F2805x : Digital Motor + PFC Control [R2.1] TIDM-AXISMTR-PFC-5X

MACRO / BLOCK	Ref Designators		Description	Qty / MACRO	Qty / BOARD	Manufacturer	Digikey #	Mouser #	Newark # Co
MAIN BOARD									
HV-DMC+PFC Main Board [Rev1] H1	Н	HDR 2x5 - Std 2 row 100mil hdr, cut to 5 columns	1	1		70246-1002		
HV-DMC+PFC Main Board [Rev1	1 H2	н	HDR-2x10 - Std 2 row 100mil hdr, cut to 10 columns	1	1		70246-2002		
HV-DMC+PFC Main Board [Rev1] LD1 - LD3	LED	LED Yellow - 0805 - AY1112H-TR	1	1		404-1019-1-ND		
HV-DMC+PFC Main Board [Rev1] M2	М	AuxSupply-400Vin-to-15V-5V, PR902	1	1	PTI			
HV-DMC+PFC Main Board [Rev1] M9	М	DCH010505SN7	1	1	Texas Instruments	296-20638-ND		
HV-DMC+PFC Main Board [Rev1] R1,R2	R	Res 820R, 5%, 0.1W, 0805	2	2				
HV-DMC+PFC Main Board [Rev1] R3,R4	R	Res 3K3, 5%, 1/8W, 0805	2	2				
HV-DMC+PFC Main Board [Rev1] R5,R6	R	Res 7.15K, 1%,1/8W, 0805	2	2		311-7.15KCRCT-ND		
HV-DMC+PFC Main Board [Rev1] R7, R29, R30	R	Res 330E, 1%, 0.1W, 0805	3	3				
HV-DMC+PFC Main Board [Rev1		R	Res 2K2, 1%, 0.1W, 0805	4	4				
HV-DMC+PFC Main Board [Rev1		R	Res. 33E, 1%, 0.1W, 0805	4	4				
HV-DMC+PFC Main Board [Rev1		R	Res. 47K, 1%, 0.1W, 0805	6	6				
HV-DMC+PFC Main Board [Rev1] R25-R28	R	Res. 11K, 1%, 0.1W, 0805	4	4				
HV-DMC+PFC Main Board [Rev1] R31, R32	R	Res. 10K, 1%, 0.1W, 0805	2	2				
HV-DMC+PFC Main Board [Rev1] R33	R	Res. 1K, 1%, 0.1W, 0805	1	1				
HV-DMC+PFC Main Board [Rev1] R34, R35	R	Res. 10R, 1%, 0.1W, 0805	2	2				
HV-DMC+PFC Main Board [Rev1] C12 - C14, C16	С	CAP CER 56PF 50V 5% NP0 0805	4	4				
HV-DMC+PFC Main Board [Rev1] C19,C20	С	Electrolytic Capacitors - Leaded 450V,180uF SNAP 20%	2	2	United Chemi-con	565-3468-ND		
HV-DMC+PFC Main Board [Rev1] C8, C9	С	CAP CER 3900PF 50V 5% NP0 0805	2	2		490-3045-1-ND		
HV-DMC+PFC Main Board [Rev1		С	Cap - 100n, 0805, X5R, 50V	4	4				
HV-DMC+PFC Main Board [Rev1		С	Cap - 1u, 0805, X5R, 16V/25V	2	2				
HV-DMC+PFC Main Board [Rev1		С	dnp	3	3				
HV-DMC+PFC Main Board [Rev1		С	Cap - 1n, 0805, X5R, 50V	3	3				
HV-DMC+PFC Main Board [Rev1		BC	Banana Connector and Screws	5	5	Pomona Electronics	501-1115-ND		
HV-DMC+PFC Main Board [Rev1		DA	DIODE SCHOTTKY - BAT54S - 30V 200MA SOT-23	2	2	Fairchild Semi	BAT54SFSCT-ND		
HV-DMC+PFC Main Board [Rev1		JP	Standard 0.1" SIL headers, cut to fit, total needed 1x2	6	6				
HV-DMC+PFC Main Board [Rev1		JP	Standard 0.1" SIL headers, cut to fit, total needed 1x3	1	1				
HV-DMC+PFC Main Board [Rev1		TB	CONN AC RECEPT 7MM R/A RND PCB	1	1		Q218-ND		
HV-DMC+PFC Main Board [Rev1		TB	3 input connector for connecting Motor	1	1	On shore Tech	ED1610-ND		
HV-DMC+PFC Main Board [Rev1		TP	Test point	7	7		5012K-ND		
HV-DMC+PFC Main Board [Rev1		U	TXB0106PWR	1	1	Texas Instruments	296-23759-1-ND		
HV-DMC+PFC Main Board [Rev1		U	SN74LVC2G17DBVR, IS BUFF DL SCHMIT TRIG SOT236	1	1	Texas Instruments	296-13012-1-ND		
HV-DMC+PFC Main Board [Rev1] U5	U	ISO1050DUBR	1	1	Texas Instruments	296-24818-1-ND		

