE; BREAKAWAY; STI 2018; -65 DEGC TO +125 DEGC FONNECTOR; MALE; THROUGH HOLE; BREAKAWAY; STI 2018; -65 DEGC TO +125 DEGC FONNECTOR; 0603; 9090HMS, 196, 100PPM, 0.10W; THICK FIL RESISTOR; 0603; 9000HMS, 196, 100PPM, 0.10W; THICK FIL RESISTOR; 0603; 9000HMS, 10.01%; SPPM; 0.10W; THINFILMIN RESISTOR; 0603; 9003; 9K OHM; 0.01%; SPPM; 0.10W; THINFILMIN RESISTOR; 0603; 98 OHM; 0.01%; SPPM; 0.11W; THINFILMIN	465 DEGC, T. C. C. M.	465 DEGC; TC=XGR TESTPOINT.PINDIA=0.125IN;TOTALLENGTH=0.445IN;BOARDHOLE: PHOSPHORBRONZEWIRESILVERPLATEFINISH. FESTPOINT WITH 1.80MM HOLE DIA, RED, MULTIPUBPOSE: CONNECTOR, MALE; THROUGH HOLE; BREAKAWAY; STRAIGHT T ZONNECTOR, MALE; THROUGH HOLE; BREAKAWAY; STRAIGHT T ZONNECTOR, MALE; THROUGH HOLE; BREAKAWAY; STRAIGHT T PINS; -65 DEGC TO +125 DEGC CONNECTOR, MALE; THROUGH HOLE; BREAKAWAY; STRAIGHT T PINS; -65 DEGC TO +125 DEGC CONNECTOR, MALE; THROUGH HOLE; BREAKAWAY; STRAIGHT T PINS; -65 DEGC TO +125 DEGC CONNECTOR, 0603; 9090HMS; 1%, 100PPM, 0.10W; THICK FILM RESISTOR; 0603; 000HMS; 1%, JUMPER, 0.10W; THICK FILM RESISTOR; 0603; 00HM; 5%, JUMPER, 0.10W; THICK FILM RESISTOR; 0603; 0 OHM; 5%, JUMPER, 0.10W; THICK FILM RESISTOR; 0603; 0 OHM; 5%, JUMPER, 0.10W; THICK FILM RESISTOR; 0603; 0 HM; 5%, JUMPER, 0.10W; THICK FILM	ALLENGTH=0.445IN;BO/ RPLATEFINISH; RPLATEFINISH; RED, MULTIPURPO JIA, RED, MULTIPURPO JIA, RED, MULTIPURPO JIA, RED, MULTIPURPO JIA, REDAKAWAY; ST HOLE; BREAKAWAY; ST HOLE; BREAKAWAY; ST HOLE; DATE FONTSACT SPPM; 0.10W; THICK FIL AL LENGTH=0.24IN; BLA ALLENGTH=0.24IN; BLA ALLENGTH=0.24IN; BLA ALLENGTH=0.24IN; BLA ALLENGTH=0.24IN; BLA ALLENGTH=0.24IN; BLA	ALLENGTH=0.445IN;BO/ ALLENGTH=0.445IN;BO/ ARLATEFINISH; ALLENGTH=0.445IN;BO/ DILE; BREAKAWAY; ST FOLE; BREAKAWAY; ST ST FOLE; BREAKAWAY; ST ST FOLE; BREAKAWAY; ST ST FOLE; BREAKAWAY; ST ST FOLE; BREAKAWAY; ST ST ST ST ST ST ST ST ST ST ST ST ST S	ALLENGTH=0.445IN;BO/ RPLATEFINISH; RED, MULTIPURPO OIA, RED, MULTIPURPO OIE; BREAKAWAY; ST HOLE; BREAKAWAY; ST HOLE; BREAKAWAY; ST HOLE; BREAKAWAY; ST HOLE; BREAKAWAY; ST HOLE; BREAKAWAY; ST HOLE; BREAKAWAY; ST SPM; 0.10W; THICK FIL SPPM; 0.10W; THICK FIL LENGTH=0.24IN; BL ² LENGTH=0.23IN; BL ² LENGTH=0.21IN; BL ² LENGT	ALLENGTH=0.445IN:BO/ RPLATEFINISH: RPLATEFINISH: RED, MULTIPURPO OILE; BREAKAWAY; ST OLLE; ST
