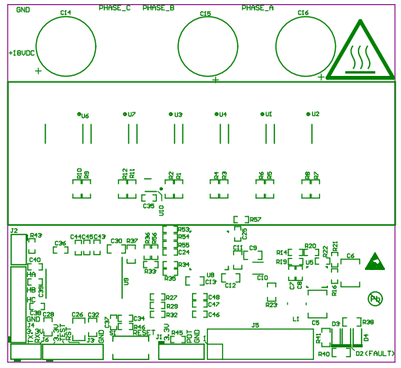
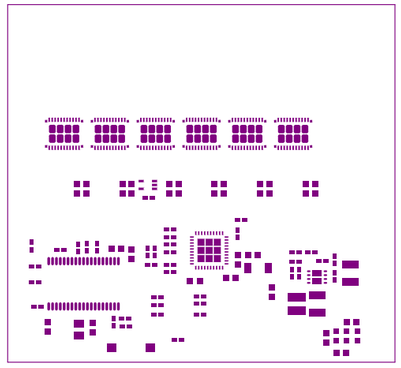
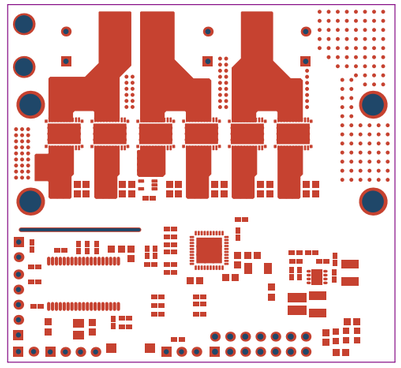


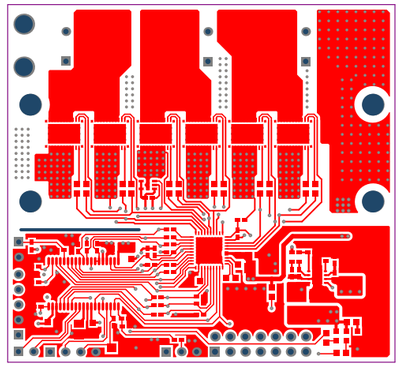
ALL ARTWORK VIEWED FROM TOP SIDE	BOARD #: TIDA-00774	REV: E2	SVN REV: Not In VersionControl
LAYER NAME = Top Overlay	TID #: 00774		
Top Overlay	GENERATED : 3/22/2017 4:47:23 PM		TEXAS INSTRUMENTS



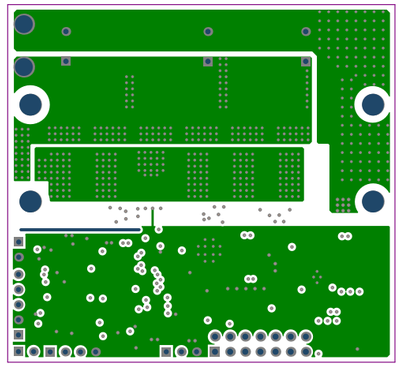
ALL ARTWORK VIEWED FROM TOP SIDE	BOARD #: TIDA-00774	REV: E2	SVN REV: Not In VersionControl
LAYER NAME = Top Board Outline	TID #: 00774		
Top Paste	GENERATED : 3/22/2017 4:47:23 PM		TEXAS INSTRUMENTS



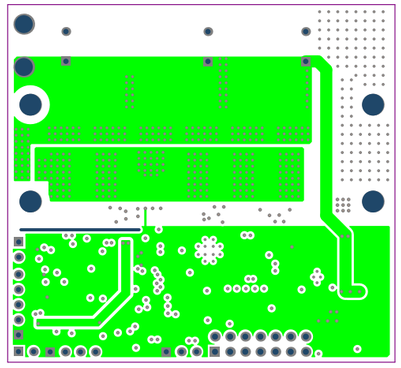
ALL ARTWORK VIEWED FROM TOP SIDE	BOARD #: TIDA-00774	REV: E2	SVN REV: Not In VersionControl
LAYER NAME = Top Solder	TID #: 00774		
Top Solder Mask	GENERATED : 3/22/2017 4:47:24 PM		TEXAS INSTRUMENTS