INVERTER

Inverter-3PH -HV[R2]	C1,C2,C3,Cd5	С	Elec. Cap - 100uF, 50V, 20%, SMD	4	8		565-2133-1-ND	
Inverter-3PH -HV[R2]	C4,C5,C6,Cd1,Cd2, Cd3,Cd4	С	Cer. Cap - 2.2uF, 25V, X5R, 0805	7	14		490-1701-1-ND	
Inverter-3PH -HV[R2]	C7,C8,C9,C10,C11,C12	С	Cer. Cap - 220p, 50V, X7R, 0805	6	12		311-1123-1-ND	
Inverter-3PH -HV[R2]	C13	С	Cer. Cap - 22nF, 25V, X5R, 0805	1	2		709-1190-1-ND	
Inverter-3PH -HV[R2]	C14	С	Metal Poly Cap. 0.22uF, 450V DC	1	2		EF4224	
Inverter-3PH -HV[R2]	C21-24	С	Cer. Cap - 47nF, 50V, 5%, 0805	4	8		478-3771-1-ND	
Inverter-3PH -HV[R2]	D1,D2,D3	DA	US1J-13-F, Diode Ultra Fast SW 600V 1A	3	6		US1J-FDICT-ND	
Inverter-3PH -HV[R2]	D4,D5,D6	DA	SMAZ16-TP, Diode Zener 1W 16V SMA	3	6		SMAZ16-FDICT-ND	
Inverter-3PH -HV[R2]	R1,R2,R3	R	Res. 10R, 5%, 0.25W, 1206 SMD	3	6		P10.0FCT-ND	
Inverter-3PH -HV[R2]	R4,R5,R6,R7,R8,R9	R	Res. 120R, 5%, 0.25W, 0805	6	12		311-100ARCT-ND	
Inverter-3PH -HV[R2]	R10,R11, R39	R	Res 20mOhms, 1%, 3W, 2512	3	6		CRA2512-FZ-R020ELFCT-ND	
Inverter-3PH -HV[R2]	R19,R22,R25,R36	R	Res 300K, 1%, 1/3W, 1206 SMD	4	8		RHM300KAFCT-ND	
Inverter-3PH -HV[R2]	R20,R23,R26,R37	R	Res 820K, 1%, 1/4W, 1206	4	8		311-820KFRCT-ND	
Inverter-3PH -HV[R2]	R21,R24,R27,R38	R	Res 9.09K, 1%, 1/4W, 1206	4	8		311-9.09KFRCT-ND	
Inverter-3PH -HV[R2]	R54	R	Res 2K, 5%, 1/4W, 0805	4	8		311-9.09KFRCT-ND	
Inverter-3PH -HV[R2]	U1	U	PS21765, MOD IPM 600V 20A MINI DIP	1	2	Powerex	835-1037-ND	
Inverter-3PH -HV[R2]	HS1	HS	Heat sink - 0.25" aluminum plate for board size (7.825" x 7.525")	1	1			