CAPACITOR; SMT; 0603; CERAMIC; 15% from -55degC to +125degC;	; SMT (0603); CERAMIC C=X5R		PINDIA=0.125IN;TOTALI BRONZEWIRESILVERP	TESTPOINT;PINDIA=0.125IN;TOTALLENGTH=0.44 PHOSPHORBRONZEWIRESILVERPLATEFINISH; TESTPOINT WITH 1.80MM HOLE DIA, RED, MULT	TESTPOINT:PINDIA=0.125IN:TOTAL PHOSPHORBRONZEWIRESILVERP TESTPOINT WITH 1.000M HOLE DV CONNECTOR, MITH 1.1400GH HO CONNECTOR, 05 DEGC TO +125 DEGC	TESTPOINT: PINDIA=0.125IN; TOTAL PHOSPHORBRONZEWIRESILVERP TESTPOINT WITH 1.80MM HOLE DI CONNECTOR: MALE: THROUGH HC ZPINS: -65 DEGC TO +125 DEGC ZONNECTOR: MALE: THROUGH HC PALE: THROUGH HC SPINS: -65 DEGC TO +125 DEGC	PINDIA=0 125IN;TOTAL BRONZEWIRESILVERP WITH 1.80MM HOLE DI RMALE; THROUGH HO EGC TO +125 DEGC RMALE; THROUGH HO EGC TO +125 DEGC B003; 1K OHM; 0.1%; 25)	PINDIA=0 125IN;TOTAL BRONZEWIRESIL VERP WITH 1.80MM HOLE DI WITH 1.80MM HOLE DI RALE; THROUGH HC CEGC TO +125 DEGC C MALE; THROUGH HC EGC TO +125 DEGC EGC TO +125 DEGC B003; 1K OHM; 0.1%; 25 B003; 1K OHM; 0.1%; 25 B003; 9900HMS; 1%; 10	PINDIA=0.125IN;TOTAL BRONZEWIRESIL.VERP WITH 1.80MM HOLE DI & MALE; THROUGH HC EGC TO +125 DEGC EGC TO +125 DEGC EGC TO +125 DEGC B03; 3090HMS; 1%, 10, B03; 9K OHM; 0.01%; 5	PINDIA=0 125IN;TOTAL BRONZEWIRESIL VERP WITH 1.80MM HOLE DJ WITH 1.80MM HOLE DJ RALE; THROUGH HC EGC TO +125 DEGC C MALE; THROUGH HC EGC TO +125 DEGC B03; 9K OHM; 0,01%; 5 B03; 9K OHM; 0,01%; 5 B03; 9K OHM; 0,01%; 5	PINDIA=0.125IN;TOTAL BRONZEWIRESILVERP WITH 1.80MM HOLE DI/ & MALE; THROUGH HC EGC TO +125 DEGC EGC TO +125	TESTPOINT; PINDIA=0.125IN; TOTALLENGTH=0.445I ; PHOSPHORBRONZEWIRESIL VERPLATEFINISH; TESTPOINT WITH 1.80MM HOLE DIA RED, MULTIP CONNECTOR, MALE; THROUGH HOLE; BREAKAWV 2PINS: -65 DEGC TO +125 DEGC CONNECTOR, MALE; THROUGH HOLE; BREAKAWV 3PINS: -65 DEGC TO +125 DEGC CONNECTOR, 0603; 1K OHM: 0.1%, 25PPM, 0.10W; THI RESISTOR, 0603; 9K OHM: 0.1%, 5PPM, 0.10W; THI RESISTOR, 0603; 9K OHM; 0.01%, 5PPM, 0.201 RESISTOR, 0603; 9K OHM; 0.01%, 5PPM, 0.10W; THI RESISTOR, 0603; 9K OHM; 0.01%, 5PPM, 0.201 RESISTOR, 0603; 9K OHM; 0.01%, 5PPM, 0.10W; THI RESISTOR, 0603; 9K OHM; 0.01%, 5PPM, 0.201 RESISTOR, 0603; 9K OHM; 0.01%, 7PLM, 202 RESISTOR, 0603; 9K OHM; 0.01%, 7PLM, 203 RESISTOR, 0603; 9K OHM; 0.01%, 7FLANGTH=0.301 RESISTOR, 