

CERTIFICATE OF COMPLIANCE

Certificate Number UL-CA-2012470-0
Report Reference E336604-20210205
Date 10-Feb-2021

Issued to: DELTA ELECTRONICS INC
3 Tungyuan Road
Chungli Industrial Zone Taoyuan City
Taiwan 32063

This is to certify that representative samples of FKSZ7 - Light-emitting-diode Drivers Certified for Canada
See Addendum Page for Product Designation(s).

Have been investigated by UL in accordance with the Standard(s) indicated on this Certificate.

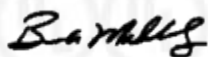
Standard(s) for Safety: CAN/CSA C22.2 NO. 250.13-17, 3rd Ed., Issue Date: 2017-10-01

Additional Information: See the UL Online Certifications Directory at <https://iq.ulprospector.com> for additional information

This Certificate of Compliance does not provide authorization to apply the UL Mark. Only the UL Follow-Up Services Procedure provides authorization to apply the UL Mark.

Only those products bearing the UL Mark should be considered as being UL Certified and covered under UL's Follow-Up Services.

Look for the UL Certification Mark on the product.



Bruce Mahrenholz, Director North American Certification Program

UL LLC

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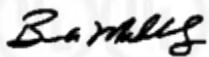


CERTIFICATE OF COMPLIANCE

Certificate Number UL-CA-2012470-0
Report Reference E336604-20210205
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This is to certify that representative samples of the product as specified on this certificate were tested according to the current UL requirements

Model	Category Description
USC4-320280GA	LED Drivers



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CERTIFICATE OF COMPLIANCE

Certificate Number UL-US-2015651-0
Report Reference E336604-20210205
Date 10-Feb-2021

Issued to: DELTA ELECTRONICS INC
3 Tungyuan Road
Chungli Industrial Zone Taoyuan City
Taiwan 32063

This is to certify that representative samples of FKSZ - Light-emitting-diode Drivers
See Addendum Page for Product Designation(s).

Have been investigated by UL in accordance with the Standard(s) indicated on this Certificate.

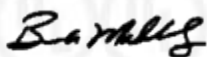
Standard(s) for Safety: UL 8750, 2nd Ed., Issue Date: 2015-09-15, Revision Date: 2020-09-11

Additional Information: See the UL Online Certifications Directory at <https://iq.ulprospector.com> for additional information

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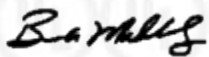


CERTIFICATE OF COMPLIANCE

Certificate Number UL-US-2015651-0
Report Reference E336604-20210205
Date 10-Feb-2021

This is to certify that representative samples of the product as specified on this certificate were tested according to the current UL requirements

Model	Category Description
USC4-320280GA	LED Drivers



Bruce Mahrenholz, Director North American Certification Program

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File E336604
Project 4789741294

February 5, 2021

REPORT

on

DRIVERS FOR LIGHT-EMITTING-DIODE ARRAYS, MODULES AND CONTROLLERS

Delta Electronics Inc
Taoyuan City, Taiwan

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DESCRIPTION

PRODUCT COVERED:

USL, CNL - LED Drivers, see electrical ratings table for models.

ELECTRICAL RATINGS:

Model No.	Input [] CC [] CV			Output [x] CC [] CV		
	Voltage [X] Vac [] Vdc	Frequen cy (Hz)	[X]Current (A) [x]Power (W)	Rated Voltage [] Vac [X] Vdc	Frequen cy (Hz)	[X]Current (A) [x]Power (W)
USC4- 320280GA	277	50/60	1.2 A, 333 W	75-136	-	0.7-2.8 A / 288 W
				12	-	0.1 A
	347-480	50/60	1.1 A, 382 W	75-152	-	0.7-2.8 A / 320 W
				12	-	0.1 A

TECHNICAL CONSIDERATIONS (NOT FOR FIELD REPRESENTATIVE'S USE):

USL - Indicates investigation to the United States Standards for Light Emitting Diode (LED) Light Equipment for Use in Lighting Products, UL 8750.

CNL - Indicates investigation to the Canadian Standard for:
Light emitting Diode (LED) Equipment for Lighting Applications, CAN/CSA-C22.2
No. 250.13.

Product characteristics-

				Additionally evaluated to UL 8750 Supplements noted below:							
Model No. [x] applies to all models- see electrical ratings.	Input type	Output type	Rated for	[] SA-SREC	[x] SB-Type HL	[] SC-Type TL	[x] SF-Class P	[x] SF-Wired control Circuits(c)	[] SG-Temperature value @ Tc	[] SH-Phase cut dimming	[] SI-Type IC LED driver
	[x] Branch Circuit Mains [] Isolated Circuit Class 2 (a) [] LVLE (b1) [] LED Class 2 (b2)	[] Non-isolated [] with PLIMIT @ 15 W (d) [x] Isolated [] with PLIMIT @ 15 W (d) [] Class 2 (a) [] LVLE (b1) [] LED Class 2 (b2)	[x] Dry [x] Damp [x] Wet	[] - Evaluation per SA 3.2 [] - Evaluation per SA 4		Tref max/ Meas ured Tref XX/ YY ° C		[x] Isolated [] - Not Isolated	Tref max- ° Tc C xx	[] Dimmable [] Dimmable - dimmer model(s) xxx made by xxx	

a- As defined in [] UL 8750, Clause 7.12.1 [] and CAN/CSA-C22.2 No. 250.13, Clause 8.12

b1- As defined in UL 8750, Section 8.14

b2- As defined in CAN/CSA-C22.2 No. 250.13, Annex A

c- Supplement SF has a future effective date: 2020-05-01

d- refers to a circuit of 15 W maximum power limit under normal and single fault conditions, as measured in accordance with UL 8750, 8.8 and CAN/CSA-C22.2 No. 250.13.

and Report

CONSTRUCTION DETAILS:

Corrosion Protection - Ferrous metal parts are protected against corrosion by plating or painting.

Soldered Connections - All soldered connections are mechanically secured before soldering.

Printed Wiring Boards - R/C (ZPMV2), rated minimum V-1, suitable for support of live parts, the solder time and temperature used by the manufacturer and having an operating temperature rating of at least 130°C.

"CN" indicates the component has been evaluated to Canadian requirements and the component shall have a Canadian UL certification Mark (C-UL) or UL certification Mark and CSA certification Mark when the Applicant's basic product bearing C-UL certification Mark.

Product identification, ratings & markings noted below are to be provided on the product. See comment area for cases where some of this information can be provided on a separate specification sheet, installation instruction or the like.

	Description	Comment
x	Company name (as identified in Online directory) or File number	
X	Model designation-	
x	Factory ID, when more than one factory	
X	Date Code	
	Class 2 outputs	See product characteristics table- 'Class 2' marked on the device. [] WARNING - Risk of Fire or Electric Shock. Do not interconnect output terminations
x	Electrical Ratings	See electrical ratings table- note 1
x	Input Type	See product characteristics table- note 1
x	Output Type	See product characteristics table- note 1
x	Environmental considerations	See product characteristics table- note 1
x	Polarity of supply connections	Applies to [x]Input, [x] Output- note 1
	Push-in terminals	The installation instructions contain the following information: a) For releasing the wire from the terminal connection, b) The intended wire size(s), c) Whether the terminal is intended for both solid and stranded or just solid wire, d) The length to strip the insulation from conductors, and e) The terminal relationship to the internal circuitry.
	Fuse replacement	'xx V/xx A' or equivalent- on the device on or adjacent to the fuse-holder
	Terminal or splice compartment	'For Connections Use Wire Rated for at Least [] 75 °C or [] 90 °C' or equivalent- on device located where readily visible when connections are made

and Report

x	Type HL LED drivers	See product characteristic table- optional marking 'Type HL' on LED driver, the smallest shipping container, or on materials shipped with the LED driver
	Type TL LED drivers	See product characteristics table- optional marking 'Type TL' on LED driver. If marking is provided, then the Tref max and Measured Tref values are marked on the LED driver in one of the following formats: "TC XX/YY °C" or "Type TL XX/YY °C"
x	Class P LED drivers	See product characteristics table- optional marking 'Class P' on LED driver. If marking is provided, then the LED driver is marked "For Connections Use Wire Rated for at Least 90°C (194°F)" or equivalent. [] Device marked 'Use only within an enclosure'
x	Wired Control Circuits	See product characteristics table- 1. Identification of the terminals or lead wires for control circuits. 2. Identification of the intended industry or proprietary protocols. 3. Installation instructions 4. [x] "CAUTION: More than one power supply present" or equivalent. 5. [] Notice: This control circuit is not isolated - see installation instructions" or equivalent. 6. [] For built in products all above markings may be included in the installation instructions. 7. [x] Device wired control circuit marked 'Class 2'
	Temperature Measurement Point (Tc)	See product characteristics table- Tc point location marking on device. The Tref max values may be marked on the device in the following format: XX °C. This information may alternately appear in a specification sheet.
	Phase cut dimming	See product characteristics table- [] optional marking 'dimmable' on LED driver and in accompanying documents. When either marking is provided, the accompanying documents identify that dimming refers to phase-cut dimming (i.e.: solid-state electronic dimming control that is electrically wired in series with the mains supply). [] optional marking "dimmable - use only dimmer model(s) xxx made by xxx" or equivalent on LED driver and in accompanying documents.

Note 1- For built in products this marking may be included on a separate specification sheet, installation instruction or the like.

MODEL USC4-320280GA - FIGS. 1 THROUGH 4

General - The general design, shape and arrangement shall be as illustrated except where variations are specifically described.

Enclosure - Aluminum, measured 1.5 mm thick minimum, consists of three parts, body and end covers, secured together by screws. Also provided with integral ears as mounting means. See ILL. 1 for overall dimension details.

Input Cord - Listed (ZJCZ/7), type SOOW, 3 wires, 18 AWG, rated 600 V, 105°C minimum, then extended min. 152 mm external length.

Output Cord - Listed (ZJCZ/7), type SJOW, 3 wires, 17 AWG, rated 300 V, 105°C minimum, then extended min. 152 mm external length.

Dimming Cord - Listed (OPTZ), CN, wet, type PLTC, wet, 3 wires, 22 AWG, rated 300 V, 105°C minimum, then extended min. 152 mm external length.

Grounding - Provided with a lead wire with ring terminal from printed wiring board and bonded to metal enclosure by screw.

Bushings - R/C (QMFZ2), MOMENTIVE PERFORMANCE MATERIALS JAPAN L L C (E56745), type TSE2186U, rated V-0, 150°C, 1.5 mm thick min., provided on input and output cords.

Insulation sheet - R/C (QMFZ2), TORAY INDUSTRIES INC (E86511), type Lumirror S10 or DUPONT HONGJI FILMS FOSHAN CO LTD (E241830), type MO31 or DUPONT TEIJIN FILMS U S L P (E93687), type WC, 0.188 mm thick minimum, rated VTM-2, 105°C. See ILL. 2 for overall dimensions.

Printed Wiring Boards - Two provided. See "CONSTRUCTION DETAILS", printed wiring board. The component layout and foil pattern of printed wiring board shall not be changed from that shown in ILL. 3. (not to scale)

Potting Compound - R/C (QMFZ2), DOW CORNING (SHANGHAI) CO LTD (E251343), type CN-8760 G, rated V-0, 150°C, fully cover all components inside enclosure.

Strain Relief - Lead wires embedded in asphalt as strain relief means.