MINI USB - JTAG

MiniUSB-JTAG-ISO[R4]	C2, C4, C5	С	Cer. Cap - 1u, 6.3V, X5R, 0603	3	3		PCC2174CT-ND	1
MiniUSB-JTAG-ISO[R4]	C1	С	Cer. Cap - 2u2, 6.3V, X5R, 0603	1	1		490-1551-1-ND	
MiniUSB-JTAG-ISO[R4]	C3, C6-C16	С	Cer. Cap - 100n, 16V, X7R, 0603	12	12		GRM188R71C104KA01D	
MiniUSB-JTAG-ISO[R4]	C17	С	CAP CER 0.1UF 450V 10% X7T 1206	1	1		445-7758-1-ND	
MiniUSB-JTAG-ISO[R4]	DA1	DA	Diode Array, Quad, SOT363	1	1	Diodes Inc	BAW567DW-FDICT-ND	
MiniUSB-JTAG-ISO[R4]	JP1	JP	Connector - USB Type B	1	1		ED90064-ND	
MiniUSB-JTAG-ISO[R4]	L1	L	Inductor, 22uH, 0805	1	1		490-4030-1	
MiniUSB-JTAG-ISO[R4]	LD1	LD	LED, green, 0805	1	1		L61105CT-ND	
MiniUSB-JTAG-ISO[R4]	R1	R	Res 470R, 5%, 0.1W, 0603	1	1		311-470GRCT-ND	
MiniUSB-JTAG-ISO[R4]	R2, R3	R	Res 27R, 5%, 0.1W, 0603	2	2		311-27GRCT-ND	

MiniUSB-JTAG-ISO[R4]	R4, R6	R	Res 2K2, 5%, 0.1W, 0603	2	2		311-2.2KGRCT-ND		
MiniUSB-JTAG-ISO[R4]	R5	R	Res 1M, 1%, 0.1W, 0603	1	1		311-1.0MGRCT-ND		
MiniUSB-JTAG-ISO[R4]	R7	R	Res 10K, 5%, 0.1W, 0603	1	1		311-10KGRCT-ND		
MiniUSB-JTAG-ISO[R4]	R8,R11	R	Res 1K, 5%, 0.1W, 0603	2	2		311-1KGRCT-ND		
MiniUSB-JTAG-ISO[R4]	U1	U	FTDI UART/FIFO Dual, 48-LQFP	1	1	FTDI	768-1010-1-ND		
MiniUSB-JTAG-ISO[R4]	U2	U	EEPROM, SOT23-6	1	1	Microchip	93LC46BT-I/OTCT-ND		
MiniUSB-JTAG-ISO[R4]	U3	U	DFF - LVC2G74	1	1	Texas Instruments	296-13273-1-ND		
MiniUSB-JTAG-ISO[R4]	U4	U	LDO - 3.3V - TPS73033	1	1	Texas Instruments	296-17580-1-ND		
MiniUSB-JTAG-ISO[R4]	U5	U	ISO7240 -Digital Isolator, Quad 4/0, 25Mbps	1	1	Texas Instruments		595-ISO7240CDW	
MiniUSB-JTAG-ISO[R4]	U6	U	ISO7242 -Digital Isolator, Quad 4/0, 25Mbps	1	1	Texas Instruments		595-ISO7242CDW	
MiniUSB-JTAG-ISO[R4]	X1	Х	Resonator - 6MHz	1	1		490-1218-1-ND		

