Evaluates: DS28E17

General Description

The DS28E17 evaluation system (EV system) provides the special hardware and software system to exercise the features of the DS28E17 1-Wire®-to-I²C master bridge IC. The EV system consists of a DS28E17 EV kit board and a DS9481P-300# USB-to-1-Wire adapter for PC connectivity. The EV kit is compatible with Windows® operating systems.

EV System Contents

- DS28E17 EV Kit Board (Figure 1)
- DS9481P-300# USB-to-1-Wire Adapter (Figure 2)

Benefits and Features

- Driver Support for Windows 8 and Windows 7
- Fully Compliant with USB Specification v2.0
- USB Powered with No External Power Supply Required
- On-Board DS7505 Digital Thermometer I²C Slave Peripheral
- Extended I²C Peripheral Module Connector for Rapid Prototyping of I²C Slaves
- Proven PCB Layout



Figure 1. DS28E17 EV Kit Board



Figure 2. DS9481P-300# USB-to-1-Wire Adapter

1-Wire is a registered trademark of Maxim Integrated Products, Inc.

Windows is a registered trademark and registered service mark of Microsoft Corporation.

Ordering Information appears at end of data sheet.





Figure 3. Typical Setup

DS28E17EVKIT Files

FILE	DESCRIPTION
DS28E17 EV Kit	EV Kit Software

Quick Start

Required Equipment

- DS28E17 EV kit (included)
- DS9481P-300# USB-to-1-Wire adapter (included)
- PC with a Windows 8 or Windows 7 (32-bit or 64-bit) operating system and a spare USB 2.0 or higher port
- 1-Wire drivers
- DS28E17 evaluation software

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.

Procedure

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

- Install the 1-Wire drivers (see the *Installing* DS9481P-300# and 1-Wire Drivers section for instructions).
- 2) Attach the DS9481P-300# adapter to the DS28E17 EV kit (Figure 4).
- Visit <u>http://content.maximintegrated.com/en/design/</u> tools/applications/evkit-software/ to download the latest version of the DS28E17 EV kit software.
- 4) Unzip and save the EV kit software to a known location.

- 5) Open the **DeviceDriver** folder.
- 6) Right-click on **install.bat** and then choose **Run as** administrator (Figure 5).
- 7) A command window opens with a prompt asking to install the device driver (Figure 6). Click **Install**.
- 8) Open the folder where the DS28E17 EV kit software was extracted and double-click the **Setup.exe** file.
- 9) Plug the USB cable to the DS9481P-300# adapter.
- 10) Insert the DS9481P-300# into a spare USB port on the PC.
- 11) The device will automatically search and install the driver (Figure 7).
- 12) Click on the **Install** button to start installation (Figure 9).
- 13) To start the evaluation software, ensure that the DS9481P-300# has been properly installed and the DS28E17 board and DS9481P-300# adapter are connected.
 a. Run the DS28E17 EV kit software: Start→

Programs \rightarrow Maxim Integrated \rightarrow DS28E17EV Kit

- 14) If the DS9481P-300# is not detected or connected to the USB port, the software displays an error message (Figure 10). Close the program window, reconnect the DS9481P-300# adapter and restart the program again.
- 15) Once properly installed, the initial screen graphical user interface (GUI) should appear (Figure 11).

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Figure 4. DS9481P-300 Attached with DS28E17 EV Kit

Install.tool Open Edit Print	Name		Date modified	Туре
Install.prot 7/17/2014 10:46 Setup Information Install.prot 7/17/2014 10:46 Setup Information Open 2/17/2014 15:27 Windows Batch Fill Edit Print Print	DS9481P.cat		7/17/2014 10:46	Security Catalog
install.trate Open Edit Print Open	DS9481P.inf		7/17/2014 10:46	Setup Information
	🚳 install.t	Open Edit Print	7/17/2014 15:27	Windows Batch Fil

Figure 5. Device Driver Installation

C:\Windows\System32\cmd.	xe		23	
C:\Windows\system32>pn Microsoft PnP Utility	putil -i -a K:\signed_071714\ DS9	481P.inf	A III	
Processing inf :	D89481P.inf			
	• V	Vindows Security		
	Wa	ould you like to install this	device software?	
		Name: Maxim Integrated P Publisher: Maxim Integrate	roducts Ports (COM & L d Products Inc	
		Always trust software from "Maxi Products Inc".	m Integrated	Install Don't Install
	۲	You should only install driver soft software is safe to install?	ware from publishers you trust.	How can I decide which device

Figure 6. Device Driver (Install Device Software)

Driver Software installation	
Installing device driver softw	vare
MAXIM DS9481P-300	Searching preconfigured driver folders
	Close