Fuse (F1) - R/C (JDYX2/8), see table below for Manufacturer, Type Designation and rating.

Manufacturer	Type Designation	Rating
Conquer Electronics Co., Ltd. (E82636)	UDE-A	T5 A, 500 Vac

and Report

X Capacitor (CX1, CX2) - R/C (FOWX2/8), also certified to IEC60384-14, marked with "X1" or "X2", rated maximum 0.1 uF, 530 Vac minimum, 100°C minimum.

Varistor (Z1, Z2) - R/C (VZCA2/8), see table below for Manufacturer, Type Designation and rating, the coating is V-0 or VTM-0.

Manufacturer	Type Designation	Rating
Thinking Electronic Industrial Co., Ltd. (E314979)	TVR14911K	550 Vac
Joyin Co., Ltd. (E325508)	JVT14S911K	550 Vac

Varistor (Z3) - R/C (VZCA2/8), see table below for Manufacturer, Type Designation and rating, the coating is V-0 or VTM-0.

Manufacturer	Type Designation	Rating
Thinking Electronic Industrial Co., Ltd. (E314979)	TVR14102K	625 Vac
Joyin Co., Ltd. (E325508)	JVT14S102K	625 Vac
TDK (ZHUHAI FTZ) CO., LTD. (E321126)	SNF14K625E2	625 Vac

Bridging Capacitor (CY4) - R/C (FOWX2/8 or CSA Certified to CAN/CSA-E60384-14), also certified to IEC60384-14, marked with "Y1", connected bridging between Primary and secondary, rated 2200 pF maximum, 500 Vac minimum, 125°C minimum.

Y Capacitors (CY3, CY100) - R/C (FOWX2/8 or CSA Certified to CAN/CSA-E60384-14), also certified to IEC60384-14, CY3 bridging between primary and metal chassis, rated 1000 pF maximum; CY100 bridging between secondary and metal chassis, rated 220 pF maximum, 400 Vac minimum, 125°C minimum.

Optical Insulator (IC102, IC103) - Primary-to-Secondary, R/C (FPQU2, FPQU8 or CSA Certified to CSA C22.2 No.60950-1-07). See table below for Manufacturer, Type Designation and rating.

Manufacturer	Type Designation	Rating
Lite-On Technology Corp. (E113898)	LTV-10XX	Isolation voltage 5000 Vac min., 110°C
Toshiba Electronic Devices & Storage Corporation (E67349)	TLP385	Isolation voltage 5000 Vac min., 110°C
Everlight Electronics Co., Ltd. (E214129)	EL101	Isolation voltage 5000 Vac min., 110°C

Optical Insulator (IC600) - R/C (FPQU2, FPQU8 or CSA Certified to CSA C22.2 No.60950-1-07). See table below for Manufacturer, Type Designation and rating.

Manufacturer	Type Designation	Rating
Lite-On Technology Corp. (E113898)	LTV-10XX	Isolation voltage 5000 Vac min., 110°C
Toshiba Electronic Devices & Storage Corporation (E67349)	TLP385	Isolation voltage 5000 Vac min., 110°C
Everlight Electroncis Co., Ltd. (E214129)	EL101	Isolation voltage 5000 Vac min., 110°C

Diodes (D1A-D1H) - Rated 1000 V minimum, 8 A minimum.

Transistor (Q1, Q4) - Rated 950 V minimum, 8 A min, secured to heatsink (HS2) by screw.

Transistor (Q3) - Rated 950 V minimum, 8 A min, secured to heatsink (HS3) by screw.

Transistor (Q6) - Rated 1200 V minimum, 3 A min.

Transistor (Q101) - Rated 600 V minimum, 4 A min.

Thermistor (NTC1) - Rated 5 Ohm at 25°C.

Thermistor (NTC2) - Rated 33K Ohm at 25°C.

Thermistor (NTC100) - Rated 470K Ohm at 25°C.

Thermistor (PTC100) - Rated 1.2K Ohm at 25°C.

Diode (D101, D103) - Rated 200 V minimum, 20 A min, secured to heatsink (HS100) by screw.

Diode (D102, D104) - Rated 200 V minimum, 10 A min.

Capacitor (C8, C9) - Rated 82 μ F max., 450 V min., 105°C min.

Capacitors (C111, C111A) - Rated 68 μ F max., 200 V min., 105°C.

Heatsink (HS2, HS3) - Aluminum, see ILL. 4 for details.

Heatsink (HS100) - Aluminum, see ILL. 5 for details.

Winding Devices - See below for details.

Line Filter (FL1) - Primary, Open type construction, coil rated 130°C minimum. See ILL. 6 for details.

Line Filter (FL2, FL3) - Primary, Open type construction, coil rated 130°C minimum. See ILL. 7 for details.

Choke (L2) - Primary, Open type construction, rated 130°C minimum. See ILL. 8 for details.

Transformer (T1) - See table below for manufacturers, E-E type construction, R/C (OBJY2), Class B (130°C) Insulation System, Delta Electronics., Inc. (E115982), Type MP-130R. See ILL. 9 for details.

Manufacturer
Delta Electronics (Wuhu) Co., Ltd.
Delta Electronics (Chen Zhou) Co., Ltd.
Delta Electronics (Thailand) Public Co., Ltd.
Delta Electronics (Jiangsu) Co., Ltd.

Transformer (T2) - See table below for manufacturers, E-E type construction, R/C (OBJY2), Class B (130°C) Insulation System, Delta Electronics., Inc. (E115982), Type MP-130N. See ILL. 10 for details.

Manufacturer
Delta Electronics (Wuhu) Co., Ltd.
Delta Electronics (Chen Zhou) Co., Ltd.
Delta Electronics (Thailand) Public Co., Ltd.
Delta Electronics (Jiangsu) Co., Ltd.

Ring Coil (L100) - Secondary, Open type construction, coil rated 130°C minimum. See ILL. 11 for details.

Ring Coil (FL101) - Secondary, Open type construction, coil rated 130°C minimum. See ILL. 12 for details.

Figure-1 Page-1



Figure-2 Page-1



Figure-3 Page-1

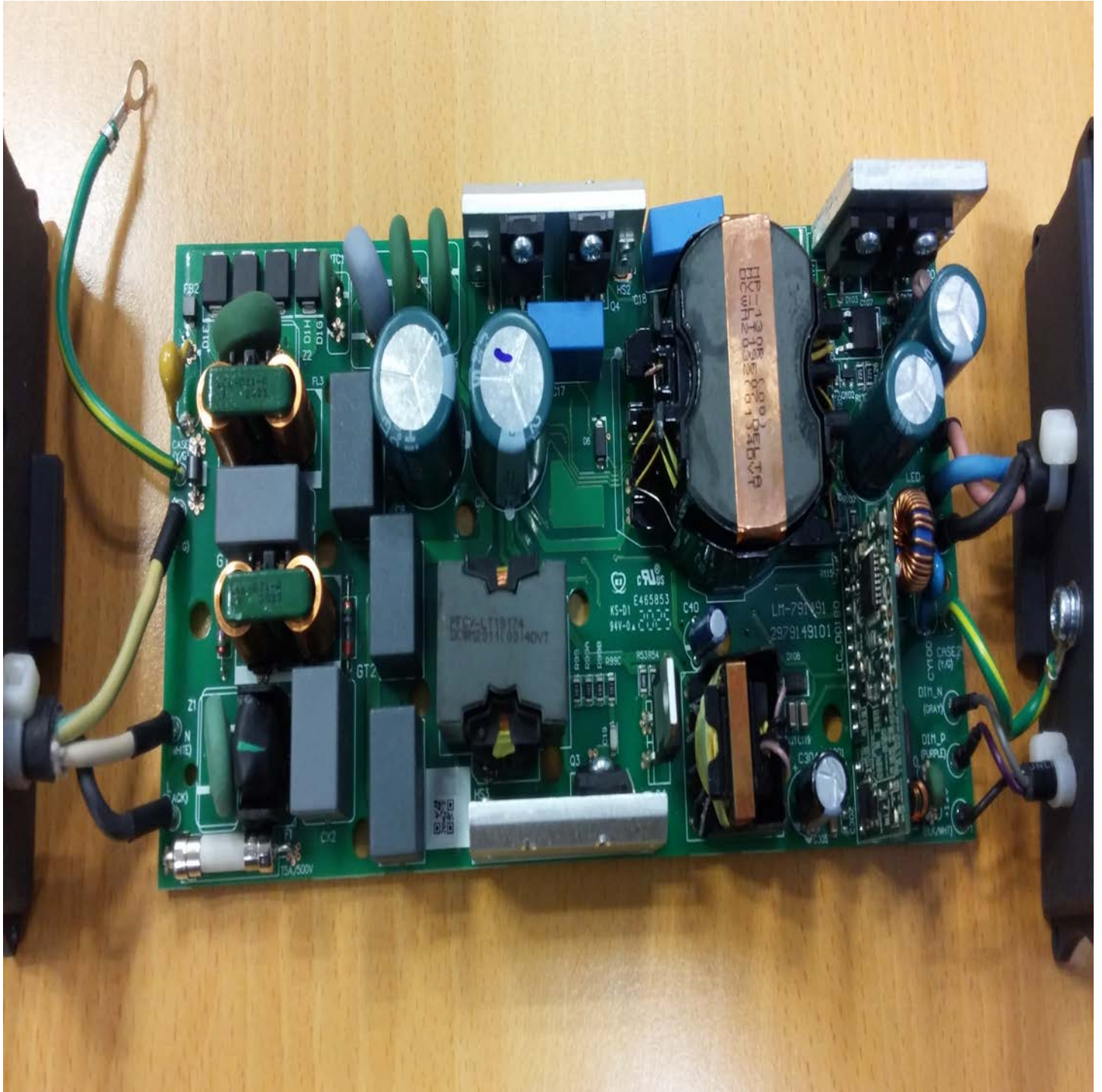
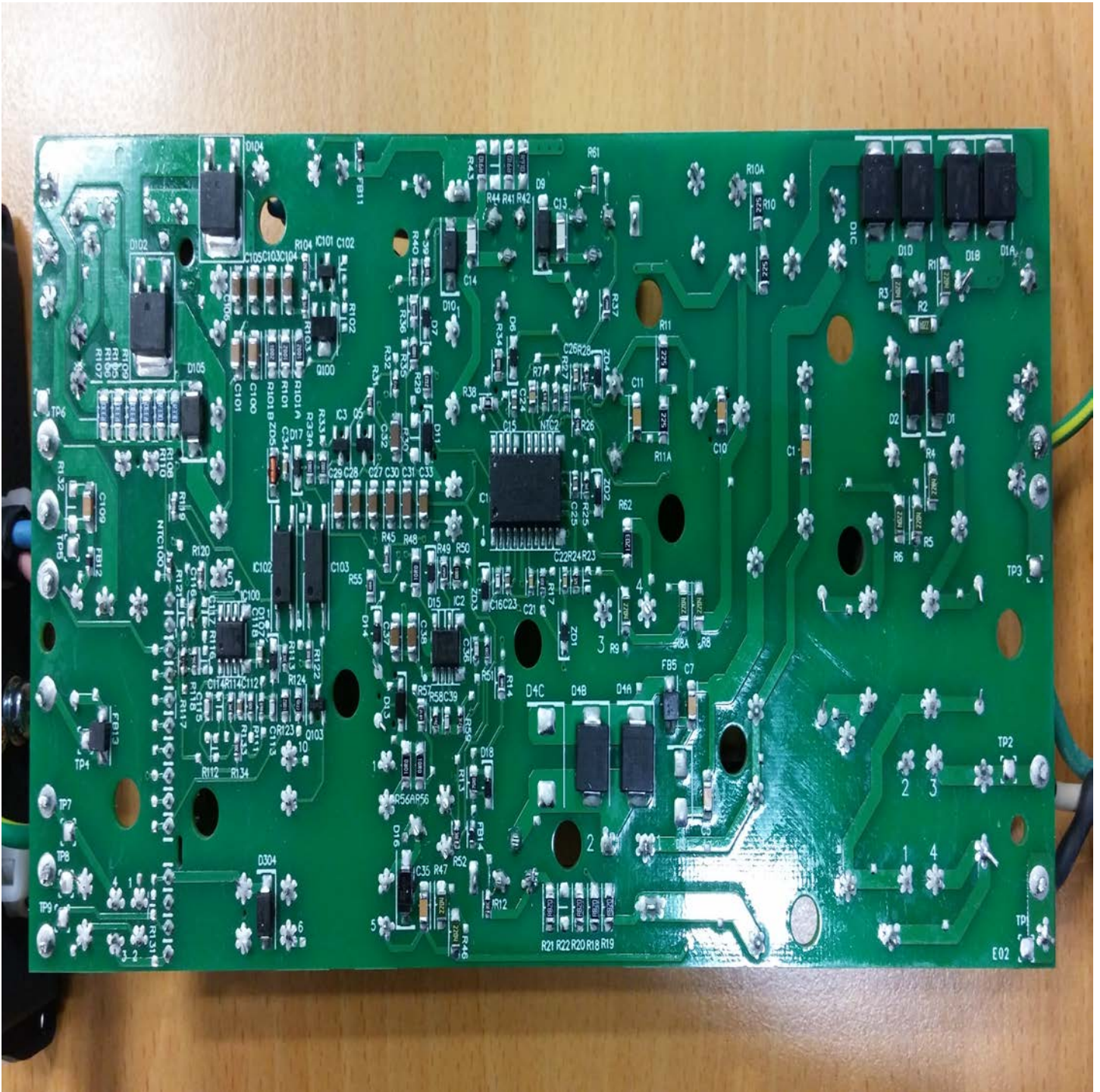


