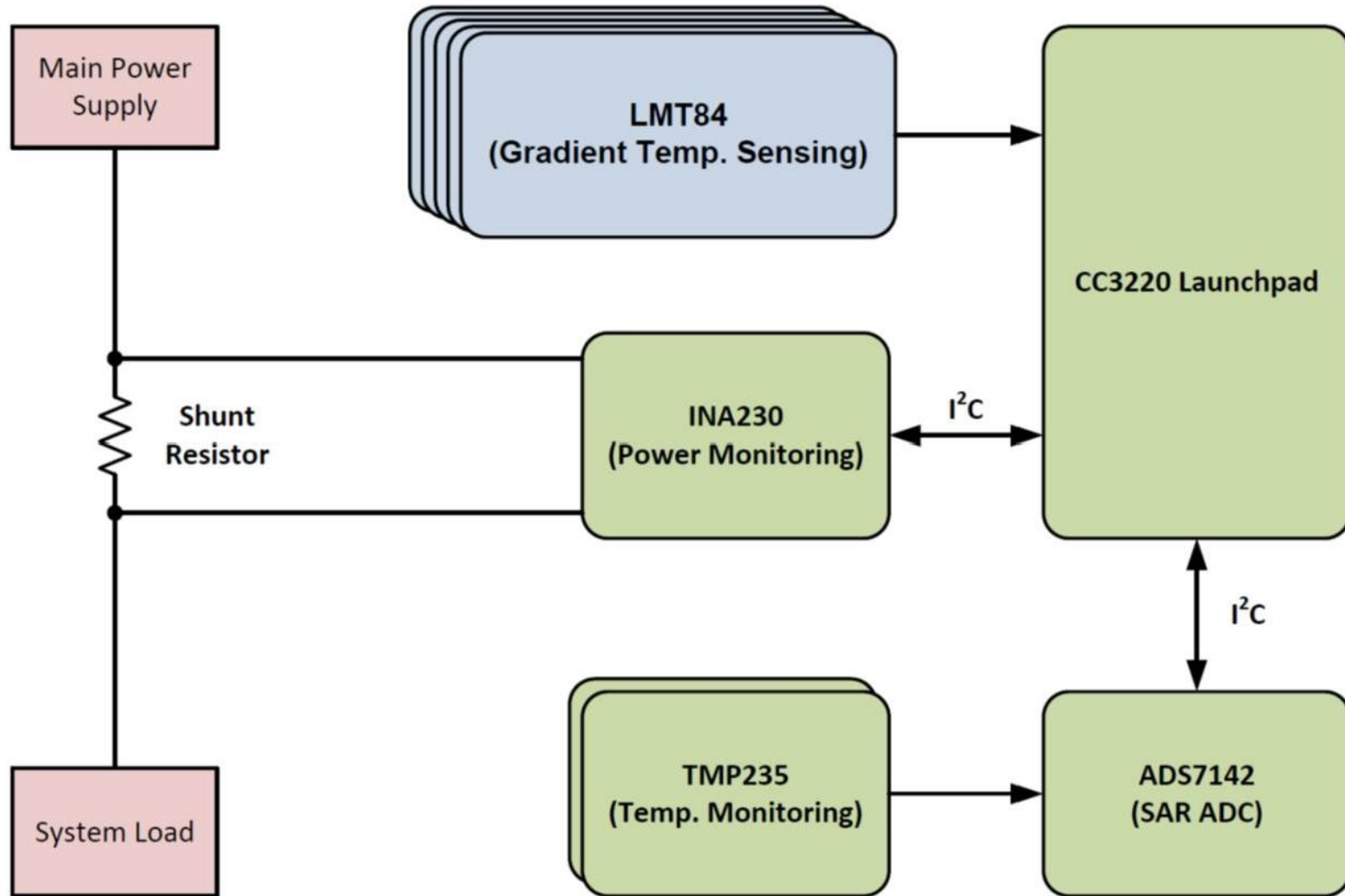
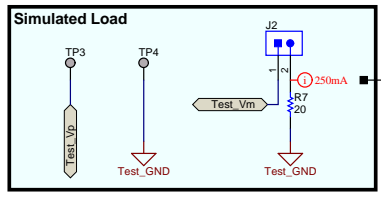
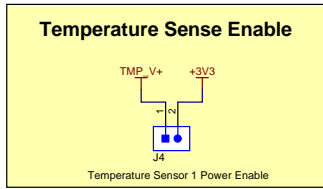
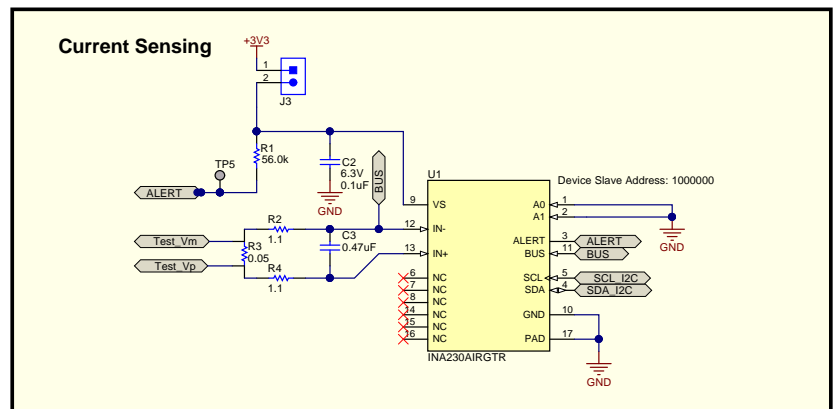
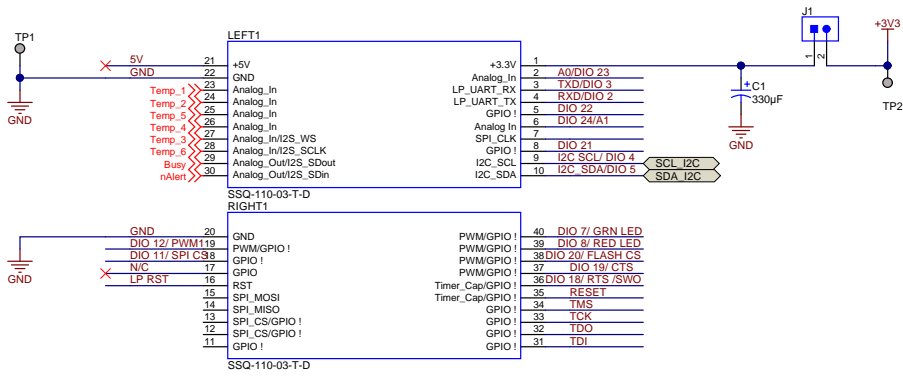