Figure 7. Device Driver Successfully Installed

DS28E17 EV Kit Software Rev0p3	8 🕨	✓ 4y Searce	ch DS28E17 EV Kit Softwa	are RevOp3 🔎
<u>File E</u> dit <u>V</u> iew <u>T</u> ools <u>H</u> elp				
Organize 🔻 💼 Open Share with 👻	Burn	New folder	:= •	
🔆 Favorites	-	Name	Date modified	Туре
🥅 Desktop		퉬 Application Files	5/25/2015 21:15	File folder
闄 Downloads		DS28E17 EV Kit.application	5/22/2015 10:44	ClickOnce
🔄 Recent Places		🔂 setup.exe	5/22/2015 10:44	Application
 PICTURES Cibraries Documents Music Pictures Subversion Videos Computer System (C:) DVD Drive (F:) WDK AutoInfo (\\MAXDALFS01) (X:) 	E			
G	-	•		Þ

Figure 8. Opening the DS28E17 Evaluation Program Setup

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Figure 9. DS28E17 EV Kit Application Install



Figure 10. DS9481P-300# (Device Not Found!)

<u>File T</u> ools					
1-Wire to I2C	1-Wire				
Device List	Clear	Device Commands	ROM Level Commands	s 1-Wire Speed	
		Write Data with Stop (4Bh) I2C Address 90 • Write Data No Stop (5Ah) Read Length 2 • Write Data Only (69h) Induce Error Induce Error Write. Read Data with Stop (87h) Send Invalid CRC16 Send Invalid Read Length Execute Send Invalid Write Length Send Invalid Write Length	Skip ROM OD Skip ROM Match ROM OD Match ROM Resume ROM	 Standard Speed Overdrive Speed 	
Find Devices		Write Data (hex values without spaces or delimeters)	Autofill V	/rite Data	
Read ROM			# By Start Va	vtes velocities veloci	
Clear Log	Auto Cle	ar RP = 1-Wire Reset, Presence Pulse Detected S = I2C Start ## RN = 1-Wire Reset, No Presence Pulse Detected Sr = Repeated Start [# P = I2C Stop	# = Hex Value Written #] = Hex Value Read		

Figure 11. DS28E17 EV Kit Software Initial Screen GUI

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Detailed Description of Software

The DS28E17 evaluation program user interface (Figure 12) has two tabs: **1-Wire to I2C** and **1-Wire**. The **1-Wire to I2C** tab (Figure 15) is the main tool to evaluate specific functions of the DS28E17. The **1-Wire** tab (Figure 16) provides 1-Wire communication functions down to the bit level. These functions allow manual creation of communication sequences beyond those found on the **1-Wire to I2C** tab.

File Menu Section

Exit closes the 1-Wire connection and exits the applications.

Tools Menu Section

The **Tools** menu provides all the connection information and settings required for 1-Wire transactions (Figure 13).

- Read Device Revision returns the DS28E17 revision.
- The Set I²C Speed selection sets the device's I²C communication speed. The DS28E17 supports three different I²C speeds: 100kHz, 400kHz, and 900kHz
- Read I2C Speed reads the current I²C communication speed set on the device registry.
- Sleep: This selection makes the device go into sleep mode. After selecting this option, the device no longer responds to any command until a high-level signal is detected on the WAKEUP pin. See <u>Figure 14</u> for example log returns after Sleep condition.

The WAKEUP pin (shown as WKE) is located at the top of the EV kit board (Figure 1).

DS28E17 EV	V Kit: 1-Wire to I2C Bridge		1		
<u>F</u> ile <u>T</u> ools	5				
1-Wire to I2C	1-Wire				
Reset					
Write Bit	💿 1Ь 💿 ОЬ				
Read Bit					
Write Byte(s))				
Read Byte(s)					
Match ROM					
Matchintom					
Clear Log	Auto Clear RP = 1-Wire Reset, Presen RN = 1-Wire Reset, No Pre	ce Pulse Detected S = I2C Sta sence Pulse Detected Sr = Repea	rt ### = Hex Value Written ted Start [##] = Hex Value Read		
		P = 12C Sto	P		
n i cour i	Rever 0.3				

Figure 12. DS28E17 EV Kit Software, Main GUI Interface

🔯 DS2	DS28E17 EV Kit: 1-Wire to I2C Bridge					
File	Tools					
1-Wire	Read Device Revision					
	Read I2C Speed		100kHz			
			400kHz			
Wr	Sleep		900kHz			
Re	ad Rit					