Figure-4 Page-1



The following Page(s) are related to Illustration-1. The next supplement, if applicable, will be identified with a new Supplement Page Heading.

REV.	Description	REV.	Description
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01	Add washer for screw		
	Design: 陳鴻琦 09/28'20	Check: 陳鐸 09/28'20	

DELTA CONFIDENTIAL

 台達電子工業股份有限公司 DELTA ELECTRONICS, INC.	Description: PHYSICAL DIMENSION	
	Part No. PD-USC4-320280GA	REV. 01
	USED ON USC4-320280GA	
	SHEET 1 OF 2	

The following Page(s) are related to Illustration-2. The next supplement, if applicable, will be identified with a new Supplement Page Heading.

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	Design: 陳鴻琦 11/07'13		Check: 陳鐸 11/07'13

DELTA DOC CONFIDENTIAL



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ChungLi
Document
is Released
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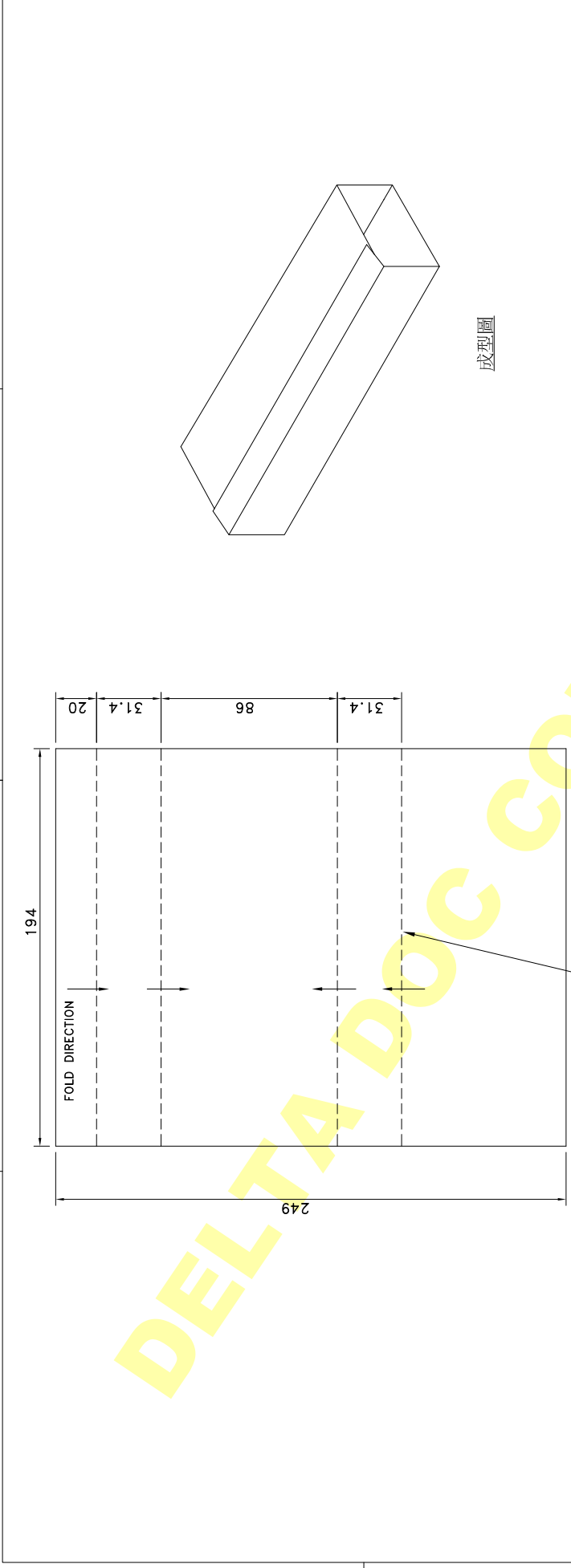
台達電子工業股份有限公司
DELTA ELECTRONICS, INC.

Description: INSULATOR

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Part No.	3246102401	REV.
USED ON	SDHV070D200A	01
SHEET	1 OF 2	

1 2 3 4



成型圖

展開圖

Notes:
1. Material:

ITEM	MATERIAL	RAW MATERIAL SUPPLIER	MATERIAL TYPE	THICKNESS (mm)	DIELECTRIC STRENGTH (KV (min.))	FLAMMABILITY RATING	UL NO.	COLOR
1		TORAY	LUMIRROR S10	0.188	24.6	VTM-2	E86511	CLEAR
2	POLYESTER FILM	Dupont Hongji Films FOSHAN CO LTD 佛山杜邦鴻基薄膜有限公司	M031 WC	0.188 0.188	17.5 19.0	VTM-2 VTM-2	E241830 E93687	CLEAR CLEAR

- 摺線(Fold line): -----
- Fold direction: -----
- Knife cut: -----
- 絕緣片入料必須依照成型圖面尺寸作業, 摺疊成型時於摺線部位不可破壞絕緣材料如郵票孔(破孔), 壓裂等不良現象.
- 成型模具之彎折成型角度須考慮材料回彈性, 以小於90度為基準, 入料時彎折成型角度不得小於70度.
- Dimensional tolerances: X ±1.0
X-X ±0.5
- Material must meet DELTA general specification: 10000-0007; 10000-0162.

DELTA 台達電子工業股份有限公司
DELTA ELECTRONICS, INC.

THIRD ANGLE PROJECTION

Design: 陳鴻琦 11/0713 Check: 陳鐸 11/0713

11/0713

Description: INSULATOR

Part No. 3246102401

REV. 01

A4 SIZE

SHEET 2 OF 2 ISSUE DATE: 11/0713

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DIMENSIONAL TOLERANCES

()	±0.25	()	±0.05	()	±0.05	ANGLES	±0.5°
>30-100	±0.25	LOC-HALS	±0.10	LOC-300	±0.4	LOC-200	±1.5
>100-300	±0.5	X	±0.3	400-500	±0.6	800-900	±2.4
ABSOLUTE	±0.5	X-X	±0.2	150-200	±0.3	350-400	±0.5
		X-XX	±0.1	200-250	±0.35	900-OVER	±3.1

SCALE: UNIT mm USED ON SDHV070D200A

The following Page(s) are related to Illustration-3. The next supplement, if applicable, will be identified with a new Supplement Page Heading.



DELTA ELECTRONICS, INC.

PWB Suppliers Notes

Model: USC4-320280GA

Rev: 4

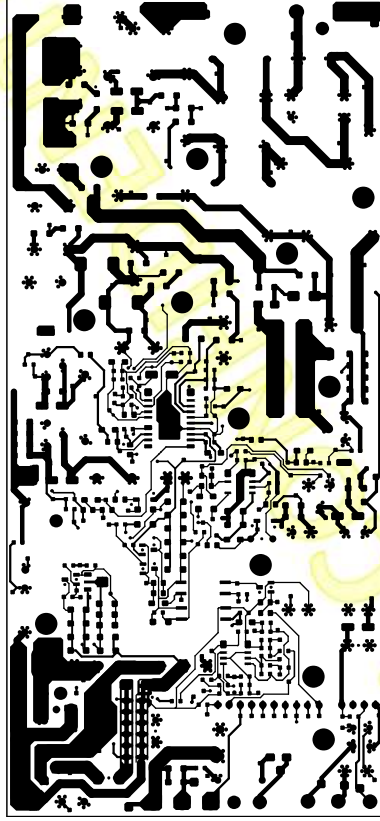
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Date: 2021/01/29

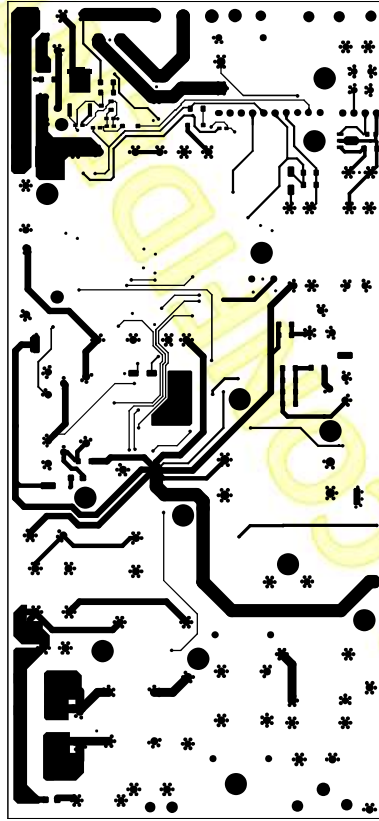
廠商注意事項：

1. Solder Mask Color: Green
2. Marking Print : Trademark or Trade or PWB manufacturer Logo of UL UL File NO.
 Type designation of UL The flammability class 94V-0 Date Code
3. 請PWB製造商，將製造商Marking、製造週期，印刷於指定位置框內，
嚴禁任何文字或符號超出指定的位置□(不須印刷框線)。
4. PWB製造商，請在PWB折斷邊上層文字面加印如下機種名及印刷文字的字高須為1.7mm
以上, 排列準則請依連片圖上之說明排版。
USC4-320280GA LM-791491
5. 2D Barcode area, Layer: PW-1, size: 10*10mm, ink thickness requirements: 10 ~ 30um.