PFC-2Phil-HV

PFC-2PhIL-1Shunt[R1]	C4	С	CAP FILM 0.047UF 630VDC RADIAL	1	1		338-3209-ND		
PFC-2PhIL-1Shunt[R1]	C5,C6	С	Electrolytic Capacitors - Leaded 450V,180uF SNAP 20%	2	2	United Chemi-con	565-3468-ND		
PFC-2PhIL-1Shunt[R1]	C1	С	CAP FILM 47nF 330VAC	1	1		495-3241-ND		
PFC-2PhIL-1Shunt[R1]	C9	С	CAP CER 10nF 50V 10% X7R 0805	1	1		478-1383-1-ND		
PFC-2PhIL-1Shunt[R1]	Cd5	С	Cer. Cap - 22u, 16V, X5R, 1206	1	1		587-1433-1-ND		
PFC-2PhIL-1Shunt[R1]	R1,R2,R7,R11	R	Res 10K, 5%, 0.1W, 0805	4	4		311-10KARCT-ND		
PFC-2PhIL-1Shunt[R1]	R12, R16	R	Res 10R, 5%, 0.1W, 0805	2	2		311-10ARCT-ND		
PFC-2PhIL-1Shunt[R1]	R3,R4,		Res 1.2K, 5%, 0.1W, 0805	2	2				
PFC-2PhIL-1Shunt[R1]	R6,R8,R18	R	Res 0.025 OHM 3W 1% 2512	2	2		CRA2512-FZ-R025ELFCT-ND		
PFC-2PhIL-1Shunt[R1]	R13,R14	R	Res 1M, 1%, 0.1W,	2	2		311-1.00MCRCT-ND		
PFC-2PhIL-1Shunt[R1]	R15	R	Res 13.0K, 1%, 0.1W, 0805	1	1		311-13.0KCRCT-ND		
PFC-2PhIL-1Shunt[R1]	ZD1	ZD	DIODE ZENER - NZH16C.115 - 500MW 16V SOD123	1	1	NXP	568-6357-1-ND		
PFC-2PhIL-1Shunt[R1]	U1	U	Dual Power Mosfet Driver HS, 4A, 8-SOIC, UCC27524DR,	1	1	Texas Instruments	296-30129-2-ND		
PFC-2PhIL-1Shunt[R1]	Q1,Q2	Q	MOSFET, 650V, 12A, 0.250 ohm	2	2	Infineon	IPP60R250CPIN-ND		
PFC-2PhIL-1Shunt[R1]	D1	DA	RECTIFIER 600V/3A - RS3J-13-F	1	1	Diodes Inc	RS3J-FDICT-ND		
PFC-2PhIL-1Shunt[R1]	D6,D7	DA	DIODE SCHOTTKY 30V 0.5A SOD-123	2	2	Fairchild	MBR0530CT-ND		
PFC-2PhIL-1Shunt[R1]	D4,D5	DA	DIODE SIC 650V 20A TO220-2 - SCS220AGC	2	2	Rohm Semi	SCS220AGC-ND		
PFC-2PhIL-1Shunt[R1]			Heat Pads Insulators	4	4		BER205-ND		
PFC-2PhIL-1Shunt[R1]	L1, L2	L	150uH/7.8A - CTX16-18702 - Allied Electronics	2	2			704-CTX16-18702-R	

DC-PwrEntry

DC-PwrEntry1Sw[R2]	C1	С	Cer. Cap - 22u, 25V, X5R, 1206	1	1		587-1433-1-ND		
DC-PwrEntry1Sw[R2]	C2	С	Cer. Cap - 10u, 25V, X5R, 1206	1	1		587-2259-1-ND		
DC-PwrEntry1Sw[R2]	C3	С	Cer. Cap - 4u7, 25V, X5R, 0805	2	2		490-3335-1-ND		
DC-PwrEntry1Sw[R2]	C4	С	Cer. Cap - 0.1uf, 25V, X5R, 0805	1	1		399-1168-1-ND		
DC-PwrEntry1Sw[R2]	C5,C6,C7	С	Elec. Cap - 330uf, 25V, Alum, radial	3	3		P5542-ND		
DC-PwrEntry1Sw[R2]	R1	R	Res 330R, 1%, 0.1W, 0805	1	1		311-330CRCT-ND		
DC-PwrEntry1Sw[R2]	R2	R	Res 470R, 5%, 0.1W, 0805	1	1		311-470CRCT-ND		
DC-PwrEntry1Sw[R2]	LD1		LED, green, 0805	1	1		404-1021-1-ND		
DC-PwrEntry1Sw[R2]	SW1	SW	Toggle Switch - Miniature, SPDT	1	1			108-2AS1T1203-EVX	
DC-PwrEntry1Sw[R2]	M1	Р	Power Module - PTH08080	1	1	Texas Instruments	296-20432-ND		
DC-PwrEntry1Sw[R2]	U1	U	LDO - 3.3V - TPS79533	1	1	Texas Instruments	296-13810-1-ND		
DC-PwrEntry1Sw[R2]	JP1	JP	Power jack 2.1 x 5.5 mm	1	1		CP-002AH-ND		