Figure 13. DS28E17 EV Kit Software GUI, Tools Menu

		_
	Disable 1-Wire	
	I-WIFE: RF CC IE	
	Read ROM	
	RN 33 [FF] [FF] [FF] [FF] [FF] [FF] [FF]	
	ROMID=FFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFF	
	Read ROM	
	ात्रचा लिया लिया जिया लिया लिया लिया तिया हिंह गर	
	DOMIN-FUEFFEFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFF	
	Dath COM5 Page 0.2	-
-		-

Figure 14. DS28E17 EV Kit Software GUI, Tools Menu (Sleep Condition Log Results)

1-Wire to I2C Tab

The **1-Wire to I2C** tab (Figure 15) provides the following elements: **Device List** text box, **Device Commands** group box, **ROM Level Commands** group box, **1-Wire Speed** group box, **Find Devices** and **Read ROM** buttons, Write Data edit box, Autofill Write Data group box, and Log section. Details for each element are explained next. The Log section displays the 1-Wire and 1-Wire-to-I²C communication commands. See Table 1 and Table 2.

File Tools					
1-Wire to I2C	1-Wire				
Device List	Clear	Device Commands	ROM Level Commands	1-Wire Speed	
19FFFFFFFF	FFF25	Write Data with Stop (4Bh) 12C Address 36 Write Data Only (6Sh) Read Length 2 Write Data Only (6Sh) Read Length 2 Write Data Only with Stop (7Bh) Induce Error Send Invalid CRC11 Write Read Data with Stop (2Dh) Send Invalid Read L Send Invalid Read L Execute Send Invalid Write L Send Invalid Read L	Skip ROM OD Skip ROM OD Skip ROM Match ROM OD Match ROM OD Match ROM Resume ROM	Standard Speed Overdrive Speed	
Find Devices		Write Data (hex values without spaces or delimeters)	Autofill V	rite Data	
Read ROM			Seq # B Start V	ential Random	
Clear Log	Auto Cle	ar RP = 1-Wire Reset, Presence Pulse Detected S = IZC Start RN = 1-Wire Reset, No Presence Pulse Detected Sr = Repeated P = I2C Stop	## = Hex Value Written Start [###] = Hex Value Read		
Arite Data W: Reset, ROM Ca -Wire: RP Ca I2C: S 90 Read Data WI Reset, ROM Ca -Wire: RP Ca I2C: S 91	ITH Stop ommand, C 4B 90 00 00 F IH Stop ommand, C 87 91 [17] [8	Packet: Command, I2C Address, Write Length, I2C Write Dat 20 00 00 D7 31 [0b] [00] [00] Packet: Command, I2C Address, \$ of I2C Bytes to Read, CRC 22 A3 87 [0b] [00] [17] [80]) P	a, CRC16, Busy Bit, Statu 16, Busy Bit, Status, Rea	s, Write Status 1 Data	
120. 0 91	(1/) [8				

Figure 15. DS28E17 EV Kit Software GUI (1-Wire to I2C Tab)

Table 1. 1-Wire to I²C Options

ELEMENT NAME (TYPE)	PURPOSE	USAGE/SETTINGS
Device List (Text Box)	Display 1-Wire devices found	Displays the ROM ID for the attached devices on the 1-Wire bus. Used for Match ROM commands. Match ROM commands use the selected device under the Device List text box The data in this field is used with the ROM function action buttons to select a particular 1-Wire slave device. It is automatically filled when using the Find Devices button.
Find Devices (Action button)	Search for available devices attached to the 1-Wire line	Triggers the search command and adds discovered devices to the Device List text box.
Clear Log (Action button)	Clears the Log box	Clears all contents under the Log section.
Read ROM (Action button)	1-Wire command	Sends the 1-Wire reset followed by the Read ROM command (33h) and then reads the 64-bit ROM ID of the 1-Wire slave device. The CRC8 within the number is checked to validate the ROM IDs. A warning is logged if the CRC8 is not valid. The ROM ID is also loaded into the Device List text box to use with ROM commands.
Auto Clear (Checkbox)	Select if Log should be cleared each time a command is executed	This keeps a clean log, with only the last command executed displayed under the Log section.
Execute (button)	Executes the selected command	Issues the selected command to the DS28E17.