DELTA CONFIDENTIAL

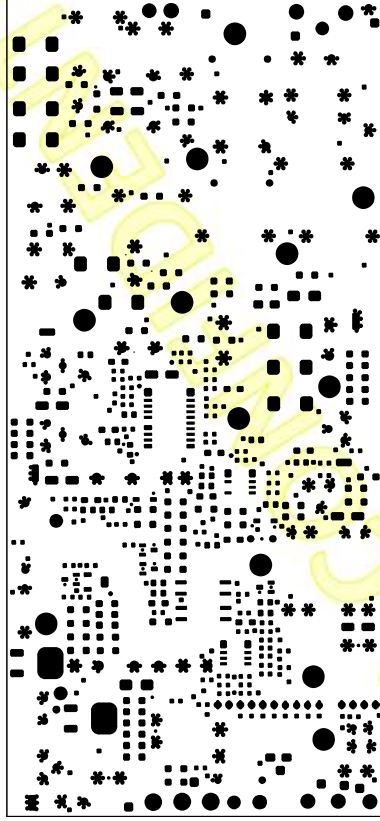


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DRAWING NO: DT- LM-791491 REV: 4
USED ON: USC4-3202806A CODE: 0
MADE BY: JABRIN, GUO DATE: 2022/01/28
PAN: 29791491/4 SOURCE: SDE SIZE: A1



DELETED

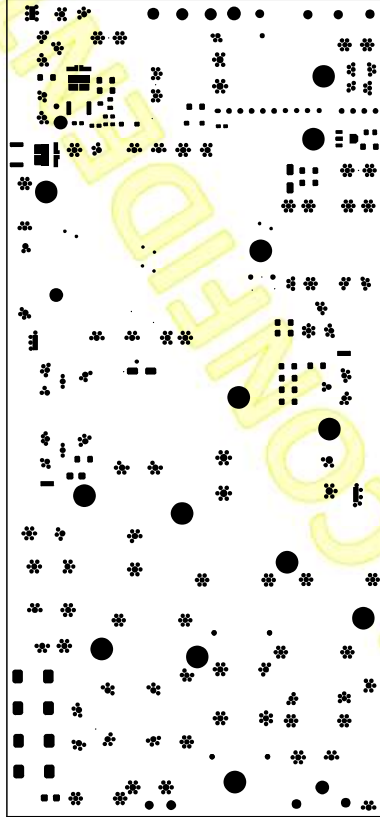
DELTA DELTA ELECTRONICS, INC.
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DRAWING NO: PT-1-LV-791491 REV. 4
USED ON: USC4-320286GA COPES: 0
MADE BY: Joannh Guo DATE: 2020/02/29
P/N: 20791491.04 COMPONENT SIZE: 11-1



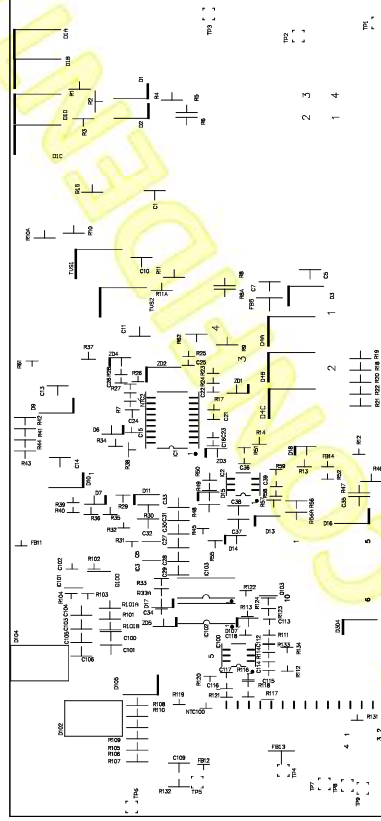
DELTA

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DELTA ELECTRONICS, INC.

DRAWING NO: PR- LM-791491 Rev. - 1
USED ON: USC4-3202806A CODE: 0
MADE BY: JABRIN, Guo DATE: 2022/01/28
PAN: 28791491/04
SOURCE: SDE SIZE: A1

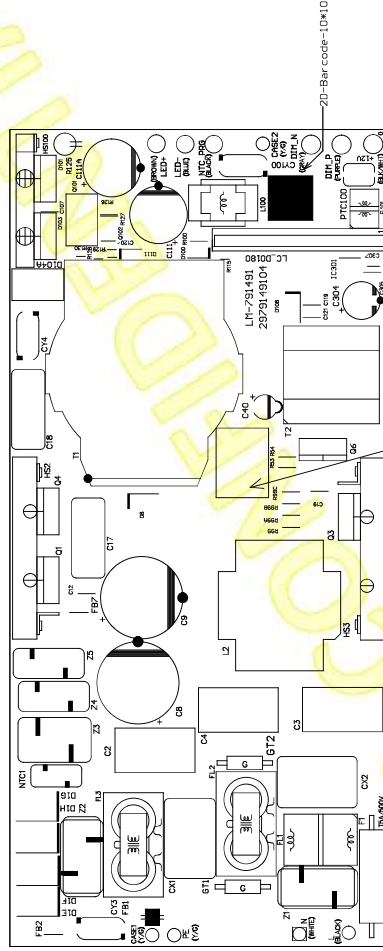


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DRAWING NO: PR-1 LV-791491 REV: 4
USED ON: USC4-320286GA COPES: 0
MADE BY: Joann Guo DATE: 2020/02/29
P/N: 20791491.04 COMPONENT SIZE: 31-1



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DRAWING NO: DW-1M-791491 REV: 4
USED ON: USC4-3202806A CODE: 0
MADE BY: JABRIN, Guo DATE: 2023/01/28
P/N: 28791491/4
SOURCE: SDE SIZE: A1

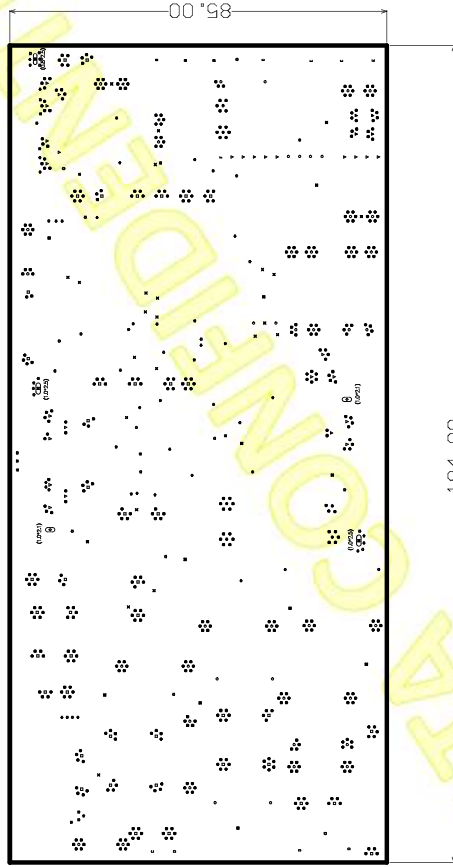


Refer to the component datasheet for pin connections and dimensions.

DELTA ELECTRONICS, INC.	DRAWING NO: FW-1-LV-791491	REV: 4
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	MADE BY: Joannh Guo	DATE: 2020/02/29
	PAGE: 1	COMPONENT SIZE: 11-1

REV	DATE	BY	CHK	DESCRIPTION
01	2020/02/29	JG	JG	INITIAL RELEASE
02	2020/02/29	JG	JG	REVISION
03	2020/02/29	JG	JG	REVISION
04	2020/02/29	JG	JG	REVISION
05	2020/02/29	JG	JG	REVISION
06	2020/02/29	JG	JG	REVISION
07	2020/02/29	JG	JG	REVISION
08	2020/02/29	JG	JG	REVISION
09	2020/02/29	JG	JG	REVISION
10	2020/02/29	JG	JG	REVISION
11	2020/02/29	JG	JG	REVISION
12	2020/02/29	JG	JG	REVISION
13	2020/02/29	JG	JG	REVISION
14	2020/02/29	JG	JG	REVISION
15	2020/02/29	JG	JG	REVISION
16	2020/02/29	JG	JG	REVISION
17	2020/02/29	JG	JG	REVISION
18	2020/02/29	JG	JG	REVISION
19	2020/02/29	JG	JG	REVISION
20	2020/02/29	JG	JG	REVISION
21	2020/02/29	JG	JG	REVISION
22	2020/02/29	JG	JG	REVISION
23	2020/02/29	JG	JG	REVISION
24	2020/02/29	JG	JG	REVISION
25	2020/02/29	JG	JG	REVISION
26	2020/02/29	JG	JG	REVISION
27	2020/02/29	JG	JG	REVISION
28	2020/02/29	JG	JG	REVISION
29	2020/02/29	JG	JG	REVISION
30	2020/02/29	JG	JG	REVISION
31	2020/02/29	JG	JG	REVISION
32	2020/02/29	JG	JG	REVISION
33	2020/02/29	JG	JG	REVISION
34	2020/02/29	JG	JG	REVISION
35	2020/02/29	JG	JG	REVISION
36	2020/02/29	JG	JG	REVISION
37	2020/02/29	JG	JG	REVISION
38	2020/02/29	JG	JG	REVISION
39	2020/02/29	JG	JG	REVISION
40	2020/02/29	JG	JG	REVISION
41	2020/02/29	JG	JG	REVISION
42	2020/02/29	JG	JG	REVISION
43	2020/02/29	JG	JG	REVISION
44	2020/02/29	JG	JG	REVISION
45	2020/02/29	JG	JG	REVISION
46	2020/02/29	JG	JG	REVISION
47	2020/02/29	JG	JG	REVISION
48	2020/02/29	JG	JG	REVISION
49	2020/02/29	JG	JG	REVISION
50	2020/02/29	JG	JG	REVISION

CONFIDENTIAL



REV.	Description	REV.	Description
0	Release. (DS, FR-4, 1.6mm, 2oz, OSP) 郭明美 11/29 '19		
1	Layout Changed. 鍾竣仁 05/26 '20		
2	Layout Changed and add DET requirement. 鍾竣仁 10/05 '20		

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Description: 連片圖

<71.9>

Part No.	LM-791491	REV.	
USED ON	USC4-320280GA		2
SHEET	11	OF	12



DELTA ELECTRONICS, INC.

PWB Engineering Specification

A. This PWB specification is designed for model: USCO-150560GA

Latter Description:

- 1. Solder side copper trace drawing ----- PT- LC-D0180 Rev : 1
- 2. Layer3 inner copper trace drawing ----- PT-3- _____ Rev : _____
- 3. Layer2 inner copper trace drawing ----- PT-2- _____ Rev : _____
- 4. Component side copper trace drawing --- PT-1- LC-D0180 Rev : 1
- 5. Solder resist solder side ----- PR- LC-D0180 Rev : 1
- 6. Solder resist component side ----- PR-1- LC-D0180 Rev : 1
- 7. Silk screen solder side ----- PW- LC-D0180 Rev : 1
- 8. Silk screen component side ----- PW-1- LC-D0180 Rev : 1
- 9. Mechanical outline ----- PD- _____ Rev : _____
- 10. Drilling hole ----- PH- LC-D0180 Rev : 1
- 11. Mechanical outline for panel form ----- PP- LC-D0180 Rev : 1

B.PWB is: Double Side Single Side _____ Layers

C.PWB Material FR-4 (Normal) CEM-1 (Normal) FR-1 (Normal)
 FR-4 (Halogen Free) CEM-1 (Halogen Free) FR-1 (Halogen Free)
 Other: PWB 板材限定

D.PWB Thickness: 1.6MM 1.2MM 1.0MM 0.8MM

E.Copper Weight: 1 OZ 2 OZ Other: _____

F.Copper Surface Finish: LFHASL (Lead Free Hot Air Solder Leveling)
 OSP Coating Gold Plating

G.Letter Figure Print Color: Component Side: White Solder Side: White

H.Unless otherwise specified , PWB shall comply with the most recent version requirements of DELTA Purchasing specification for PWB (10000-0001).

