

Click [here](#) for production status of specific part numbers.

## MAX5715 Breakout Board (BOB)

## 12-Bit, 4-Channel SPI V<sub>OUT</sub> DAC

### General Description

Digital-to-analog converters (DACs) provide accurate output voltages for actuation and control in many electronic applications such as industrial, medical and RF systems. The MAX5715 is a highly accurate, four channel, 12-bit voltage output DAC. Development with DACs involves expertise in analog systems, power supplies, digital interfaces and firmware. Now, enter the MAX5715BOB to accelerate the development process.

The MAX5715BOB (Break Out Board) provides for rapid prototyping and development with the MAX5715 (a 12-bit, 4-channel, voltage-output DAC). MAX5715BOB interfaces to any Arduino™-compatible or mbed.org™ compatible platform system with expansion ports configurable for SPI communication. Additionally, the MAX5715BOB works with systems that have a Pmod™ connection, a 2 x 6 right-angle header at board edge (compatible with Digilentinc.com Pmod™ interface spec) Interface type 2A (expanded SPI) on 2x6 header at board edge. MAX5715BOB also comes with schematics, design files and firmware for immediate use and forking to future projects.

The board directly interfaces to SPI with logic levels in the range between 2.7V to 5.5V.

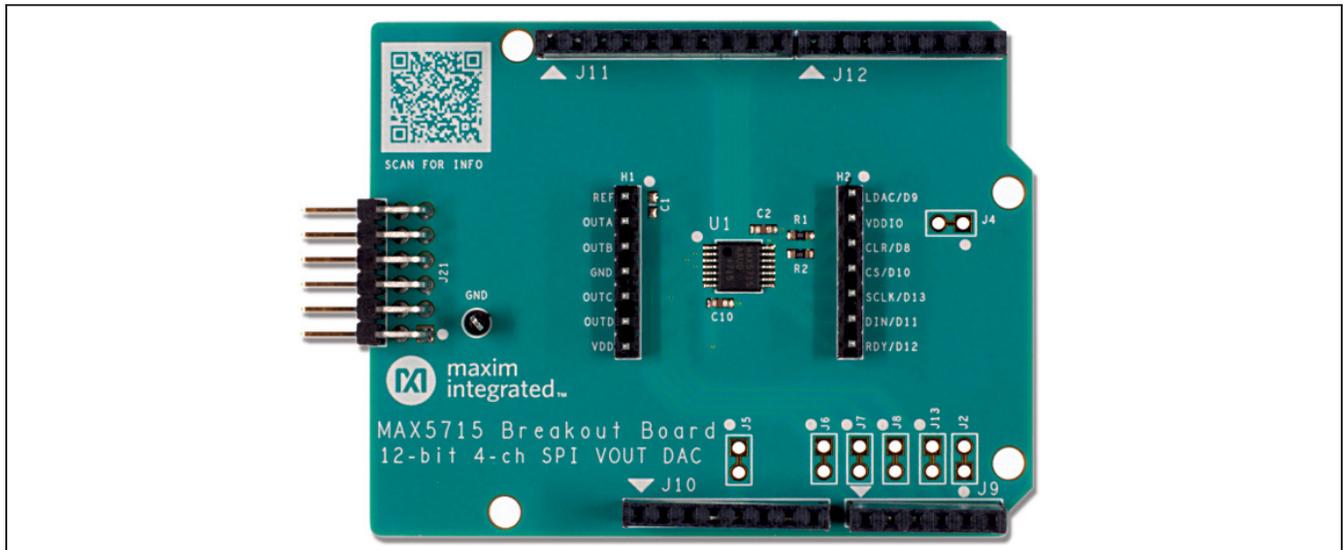
The board comes installed with MAX5715AAUD+ installed. Example firmware is provided for Arduino™ and mbed.org™ system boards.

Tested with:

- Arduino Pro Mini 3.3V/8MHz ([Link](#))
- Arduino UNO ([Link](#))
- MAX32625MBED# ([Link](#))
- MAX32600MBED# ([Link](#))
- STM32F446 Nucleo-64x ([Link](#))