AC-PwrEntry

PFC_2Ph_IL_AC-PwrEntry[R0]	C1	С	CAP FILM 47nF 250VAC	1	1		495-3972-ND	
PFC_2Ph_IL_AC-PwrEntry[R0]	C2,C3	С	CAP CER 4700PF 700V	1	1		399-9639-ND	
PFC_2Ph_IL_AC-PwrEntry[R0]	R1,R2,R4,R5	R	Res 432K, 1%, 1/4W, 1206	1	1			
PFC_2Ph_IL_AC-PwrEntry[R0]	F1	F	Fuse Holder	1	1		486-1160-ND	
PFC_2Ph_IL_AC-PwrEntry[R0]	Fuse-F1	F	FUSE 250V IEC SLO 5X20MM 20A	1	1		F2425-ND	
PFC_2Ph_IL_AC-PwrEntry[R0]	RT1	RT	CURRENT LIMITR INRSH 10 OHM 15A - SL32 10015	1	1		570-1058-ND	
PFC_2Ph_IL_AC-PwrEntry[R0]	VAR1		VARISTOR 275V RMS 10MM RADIAL	1	1	EPCOS	495-1433-ND	
PFC_2Ph_IL_AC-PwrEntry[R0]	DB1		RECT BRIDGE 35A 600V - GPBC3506WVS	1	1	Vishay	GBPC3506WVS-ND	
PFC_2Ph_IL_AC-PwrEntry[R0]	T1 (Lcm)	L	CHOKE COMM MODE W/HDR 1.0mH 20A, Manufacturer p/n 8121-RC	1	1		M8916-ND	
PFC_2Ph_IL_AC-PwrEntry[R0]	L1, L2	L	INDUCT PWR 3.22uH@20A, PA0431L	2	2		553-1503-ND	

GIZMO-Block

GIZMO-Block[R2]	C2-C4	С	Cer. Cap - 470n, 25V, X5R, 0603	3	3			
GIZMO-Block[R2]	C5,C22,C23	С	Cer. Cap - 1.2u, 25V, X5R, 0603	3	3			
GIZMO-Block[R2]	C6-C21, C24	С	Cer. Cap - 3n3, 25V, X5R, 0603	17	17			
GIZMO-Block[R2]	C25, C26	С	Cer. Cap - 10, 25V, X5R, 0603	2	2			
GIZMO-Block[R2]	L1, L2, L3	L,R	22uH - LQM21FN220N00L - 13mA 0805	1	1		81-LQM21FN220N00L	
GIZMO-Block[R2]	R1	R	Res 2K7, 5%, 0.1W, 0805	1	1			
GIZMO-Block[R2]	R2	R	Res 4K7, 5%, 0.1W, 0805	1	1			
GIZMO-Block[R2]	Ü1	U	F2805x	1	1	TexasInsturments		

PWM-DAC

PWM-DAC[R2]	C1-C4	С	Cer. Cap - 220n, 50V, X7R, 0805	4	8			
PWM-DAC[R2]	Cd1,Cd2	С	Cer. Cap - 0.1uf, 25V, X5R, 0805	2	4		399-1168-1-ND	
PWM-DAC[R2]	R1-R4	R	Res 2K2, 5%, 0.1W, 0805	4	8			
PWM-DAC[R2]	U1,U2	U	SN74LVC2G17DBVR, IS BUFF DL SCHMIT TRIG SOT236	2	4	Texas Instruments	296-13012-1-ND	

IMPORTANT NOTICE FOR TI REFERENCE DESIGNS

Texas Instruments Incorporated ("TI") reference designs are solely intended to assist designers ("Buyers") who are developing systems that incorporate TI semiconductor products (also referred to herein as "components"). Buyer understands and agrees that Buyer remains responsible for using its independent analysis, evaluation and judgment in designing Buyer's systems and products.

TI reference designs have been created using standard laboratory conditions and engineering practices. **TI has not conducted any testing other than that specifically described in the published documentation for a particular reference design.** TI may make corrections, enhancements, improvements and other changes to its reference designs.

Buyers are authorized to use TI reference designs with the TI component(s) identified in each particular reference design and to modify the reference design in the development of their end products. HOWEVER, NO OTHER LICENSE, EXPRESS OR IMPLIED, BY ESTOPPEL OR OTHERWISE TO ANY OTHER TI INTELLECTUAL PROPERTY RIGHT, AND NO LICENSE TO ANY THIRD PARTY TECHNOLOGY OR INTELLECTUAL PROPERTY RIGHT, IS GRANTED HEREIN, including but not limited to any patent right, copyright, mask work right, or other intellectual property right relating to any combination, machine, or process in which TI components or services are used. Information published by TI regarding third-party products or services does not constitute a license to use such products or services, or a warranty or endorsement thereof. Use of such information may require a license from a third party under the patents or other intellectual property of the third party, or a license from TI under the patents or other intellectual property of TI.