Model Name: USCO-150560GA			PWB P/N: 2978038101		Code No.: 0
Layout	Check	Project Engineer	Mechanical Engineer	Industrial Engineer	Manager
陳素繪	郭明美	蘇志凱	趙柏恆	鍾峻仁	周清和
2018/05/14	2018/05/14	2018/05/14	2018/05/14	2018/05/14	2018/05/14



DELTA ELECTRONICS, INC.

PWB Suppliers Notes

Model: USCO-150560GA

Rev: 1

Code: 0

Date: 2018/05/14

廠商注意事項：

1. 製造商/ PWB板材限定:

Supplier	UL Type	Laminate Type	Remark
江門榮信 GLORY FAITH E230374	GF201	NY(FR-4-86)	
翔國 HSIANG KUO E116921	76V0A	KB(KB-6160)	
昆山萬正 Kunshan Wanzheng E211670	WZ-1	GS(S1141)	
聯橋 DIGITAL E230582	3		

2. Solder Mask Color: Green

3. Marking Print : Trademark or Trade or PWB manufacturer Logo of UL UL File NO.
 Type designation of UL The flammability class 94V-0 Date Code

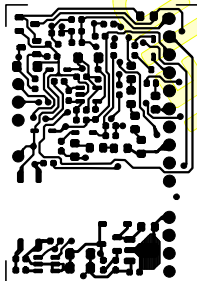
4. 請PWB製造商，將製造商Marking、製造週期，印刷於指定位置框內，

嚴禁任何文字或符號超出指定的位置□(不須印刷框線)。


5. PWB製造商，請在PWB折斷邊上層文字面加印如下機種名，印刷文字的字高須為1.7mm

以上, 排列準則請依連片圖上之說明排版。

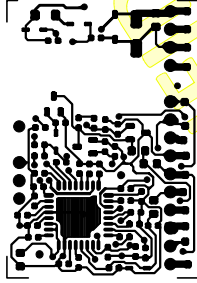
USCO-150560GA LC-D0180 A B C D E F G H I J K L M N O P Q R S T U V W X Y Z




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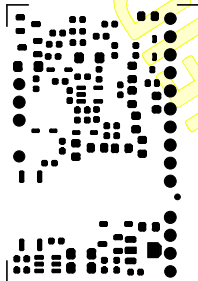
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SOLDER SIDE SIZE: 1 = 1




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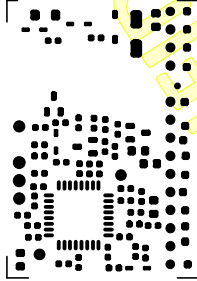
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	USED ON: USCO-156560CA	CODE: 0
	MADE BY: SOPHA, CHIE	DATE: 2018/05/14
	P/N: 2978038101	COMPONENT SIDE SIZE : 1 = 1




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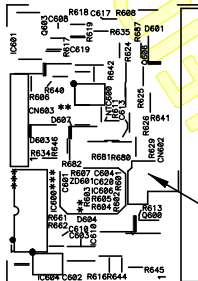
SOLDER SIDE SIZE: 1 = 1



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	USED ON: USCO-156560CA	CODE: 0
	MADE BY: SOPHA, CHIE	DATE: 2018/05/14
	P/N: 2979038101	COMPONENT SIDE SIZE : 1 = 1

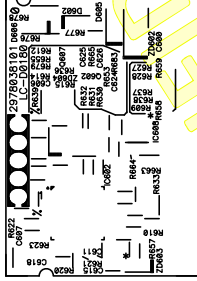
DELTA CONFIDENTIAL




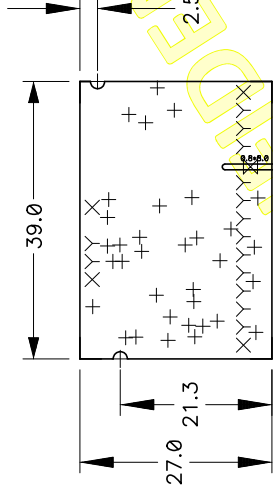
Manufacturer's label and week/year stamp
are allowed on this kind of area, only.
Please print on Silkscreen Bottom.

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	USED ON: USCO-150560CA	CODE: 0
MADE BY: SOPHIA CHIE	DATE: 2018/05/14	
P/N: 2978038101	SOLDER SIDE SIZE: 1 = 1	


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--	--




Drill Table			
Hole Dia (mm)	Symbol	Quantity	Plated SLOT
0.088	X	1	No 0.8X8.0
0.400	+	34	Yes
1.000	X	4	Yes
1.100	Y	14	Yes

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	USED ON: USCO-156569CA	CODE: 0
	MADE BY: SOPHA, CHIE	DATE: 2018/05/14
	P/N: 2979838101	COMPONENT SIDE SIZE : 1 = 1

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REV.	Description	REV.	Description
0	Release. (DS, FR-4, 1.0mm, 2oz, OSP) 郭明美 11/29 '17		
1	製程改善：變更定位孔之位置。 陳素繪 05/14 '18		

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 台達電子工業股份有限公司 DELTA ELECTRONICS, INC.	Description: 連片圖	
	Part No. LC-D0180	REV. 1
	USED ON USCO-150560GA SHEET 11 OF 12	

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The following Page(s) are related to Illustration-4. The next supplement, if applicable, will be identified with a new Supplement Page Heading.

REV.	Description	REV.	Description
00	Issued		
	Design: 陳鴻琦 02/04'20		Check: 陳鐸 02/04'20
01	Modify pin length		
	Design: 陳鴻琦 03/06'20		Check: 陳鐸 03/06'20

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台達電子工業股份有限公司
DELTA ELECTRONICS, INC.

Description: HEAT SINK

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Part No.	3348110600	REV.
USED ON	USC4-320280GA	01
SHEET	1 OF 2	

The following Page(s) are related to Illustration-5. The next supplement, if applicable, will be identified with a new Supplement Page Heading.

REV.	Description	REV.	Description
00	Issued		
	Design: 趙柏恆 11/23'17		Check: 陳鐸 11/23'17
			 DDCC- ChungLi Document is Released 2017.11.29 14:52:04 +08'00'

DELTA CONFIDENTIAL

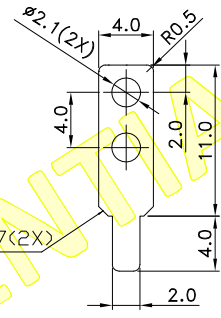
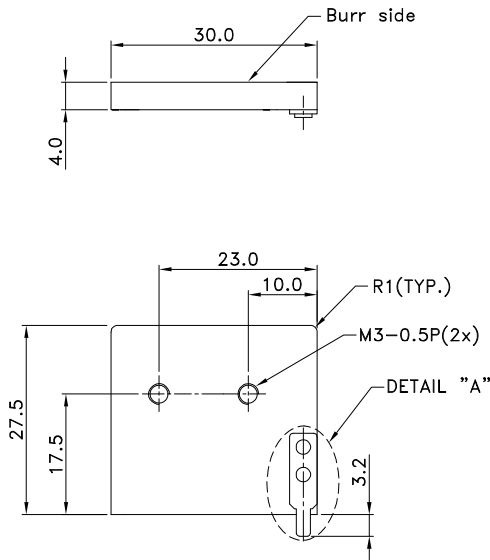


台達電子工業股份有限公司
DELTA ELECTRONICS, INC.

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Description: HEAT SINK_Q1

Part No.	3347703700	REV.
USED ON	USCO-150560GA	00
SHEET	1 OF 2	



Notes:

- Material : Aluminum (A1100F), Thickness = 4.0 ± 0.1 mm.
- Finish: Pickling (脫脂洗淨處理), Color : Natural .
 Aluminium Anodizing (鋁陽極處理), Color : _____ .
 Other : _____ .
- Pin material and finish (Tin plating must meet lead free requirement):
 Triangle or flat pin - SPCC , T= 0.6 mm , Copper plated 3um (minimum) and tin plated 5um (minimum).
 Circular pin (hollow) - Steel Or Brass tin plated.
- Pin and heat sink must withstand pulling force : 5 Kg (minimum).
- Heat sink must meet DELTA general specification:
10000-0002 (Metallic case & anode oxidated heat sink general specification of switching mode power supply / 金屬外殼及陽極處理散熱片檢查標準).
10000-0045 (Inspection standard for heat sink module cosmetic / Heat sink 產品外觀檢驗標準).
10000-0162 (Management standards for environment - related substances / 環境相關物質之管理標準).
- Undefined radii are 1.0R unless otherwise specified.
- Sample should be submitted for DELTA engineering approval.
- Flatness should be 0.10 mm maximum on hatched [] area.
- Tapping hole with thread must withstand 12 Kg-cm (minimum).
- Holes must have 0.3mm chamfer on burr side and no burr on punch side.
- " \sqrt{x} " is critical dimension, and must be inspected by supplier for every shipment.
- 規格內所有尺寸均為重要尺寸, VQA與供應商須於入料時進行檢驗.

DETAIL A
SCALE 2/1

 台達電子工業股份有限公司
DELTA ELECTRONICS, INC.

Design: 趙柏恆 11/23'17
Check: 陳鐸 11/23'17

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THIRD ANGLE PROJECTION
Description: HEAT SINK_Q1

DIMENSIONAL TOLERANCES		HOLES : ± 0.05		ANGLES : $\pm 0.5^\circ$	
<30	: ± 0.25	()	UP-100 : ± 0.2	250-300 : ± 0.4	UP-600 : ± 1.5
>30-100	: ± 0.35	(X)	100-150 : ± 0.25	300-350 : ± 0.45	600-900 : ± 2.4
>100-300	: ± 0.5	(X.X)	150-200 : ± 0.3	350-400 : ± 0.5	900-OVER : ± 3.1
ABOVE 300	: ± 0.6	(X.XX)	200-250 : ± 0.35		

A4 SIZE
Part No. 3347703700
REV. 00

SCALE	1/1	UNIT	mm	USED ON	USCO-150560GA	SHEET	2 OF 2	ISSUE DATE:	11/23'17
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The following Page(s) are related to Illustration-6. The next supplement, if applicable, will be identified with a new Supplement Page Heading.