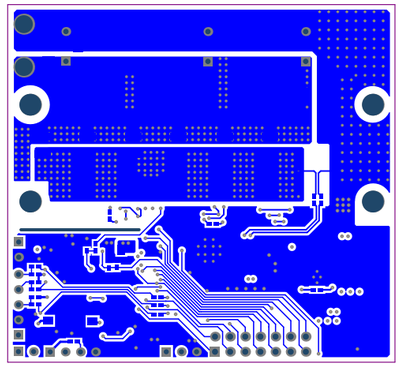
ALL ARTWORK VIEWED FROM TOP SIDE	BOARD #: TIDA-00774	REV: E2	SVN REV: Not In VersionControl
LAYER NAME = Top Layer	TID #: 00774		
Top Layer	GENERATED : 3/22/2017 4:47:24 PM		TEXAS INSTRUMENTS



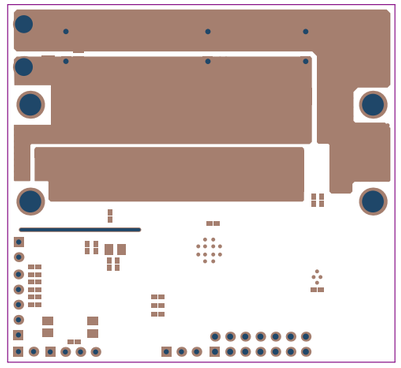
ALL ARTWORK VIEWED FROM TOP SIDE	BOARD #: TIDA-00774	REV: E2	SVN REV: Not In VersionControl
LAYER NAME = GND	TID #: 00774		
GND	GENERATED : 3/22/2017 4:47:24 PM		TEXAS INSTRUMENTS



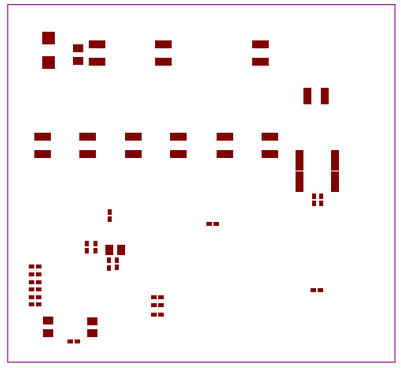
ALL ARTWORK VIEWED FROM TOP SIDE	BOARD #: TIDA-00774	REV: E2	SVN REV: Not In VersionControl
LAYER NAME = PWR	TID #: 00774		
PWR	GENERATED : 3/22/2017 4:47:24 PM		TEXAS INSTRUMENTS



ALL ARTWORK VIEWED FROM TOP SIDE	BOARD #: TIDA-00774	REV: E2	SVN REV: Not In VersionControl
LAYER NAME = Bottom Layer	TID #: 00774		
Bottom Layer	GENERATED : 3/22/2017 4:47:24 PM		TEXAS INSTRUMENTS

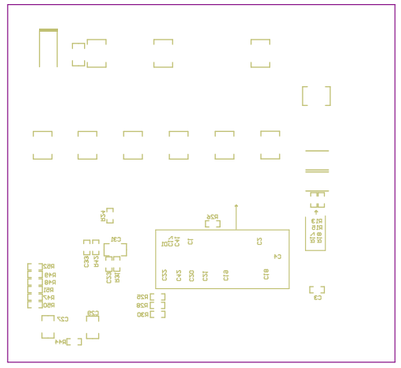


ALL ARTWORK VIEWED FROM TOP SIDE	BOARD #: TIDA-00774	REV: E2	SVN REV: Not In VersionControl
LAYER NAME = Bottom Solder	TID #: 00774		
Bottom Solder Mask	GENERATED : 3/22/2017 4:47:24 PM		TEXAS INSTRUMENTS