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

### MAX5715 Breakout Board Photo



PMOD is a trademark of Digilent Inc

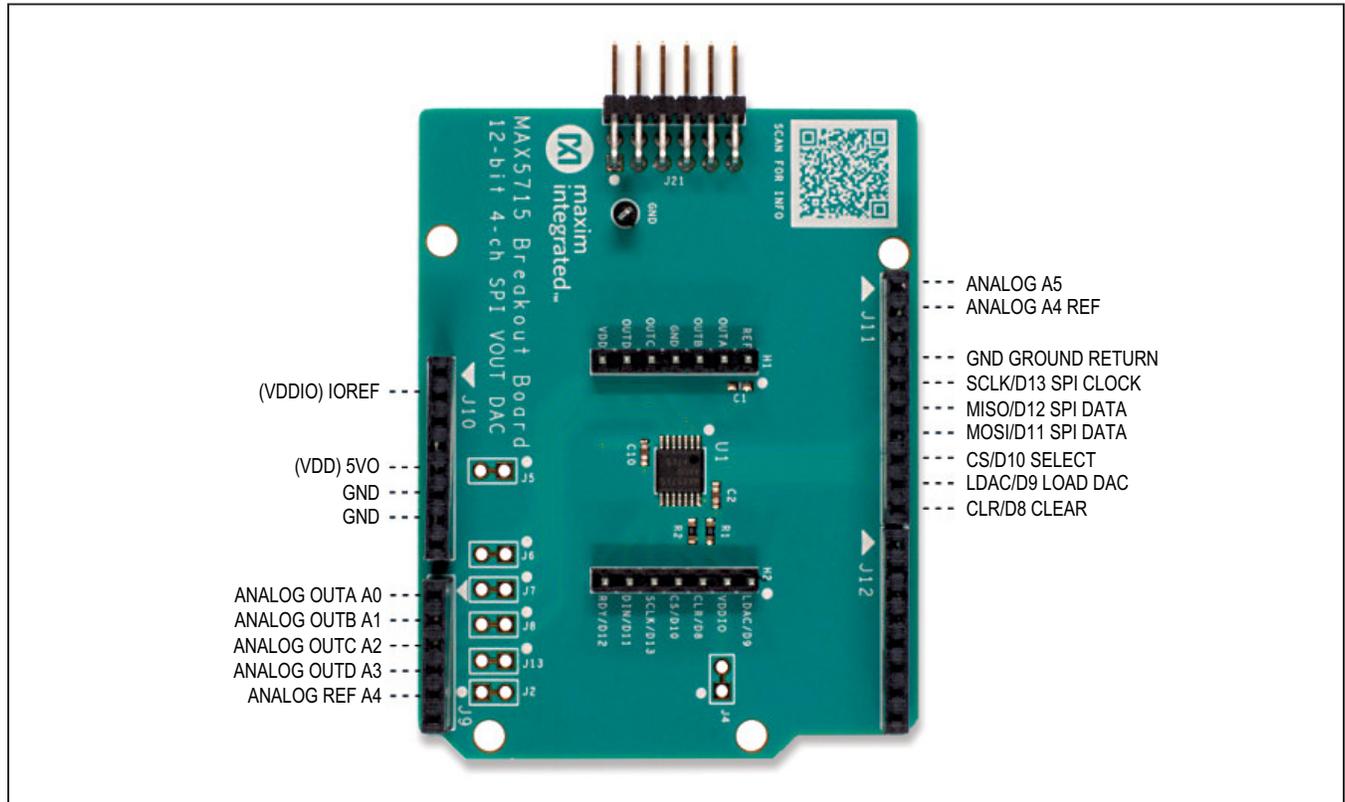
Arduino is a trademark of Arduino AG

Arm and Mbed are trademarks of Arm Limited (or its subsidiaries)

Windows is a trademark of Microsoft



MAX5715 Breakout Board Pinout



Quick Start

Required Equipment

- MAX5715BOB# Breakout Board
- Appropriate mbed.org or Arduino board
  - The procedures below describe the Quick Start process with the MAX32625MBED# and the Arduino UNO.
- Computer with USB and web access
- A serial terminal emulator software such as teraterm, realterm, picocom, minicom, or equivalent

The procedures below describe the Quick Start process with the MAX32625MBED# and the Arduino. The MAX5715BOB has been tested on the platform boards listed above.

There are two example programs for each platform:

- The “Simplified Hello World” program is a small example program which can be changed by modifying the Hello\_MAX5715.cpp source code and repeating the compile-build-upload cycle, providing straightforward code for easy adoption.

- The “Serial Tester” program is an interactive, menu-driven test program which is controlled through a serial communications port, using a terminal emulator, supporting quick discovery and evaluation of device features for testing functionality.

Procedure for Mbed: Simplified Hello World

The “Simplified Hello World” program is a small example program which can be changed by modifying the Hello\_MAX5715.cpp source code and repeating the compile-build-upload cycle, providing straightforward code for easy adoption.

The breakout board is fully assembled and tested.

The first time the board is used, the MAX5715BOB firmware must be loaded into the MAX32625MBED or equivalent platform board. This firmware is stored on the MAX32625MBED board and remains after the board is powered off.

The firmware uses a USB serial port to communicate. (Either the HDK or DEV USB connector can be used for communication, but the DEV USB connector is required to power the board.)

When the board is plugged into USB the first time, the computer may need about a minute to install its device drivers.

Follow the steps below to verify board operation:

- 1) Connect the MAX5715BOB to the MAX32625MBED or equivalent mbed platform board using the standard pinout.
- 2) Connect a USB cable from computer to MAX32625MBED board "HDK" USB port. (Windows may require some time to install its device driver.) Expect the system to automatically mount the board as a new USB drive named MBED or DAPLINK or something similar. This is a special-purpose drive: firmware will be loaded into the board by copying the compiled binary into the board's drive. Don't write any other files to this drive.
- 3) Open your board's USB device folder and double click on its MBED.HTML file. On the board page, click Add to your Mbed Compiler. This adds your Mbed board to the Online Compiler as a compilation target. See <https://os.mbed.com/docs/mbed-os/v5.13/quick-start/index.html> for more detailed instructions on using the online compiler.
- 4) In a web browser, navigate to [https://os.mbed.com/teams/MaximIntegrated/code/MAX5715BOB\\_12bit\\_4ch\\_SPI\\_DAC/](https://os.mbed.com/teams/MaximIntegrated/code/MAX5715BOB_12bit_4ch_SPI_DAC/) and click Import into Compiler. The mbed online IDE window opens, and prompts to import program. Click Import button to complete the import.
- 5) Compile the program. When complete, the online mbed IDE downloads the firmware file to your local downloads folder.
- 6) Locate the newly built firmware file MAX5715BOB\_12bit\_4ch\_SPI\_DAC.MAX32625MBED.bin and copy the file to the board's MBED drive. (The names might not match exactly if using a platform other than MAX32625MBED, or if there is already a file with that name.) If a warning dialog appears asking to move this file without its properties, answer yes. After file copying is complete, press and release the board's RESET button to start the firmware. Use a DVM to measure the voltages on the MAX5715BOB: REF = 2.5V, OUTA = 2.0V, OUTB = 1.25V, OUTC = 1.0V, OUTD = 2.5V.
- 7) The program behavior can be changed by modifying the Hello\_MAX5715.cpp source code and repeating the compile-build-upload cycle from step 4.
- 8) You can discard your local changes and reset to the latest published firmware version as follows: Bring up the project \*\*Revision\*\* tab and right-click on the line that says "default" "tip". In the popup context menu, select \*\*Switch working copy to this revision...\*\*.

There will be a warning that there are uncommitted local changes in the working tree. Click \*\*Discard\*\*, and all of the local files will be reset to the published version.

### Procedure for mbed: Serial Tester

The "Serial Tester" program is an interactive, menu-driven test program which is controlled through a serial communications port, using a terminal emulator, supporting quick discovery and evaluation of device features for testing functionality.

The Breakout Board is fully assembled and tested.

The first time the board is used, the MAX5715BOB firmware must be loaded into the MAX32625MBED, or equivalent platform board. This firmware is stored on the MAX32625MBED board and remains after the board is powered off.

The serial tester firmware uses a USB serial port to communicate. When the board is plugged into USB the first time, the computer may need about a minute to install its device drivers.

Follow the steps below to verify board operation:

- 1) Connect the MAX5715BOB to the MAX32625MBED or equivalent mbed platform board using the standard pinout.
- 2) Connect a USB cable from computer to MAX32625MBED board "HDK" USB port. (Windows may require some time to install its device driver.) Expect the system to automatically mount the board as a new USB drive named MBED or DAPLINK or something similar. This is a special-purpose drive: firmware will be loaded into the board by copying the compiled binary into the board's drive. Don't write any other files to this drive.
- 3) Open your board's USB device folder and double click on its MBED.HTML file. On the board page, click Add to your Mbed Compiler. This adds your Mbed board to the Online Compiler as a compilation target. See <https://os.mbed.com/docs/mbed-os/v5.13/quick-start/index.html> for more detailed instructions on using the online compiler.
- 4) In a web browser, navigate to [https://os.mbed.com/teams/MaximIntegrated/code/MAX5715BOB\\_Serial\\_Tester/](https://os.mbed.com/teams/MaximIntegrated/code/MAX5715BOB_Serial_Tester/) and click Import into Compiler. The mbed online IDE window opens, and prompts to import program. Click Import button to complete the import.
- 5) Compile the program. When complete, the online mbed IDE downloads the firmware file to your local downloads folder.
- 6) Locate the newly built firmware file MAX5715BOB\_Serial\_Tester.MAX32625MBED.bin and copy the file to

the board's MBED drive. (The names might not match exactly if using a platform other than MAX32625MBED, or if there is already a file with that name.) If a warning dialog appears asking to move this file without its properties, answer yes.