070%,	PINDIA=0.125IN;TOTAL BRONZEWIRESIL VERP WITH 1.80MM HOLE DJ WITH 1.80MM HOLE DJ CEGC TO +125 DEGC CECTO +125 DEGC EGC TO +125 DEGC EGC TO +125 DEGC EGC 3.9090HMS, 1%, 10, 10, 25, 003, 003, 004, 0, 0, 1%, 25, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,	TESTPOINT:PINDIA=0.125IN;TOTAL PHOSPHORBRONZEWIRESILVERP TESTPOINT WITH 1.80MM HOLE DI CONNECTOR: MALE: THROUGH HC ZPINS:-65 DEGC TO +125 DEGC CONNECTOR: MALE: THROUGH HC 3PINS:-65 DEGC TO +125 DEGC SPINS:-65 DEGC TO +125 DEGC RESISTOR: 0603; 9K OHM: 0.1%; 5 RESISTOR: 0603; 9K OHM: 0.1%; 5 RESISTOR: 0603; 9K OHM: 0.1%; 5 RESISTOR: 0603; 9K OHM: 0.01%; 5 RESISTOR: 0603; 9K OHM: 1.70 AL RESISTOR: 0603; 9K OHM: 1.00 RIVE RESISTOR: 0603; 9K OHM: 1.00 AL RESISTOR: 0603; 9K OHM: 0.01%; 5 RESISTOR: 060	TESTPOINT; PINDIA=0.128IN; TOTALLENGTH=0.445I ; PHOSPHORBRONZEWIRESIL VERPLATEFINISH; TESTPOINT WITH 1.80MM HOLE DIA, RED, MULTIP CONNECTOR, MALE: THROUGH HOLE; BREAKAWW 20105; 65 DEGC TO +125 DEGC 20105; 66 DEGC TO +125 DEGC 20105; 66 DEGC TO +125 DEGC 20105; 15 DEGC TO +125 DEGC 201005; 15 DEGC 20105; 16 DEGC TO +125 DEGC 20105; 16 DEGC TO +125 DEGC 20105; 10 DEGC TO +125 DEGC 20105; 10 DEGC TO +125 DEGC 2011; 17 DI DIA 20105; 17 DI DIA 20105; 17 DIA 20105;
CAPACITOR; { 15% from -55d	CAPACITOR; SMT (0 +85 DEGC; TC=X5R		TESTPOINT;PI	TESTPOINT;P ;PHOSPHORB TESTPOINT W	TESTPOINT;PI ;PHOSPHORB TESTPOINT W CONNECTOR; 2PINS; -65 DEI	TESTPOINT;PI ;PHOSPHORB TESTPOINT W CONNECTOR; 2PINS; -65 DEI CONNECTOR; 3PINS; -65 DEI 3PINS; -65 DEI	TESTPOINT;P ;PHOSPHORB TESTPOINT W ZONNE: 45 DE CONNE: 45 DE CONNE: 45 DE 3PINS: 45 DE RESISTOR; 06	TESTPOINT;P PHOSPHORB TESTPOINT W CONNECTOR; CONNECTOR; SPINS; -66 DEI 3PINS; -66 DEI RESISTOR; 06 RESISTOR; 06	TESTPOINT,P FPHOSPHORB FPHOSPHORT CONNECTOR: CONNECTOR: SPINS:-65 DE 2PINS:-65 DE RESISTOR: 06 RESISTOR: 06 R	TESTPOINTP EFSTPOINT WR CONNECTOR CONNECTOR 2PINS: -66 DE 2PINS: -66 DE CONNECTOR 3PINS: -66 DE RESISTOR: 06 RESISTOR: 06	TESTPOINT,P PHOSPHORT TESTPOINT W CONNECTORT CONNECTOR, 65 DEL 2PINS, -65 DEL 2PINS, -65 DEL 2PINS, -65 DEL 2PINS, -65 DEL RESISTOR, 06 RESISTOR, 06	TESTPOINT,PI FESTPOINT WR ESTPOINT WR CONNECTOR CONNECTOR 2PINS, -65 DE RESISTOR, 06 RESISTOR, 0	TESTPOINTP ESTPOINT W CONNECTOR CONNECTOR 2PINS: -66 DEI 