ALL ARTWORK VIEWED FROM TOP SIDE	BOARD #: TIDA-00774	REV: E2	SVN REV: Not In VersionControl
LAYER NAME = Bottom Paste	TID #: 00774		
Bottom Paste	GENERATED : 3/22/2017 4:47:24 PM		TEXAS INSTRUMENTS

Bottom Paste
Board Outline



ALL ARTWORK VIEWED FROM TOP SIDE	BOARD #: TIDA-00774	REV: E2	SVN REV: Not In VersionControl
LAYER NAME = Bottom Overlay	TID #: 00774		
Bottom Overlay	GENERATED : 3/22/2017 4:47:25 PM		TEXAS INSTRUMENTS

Layer Stack Up Detail for: TIDA-00774_E2

Layer Name	Gerber Document	Copper Thickness	Dielectric Material
Top Solder Mask	(.GTS)		Solder Resist
Top Layer	(.GTL)	2.8mil	FR-4 High Tg
GND	(.G1)	2.8mil	FR-4 High Tg
PWR	(.G2)	2.8mil	FR-4 High Tg
Bottom Layer	(.GBL)	2.8mil	FR-4 High Tg
Bottom Solder Mask	(.GBS)		Solder Resist

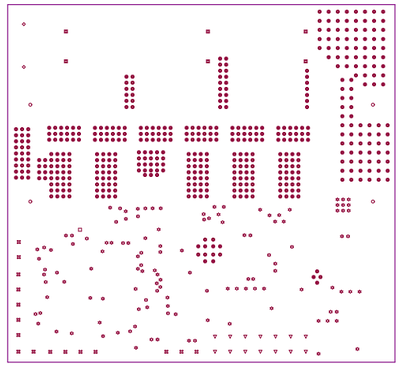
Symbol	Count	Hole Size	Hole Length	Routed Path Length	Plated	Hole Type
□	1	20.00mil (0.508mm)	800.00mil (20.320mm)	780.00mil (19.812mm)	NPTH	Slot
◇	2	118.11mil (3.000mm)	-	-	PTH	Round
○	4	143.86mil (3.654mm)	-	-	NPTH	Round
◙	6	35.43mil (0.900mm)	-	-	PTH	Round
▽	14	40.00mil (1.016mm)	-	-	PTH	Round
⊠	16	33.46mil (0.850mm)	-	-	PTH	Round
☼	125	12.00mil (0.305mm)	-	-	PTH	Round
❂	491	7.87mil (0.200mm)	-	-	PTH	Round
	659 Total					

Slot definitions : **Routed Path Length** = Calculated from tool start centre position to tool end centre position.
Hole Length = Routed Path Length + Tool Size = Slot length as defined in the PCB layout

Drill Table

FOR 7.874MIL DRILL +0/-7.874MIL
FOR 12MIL DRILL +0/-12MIL
FOR PTH DRILL +/-3MIL
FOR NPTH DRILL +/-2MIL

NOTE :
Only 12 mil vias are tented , others are not tented.



DESIGN INFORMATION

BOARD SIZE (REFER ALSO ARRAY/PANEL PROFILING INFORMATION)
65mm X 60mm

Number of Layers : 4
MIN. TRACK WIDTH: 8 MIL
MIN. CLEARANCE: 7.7 MIL
MIN. VIA DRILL SIZE: 7.87 MIL
MINIMUM ANNULAR RING 5.91 MIL EXTERNAL
PER IPC-D-275 CLASS 2 LEVEL C
REGISTRATION TOLERANCES: METAL +/- 5 MIL, HOLES +/- 3 MIL