- 7) Connect another, or the existing USB cable from computer to MAX32625MBED board "DEV" USB port.
- 8) Expect the LEDs in the lower right corner should flash briefly and then remain lit.
- 9) Locate the newly arrived USB Serial Device COM port, and use a serial terminal emulator (such as teraterm, realterm, picocom, minicom, or equivalent). Baud rate is 9600.

### Procedure for Arduino: Simplified Hello World

The "Simplified Hello World" program is a small example program which can be changed by modifying the Hello\_MAX5715.cpp source code and repeating the compile-build-upload cycle, providing straightforward code for easy adoption.

The Breakout Board is fully assembled and tested.

The first time the board is used, the MAX5715BOB firmware must be loaded into the Arduino board. This firmware is stored on the Arduino board and remains after the board is powered off.

The firmware uses a USB serial port to communicate.

When the board is plugged into USB the first time, the computer may need about a minute to install its device drivers. Follow the steps below to verify board operation:

- 1) Connect the MAX5715BOB to the Arduino board using the standard pinout.
- 2) Connect a USB cable from computer to Arduino board USB port. (Windows may require some time to install its device driver.)
- 3) In a web browser, navigate to <https://create.arduino.cc/editor/whismanoid/5faff349-b8ce-4ca7-9dce-9d8e8677761f/preview> to view the MAX5715BOB example code sketch files.
- 4) Click the Open in Web Editor button to import the example sketch into the online Arduino Create IDE, or click the download button to download the files as a zip archive.
- 5) Compile the program by clicking the Upload and Save button. When complete, the firmware file will be loaded into the attached Arduino board.
- 6) Open the Monitor tab and configure the baud rate to 115200 baud. Or, alternatively, locate the newly arrived USB Serial Device COM port, and use a serial terminal emulator (such as teraterm, realterm, picocom, minicom, or equivalent). Baud rate is 115200.

### Procedure for Arduino: Serial Tester

The "Serial Tester" program is an interactive, menu-driven test program which is controlled through a serial communications port, using a terminal emulator, supporting quick discovery and evaluation of device features for testing functionality.

The Breakout Board is fully assembled and tested.

The first time the board is used, the MAX5715BOB firmware must be loaded into the Arduino board. This firmware is stored on the Arduino board and remains after the board is powered off.

The firmware uses a USB serial port to communicate.

When the board is plugged into USB the first time, the computer may need about a minute to install its device drivers.

Follow the steps below to verify board operation:

- 1) Connect the MAX5715BOB to the Arduino board using the standard pinout.
- 2) Connect a USB cable from computer to Arduino board USB port. (Windows may require some time to install its device driver.)
- 3) In a web browser, navigate to <https://create.arduino.cc/editor/whismanoid/5143b342-d0e2-4758-a41d-0a18f03aeb5a/preview> and click "Add to my Sketchbook".
- 4) Connect USB cable to Arduino hardware. If this is your first time using Arduino Create online, you may be prompted to install Arduino Create Agent to connect with the hardware.
- 5) Compile the program with the "Upload and Save" button.
- 6) Locate the newly arrived USB Serial Device COM port, and use a serial terminal emulator (such as teraterm, realterm, picocom, minicom, or equivalent). Baud rate is 9600.

### Sending Commands with a Serial Console

A serial terminal emulator software (such as teraterm, realterm, putty, picocom, minicom, or equivalent) must be installed to communicate with the example firmware. Various terminal programs connect in various ways and have different user interfaces, but they all share a common set of basic features:

- Connecting to a specific serial port device by name, such as COM4 or /dev/ttyACM0
- Settings such as baud rate 9600, 8 bits/No parity/1 Stop bit, no flow control
- Typing at the keyboard transmits to the firmware through the serial port

- Messages received from the firmware are displayed on the screen
- A special keyboard command or menu item exits the terminal program

See <https://os.mbed.com/handbook/Terminals> for more details.

More resources:

<https://learn.sparkfun.com/tutorials/terminal-basics/tera-term-windows>

<https://learn.sparkfun.com/tutorials/terminal-basics/real-term-windows>

<https://learn.sparkfun.com/tutorials/terminal-basics/yat---yet-another-terminal-windows>

<https://learn.sparkfun.com/tutorials/terminal-basics/coolterm-windows-mac-linux>

<https://learn.adafruit.com/windows-tools-for-the-electrical-engineer/serial-terminal>

<https://www.putty.org/>

In Windows™, install a terminal emulator such as teraterm, realterm, or putty. Find the serial port name and COM port number in Control Panel “View devices and printers”. The Mbed board will appear as “USB Serial Device” or “mbed Serial Port”. See <https://os.mbed.com/handbook/Windows-serial-configuration> and <https://os.mbed.com/docs/mbed-os/v5.11/tutorials/windows-serial-driver.html> for troubleshooting. Start the terminal emulator and use the menu to connect to the serial port that belongs to the board. Pressing ENTER displays the firmware’s banner message (see example session).

In linux, install a terminal emulator such as minicom or picocom. For example, under Debian or Ubuntu linux, use

```
sudo apt-get install picocom
```

In linux (Debian), find the serial port name as follows:

```
# with the board not connected, get list of tty device names
ls -l /dev/tty* >dev_tty_baseline

# now connect the device to USB and find the new tty device name (such as /dev/
ttyACM0)

ls -l /dev/tty* | diff dev_tty_baseline -
```

The picocom terminal emulator runs from the tty console. The tty device name must be given on the command line when starting picocom. See man picocom for more details.

```
picocom /dev/ttyACM0 --baud 9600
```

Pressing ENTER displays the firmware’s banner message (see example session). Pressing CTRL+A, and then CTRL+X, exits picocom.