TI REFERENCE DESIGNS ARE PROVIDED "AS IS". TI MAKES NO WARRANTIES OR REPRESENTATIONS WITH REGARD TO THE REFERENCE DESIGNS OR USE OF THE REFERENCE DESIGNS, EXPRESS, IMPLIED OR STATUTORY, INCLUDING ACCURACY OR COMPLETENESS. TI DISCLAIMS ANY WARRANTY OF TITLE AND ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, QUIET ENJOYMENT, QUIET POSSESSION, AND NON-INFRINGEMENT OF ANY THIRD PARTY INTELLECTUAL PROPERTY RIGHTS WITH REGARD TO TI REFERENCE DESIGNS OR USE THEREOF. TI SHALL NOT BE LIABLE FOR AND SHALL NOT DEFEND OR INDEMNIFY BUYERS AGAINST ANY THIRD PARTY INFRINGEMENT CLAIM THAT RELATES TO OR IS BASED ON A COMBINATION OF COMPONENTS PROVIDED IN A TI REFERENCE DESIGN. IN NO EVENT SHALL TI BE LIABLE FOR ANY ACTUAL, SPECIAL, INCIDENTAL, CONSEQUENTIAL OR INDIRECT DAMAGES, HOWEVER CAUSED, ON ANY THEORY OF LIABILITY AND WHETHER OR NOT TI HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES, ARISING IN ANY WAY OUT OF TI REFERENCE DESIGNS OR BUYER'S USE OF TI REFERENCE DESIGNS.

TI reserves the right to make corrections, enhancements, improvements and other changes to its semiconductor products and services per JESD46, latest issue, and to discontinue any product or service per JESD48, latest issue. Buyers should obtain the latest relevant information before placing orders and should verify that such information is current and complete. All semiconductor products are sold subject to TI's terms and conditions of sale supplied at the time of order acknowledgment.

TI warrants performance of its components to the specifications applicable at the time of sale, in accordance with the warranty in TI's terms and conditions of sale of semiconductor products. Testing and other quality control techniques for TI components are used to the extent TI deems necessary to support this warranty. Except where mandated by applicable law, testing of all parameters of each component is not necessarily performed.

TI assumes no liability for applications assistance or the design of Buyers' products. Buyers are responsible for their products and applications using TI components. To minimize the risks associated with Buyers' products and applications, Buyers should provide adequate design and operating safeguards.

Reproduction of significant portions of TI information in TI data books, data sheets or reference designs is permissible only if reproduction is without alteration and is accompanied by all associated warranties, conditions, limitations, and notices. TI is not responsible or liable for such altered documentation. Information of third parties may be subject to additional restrictions.

Buyer acknowledges and agrees that it is solely responsible for compliance with all legal, regulatory and safety-related requirements concerning its products, and any use of TI components in its applications, notwithstanding any applications-related information or support that may be provided by TI. Buyer represents and agrees that it has all the necessary expertise to create and implement safeguards that anticipate dangerous failures, monitor failures and their consequences, lessen the likelihood of dangerous failures and take appropriate remedial actions. Buyer will fully indemnify TI and its representatives against any damages arising out of the use of any TI components in Buyer's safety-critical applications.

In some cases, TI components may be promoted specifically to facilitate safety-related applications. With such components, TI's goal is to help enable customers to design and create their own end-product solutions that meet applicable functional safety standards and requirements. Nonetheless, such components are subject to these terms.

No TI components are authorized for use in FDA Class III (or similar life-critical medical equipment) unless authorized officers of the parties have executed an agreement specifically governing such use.

Only those TI components that TI has specifically designated as military grade or "enhanced plastic" are designed and intended for use in military/aerospace applications or environments. Buyer acknowledges and agrees that any military or aerospace use of TI components that have **not** been so designated is solely at Buyer's risk, and Buyer is solely responsible for compliance with all legal and regulatory requirements in connection with such use.

TI has specifically designated certain components as meeting ISO/TS16949 requirements, mainly for automotive use. In any case of use of non-designated products, TI will not be responsible for any failure to meet ISO/TS16949.

Mailing Address: Texas Instruments, Post Office Box 655303, Dallas, Texas 75265 Copyright © 2015, Texas Instruments Incorporated