Revision History				
Rev	ECN #	Approved Date	Approved by	Notes
N/A	N/A	N/A	N/A	N/A



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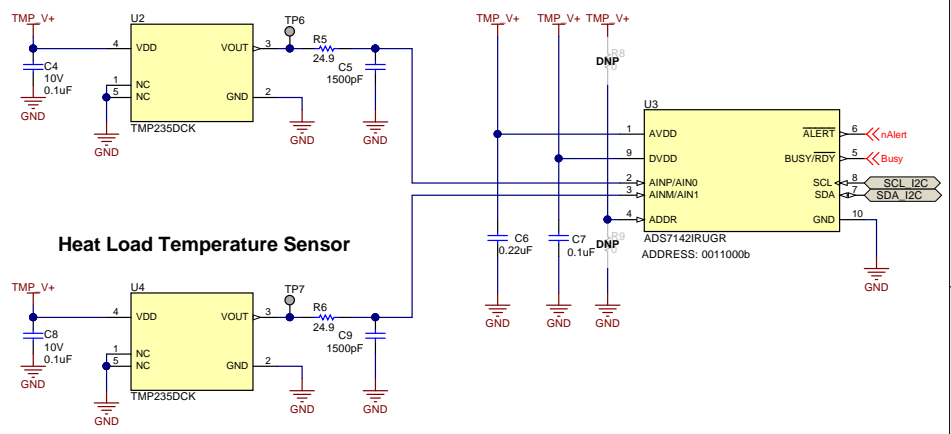
Orderable: N/A	Designed for: Public Release	Mod. Date: 11/16/2017
TID #: TIDA-01596	Project Title: Smart Thermostat Temperature Compensation	
Number: TIDA-01596 Rev: E1	Sheet Title:	
SVN Rev. Version control disabled	Assembly Variant: 001	Sheet: 1 of 4
Drawn By:	File: CoverSheet_SchDoc	Size: B
Engineer: Brian Dempsey	Contact: http://www.ti.com/support	



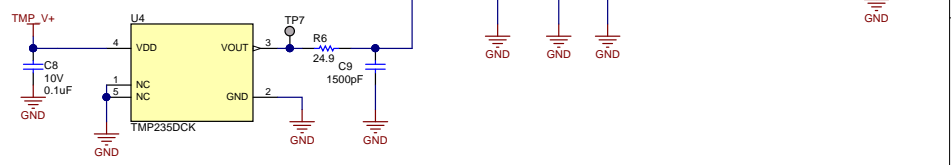
Trace to Resistor = 50mils x 764mils
At 250mA -> 0.039C temperature rise
on external layer

Voltage: 0V-5V
Resistance: 20Ohm
Current: 0.250mA
Power: 1.25W
Note: Resistor should be placed near
temperature sensor 2 and away from
temperature sensor 1.