Engineering Change Notice(ECN)

ECN NO.: 112HN1910023

Delta P/N(台達料號)	Vendor P/N(廠商料號)	Delta P/N Revision(廠商料號版本)																			
2875501700	LFV-LTS19058	02																			
Customer(客戶)	Issued Department(發行單位)	Issued Date(發行日期)																			
LTBU	SDC-MAG	2019.10.11																			
Change Items(變更項目)	Descriptions of Requested Change(變更內容)																				
1. SPEC 2. BOM	1. SPEC A. CHANGE 3526605600 TO 3526507300 B. CHANGE PACKAGE FROM 3.0 g/PCE 3.52 kg/CARTON 672 PCS/CARTON TO 3.3 g/PCE 3.12 kg/CARTON 490 PCS/CARTON C. UPDATE MECHANICAL 2. BOM A. CHANGE 3227503425 & 3227503445 & 3227503463 FROM 0.050 MTR TO 0.022 MTR B. CHANGE 4020208300 & 4020241500 FROM 0.008 GRM TO 0.018 GRM C. CHANEG 4020229100 & 4020241600 FROM 0.024 GRM TO 0.054 GRM																				
Reasons For Change(變更理由)		Materials Take Action(物料處理方式)																			
<input type="checkbox"/> Customer Request : <input checked="" type="checkbox"/> Factory Request : 1、2 <input type="checkbox"/> Quality Request : <input type="checkbox"/> CPC Request : <input type="checkbox"/> Correction :		A. Finish Goods : 1. Warehouse : <input checked="" type="checkbox"/> a. Waive <input type="checkbox"/> b. Sorting <input type="checkbox"/> c. Rework <input type="checkbox"/> d. Scrap Quantity: ____ . 2. WIP : <input checked="" type="checkbox"/> a. Waive <input type="checkbox"/> b. Sorting <input type="checkbox"/> c. Rework <input type="checkbox"/> d. Scrap Quantity: ____ . B. Material : 1. Warehouse : <input checked="" type="checkbox"/> a. Waive <input type="checkbox"/> b. Sorting <input type="checkbox"/> c. Rework <input type="checkbox"/> d. Scrap Quantity: ____ . 2. WIP : <input checked="" type="checkbox"/> a. Waive <input type="checkbox"/> b. Sorting <input type="checkbox"/> c. Rework <input type="checkbox"/> d. Scrap Quantity: ____ .																			
Change Types and Effective Time(變更各類及生效時間)																					
<input checked="" type="checkbox"/> Immediated Change (立即變更) <input type="checkbox"/> Running Change Implement Date for Running Change :																					
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 12.5%;"></td> <td style="width: 12.5%;">東莞(DG)</td> <td style="width: 12.5%;">泰國(DET)</td> <td style="width: 12.5%;">v 吳江(WJ)</td> <td style="width: 12.5%;">燕湖(WH)</td> <td style="width: 12.5%;">桃園(DEIT)</td> <td style="width: 12.5%;">中壘(DEIC)</td> <td style="width: 12.5%;">郴州(CZ)</td> <td style="width: 12.5%;"></td> </tr> <tr> <td>TO</td> <td>v 物管(M/C)</td> <td>v 品管(QC)</td> <td>v 製造(P/E)</td> <td>v 生技(I/E)</td> <td>v 工程(Eng)</td> <td>v 生管(P/C)</td> <td>外加(Sub)</td> <td>材料工程</td> </tr> </table>			東莞(DG)	泰國(DET)	v 吳江(WJ)	燕湖(WH)	桃園(DEIT)	中壘(DEIC)	郴州(CZ)		TO	v 物管(M/C)	v 品管(QC)	v 製造(P/E)	v 生技(I/E)	v 工程(Eng)	v 生管(P/C)	外加(Sub)	材料工程		
	東莞(DG)	泰國(DET)	v 吳江(WJ)	燕湖(WH)	桃園(DEIT)	中壘(DEIC)	郴州(CZ)														
TO	v 物管(M/C)	v 品管(QC)	v 製造(P/E)	v 生技(I/E)	v 工程(Eng)	v 生管(P/C)	外加(Sub)	材料工程													
Drawn		Design																			
葛丽华		周丽君																			
2019年10月11日		2019年10月11日																			
ECN Effective Feed Back :																					

CONFIDENTIAL

The following Page(s) are related to Illustration-7. The next supplement, if applicable, will be identified with a new Supplement Page Heading.

SPECIFICATION FOR APPROVAL

CUSTOMER: DELTA ELECTRONICS, INC.

CUSTOMER PART NO : _____

DESCRIPTION: MM2018 LINE FILTER

VENDOR PART NO : LCL-021-A

SAMPLE ISSUE DATE: 2020-1-8



HAINING LIANFENG DONGJIN ELECTRONOCS CO., LTD

ADD:NO.1,NO.5 Rd,YanGuan Town Area,

HaiNing,ZheJiang,China

TEL: +86-573-87633718/87633818

FAX: +86-573-87681200

E-mail:shenlifeng@lfdjg.com

<http://www.lfdjg.com>

产 品 确 认 书

APPROVAL SHEET

加工单位 中達電子(蕪湖)有限公司 (207)
 CUSTOMER: DELTA ELECTRONICS, INC. (207)
 承 攬 厂 商 海宁联丰东进电子有限公司
 MANUFACTURER: HAINING LIANFENG DONGJIN ELECTRONICS CO., LTD
 加工产品名称
 ITEM: LINE FILTER
 加工产品型号
 TYPE: LCL-021-A
 确 认 日 期
 PROVED DATE: 2020-1-8

加工单位承认盖章栏 CUSTOMER SIGNATURE/STAMP			承揽厂商盖章栏 MANUFACTURER SIGNATURE/STAMP		
确认 CONFIRM	审核 CHECK	批准 APPROVED	拟制 DESIGN	审核 CHECK	批准 APPROVED



海 宁 联 丰 东 进 电 子 有 限 公 司
HAINING LIANFENG DONGJIN ELECTRONICS CO.,LTD

地址:浙江省海宁市盐官镇园区五路1号 ADD:NO. 1, NO. 5 Rd, YanGuan Town Area, HaiNing, ZheJiang, China
 电话:0573-87633999/87633818 TEL: +86-573-87633999/87633818
 传真:0573-87681200 FAX: +86-573-87681200
 E-mail:shenlifeng@lfdjg.com http://www.lfdjg.com

客户编号 CUSTOMER	产品名称 ITEM	型 号 PART NO	版 本 EDITION	A
207	LINE FILTER	LCL-021-A	页面号 PAGE	1/7

更改记录

RECORD OF REVISION

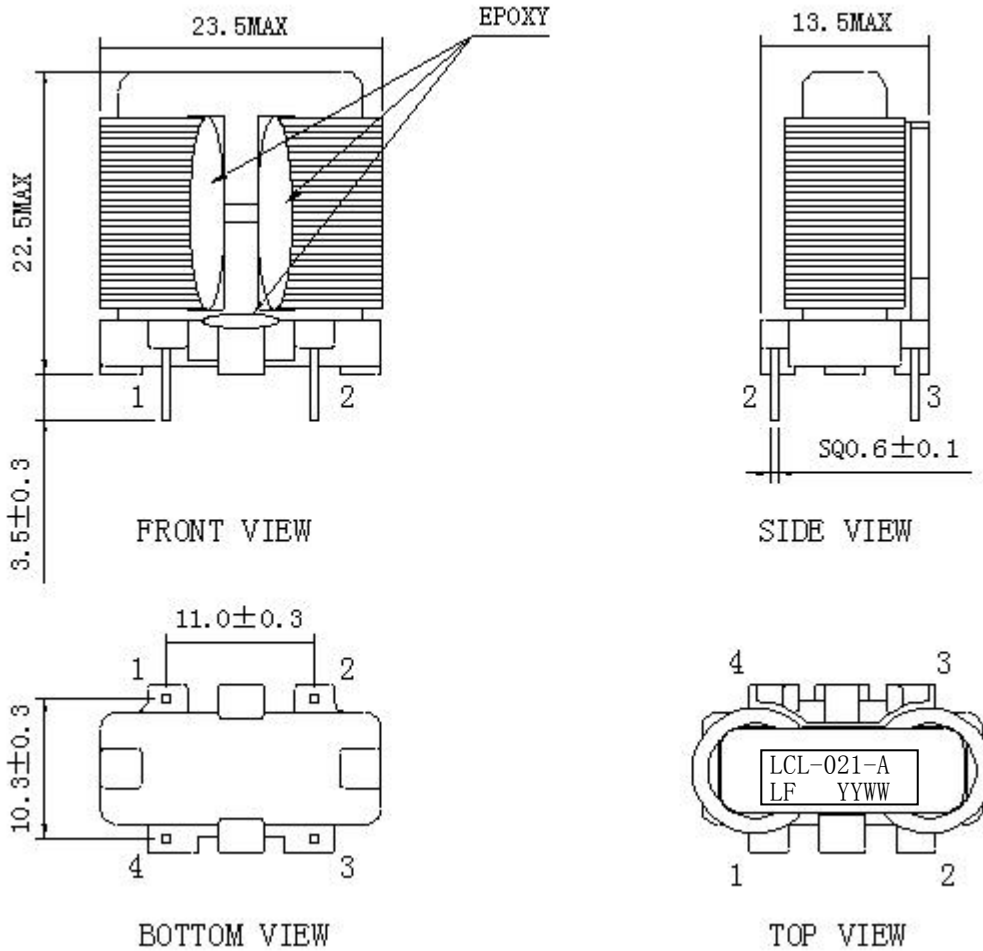
版本 REV NO	日期 DATE	更改内容 DATA OF APPROVAL	确认 CHECKED	备注 REMARKS
A	2020-1-8	新版	陈钢明	

ISSUE DATE		海宁联丰东进电子有限公司 HAINING LIANFENG DONGJIN ELECTRONICS CO., LTD
2020-1-8		

客户编号 CUSTOMER	产品名称 ITEM	型号 PART NO	版本 EDITION	A
207	LINE FILTER	LCL-021-A	页面号 PAGE	2/7

1、外形尺寸 CONSTRUCTIONS § DIMENSIONS

单位 UNIT: mm



LF: 制造商代号 VENDOR SIGN

LCL-021-A: 制造商型号 VENDOR PART NO

YYWW: 日期 DATE

- 注: 1、磁芯与线圈须连接底座并点透明胶固定
Core/winding has to be connected to base with epoxy.
- 2、产品须含浸。
Varnished.