### Example Serial Console Session

The firmware uses a USB serial port to communicate. Typing “?” prints a menu of supported device commands.

```
# Example for MAX5715BOB Breakout Board
Main menu MAX5715 12-bit 4-ch SPI VOUT DAC MAX32625 [microUSB]
? -- help
MAX5715 > ?

Main menu MAX5715 12-bit 4-ch SPI VOUT DAC MAX32625 [microUSB]
? -- help
# -- lines beginning with # are comments
. -- SelfTest
%Hn {pin: 0 1 2 3 4 5 6 7 8 9 14 15 16 17} -- High Output
```

```

%Ln {pin: 0 1 2 3 4 5 6 7 8 9 14 15 16 17} -- Low Output
%?n {pin: 0 1 2 3 4 5 6 7 8 9 14 15 16 17} -- Input
%A -- analogRead
%SC SCLK=12000000=12.000MHz CPOL=1 CPHA=0 -- SPI config
%SW mosi,mosi,...mosi -- SPI write hex bytes
0 ch=? code=? -- CODEn
1 ch=? -- LOADn
2 ch=? code=? -- CODEnLOADall
3 ch=? code=? -- CODEnLOADn
40 ch=? -- POWERn_Normal
41 ch=? -- POWERn_PD1k
42 ch=? -- POWERn_PD100k
43 ch=? -- POWERn_PDHiZ
50 -- SW_CLEAR
51 -- SW_RESET
60 ch=? -- CONFIGn_LATCHED
61 ch=? -- CONFIGn_TRANSPARENT
68 -- CONFIGall_LATCHED
69 -- CONFIGall_TRANSPARENT
70 -- REF_EXT
71 -- REF_2V500
72 -- REF_2V048
73 -- REF_4V096
74 -- REF_AlwaysOn_EXT
75 -- REF_AlwaysOn_2V500
76 -- REF_AlwaysOn_2V048
77 -- REF_AlwaysOn_4V096
80 code=? -- CODEall
81 -- LOADall
82 code=? -- CODEallLOADall
@ -- print MAX5715 configuration
L -- LDAC# pulse LH high LL low
C -- CLR# pulse CH high CL low
MAX5715 > # send 76 REF_AlwaysOn_2V048 to change internal reference voltage
Main menu MAX5715 12-bit 4-ch SPI VOUT DAC MAX32625 [microUSB]
? -- help

```

```
MAX5715 > 76
MAX5715_REF(REF_AlwaysOn_2V048)
SPI MOSI-> 0x76 0x00 0x00  MISO<- 0xFF 0xFF 0xFF
MAX5715 > # send 75 REF_AlwaysOn_2V500 to change internal reference voltage
Main menu MAX5715 12-bit 4-ch SPI VOUT DAC MAX32625 [microUSB]
  ? -- help
MAX5715 > 75
MAX5715_REF(REF_AlwaysOn_2V500)
SPI MOSI-> 0x75 0x00 0x00  MISO<- 0xFF 0xFF 0xFF
MAX5715 > # send 82 CODEallLOADall to write and update all channels same value
Main menu MAX5715 12-bit 4-ch SPI VOUT DAC MAX32625 [microUSB]
  ? -- help
MAX5715 > 82 code=0x555
CODEallLOADall code=1365
SPI MOSI-> 0x82 0x55 0x50  MISO<- 0xFF 0xFF 0xFF
MAX5715 > # diagnostic %a measures MAX32625MBED AIN0,1 (5Vmax) and AIN2,3 (0.6Vmax)
Main menu MAX5715 12-bit 4-ch SPI VOUT DAC MAX32625 [microUSB]
  ? -- help
MAX5715 > %a
AIN0 = 100.000% = 0.600V  AIN4 = 14.174% = 0.850V
AIN1 = 100.000% = 0.600V  AIN5 = 14.174% = 0.850V
AIN2 = 100.000% = 0.600V
AIN3 = 100.000% = 0.600V
MAX5715 > # send 3 CODEnLOADn to write and update individual channels
Main menu MAX5715 12-bit 4-ch SPI VOUT DAC MAX32625 [microUSB]
  ? -- help
MAX5715 > 3 ch=0 code=0xccc
CODEnLOADn ch=0 code=3276
SPI MOSI-> 0x30 0xCC 0xC0  MISO<- 0xFF 0xFF 0xFF
MAX5715 > %a
AIN0 = 100.000% = 0.600V  AIN4 = 33.724% = 2.023V
AIN1 = 100.000% = 0.600V  AIN5 = 14.174% = 0.850V
AIN2 = 100.000% = 0.600V
AIN3 = 100.000% = 0.600V
MAX5715 > 3 ch=1 code=0x666
CODEnLOADn ch=1 code=1638
SPI MOSI-> 0x31 0x66 0x60  MISO<- 0xFF 0xFF 0xFF
MAX5715 > %a
```

```
AIN0 = 100.000% = 0.600V  AIN4 = 33.724% = 2.023V
AIN1 = 100.000% = 0.600V  AIN5 = 16.911% = 1.015V
AIN2 = 100.000% = 0.600V
AIN3 = 100.000% = 0.600V
MAX5715 > 3 ch=2 code=0x100
CODEnLOADn ch=2 code=256
SPI MOSI-> 0x32 0x10 0x00  MISO<- 0xFF 0xFF 0xFF
MAX5715 > %a
AIN0 = 100.000% = 0.600V  AIN4 = 33.724% = 2.023V
AIN1 = 100.000% = 0.600V  AIN5 = 16.911% = 1.015V
AIN2 = 26.295% = 0.158V
AIN3 = 100.000% = 0.600V

MAX5715 > # send 76 REF_AlwaysOn_2V048 to change internal reference voltage
Main menu MAX5715 12-bit 4-ch SPI VOUT DAC MAX32625 [microUSB]
? -- help
MAX5715 > 76
MAX5715_REF(REF_AlwaysOn_2V048)
SPI MOSI-> 0x76 0x00 0x00  MISO<- 0xFF 0xFF 0xFF
MAX5715 > %a
AIN0 = 100.000% = 0.600V  AIN4 = 27.664% = 1.660V
AIN1 = 100.000% = 0.600V  AIN5 = 13.881% = 0.833V
AIN2 = 21.603% = 0.130V
AIN3 = 100.000% = 0.600V

MAX5715 > # send 43 POWERn_PDHiz power off one channel high impedance
Main menu MAX5715 12-bit 4-ch SPI VOUT DAC MAX32625 [microUSB]
? -- help
MAX5715 > 43 ch=2
channel_dcba=4, POWERn_PDHiz)
SPI MOSI-> 0x43 0x04 0x00  MISO<- 0xFF 0xFF 0xFF
MAX5715 > %a
AIN0 = 100.000% = 0.600V  AIN4 = 27.664% = 1.660V
AIN1 = 100.000% = 0.600V  AIN5 = 13.881% = 0.833V
AIN2 = 97.458% = 0.585V
AIN3 = 100.000% = 0.600V

MAX5715 >
Main menu MAX5715 12-bit 4-ch SPI VOUT DAC MAX32625 [microUSB]
? -- help
MAX5715 > # end of test file
```