Table 2. Device Commands

ELEMENT NAME (TYPE)	PURPOSE	USAGE,SETTINGS
Write Data With Stop (4Bh) (Radio button)	I ² C Write command	Sends an I ² C packet command containing data and the stop command at the end of the data.
Write Data No Stop (5Ah) (Radio button)	I ² C Write command	Addresses and writes 1 to 255 bytes to an I ² C slave without completing the transaction with a stop. This command allows writing large amounts of data at one time when used in conjunction with the Write Data Only or Write Data Only with Stop device commands.
Write Data Only (69h) (Radio button)	I ² C Write command	Used when a start and I ² C address has previously been issued with a Write Data No Stop device command. This command writes 1 to 255 bytes to an I ² C slave without completing the transaction with a stop and enables writing large amounts of data at one time when used with the Write Data Only or a last Write Data Only with Stop device commands.
Write Data Only with Stop (78h) (Radio button)	I ² C Write command	Used when a start and I ² C address has previously been issued with a Write Data No Stop device command. This command writes 1 to 255 bytes to an I ² C slave, completing the transaction with a stop.
Read Data with Stop (87h) (Radio button)	I ² C Write command	This is used to address and read 1 to 255 bytes from an I^2C slave in one transaction.
Write, Read Data with Stop (2Dh) (Radio button)	I ² C Write command	This is used to first address and write 1 to 255 bytes to an I^2C slave. Secondly, it addresses and reads 1 to 255 bytes from an I^2C slave and issues a stop.
I ² C Address (Combo box)	I ² C Slave address selection	To select the address of the I ² C slave device for each transaction.
Read Length (Combo box)	Selection of bytes to read	Provides the total number of bytes desired to read. Option is disabled until a Read Data option is selected.
Induce Error	To test DS28E17 I/O states	This option includes three different error states to help monitor the device I/O pin states for each error (Invalid CRC16 , Invalid byte length , and Invalid Write length). This selection helps the user understand the DS28E17 behavior after each error. For I/O states for each error, refer to the DS28E17 IC data sheet.

Table 3. 1-Wire Speed

ELEMENT NAME (TYPE)	PURPOSE	USAGE/SETTINGS				
Standard Speed (Radio button)	1-Wire Speed	Indicates 1-Wire communication speed. The selected speed is also applicable when user selects the 1-Wire tab.				
Overdrive Speed (Radio button)	1-Wire Speed	Indicates 1-Wire communication speed. The selected speed is also applicable when user selects the 1-Wire tab.				

Table 4. Autofill Write Data

ELEMENT NAME (TYPE)	PURPOSE	USAGE/SETTINGS								
Sequential (Radio button)	Write Data fill selection	Fills the Write Data edit box with bytes in a sequential order. Requires user to select the # Bytes to be written and the Start Value .								
Random (Radio button)	Write Data fill selection	Fills the Write Data edit box with bytes in a random order. Requires user to select the # Bytes to be written and the Start Value .								

Table 5. ROM Level Commands

ELEMENT NAME (TYPE)	USAGE/SETTINGS
Skip ROM (Radio button)	Sends a 1-Wire reset followed by the CCh Skip ROM command. This selects all devices on the 1-Wire bus.
OD Skip ROM (Radio button)	Sends a 1-Wire reset followed by the 3Ch Overdrive Skip ROM command. This sets all devices on the 1-Wire bus to Overdrive speed. The 1-Wire Speed section will display the current device's speed. The ROM Level commands will display the next available command. To bring back device to standard speed under the 1-Wire Speed , select Standard Speed .
Match ROM (Radio button)	Sends the 1-Wire reset followed by the Match ROM command 55h followed by the 8 bytes of the ROM ID in the ROM to use with ROM commands. Requires to previously use the Find Devices button to read device ROM ID and use the selected ROM ID for the match rom sequence.
OD Match ROM (Radio button)	Sends the 1-Wire reset followed by the Overdrive Match ROM command (69h), followed by the 8 bytes of the ROM ID in the ROM to use with ROM commands. Requires to previously use the Find Devices button to read device ROM ID and use the selected ROM ID for the match ROM sequence. The initial selection will set the device in overdrive speed. The 1-Wire Speed section displays the current device's speed. The ROM Level Commands displays the next available command. To bring back device to standard speed under the 1-Wire Speed , select Standard Speed .
Resume ROM (Radio button)	Sends a 1-Wire reset followed by the Resume command A5 (hex).

1-Wire Tab

The **1-Wire** tab (Figure 16) provides the low-level 1-Wire primitives that can be used to construct any 1-Wire communication sequence. Choices made in the **1-Wire Speed** group box under the **1-Wire to I2C** tab (**Standard**

Speed and **Overdrive Speed** only) also apply to ROMlevel functions. The **ROM Level** section has functions that implement the 1-Wire ROM function commands, which use the 64-bit ROM ID selected under the **Device List** in the **1-Wire to I2C** tab.