2PINS: -6	TESTPOINT,PI FESTPOINT WR CONNECTOR CONNECTOR 2PINS, -66 DE 2PINS, -66 DE 2PINS, -66 DE 2PINS, -66 DE 2PINS, -66 DE RESISTOR, 06 RESISTOR, 06 RESIST	TESTPOINT,PI FESTPOINT,PI CONNECTOR CONNECTOR CONNECTOR POINT, -65 DE PINS, -65 DE PINS, -65 DE RESISTOR, 06 RESISTOR, 06 RESISTOR, 06 RESISTOR, 06 RESISTOR, 06 RESISTOR, 06 RESISTOR, 06 RESISTOR, 06 PERIONT, - INSULATION- INSULATION- PERIARI - PERIARI - P
0.1UF	4.7UF		N/A	N/A N/A	N/A N/A PCC02SAAN	N/A N/A PCC02SAAN PCC03SAAN	N/A N/A PCC02SAAN PCC03SAAN	NIA NIA PCC02SAAN PCC03SAAN 1K 1K 909	N/A N/A PCC02SAAN PCC03SAAN PCC03SAAN 969 9K	NIA NIA PCC02SAAN PCC03SAAN PCC03SAAN 909 91 8	NIA NIA PCC02SAAN PCC02SAAN PCC03SAAN 96 96 5K 0 0 5X1100-B	NIA NIA PCC02SAAN PCC03SAAN 1K 909 914 910 5X1100-B NIA NIA	NIA NIA PECC02SAAN PECC03SAAN PEC	NIA NIA PCC02SAAN PCC03SAAN PCC03SAAN PCC03SAAN 909 914 909 914 8X1100-B 5X1100-B SX1100-B NIA NIA NIA	N/A N/A PCC02SAAN PCC03SAAN PCC03SAAN 909 909 909 905 8X1100-B N/A N/A MAX40242 PCB OPEN
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CU003C104K3KAC; GRM188R71E104KA01; C1608X7R1E104K	C1608X5R1E475K080AC; GRM188R61E475KE11		011	5011 5010	5011 5010 PCC02SAAN	5011 5010 PCC02SAAN PCC03SAAN	5011 5010 PCC02SAAN PCC02SAAN PCC03SAAN TNPW06031K00BE: TTNPW06031K00BE: TTNPW06031K00BE:	5011 5010 PCC025AAN PCC025AAN PCC035AAN TNPW0603030FK00E; RG1608P-112-B RG1608P-112-B RG1608P-3030FFK	5011 5010 PCC02SAAN PCC02SAAN PCC02SAAN PCC03SAAN TNPW060301K00BE; TRG1608P-102-B TRGW060309FFK CAR0003 ROHMS 0.01% 5PM HP	5011 5010 PCC025AAN PCC025AAN PCC035AAN PCC035AAN TNPW0603909RFK CR1608-01K00BE; CR1608-01K00BE; CR1608-000ELF; RC1608-000ELF; RC0605-34-000ELF;	5011 5010 5010 PCC02SAAN PCC02SAAN PCC02SAAN PCC03SAAN FCC023SAAN FCC023SAAN FCC0233AN FCC0233AN FCC023JR-070RL FCC0203JR-070RL FCC0203JR-070RL FC100-BISX1100-BISX1100-BISX1100-BISX1100-BISX1100-BIST	5011 5010 E010 PCC02SAAN PCC02SAAN PCC02SAAN TNPW06033097K0 CAR0603 30937K0 CAR0603 30937K0 001% 55PM HP 001% 55PM HP 001% 55PM HP CR0603 JL-000ELF; RC1608 JL-000EFF; RC1608	11 10 210 CC02SAAN CC03SAAN C16608-102-B C16063-J000CCS; C000 D00	5011 5010 PCC025AAN PCC025AAN PCC035AAN PCC035AAN TNPW0603909RFK RG1608-014000BE RG1608-0140000ES; CRC1608-04-0005LF; RC1608-04-0005LF; RC0603-JF-000EF; RC0702-JF-000EF; RC0702	5011 5010 5010 PCC02SAAN PCC02SAAN PCC02SAAN PCC02SAAN FCC1608P-102-B CARD00503SPTKPC CARD0050SPTKPC CARD0050SPTKPC CARD0050SPTKPC CARD005CS CARD0