ISSUE DATE

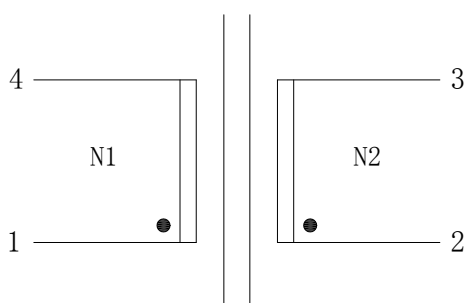
2020-1-8



海宁联丰东进电子有限公司
HAINING LIANFENG DONGJIN ELECTRONICS CO., LTD

客户编号 CUSTOMER	产品名称 ITEM	型 号 PART NO	版 本 EDITION	A
207	LINE FILTER	LCL-021-A	页面号 PAGE	3/7

2、电气原理图 SCHEMATIC DIAGRAM



3、绕制顺序表 WINDING SPEC

NO	引脚 TERMINAL	漆包线规格 DIAMETER WIRE	圈数 TURNS	胶带层数 NO. OF TAPE	绕制要求 WINDING METHOD
N1	1-4	SFT-UEWH 0.13*1.0	75Ts REF	/	密绕 CLOSE
N2	2-3	SFT-UEWH 0.13*1.0	75Ts REF	/	密绕 CLOSE

ISSUE DATE

2020-1-8



海宁联丰东进电子有限公司
HAINING LIANFENG DONGJIN ELECTRONICS CO., LTD

客户编号 CUSTOMER	产品名称 ITEM	型 号 PART NO	版 本 EDITION	A
207	LINE FILTER	LCL-021-A	页面号 PAGE	4/7

4、电气特性 ELECTRICAL CHARACTERISTICS

NO	参数名称 ITEM	测量端点 TERMINAL	技术要求 SPECIFICATION	测试条件 REMARKS
1	电感量 INDUCTANCE	L1-4/2-3	21mH MIN	HP4980 1KHz 0.3V 25°C
2	差模感量 INDUCTANCE	L1-4 Short 2, 3	480uH REF	
3	直流电阻 DC RESISTANCE	R1-4/2-3	350mΩ MAX	YY2511
4	耐压 DIELECTRIC STRENGTH	COIL-COIL	AC60Hz 1.5KV/1mA/1s	CJ2671
5	匝比 TURN RATIO	TR2-3	1000mV ± 1.5%	WK5235 PIN1-4, 20KHZ, 1V

注：测试温度 25°C ± 5°C，环境条件在常态气压下，湿度 45%~80%。

Temperature : 25°C ± 5°C, Atmospheric Pressure: Normal Relative, Humidity: 45%~80%

ISSUE DATE		海宁联丰东进电子有限公司 HAINING LIANFENG DONGJIN ELECTRONICS CO., LTD
2020-1-8		

客户编号 CUSTOMER	产品名称 ITEM	型 号 PART NO	版 本 EDITION	A
207	LINE FILTER	LCL-021-A	页面号 PAGE	5/7

5、材料明细表 MATERIAL LIST

NO	材料名称 ITEM	规格 MATERIAL	温度 TMP.	制造厂商 SUPPLIER OF THE MATERIAL	UL NO.
1	磁芯 CORE	MM2018 M10K		苏州天铭磁业有限公司 SUZHOU TIANMING MAGNETIC INDUSTRY CO LTD	N. A.
2	骨架 BOBBIN	T375HF	150℃	长春塑胶制品有限公司 CHANG CHUN PLASTICS CO LTD	E59481
3	漆包线 WIRE	SFT-UEWH 0.13*1.0	180℃	佳腾电业(赣州)有限公司 WELL ASCENT ELECTRONIC (GANZHOU) CO LTD	E318511
4	胶 EPOXY	TB1401		日本三键化工有限公司 THREEBOND CHEMICAL INDUSTRY CO LTD	N. A.
5	浸渍漆 VARNISH	T-4260(a)	155℃	苏州太湖电工新材料有限公司 SUZHOU TAIHU ELECTRIC ADVANCED MATERIAL CO LTD	E228349
6	焊锡 SLODER	Sn99.3		海宁惠浦焊材有限公司 HAINING HUIPU WELDING MATERIALS CO LTD	N. A.
7	标签油墨 INK	EX		杭华油墨股份有限公司 HANGZHOU TOKA INK CHEMICAL CO LTD	N. A.

ISSUE DATE

2020-1-8



海宁联丰东进电子有限公司
HAINING LIANFENG DONGJIN ELECTRONICS CO., LTD

客户编号 CUSTOMER	产品名称 ITEM	型 号 PART NO	版 本 EDITION	A
207	LINE FILTER	LCL-021-A	页面号 PAGE	6/7

6、测试资料 TEST DATA

参数名称 ITEM	测量端点 TERMINAL	技术要求 SPECIFICATION	1	2	3	4	5
电感量 INDUCTANCE 1KHz 0.3V	L1-4	21mH MIN	38.18	38.65	38.88	35.46	38.32
	L2-3	21mH MIN	38.18	38.61	38.87	35.43	38.28
差模感量 1KHz 0.3V	L1-4 Short 2,3	480uH REF	432	445	446	438	442
直流电阻 DC RESISTANCE	R1-4	350mΩ MAX	264.1	265.4	265.3	264.1	264.7
	R2-3	350mΩ MAX	265.0	264.8	264.3	265.8	265.1
耐压 DIELECTRIC STRENGTH	COIL-COIL	1.5KVAC/1mA/1s	OK	OK	OK	OK	OK
匝比 PIN1-4 20KHZ, 1V	TR2-3	1000mV ± 1.5%	997	996	995	996	992

ISSUE DATE		<p>海宁联丰东进电子有限公司</p> <p>HAINING LIANFENG DONGJIN ELECTRONICS CO., LTD</p>
2020-1-8		

客户编号 CUSTOMER	产品名称 ITEM	型号 PART NO	版本 EDITION	A
207	TRANSFORMER	LCL-021-A	页面号 PAGE	7/7

9、包装 PACKING

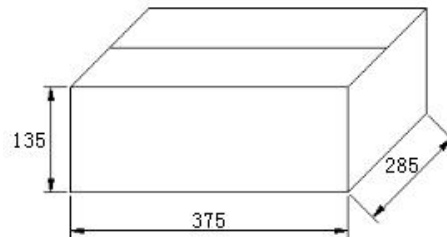
9.1 内包装 Inner packing

内包装	材料	包装数量	包装尺寸 (mm)
托盘格挡	瓦楞纸	132只/盘	355*265*40
双衬板	瓦楞纸	N/A	360*270
珍珠棉	N/A	N/A	30*245*5




9.2 外包装 Outer packing

外包装	材料	数量	包装尺寸 (mm)
纸箱	瓦楞纸	396只/3盘/箱	375*285*135



备注：①外箱标签（产品信息标签）：

	客户名称： 台达电子工业股份有限公司
	产品型号： _____
	每层数量： _____
	每箱数量： _____
	每箱净重： _____
	供应商名称： 海宁联丰东进电子有限公司

②标记在外箱的位置尺寸：



产品信息标签尺寸要求：90*50mm (长×宽)；

ISSUE DATE		海宁联丰东进电子有限公司
2020-1-8		HAINING LIANFENG DONGJIN ELECTRONICS CO., LTD

The following Page(s) are related to Illustration-8. The next supplement, if applicable, will be identified with a new Supplement Page Heading.

1

2

3

4

REV.	Description		
00	SPEC.ISSUE (USC4-32080GA, L2) (Multi-Slot)		(胡朝易 12/06/'19) (DELTA)
01	1. PART NO : 2878423300 (REV00) CHANGE TO 28784233016 (REV01) 2.BOM (REVISE THE ASSEMBLY P/N:28784233016) A.3220130361&3220103900&3220130300&3220311024 (TAPE 7mm) 0.405 MTR CHANGE TO 0.357 MTR B.4010170500 (WIRE 0.1*30C) 8.6 GRM CHANGE TO 8.322 GRM	C. 4011457100 (WIRE 0.3) 0.32 GRM CHANGE TO 0.298 GRM D. 4020193300 (EP697) 0.029 GRM CHANGE TO 0.04 GRM 3.INDUCED VOLTAGE : L(2-1) 1.0Kv CHANGE TO 3.0Kv	(胡朝易 03/24/'20) (Factory Request./N200517)
02	1.PART NO : 28784233016 (REV01) CHANGE TO 28784233026 (REV02) 2.BOM (REVISE THE ASSEMBLY P/N:28784233026) A. 4010170500 (0.1*30C) 8.322 GRM CHANGE TO 4011180200 (0.1*35C) 10.3 GRM	3.DCR L (2-1) : 280±20% CHANGE TO 246±20% 4. WIRE GAUGE : L(2-1) 0.1x30C CHANGE TO 0.1x35C 5.HI-POT : 1S CHANGE TO 2S	(胡朝易 04/16/'20) (Customer Request./N200779)

A

A




B

B

C

C

DELTA CONFIDENTIAL

 台達電子工業股份有限公司 DELTA ELECTRONICS, INC.	DIMENSIONAL TOLERANCES () () () () <30 : ±0.25 DECIMALS UP~100 : ±0.2 UP~600 : ±1.5 >30~100 : ±0.35 X : ±0.3 100~150 : ±0.25 150~200 : ±0.3 200~250 : ±0.35 250~300 : ±0.4 300~350 : ±0.45 350~400 : ±0.5 >100~300 : ±0.5 X.X : ±0.2 ABOVE 300 : ±0.6 X.XX : ±0.1 HOLES : ±0.05 ANGLES : ±0.5°	Vendor P/N: PFCV-LT19174	 DESCRIPTION: INDUCTOR (AW) 
		Drawn: M.J.CHENG 04/16/'20	
THESE DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF DELTA ELECTRONICS, INC. AND SHALL NOT BE REPRODUCED OR USED AS THE BASIS FOR THE MANUFACTURE OR SELL OF APPARATUSSES OR DEVICES WITHOUT PERMISSION.	SCALE UNIT mm USED ON	Design: 胡朝易 04/16/'20	A4 SIZE

1

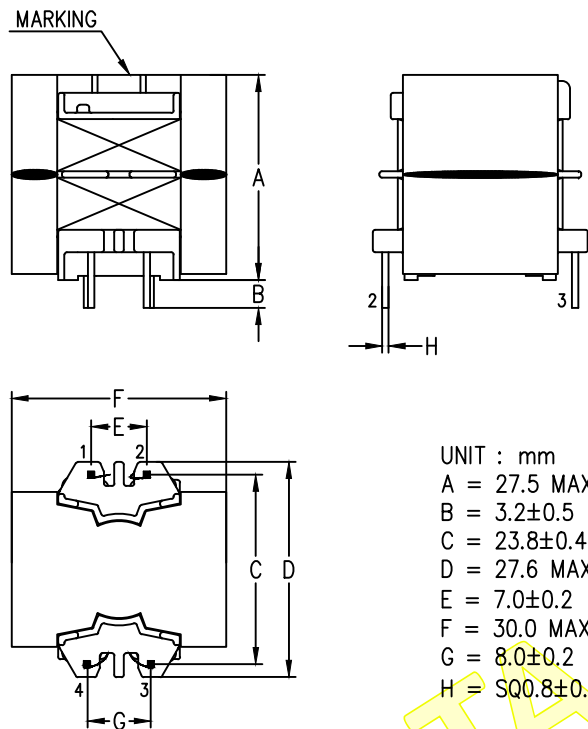
2

3

4

1		2		3		4			
AUTO WINDING	AUTO WINDING (BOTTOM VIEW)	TEST TERMINAL	TEST CONDITION	L (uH)	DCR (mΩ)	TURN RATIO(mV)	TURNS	WIRE GAUGE	HI-POT TEST 60Hz, 2s
Y	CLOCK WISE	2-1	40kHz,1V	550±5%	246±20%	20kHz,1V	70	φ0.1x35C 2UEWN	WINDING TO WINDING 500Vac
Y	CLOCK WISE	4-3			113±20%	101±7%	7	φ0.3 0UEWN	WINDING TO CORE 500Vac
									ARCING CURRENT ≤10.0mA
									LEAKAGE CURRENT ≤1.0mA
									INDUCED VOLTAGE
									L(2-1) : 3.0KVo-p MAX/1s

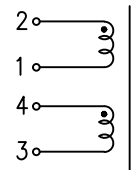
1. MECHANICAL DIMENSIONS :