DS28E17 EV Kit: 1-Wire to I2C Bridge	a providence to	
<u>File</u> <u>T</u> ools		
1-Wire to I2C 1-Wire		
Reset		
Write Bit		
Read Bit		
Write Byte(s)		
Read Byte(s)		
Match ROM		
Clear Log Auto Clear RP = 1-Wire Reset, Presence Pulse Detect	d S = I2C Start ## = Hex Value Written	
RN = 1-Wire Reset, No Presence Pulse De	ected Sr = Hepeated Start [##] = Hex Value Head P = I2C Stop	
Port: COM5 Rev: 0.3		

Figure 16. DS28E17 EV Kit Software GUI (1-Wire Tab Functions)

Table 6. 1-Wire Tab

ELEMENT NAME (TYPE)	DESCRIPTION								
Reset (Action button)	Generates a 1-Wire reset at the speed specified in the toggle button.								
Write Bit (Action button)	Generates a write time slot on the 1-Wire bus. Bit sent is specified in the logic 1 (1b) or logic 0 (0b) toggle button.								
Read Bit (Action button)	Generates a read-data time slot on the 1-Wire bus.								
Write Byte(s) (Action button)	Transmits the bytes displayed in the Write Bytes data input box on the 1-Wire bus.								
Read Byte(s) (Action button)	Reads as many bytes from the 1-Wire bus as specified by the Number of Bytes to Read counter.								
Standard Speed/ Overdrive Speed (Toggle button)	Defines the speed to be used for 1-Wire communication.								

CODE	1-WIRE ACTIVITY	DESCRIPTION							
RP	Presence Pulse Detected	The 1-Wire master generates a Reset pulse and receives a Presence pulse.							
RN	No Presence Pulse Detected	The 1-Wire master generates a Reset pulse and does not receive a Presence pulse.							
S	None	I ² C Start							
Sr	None	Repeated Start							
Р	None	I ² C Stop							
##	None	Hex value written							
[##]	None	Hex value read							

Table 7. Communication Log Decoder

DS7505 I²C Temperature Sensor Example

The EV kit board includes a DS7505 I²C sensor for demo purposes. Additional I²C devices can also be attached to the end of the DS28E17 board.

The DS7505 IC data sheet is available for download at **www.maximintegrated.com**.

Reading Temperature from DS505

Follow the steps below to read temperature from the DS505:

- 1) Click the **Find Devices** button.
- 2) In the **Device Commands** group box, click the **Write Data with Stop (4Bh)** radio button.
- In the I2C Address combo box, type or select 90 to set the I²C slave address to 90h.
- 4) Inside the Write Data edit box, type 0000.
- 5) Click the **Execute** button.
- 6) The **Log** section will display the 1-Wire and I²C transaction.
- 7) In the **Device Commands** group box, click the **Read Data with Stop (87h)** radio button.

- 8) The **Read Length** combo box is enabled.
- 9) Type or select 2 to set the read length to 2 bytes.
- 10) For more information regarding temperature readings, refer to the *Operation—Measuring Temperature* section in the DS2705 IC data sheet.

Temperature Readings Results

- Four bytes are returned on the 1-Wire line. These bytes represent the Status byte, Write Status, and two I²C bytes from the device. Refer to the DS28E17 IC data sheet for more details.
- The two I²C bytes received ([17] [80]) denote the device temperature, 23.5°C (see Figure 15).
- The DS7505 power-up default is configured for 9-bit resolution.
- 1780h in binary represents 0001 0111 1000 0000.
 Following Figure 17, the temperature can be calculated.

The DS7505 IC data sheet provides exact temperature calculation procedures and device-specific operation.

Other I²C devices can be read using the extension port on the DS28E17 EV kit boards. See Figure 1 for pin selection.



Figure 17. Temperature Reading Registry

Evaluates: DS28E17

Detailed Description of Hardware

DS28E17 EV Kit Component List, PCB Layout, and Schematic

See the following links for component information, schematic diagrams, and PCB layouts:

- DS28E17 EV kit BOM
- DS28E17 schematic
- DS28E17 PCB
- DS9481P-300 BOM
- DS9481P-300 schematic
- DS9481P-300 PCB

Table 8. DS28E17 EV Kit Pinout

SIGNAL NAME	DESCRIPTION
SLP	Input pin to place the device into sleep mode
GND	Ground
WKE	Input pin to wake the device after the sleep command
1W	1-Wire I/O pin
RST	Input reset device
AWK	Output pin to enable the external I ² C device
BSY	I ² C busy pin
SDA	I ² C data output pin
SCL	I ² C clock output pin
VCC	I ² C V _{CC} Output

Table 9. PCB Layout Diagrams(Color Legend)

COLOR	DESCRIPTION
Red	Top metal layer
Green	Top silkscreen
Brown	Bottom silkscreen
Blue	Bottom metal layer
Grey	All metal layers
Purple	Board outline

Ordering Information

PART	TYPE	
DS28E17K#	EV System	
#Denotes RoHS compliant.		