## Detailed Description of Hardware

The MAX5715 is a 12-bit, 4-channel, voltage-output DAC with SPI Interface. Analog outputs are driven on the OUTA - OUTD header pins. (The analog outputs are also connected to the standard Arduino analog pins on the external connector.) For more information on the MAX5715, visit [www.maximintegrated.com/max5715](http://www.maximintegrated.com/max5715)

**Table 1. Jumper Function**

JUMPER	STATE	FUNCTION
J2	1-2*	Analog reference REF connects to Arduino pin A4
J6	1-2*	Analog output OUTA connects to Arduino pin A0
J7	1-2*	Analog output OUTB connects to Arduino pin A1
J8	1-2*	Analog output OUTC connects to Arduino pin A2
J13	1-2*	Analog output OUTD connects to Arduino pin A3
J5	1-2*	V <sub>DD</sub> supply is driven by Arduino IOREF supply
J4	1-2*	V <sub>DDIO</sub> supply is driven by Arduino IOREF supply

\*Default position

## Ordering Information

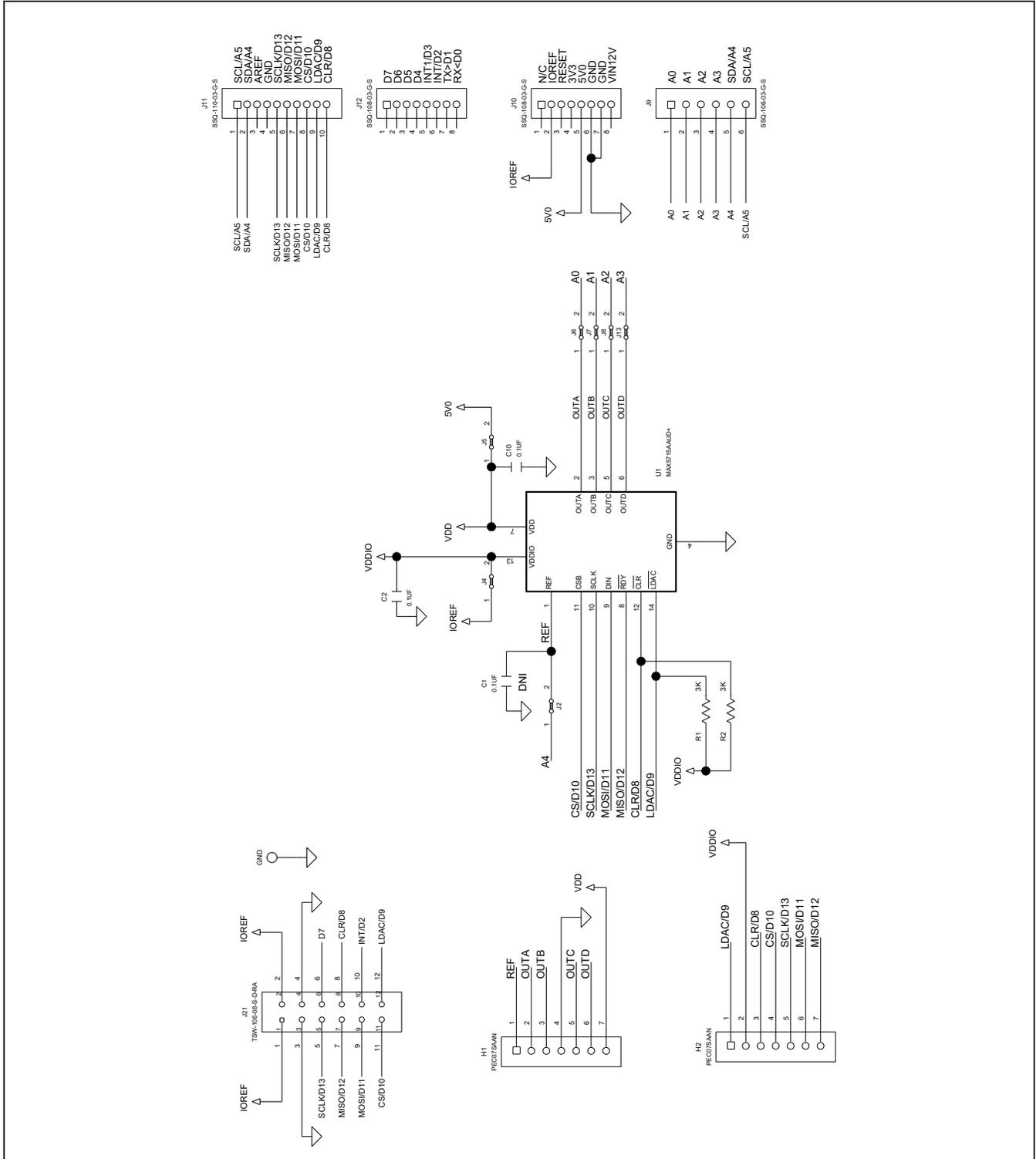
PART	TYPE
MAX5715BOB#	Breakout Board

#Denotes RoHS compliant

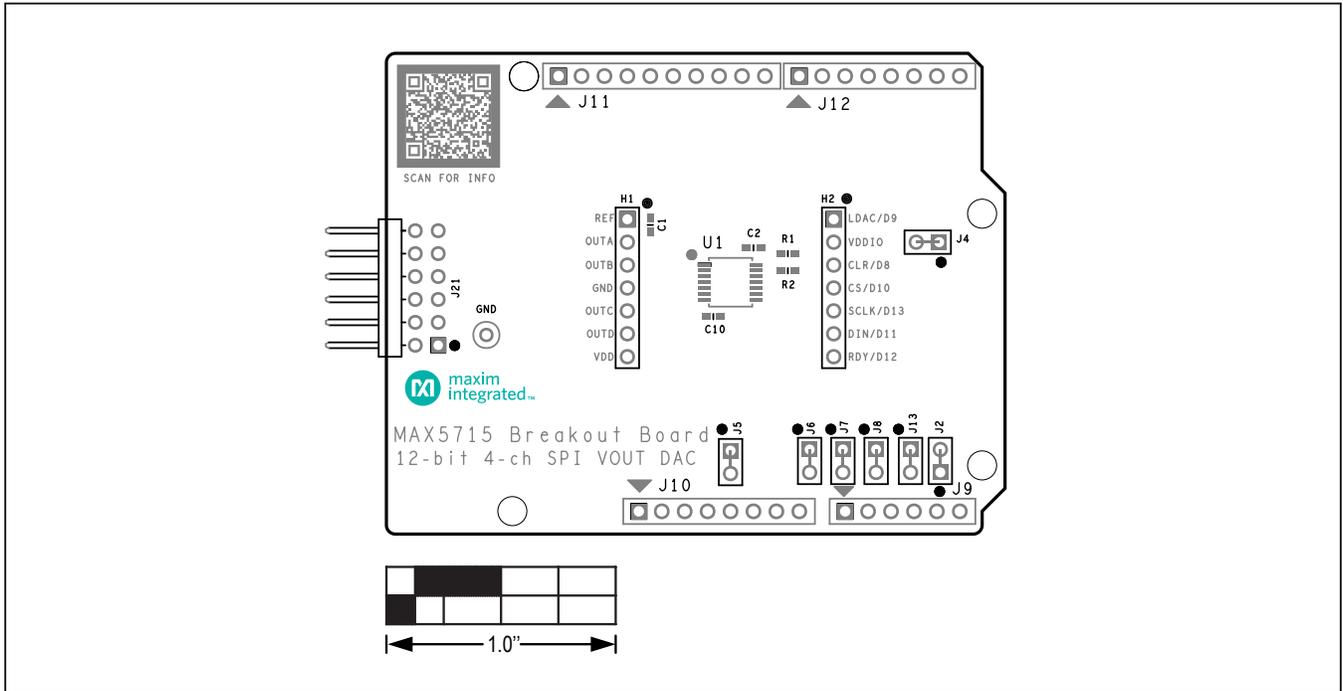
## MAX5715 Breakout Board Bill of Materials