Isolated Temperature Sensor



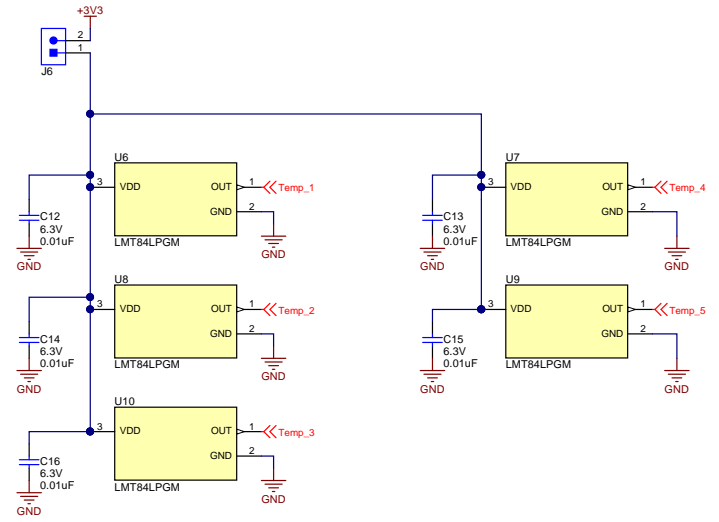
Heat Load Temperature Sensor



Orderable: N/A	Designed for: Public Release	Mod. Date: 1/31/2018
TID #: TIDA-01596	Project Title: Smart Thermostat Temperature Compensation	
Number: TIDA-01596 Rev: E1	Sheet Title:	
SVN Rev: Version control disabled	Assembly Variant: 001	Sheet: 2 of 4
Drawn By:	File: Main Board_SchDoc	Size: B
Engineer: Brian Dempsey	Contact: http://www.ti.com/support	

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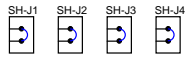
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Orderable: N/A	Designed for: Public Release	Mod. Date: 11/16/2017
TID #: TIDA-01596	Project Title: Smart Thermostat Temperature Compensation	
Number: TIDA-01596 Rev: E1	Sheet Title:	
SVN Rev: Version control disabled	Assembly Variant: 001	Sheet: 3 of 4
Drawn By:	File: Gradient Board Temp Sensors SchDoc	Size: B
Engineer: Brian Dempsey	Contact: http://www.ti.com/support	http://www.ti.com



H1 1 NY PMS 440 0025 PH
 H2 1 NY PMS 440 0025 PH
 H3 1 NY PMS 440 0025 PH
 H4 1 NY PMS 440 0025 PH

H5 1902C
 H6 1902C
 H7 1902C
 H8 1902C



DNP FID1
 DNP FID2
 DNP FID3

PCB Number: TIDA-01596
 PCB Rev: E1

PCB LOGO
 PCB LOGO

Variant	Label Text
001	TIDA-01596

LBL1
 PCB Label
 Size: 0.65" x 0.20"

ZZ1
 Label Assembly Note
 This Assembly Note is for PCB labels only

ZZ2
 Assembly Note
 This Assembly Note will show in the PcbDoc and associated outputs

ZZ3
 Assembly Note
 This Assembly Note will show in the PcbDoc and associated outputs

ZZ4
 Assembly Note
 This Assembly Note will show in the PcbDoc and associated outputs

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Orderable: N/A	Designed for: Public Release	Mod. Date: 11/16/2017
TID #: TIDA-01596	Project Title: Smart Thermostat Temperature Compensation	
Number: TIDA-01596 Rev: E1	Sheet Title:	
SVN Rev. Version control disabled	Assembly Variant: 001	Sheet: 4 of 4
Drawn By:	File: EVM_Hardware.SchDoc	Size: B
Engineer: Brian Dempsey	Contact: http://www.ti.com/support	http://www.ti.com