Troubleshooting Guide

SYMPTOM	POSSIBLE CAUSE	CORRECTIVE ACTION
	PC port hardware is not functioning properly.	Does the port work with other applications, such as a keyboard or mouse? If not, contact the motherboard vendor for BIOS updates or new drivers.
Cannot communicate through the 1-Wire adapter	1-Wire adapter is not functioning.	Try the 1-Wire adapter on another PC. If the problem persists, use a different 1-Wire adapter or order a new adapter of this type.
	Adapter type selected is not what is connected.	Run the Default 1-Wire Net application and select the correct adapter type and/or port number.

Appendix A: Extended Setup Guide

Installing the DS9481P-300# and 1-Wire Drivers

The DS9481P-300# adapter also requires 1-Wire drivers to operate the 1-Wire port. Unless you have been using 1-Wire devices before (e.g., with a different adapter), the drivers need to be installed before this EV kit can function. Follow the steps below to install the 1-Wire Drivers software package. For installation details, refer to Tutorial 4373: *OneWireViewer and iButton Quick Start Guide, available at www.maximintegrated.com/en/app-notes/index.mvp/id/4373*.

- To download the 1-Wire Drivers software package, visit <u>www.maximintegrated.com/en/products/</u> <u>comms/one-wire/software-tools/drivers.html</u>. Click the button that takes you to the **Download Page**. Select the applicable version of the Windows operating system and select the file that corresponds to your PC's configuration (e.g., 32-Bit 1-Wire Drivers or 64-Bit 1-Wire Drivers) and then click the **Download** button. The web page provides assistance on how to detect whether your PC runs a 32-bit or 64-bit operating system.
- 2) Select **Run** when prompted with the question **Do** you want to run or save this file?
- 3) Select **Run** when you get a security warning that reads **Do you want to run the software?**
- 4) Read and check the box if you accept the license agreement. Click **Install**.
- 5) Click the Finish button to exit the Setup Wizard.
- 6) Now return to the Procedure section and execute Step 2.

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Revision History

REVISION	REVISION	DESCRIPTION	PAGES
NUMBER	DATE		CHANGED
0	6/15	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.

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DS28E17 EV Bill of Materials (BOM) (Rev 0, 6/15)