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C1, C3	C2, C4		GND, GND1-GND3	GND, GND1-GND3 INAM, INAP, INBM, INBP, OUTB, VDD, VSS	GND, GND1-GND3 INAM, INAP, INBM, INBP, OUTA, OUTB, VDD, VSS JU1, JU2, JU4-JU6, JU8, JU9	GND, GND1-GND3 UTAM, INTP, INBP, JU1, JU2, JU4-JU6, JU8, JU9, JU7, JU2, JU4-JU6, JU8, JU9, JU7	GND, GND1-GND3 UNAM, UNBP, VDD, VSBP, JU1, JU2, JU4-JU6, JU8, JU3, JU7 K1, R11	GND, GND1-GND3 INAM, INBP, VDB, VSBP, JU1, JU2, JU4-JU6, JU8, JU3, JU7 K1, R11 R1, R12 R2, R12	GND, GND1-GND3 OUTA,, INTB, INBP, OUTA, INTB, INBP, JU1, JU2, JU4-JU6, JU8, JU9, JU3, JU7 R1, R11 R2, R15 R5, R15	GND, GND1-GND3 INAM, INBP, VDD, VSB JU1, JU2, JU4-JU6, JU8, JU3, JU7 JU3, JU7 R1, R11 R2, R15 R6, R8-R10, R16, R16-R20 R16-R20	GND, GND1-GND3 DITAM, INTB, NBD, NBD, JUT, JU2, JU4-JU6, JU8, JU9, JU7 JU9 R1, R11 R2, R15 R5, R16 R6, R8-R10, R16, R18-R20 SU1-SU8	GND, GND1-GND3 INAM, INDP, INBP, INBP, UTA, UNTP, INDP, VBD, VSP, UT, UU2, JU4-JU6, JU8, UU3, JU7 UU3, JU7 R1, R11 R2, R15 R6, R8-R10, R16, R18-R20 SU1-SU8 SU1-SU8	GND, GND1-GND3 INAM, INBP, NDM, INBP, UNAM, INTP, NDM, INBP, JU1, JU2, JU4-JU6, JU8, JU3, JU7 R1, R11 R2, R15 R6, R8-R10, R16, R18-R20 SU1-SU8 SU1-TP10 U1	GND, GND1-GND3 INAM, INBP, VDD, VSB- JJ1, JU2, JU4-JU6, JU8, JU3, JU7 JU3, JU7 R1, R11 R3, R15 R6, R8-R10, R16, R18-R20 SU1-SU8 SU1-SU8 SU1-TP10 TP1-TP10 TP2 PCB	GND, GND1-GND3 DITAM, INBP, DITAM, INBP, NDB, INBP, JUT, JU2, JU4, JU8, JU8, JU9, JU3, JU7 JU3, JU7 R1, R11 R2, R15 R4, R8-R10, R16, R18-R20 SU1-SU8 SU1-SU8 SU1-SU8 C6-C10, C16-C20 C6-C10, C16-C20
1 C1,	2 C2,			3 GNI 1NA 0U ⁻	0_033	0 - 0 - 3 - 3									

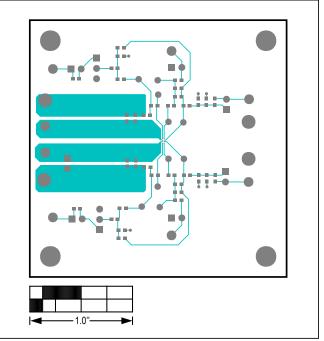
MAX40242 EV Kit Schematic



Evaluates: MAX40242

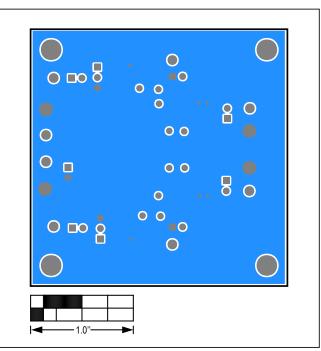
MAX40242 EV Kit PCB Layouts





MAX40242 EV Kit Component Placement Guide—Component Side

MAX40242 EV Kit PCB Layout—Component Side



MAX40242 EV Kit PCB Layout—Solder Side

Evaluates: MAX40242

Revision History

REVISION	REVISION	DESCRIPTION	PAGES
NUMBER	DATE		CHANGED
0	12/18	Initial release	—

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