ITEM	REF_DES	DNI/DNP	QTY	MFG PART #	MANUFACTURER	VALUE	DESCRIPTION
1	C2, C10	—	2	CC0603KRX7R0BB104; GRM188R72A104KA35; GCJ188R72A104KA01; HMK107B7104KA; 06031C104KAT2A	YAGEO; MURATA; MURATA; TAIYO YUDEN; AVX	0.1UF	CAPACITOR; SMT (0603); CERAMIC CHIP; 0.1μF; 100V; TOL = 10%; TG = -55°C TO +125°C; TC = X7R
2	GND	—	1	5001	KEYSTONE	N/A	TEST POINT; PIN DIA = 0.1IN; TOTAL LENGTH = 0.3IN; BOARD HOLE = 0.04IN; BLACK; PHOSPHOR BRONZE WIRE SILVER PLATE FINISH;
3	H1, H2	—	2	PEC07SAAN	SULLINS ELECTRONICS CORP.	PEC07SAAN	CONNECTOR; MALE; THROUGH HOLE; BREAKAWAY; STRAIGHT; 7PINS; -65°C TO +125°C
4	J9	—	1	SSQ-106-03-G-S	SAMTEC	SSQ-106-03-G-S	CONNECTOR; MALE; THROUGH HOLE; THROUGH-HOLE .025 SQ POST SOCKET ; STRAIGHT; 6PINS
5	J10, J12	—	2	SSQ-108-03-G-S	SAMTEC	SSQ-108-03-G-S	CONNECTOR; FEMALE; THROUGH HOLE; .025IN SQ POST SOCKET; STRAIGHT; 8PINS
6	J11	—	1	SSQ-110-03-G-S	SAMTEC	SSQ-110-03-G-S	CONNECTOR; FEMALE; THROUGH HOLE; .025IN SQ POST SOCKET; STRAIGHT; 10PINS
7	J21	—	1	TSW-106-08-S-D-RA	SAMTEC	TSW-106-08-S-D-RA	CONNECTOR; THROUGH HOLE; DOUBLE ROW; RIGHT ANGLE; 12PINS
8	R1, R2	—	2	CRCW06033K00FK	VISHAY DALE	3K	RESISTOR; 0603; 3KΩ; 1%; 100PPM; 0.10W; THICK FILM
9	U1	—	1	MAX5715AAUD+	MAXIM	MAX5715AAUD+	IC; DAC; ULTRA-SMALL; QUAD-CHANNEL; 12-BIT BUFFERED OUTPUT DACs WITH INTERNAL REFERENCE AND SPI INTERFACE; TSSOP14
10	PCB	—	1	5715_ARDUINO_DEMO_B	MAXIM	PCB	PCB:5715_ARDUINO_DEMO_B
11	C1	DNP	0	CC0603KRX7R0BB104; GRM188R72A104KA35; GCJ188R72A104KA01; HMK107B7104KA; 06031C104KAT2A	YAGEO;MURATA; MURATA;TAIYO YUDEN; AVX	0.1UF	CAPACITOR; SMT (0603); CERAMIC CHIP; 0.1μF; 100V; TOL=10%; TG = -55°C TO +125°C; TC = X7R
<b>TOTAL</b>			<b>14</b>				