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Layer	Name	Material	Thickness	Constant	Board Layer Stack
1	Top Overlay				
2	Top Solder	Solder Resist	0.40mil	3,5	
3	Top Layer	Copper	1.40mil		
4	Dielectric 2	FR-4 High TG	5.00mil	4,2	
5	Signal Layer	Copper	1.42mil		
6	Dielectric1	FR-4 High TG	9.00mil	4,2	
7	Main Power	Copper	1.42mil		
8	Dielectric 3	FR-4 High TG	5.00mil	4,2	
9	Bottom Layer	Copper	1.40mil		
10	Bottom Solder	Solder Resist	0.40mil	3,5	
11	Bottom Overlay				

DESIGN INFORMATION

MIN. TRACK WIDTH: 8 MIL
 MIN. CLEARANCE: 0.2 mm
 MIN. VIA PAD SIZE: 24 MIL

MINIMUM ANNULAR RING 0.05mm (2MIL) EXTERNAL
 PER IPC-D-275 CLASS 2 LEVEL C
 REGISTRATION TOLERANCES: METAL +/- 5 MIL, HOLES +/- 3 MIL
 HOLE SIZE TOLERANCE (UNLESS OTHERWISE SPECIFIED): +/- 3 MIL

MATERIAL:
 FR-408 FR-4 High Tg OTHER _____
 THICKNESS: 31 MIL (0.8mm) +/-10% OTHER _____
 TOLERANCE: ANSI IPC-6012 TYPE 3 CLASS 2
 OTHER +/- _____
 BOW & TWIST: ANSI IPC-6012 TYPE 3 CLASS 2
 OTHER +/- _____

DRILLING:
 REFERENCE: AS SHOWN NC_DRILL FILES
 PTH COPPER THICKNESS: 20-30 um OTHER _____

BOARD FINISH:
 SILKSCREEN: TOP BOTTOM
 SILKSCREEN COLOR: WHITE OTHER _____
 SOLDER RESIST COLOR: GREEN OTHER Red
 MATTE SEMI-GLOSS

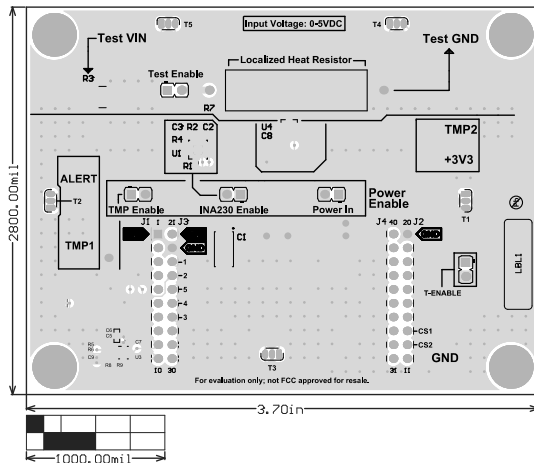
SURFACE FINISH: IMMERSION GOLD (ENG) ENEPG
 IMM. TIN/SILVER OR EQUIV OTHER _____

ARRAY/PANEL: CUT AND TRM PER M1 BOARD OUTLINE
 N.C. ROUTE V. SCORE

CERTIFICATION: MATERIALS AND WORKMANSHIP FOR ALL PCBs TO MEET OR EXCEED THE REQUIREMENTS OF:
 ANSI IPC-A-600F CLASS -> 1 2 3
 RoHS OTHER PER ORDER

ALL BOARDS MUST MEET OR EXCEED UL94-V0 REQUIREMENTS.
 PCB MUST BEAR THE UL94V-0 UL REGISTERED MATERIAL ID NUMBER

ADDITIONAL REQUIREMENTS:
 MICROSECTION: YES
 BARE BOARD ELEC. TEST: NONE REQUIRED PER ORDER
 XX MIL VIAS REQUIRE NON-CONDUCTIVE FILL AND PLANARIZE
 XX MIL VIAS REQUIRE CONDUCTIVE FILL AND PLANARIZE
 OUTER XX MIL VIAS REQUIRE 50 OHM SINGLE-ENDED IMPEDANCE
 LAYER 2 & 3 (INNER LAYERS) XX MIL WIDE, XX MIL SPACE
 TRACES REQUIRE 100 OHM DIFFERENTIAL IMPEDANCE



SH-J3

SH-J1 SH-J2 SH-J4

ALL ARTWORK VIEWED FROM TOP SIDE	BOARD #: TIDA-01596	REV: E1	SUN REV: Not In Version Control
PLOT NAME = Multilayer Composite Print	TID #: TIDA-01596	GENERATED : 2/1/2018 7:24:45 AM	TEXAS INSTRUMENTS

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ENGINEER: Brian Dempsey	LAYOUT BY: Brian Dempsey
SCALE: 1.00	ALTIUM DESIGNER VERSION: 17.1.5.472

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