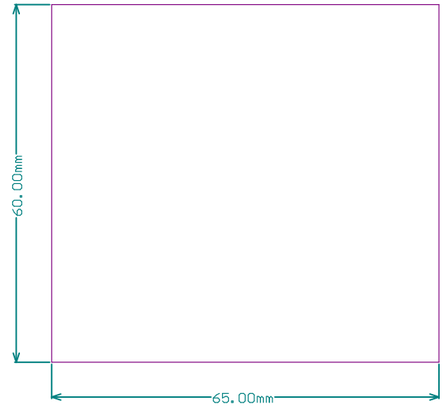
MATERIAL:
[ ] FR-408 [X] FR-4 High Tg [ ] OTHER
THICKNESS: [X] 63 MIL (1.6mm) +/-10% [ ] OTHER
TOLERANCE: [X] ANSI IPC-6012 TYPE 3 CLASS 2
[ ] OTHER +/-
BOW & TWIST: [X] ANSI IPC-6012 TYPE 3 CLASS 2
[ ] OTHER +/-
COPPER THICKNESS (FINISHED):
OUTER: [ ] 1.4MIL (1oz) [ ] 2MIL (1.4oz) [X] 2.8MIL (2oz)
INNER SIGNAL: [ ] 1.4MIL (1oz) [X] 2.8MIL (2oz) [ ] N/A
DRILLING:
REFERENCE: [X] AS SHOWN [X] NC_DRILL FILES
PTH MIN COPPER THICKNESS: [X] 1MIL [ ] OTHER
BOARD FINISH:
SILKSCREEN: [X] TOP [X] BOTTOM
SILKSCREEN COLOR: [X] WHITE [ ] OTHER
SOLDER RESIST COLOR:
[X] GREEN [ ] BLUE [ ] OTHER
SURFACE FINISH: [X] IMMERSION GOLD (ENIG) [ ] ENEPIG
[ ] IMM. TIN/SILVER OR EQUIV [ ] OTHER
ARRAY/PANEL: [ ] CUT AND TRIM PER MECH LAYER 1
[ ] N.C. ROUTE [X] V. SCORE
CERTIFICATION: MATERIALS AND WORKMANSHIP FOR ALL PCBS TO MEET OR EXCEED THE REQUIREMENTS OF:
[X] ANSI IPC-A-600F CLASS -> [ ] 1 [X] 2 [ ] 3
[X] UL 94V-0 [X] RoHS [ ] OTHER PER ORDER
ADDITIONAL REQUIREMENTS: VIA TENTING: YES [ ] NO [ ]
MICROSECTION: [ ] YES IMPEDANCE CONTROL: YES [ ] NO [X]
BARE BOARD ELEC. TEST: [ ] NONE [X] REQUIRED [ ] PER ORDER
MANUFACTURER'S UL: [ ] RAIL [ ] METAL [X] SILK

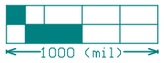
TEXAS INSTRUMENTS

PROJECT TITLE: 18V/1kW, 98% eff power stage for brushless motor
DESIGNED FOR: Public Release
FILE NAME: TIDA-00774.PcbDoc

ALL ARTWORK VIEWED FROM TOP SIDE	BOARD #: TIDA-00774	REV: E2	SVN REV: Not In VersionControl
LAYER NAME = Drill Drawing	TID #: 00774		
Drill Drawing	GENERATED : 3/22/2017 4:47:25 PM	TEXAS INSTRUMENTS	

ENGINEER:	LAYOUT BY:
Manu Balakrishnan	Avinash N
SCALE: 1.00	ALTIUM DESIGNER VERSION: 16.1.11.255





ALL ARTWORK VIEWED FROM TOP SIDE	BOARD #: TIDA-00774	REV: E2	SVN REV: Not In VersionControl
LAYER NAME =	TID #: 00774		
Board Dimensions	GENERATED : 3/22/2017 4:47:27 PM		TEXAS INSTRUMENTS

IMPORTANT NOTICE FOR TI DESIGN INFORMATION AND RESOURCES

Texas Instruments Incorporated ('TI") technical, application or other design advice, services or information, including, but not limited to, reference designs and materials relating to evaluation modules, (collectively, "TI Resources") are intended to assist designers who are developing applications that incorporate TI products; by downloading, accessing or using any particular TI Resource in any way, you (individually or, if you are acting on behalf of a company, your company) agree to use it solely for this purpose and subject to the terms of this Notice.