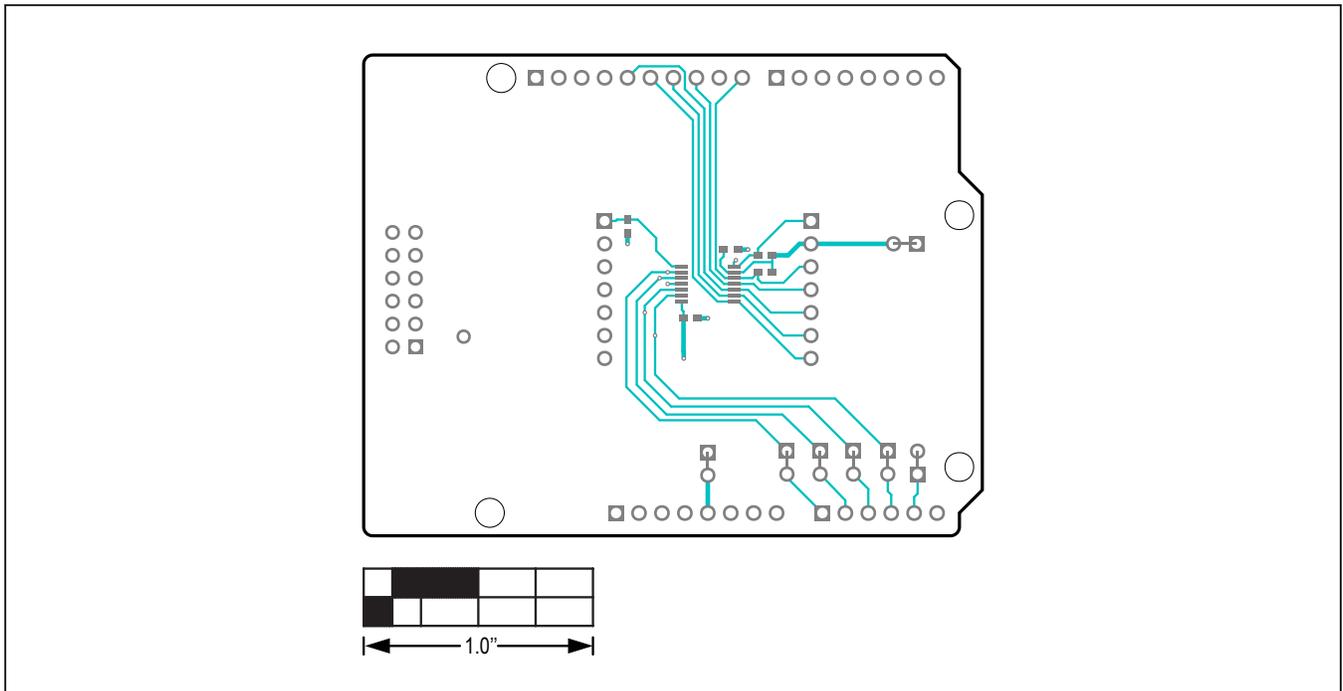
MAX5715 Breakout Board Schematic



MAX5715 Breakout Board PCB Layout Diagrams

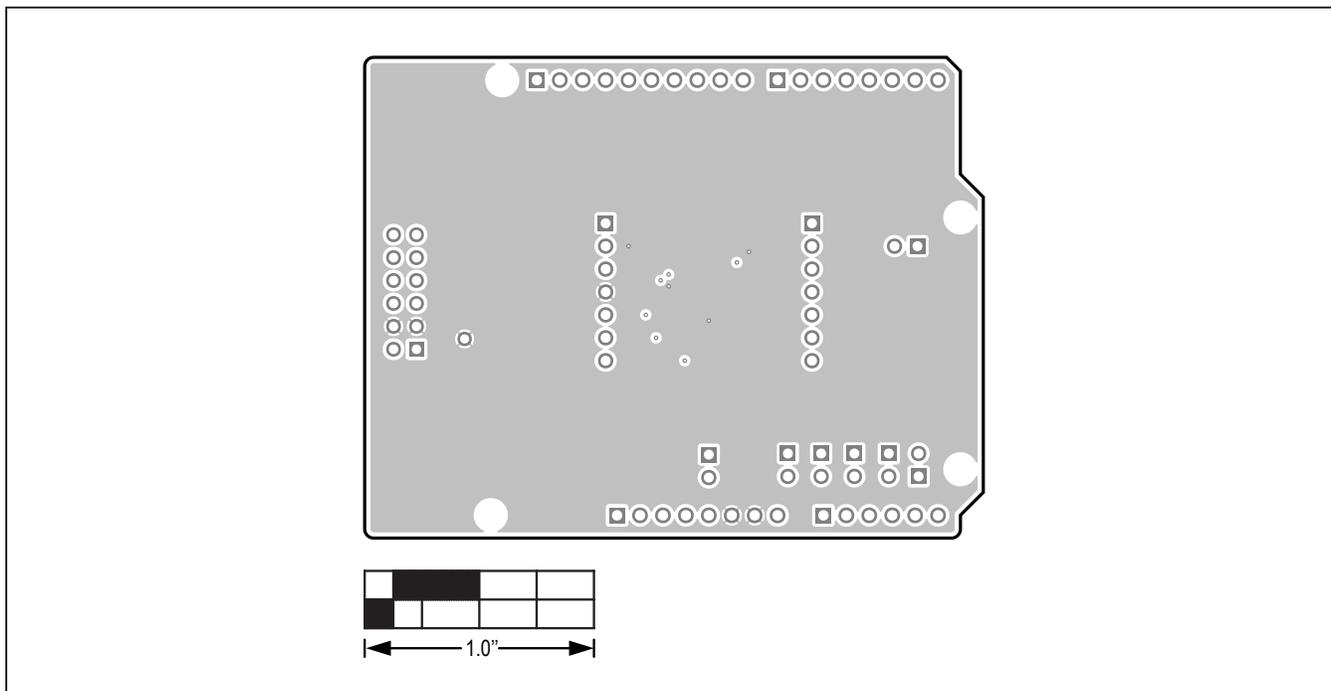


MAX5715 Breakout Board PCB Layout—Top Silkscreen

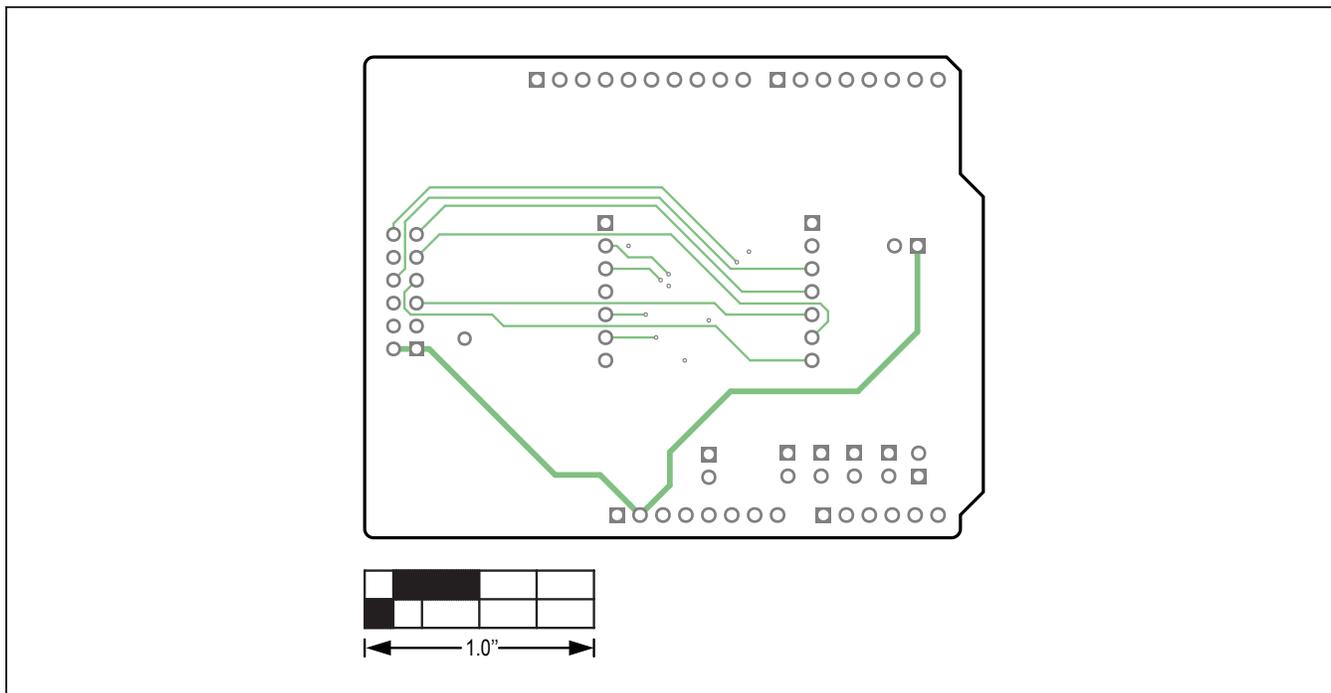


MAX5715 Breakout Board PCB Layout—Top Layer

MAX5715 Breakout Board PCB Layout Diagrams (continued)