			Color legend>	Do Not Populate														
			color legend ->	0805 capacitor														
				1206 capacitor														
				TRD														
25 characters	35 characters		35 characters	35 characters	04	20	1					Leave Blank	60 characters	This sect	ion will be deleted prior to Data B	ase unload		
Parent	Parent	Item	Component	Component	Part	0TY				Eff Start	Eff Close	To Issuing	Remarks	# of	Manufacturer	Comments- RoHS/I	* = Sampled	
Number	Description	- Tech	Part	Description	Status	Por	TTI	KITTED	DELTA	Date	Date	Sea Store	Decimators)	Char	Part Number	Assembly Notes X =	Component	Datacheet IIRI
Humber	Description		Turc	Description	Status				DECIN	Dute	Dute	See Store	Designators	OK			component	bitalice one
														UK.				
DC28E17EV/VIT#	DC29E17 EV Vit	0001				1	20		(20)				DC28E17EV//IT#		D\$295175\///IT#	Ratangas to prosure		
DSEGETTEVIAT#	DSECET/ EV KIL	0001	Internal Part Number	Description		Quantity	20		(20)				Designator		Part Number	Vendor Part Number		Datacheet LIRI
		0002	internal rate Namber	Do Not Repulate		Quantity	20		(20)				CO	OK	r arc reamber	Vendor Furchamber		bitsheet one
		0003		LED INGAN GREEN CLEAR 0602 SMD		1	20		(20)				01	OK	E08 8081 107E	250 2026 1 ND		http://modia.digikou.com/odf/0ata%/20Shoets/0jaliaht%/20DDer/508_Societ_0602_Dkg.odf
		0004		LED CHIRLED RULE 470NIA 0602 SMD		1	20		(20)				02	OK	10 0206 1202 25 1	475 2816 1 ND		http://media.digikey.com/pdf/Data%205heets/Dialigit%20FDF5/358_3Erles_0005_Fkg.pdf
		0006		LED RED RECT CLEAR 0603		1	20		(20)				03	OK	LTST_C193KRKT_5A	160-1830-1-ND		http://medu.ugikej.com/upload/download/DS22-2005-077/S_110_LTST_C103KBKT_5A_pdf
		0007	EH0277	CONN HEADER 100 SINGL R/A 6POS		1	20		(20)				11	OK	PBC36SBAN	\$1111E-36-ND		http://www.sullinscorp.com/catalogs/77_PAGE108-109_100_MALE_HDR.pdf
		0008	ENOLY	CONN RCPT, 100" 6POS B/A SGI TIN		1	20		(20)				12	OK	SSW-106-02-T-S-RA	82P3428		http://www.famell.com/datasheets/1596304.ndf
		0009	EQ1054	P-MOSFET - PMV65XP		1	20		(20)				01	OK	PMV65XP.215			http://www.nxp.com/documents/data_sheet/PMV65XP.pdf
		0010	EQ0745	MOSFET N-CH 50V 200MA SOT-23	1	1	20		(20)				Q2	OK	BSS138LT1G			http://www.onsemi.com/pub_link/Collateral/BSS138LT1-D.PDF
		0011	ER1077	RES SMD 0.0 OHM JUMPER 1/10W		3	60		(60)				R1, R4, R5	OK	ERJ-3GEY0R00V	P0.0GTR-ND		http://industrial.panasonic.com/www-cgi/ivcr13pz.cgi?E+PZ+3+AOA0001+ERJ3GEY0R00V+7+WW
		0012	ER0506033301	RES SMD 3.3K OHM 5% 1/10W 0603		4	80		(80)				R2, R3, R8, R9	OK	ERJ-3GEYJ332V	P3.3KGTR-ND		http://industrial.panasonic.com/www-cgi/jvcr13pz.cgi?E+PZ+3+AOA0001+ERJ3GEYJ332V+7+WW
		0013	ER0506036801	RES SMD 6.8K OHM 5% 1/10W 0603		1	20		(20)				R6	OK	ERJ-3GEYJ682V	P6.8KGTR-ND		http://industrial.panasonic.com/www-cgi/jvcr13pz.cgi?E+PZ+3+AOA0001+ERJ3GEYJ682V+7+WW
		0014	ER0506031003	RES SMD 100K OHM 5% 1/10W 0603		2	40		(40)				R7, R11	OK	CRCW0603100KJNEA	541-100KGCT-ND		http://www.vishay.com/docs/20035/dcrcwe3.pdf
L		0015	ER0506031001	RES SMD 1K OHM 5% 1/10W 0603		2	40		(40)				R10, R12	OK	CRCW06031K00JNEA	541-1.0KGCT-ND		http://www.vishay.com/docs/20035/dcrcwe3.pdf
		0016	EH0072	CONN HEADER 1POS .100 VERT GOLD		11	220		(220)				TP1 - TP11	OK	0022284363	WM50016-36-ND		http://www.molex.com/pdm_docs/sd/022284363_sd.pdf
		0017		1-Wire to I2C Master Bridge		1	20		(20)				U1	OK		Dallas will supply		
		0018		Digital Thermometer and Thermostat		1	20		(20)				U2	OK	DS7505U+			
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													C1, C2, C4, C7, C9,	OK					
		0002	EC1065	CAP CER 1UF 6.3V 20% X5R 0402		7	140		(140)				C11, C12		C1005X5R0J105M050BB	445-1415-1-ND			http://product.tdk.com/en/catalog/datasheets/micc_commercial_general_en.pdf
		0003	EC1458B	CAP CER 0.1UF 6.3V 10% X5R 0402		4	80		(80)				C3, C8, C10, C13	OK	C0603C104K4RACTU, C1005X5R0	0J1 445-1266-2-ND			http://product.tdk.com/en/catalog/datasheets/micc_commercial_general_en.pdf