TI's provision of TI Resources does not expand or otherwise alter TI's applicable published warranties or warranty disclaimers for TI products, and no additional obligations or liabilities arise from TI providing such TI Resources. TI reserves the right to make corrections, enhancements, improvements and other changes to its TI Resources.

You understand and agree that you remain responsible for using your independent analysis, evaluation and judgment in designing your applications and that you have full and exclusive responsibility to assure the safety of your applications and compliance of your applications (and of all TI products used in or for your applications) with all applicable regulations, laws and other applicable requirements. You represent that, with respect to your applications, you have all the necessary expertise to create and implement safeguards that (1) anticipate dangerous consequences of failures, (2) monitor failures and their consequences, and (3) lessen the likelihood of failures that might cause harm and take appropriate actions. You agree that prior to using or distributing any applications that include TI products, you will thoroughly test such applications and the functionality of such TI products as used in such applications. TI has not conducted any testing other than that specifically described in the published documentation for a particular TI Resource.

You are authorized to use, copy and modify any individual TI Resource only in connection with the development of applications that include the TI product(s) identified in such TI Resource. NO OTHER LICENSE, EXPRESS OR IMPLIED, BY ESTOPPEL OR OTHERWISE TO ANY OTHER TI INTELLECTUAL PROPERTY RIGHT, AND NO LICENSE TO ANY TECHNOLOGY OR INTELLECTUAL PROPERTY RIGHT OF TI OR ANY THIRD PARTY 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 products or services are used. Information regarding or referencing third-party products or services does not constitute a license to use such products or services, or a warranty or endorsement thereof. Use of TI Resources 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 RESOURCES ARE PROVIDED "AS IS" AND WITH ALL FAULTS. TI DISCLAIMS ALL OTHER WARRANTIES OR REPRESENTATIONS, EXPRESS OR IMPLIED, REGARDING TI RESOURCES OR USE THEREOF, INCLUDING BUT NOT LIMITED TO ACCURACY OR COMPLETENESS, TITLE, ANY EPIDEMIC FAILURE WARRANTY AND ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, AND NON-INFRINGEMENT OF ANY THIRD PARTY INTELLECTUAL PROPERTY RIGHTS.

TI SHALL NOT BE LIABLE FOR AND SHALL NOT DEFEND OR INDEMNIFY YOU AGAINST ANY CLAIM, INCLUDING BUT NOT LIMITED TO ANY INFRINGEMENT CLAIM THAT RELATES TO OR IS BASED ON ANY COMBINATION OF PRODUCTS EVEN IF DESCRIBED IN TI RESOURCES OR OTHERWISE. IN NO EVENT SHALL TI BE LIABLE FOR ANY ACTUAL, DIRECT, SPECIAL, COLLATERAL, INDIRECT, PUNITIVE, INCIDENTAL, CONSEQUENTIAL OR EXEMPLARY DAMAGES IN CONNECTION WITH OR ARISING OUT OF TI RESOURCES OR USE THEREOF, AND REGARDLESS OF WHETHER TI HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

You agree to fully indemnify TI and its representatives against any damages, costs, losses, and/or liabilities arising out of your non-compliance with the terms and provisions of this Notice.

This Notice applies to TI Resources. Additional terms apply to the use and purchase of certain types of materials, TI products and services. These include; without limitation, TI's standard terms for semiconductor products http://www.ti.com/sc/docs/stdterms.htm), evaluation modules, and samples (http://www.ti.com/sc/docs/sampterms.htm).

Mailing Address: Texas Instruments, Post Office Box 655303, Dallas, Texas 75265