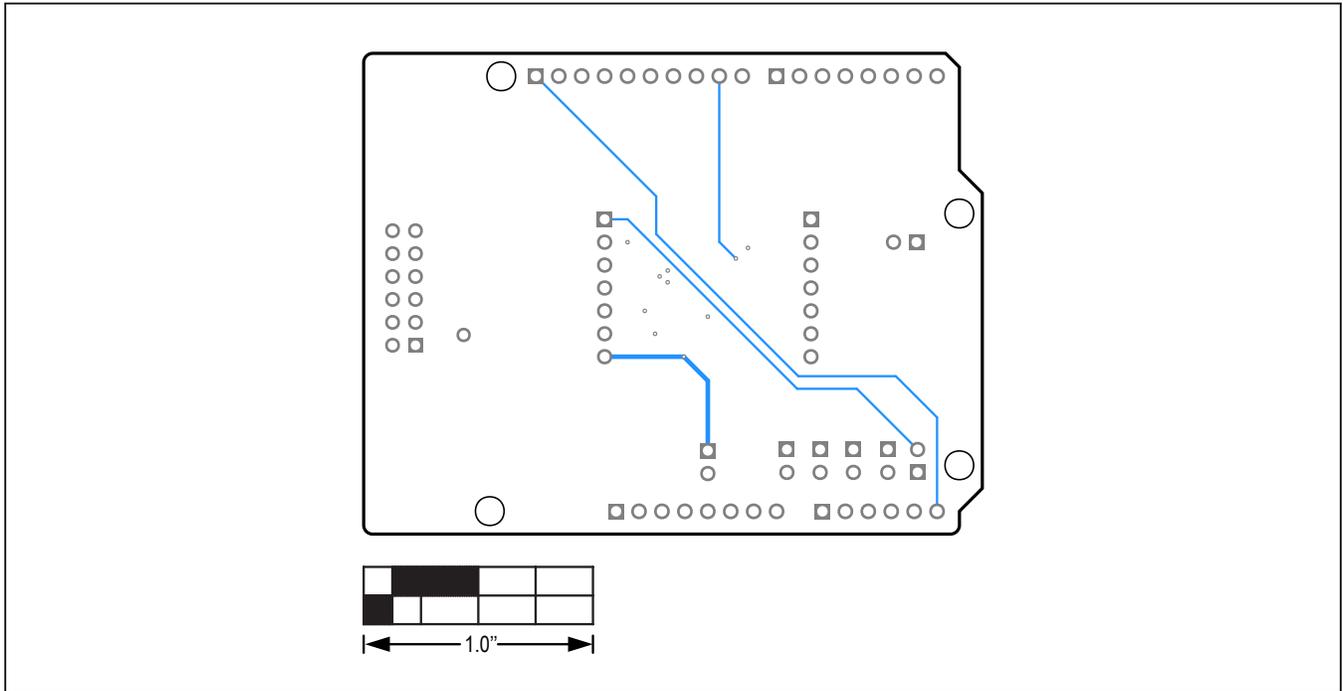


MAX5715 Breakout Board PCB Layout—Internal 2

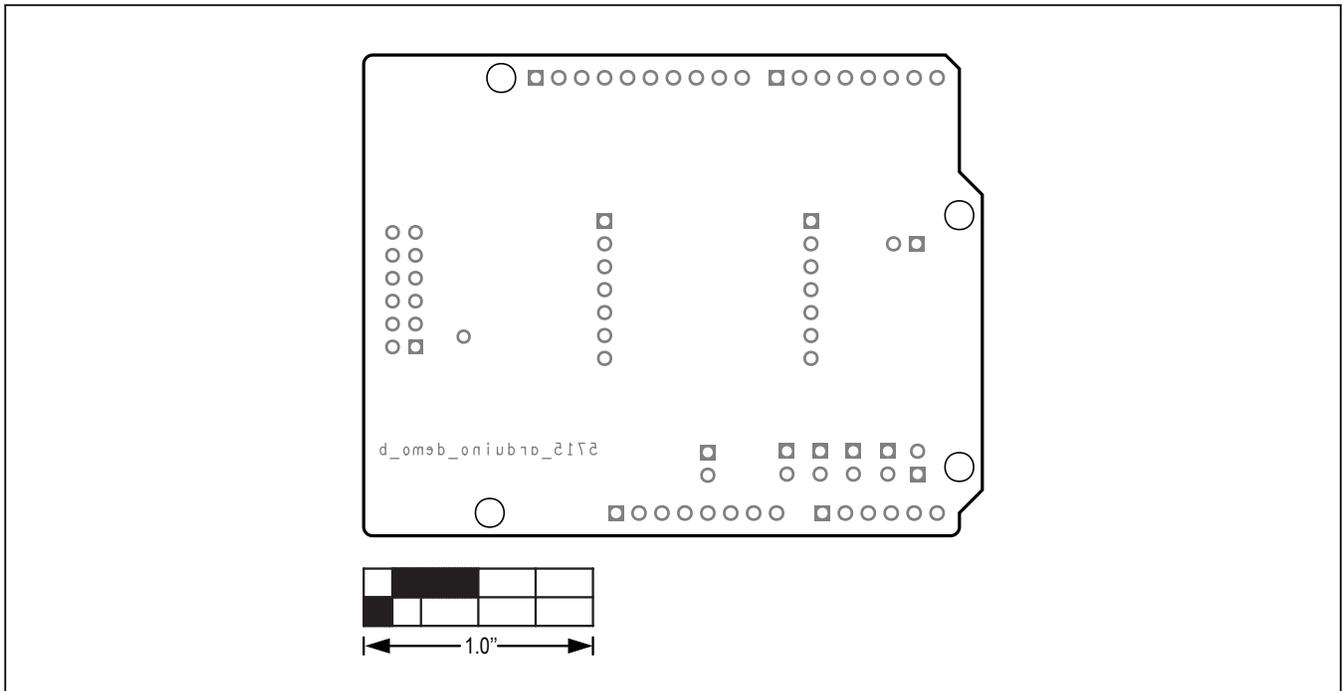


MAX5715 Breakout Board PCB Layout—Internal 3

MAX5715 Breakout Board PCB Layout Diagrams (continued)



MAX5715 Breakout Board PCB Layout—Bottom View



MAX5715 Breakout Board PCB Layout—Bottom Silkscreen

## Revision History

REVISION NUMBER	REVISION DATE	DESCRIPTION	PAGES CHANGED
0	10/19	Initial release	—

For pricing, delivery, and ordering information, please visit Maxim Integrated's online storefront at <https://www.maximintegrated.com/en/storefront/storefront.html>.

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