		0004	EC0976	CAP CER 10PF 50V COG 0603		2	40		(40)				C5, C6	OK	C1608C0G1H100D080AA	445-1269-1-ND			http://product.tdk.com/en/catalog/datasheets/micc_commercial_general_en.pdf
		0005	EH1498	CONN RCPT STD MICRO USB TYPE B		1	20		(20)				CN1	OK	10103594-0001LF	609-4050-1-ND			http://portal.fciconnect.com/Comergent//fci/drawing/10103594.pdf
		0005	ED1021	LED ORANGE HIGH BRIGHT USS 0603		1	20		(20)				D1	UK	LNJ826W83RA	P1348/CI-ND			http://www.semicon.panasonic.co.jp/ds4/LNI82bWS3RA_E.pdf
		0007		CONNECCT 100" COOS P/A SCI TIN		2	40		(40)				FB1, FB2	OK	SEW 105 02 T 5 PA	490-5255-1-NU 9302439			http://www.formel.com/databat/1505/04.adf
		0008	600219	N MOSEET - 2N2002		1	20		(20)	-			01	OK	2N7002-7	82P3428			http://www.armeli.com/databatets/1596304.pdf http://www.armeli.com/databate/dd1302.pdf
		0010	EQ1054	P-MOSEET - PMV65YP		1	20		(20)				02	OK	PMI/652P 215				http://www.nyn.com/document/data_sheat/0AU/SVD.ndf
		0011	ER05060310R0	RES SMD 10 OHM 5% 1/10W 0603		1	20		(20)				R1	OK					
		0012	ER0504021501	RES SMD 1.5K OHM 5% 1/16W 0402		1	20		(20)				R2	OK	CRCW04021K50JNED	541-1.5KJCT-ND			http://www.vishay.com/docs/20035/dcrcwe3.pdf
		0013	ER0104021003	RES SMD 100K OHM 1% 1/16W 0402		3	60		(60)				R3, R6, R7	OK	CRCW0402100KFKED	541-100KLCT-ND			http://www.vishay.com/docs/20035/dcrcwe3.pdf
		0014	ER0104023242	RES SMD 32.4K OHM 1% 1/16W 0402		1	20		(20)				R4	OK	CRCW040232K4FKED	541-32.4KLCT-ND			http://www.vishay.com/docs/20035/dcrcwe3.pdf
		0015	ER0504024701	RES SMD 4.7K OHM 5% 1/10W 0402		1	20		(20)				R5	OK	ERJ-2GEJ472X	P4.7KJTR-ND			http://industrial.panasonic.com/www-cgi/jvcr13pz.cgi?E+PZ+3+AOA0001+ERJ2GEJ472X+7+WW
		0016	ER0504021001	RES SMD 1K OHM 5% 1/16W 0402		1	20		(20)				R8	OK	CRCW04021K00JNED	541-1.0KJCT-ND			http://www.vishay.com/docs/20035/dcrcwe3.pdf
		0017	ER0504022201	RES SMD 2.2K OHM 5% 1/10W 0402		1	20		(20)				R9	OK	ERJ-2GEJ222X	P2.2KJTR-ND			http://industrial.panasonic.com/www-cgi/jvc13pz.cgi/E+P2+3+AOA0001+ERI2GEJ222X+/+WW http://industrial.panasonic.com/www-cgi/jvc13pz.cgi/E+P2+3+AOA0001+ERI2GEJ22ZX+/+WW
		0018	ER0104024990	RES SMD 499 OHM 1% 1/16W 0402		1	20		(20)				R1U	OK	CRCW0402499RFRED	541-499LCT-ND			http://www.vishay.com/docs/20035/dcrcwe3.pdf
		0019	ER0108034R99	RES SMD 690 OHM 5% 1/10W 0803		1	20		(20)				P12	or	ERI-2GEI681Y	P690ICT-ND			http://www.vstaty.com/usorx/colory.20053/dcfcWe5.pdi
		0021	2110304020000	Do Not Populate		2	40		(40)				R13, R14	OK		rooser no			men / medarma: panazonic com/ www.com/ calazing new 2017kb/codoz new 2010kb/n/ www
		0022	EH1032	PTC Fuse 1206		1	20		(20)			1	RT1	OK	MF-NSMF012-2				http://www.bourns.com/data/global/PDFs/MFNSMF.pdf
		0023	EH1359	SWITCH TACTILE SPST-NO 0.05A 12V		1	20		(20)				S1	OK	B3U-1000P	SW1020CT-ND			http://www.components.omron.com/components/web/PDFLIB.nsf/0/2DD3893C7DD33E9E862572900079E9D6/\$file/B3U 1110.pdf
		0024		Security Token Microcontroller with RTC and USB	1	1	20	1	(20)	1		1	U1	OK	MAXQ1010-A01+	1			
		0025		High PSRR, Low-Dropout, 150mA Linear Regulator	1	1	20		(20)			1	U2	OK	MAX8891EXK33+				http://datasheets.maximintegrated.com/en/ds/MAX8891-MAX8892.pdf
		0026		Dual High-Speed Differential ESD-Protection IC	1	1	20		(20)				U3	OK	MAX3207EAUT+		L		http://datasheets.maximintegrated.com/en/ds/MAX3205E-MAX3208E.pdf
		0027		40ns Single-Supply Comparator		1	20		(20)				U4	OK	MAX9140AAXK+				http://datasheets.maximintegrated.com/en/ds/MAX9140-MAX9144.pdf
		0028		4 Channel +/- 30kv ESD Protector		1	20		(20)				US	OK	MAX13204EALT+	CC03C0370 ND			http://datasheets.maximintegrated.com/en/ds/MAX13202E-MAX13208E.pdf
		0029		CRYSTAL 12MHZ 10PF SMID		1	20		(20)				X1	OK	FA-238V 12.0000WB-K3	SER30821R-ND			http://www.eea.epson.com/portal/pis/portal/docs/1/1729491.PDF
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Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помощь Конструкторского отдела:

- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



Как с нами связаться

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