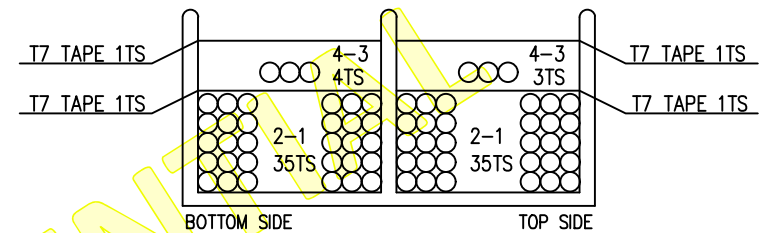
UNIT : mm
 A = 27.5 MAX
 B = 3.2±0.5
 C = 23.8±0.4
 D = 27.6 MAX
 E = 7.0±0.2
 F = 30.0 MAX
 G = 8.0±0.2
 H = SQ0.8±0.1

BOBBIN : 517411
 CORE SIZE : PQ26/25
 HOLE DIMENSION : φ1.5

2. SCHEMATIC:



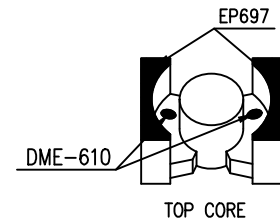
3. WINDING CONSTRUCTION:



4. PACKAGE MUST BE IN COMPLIANCE WITH PACKING
 SPEC. NO. : 3525103400
 46.1g/PC 18.1Kg/CARTON 360PCS/CARTON
5. MARKING : ON THE CENTER OF TOP CORE
 BLACK INK OR LASER
 XX : DRAWING REV NO.
 XXXX : DATE CODE
 □ : WORKING TEAM
 □ : FACTORY CODE
 DET : DELTA THAILAND PLANT
 DCWM : DELTA WUJIANG PLANT
 DCZM : DELTA CHENZHOU PLANT
6. CORE GAP : 0.9x2mm(REF)(ON THE CENTER OF BOTH CORE)
7. VARNISH : NO.
8. FOR ENVIRONMENT CONCERNS , ALL PARTS MUST FOLLOW DELTA'S SPECIFICATION "10000-0162"(THE MANAGEMENT STANDARDS FOR ENVIRONMENT-RELATED SUBSTANCE.)
9. φ0.1x30C WIRE TWIST : 85±7 (TURNS/M)

PFCV-LT19174
 □ XXXX(XX) **

** : WORKING TEAM
 □ : FACTORY CODE
 DET : DELTA THAILAND PLANT
 DCWM : DELTA WUJIANG PLANT
 DCZM : DELTA CHENZHOU PLANT



台達電子工業股份有限公司
 DELTA ELECTRONICS, INC.



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DIMENSIONAL TOLERANCES			
()	()	()	()
<30 : ±0.25	DECIMALS	UP~100 : ±0.2	UP~600 : ±1.5
>30~100 : ±0.35	X : ±0.3	100~150 : ±0.25	600~900 : ±2.4
>100~300 : ±0.5	X.X : ±0.2	150~200 : ±0.3	900~OVER : ±3.1
HOLES : ±0.05	X.XX : ±0.1	200~250 : ±0.35	
	ANGLES : ±0.5°	250~300 : ±0.4	
		300~350 : ±0.45	
		350~400 : ±0.5	

Vendor P/N: PFCV-LT19174
 Drawn: M.J.CHENG 04/16/'20
 Design: 胡朝易 04/16/'20

DESCRIPTION:		PART NO.:		REV.	
INDUCTOR (AW)		28784233026		02	
THIRD ANGLE PROJECTION		SHEET 2 OF 3			

10. MATERIAL LIST :					
NO.	PART	MANUFACTURER	MANUFACTURER PART NO.	DESCRIPTION	UL FILE NO.
1	BOBBIN	SUMITOMO BAKELITE CO LTD	150°C 94V-0 PM-9630 (0.4mm MINBOBBIN WALL)	PHENOLIC (PF), "SUMIKON", FURNISHED AS PELLETS, GRANULAR MATERIAL.	E41429
		SUMITOMO BAKELITE CO LTD	150°C 94V-0 PM-9823 (0.4mm MINBOBBIN WALL)	PHENOLIC (PF), FURNISHED AS PELLETS.	E41429
		CHANG CHUN PLASTICS CO LTD	150°C 94V-0 T200HF (0.4mm MIN BOBBIN WALL)	PHENOLIC MOLDING COMPOUND (PMC), FURNISHED AS PELLETS, GRANULAR MATERIAL, OR POWDER	E59481
		CHANG CHUN PLASTICS CO LTD	150°C 94V-0 T220NA (0.4mm MIN BOBBIN WALL)	PHENOLIC MOLDING COMPOUND (PMC), FURNISHED AS PELLETS.	E59481
2	TAPE	3M COMPANY ELECTRICAL MARKETS DIV (EMD)	130°C MATERIAL GROUP I NO.1351-1	POLYESTER FILM/MAT COMPOSITE INSULATING TAPES	E17385
		3M COMPANY ELECTRICAL MARKETS DIV (EMD)	130°C MATERIAL GROUP II NO.1350F-1	POLYESTER FILM/MAT COMPOSITE INSULATING TAPES	E17385
		3M COMPANY ELECTRICAL MARKETS DIV (EMD)	130°C MATERIAL GROUP II NO.1350T-3	MULTILAYER POLYETHYLENE TEREPHTHALATE FILM INSULATING TAPES	E17385
		SYMBIO INC	130°C MATERIAL GROUP I(FOR UL), GROUP II(FOR TUV) NO.35660Y	POLYETHYLENE-TEREPHTHALATE FILM INSULATING TAPES WITH ACRYLIC ADHESIVE	E50292
		JINGJIANG YAHUA PRESSURE SENSITIVE GLUE CO LTD	130°C MATERIAL GROUP I NO.CT	POLYETHYLENE TEREPHTHALATE FILM INSULATING TAPES	E165111
		XINFENG GHILLIE ELECTRICAL MATERIALS CO LTD	130°C MATERIAL GROUP I NO.JL-P208(a)	FLAME RETARDANT POLYESTER FILM INSULATING TAPES	E326305
3	MAGNET WIRE	UL RECOGNIZED	UL RECOGNIZED	130°C MW28 130°C MW75 155°C MW79 155°C MW80 180°C MW-82 180°C MW-83	UL RECOGNIZED
4	VARNISH	JOHN C DOLPH CO		200°C NO.BC-346-A	E317427
		ELANTAS ELECTRICAL INSULATION ELANTAS PDG INC		130°C V1380FC	E75225

 台達電子工業股份有限公司 DELTA ELECTRONICS, INC.	DIMENSIONAL TOLERANCES () () () () <30 : ±0.25 DECIMALS UP~100 : ±0.2 >30~100 : ±0.35 X : ±0.3 100~150 : ±0.25 UP~600 : ±1.5 >100~300 : ±0.5 X.X : ±0.2 150~200 : ±0.3 600~900 : ±2.4 ABOVE 300 : ±0.6 X.XX : ±0.1 200~250 : ±0.35 900~OVER : ±3.1 HOLES : ±0.05 ANGLES : ±0.5° 250~300 : ±0.4 300~350 : ±0.45 350~400 : ±0.5				Vendor P/N: PFCV-LT19174 Drawn: M.J.CHENG 04/16/'20 Design: 胡朝易 04/16/'20	DESCRIPTION: INDUCTOR (AW) 
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Engineering Change Notice(ECN)

ECN No.: N200779

Delta P/N(台達料號)	Vendor P/N(廠商料號)	Delta P/N Revision(台達料號版本)
28784233026	PFCV-LT19174	02
Customer(客戶)	Issued Department(發行單位)	Issued Date(發行日期)
LT	MSBU	2020.04.16
Change Items(變更項目)	Descriptions of Requested Change(變更內容)	
1.PART NO 2.BOM 3.DCR 4.WIRE GAUGE 5.HI-POT	1.PART NO : 28784233016 (REV01) CHANGE TO 28784233026 (REV02) 2.BOM (REVISE THE ASSEMBLY P/N:28784233026) A. 4010170500 (0.1*30C) 8.322 GRM CHANGE TO 4011180200 (0.1*35C) 10.3 GRM 3.DCR L (2-1) : 280±20% CHANGE TO 246±20% 4. WIRE GAUGE : L(2-1) 0.1x30C CHANGE TO 0.1x35C 5.HI-POT : 1S CHANGE TO 2S	
Reasons For Change(變更理由) <input checked="" type="checkbox"/> Customer Request. : 客戶要求主繞組由0.1*30C改為0.1*35C <input type="checkbox"/> Factory Request. : <input type="checkbox"/> Quality Request. : <input type="checkbox"/> CPC Request. : <input type="checkbox"/> Correction. :	Materials Take Action(物料處理方式) A.Finish Goods: 1.Warehouse: <input checked="" type="checkbox"/> a.Waive <input type="checkbox"/> b.Sorting <input type="checkbox"/> c.Rework <input type="checkbox"/> d.Scrap Quantity: <u>0</u> PCS 2.WIP: <input checked="" type="checkbox"/> a.Waive <input type="checkbox"/> b.Sorting <input type="checkbox"/> c.Rework <input type="checkbox"/> d.Scrap Quantity: <u>0</u> PCS B.Material: 1.Warehouse: <input checked="" type="checkbox"/> a.Waive <input type="checkbox"/> b.Sorting <input type="checkbox"/> c.Rework <input type="checkbox"/> d.Scrap Quantity: <u>0</u> PCS 2.WIP: <input checked="" type="checkbox"/> a.Waive <input type="checkbox"/> b.Sorting <input type="checkbox"/> c.Rework <input type="checkbox"/> d.Scrap Quantity: <u>0</u> PCS	
Change Types and Effective Time(變更種類及生效時間) <input type="checkbox"/> Immediated Change(立即變更) <input checked="" type="checkbox"/> Running Change Implement Date for Running Change: <u>2020.07.17</u>		
To	<input type="checkbox"/> 東莞(DG) <input type="checkbox"/> 泰國(DET) <input checked="" type="checkbox"/> 吳江(WJ) <input type="checkbox"/> 蕪湖(WH) <input type="checkbox"/> 桃園(DEIT) <input checked="" type="checkbox"/> 中壢(DEIC) <input type="checkbox"/> 郴州(CZ)	
	<input checked="" type="checkbox"/> 物管(M/C) <input checked="" type="checkbox"/> 品質(QC) <input checked="" type="checkbox"/> 製造(P/E) <input type="checkbox"/> 生技(I/E) <input type="checkbox"/> 生管(P/C) <input type="checkbox"/> 外加(Sub) <input checked="" type="checkbox"/> 工程(Eng) <input checked="" type="checkbox"/> 材料工程 <input type="checkbox"/> Choke 採購	
Drawn	MJ.CHENG 04/16/'20	Design
		胡朝易 04/16/'20
Ecn Effective Feed Back:		

The following Page(s) are related to Illustration-9. The next supplement, if applicable, will be identified with a new Supplement Page Heading.

1

2

3

4

REV.	Description		
00	SPEC.ISSUE (USC4-320280GA, T1) (Mult-Slot)		(胡朝易 07/15/'20) (DELTA)
01	1.DCR A. L(3-4) : 170±20% CHANGE TO 113±20% B. L(5-6) : 170±20% CHANGE TO 113±20%	2.TURN RATIO A. L(8-9) : 186±5% CHANGE TO 172±5% B. L(7-10) : 186±5% CHANGE TO 172±5%	(胡朝易 07/28/'20) (Correction//Correction)
02	1. ADD NOTE 11: L(1-2) WINDING CAN BE ±3 LAYER 2.TURN RATIO : A. L(3-4) 56±15% CHANGE TO 51±15% B. L(5-6) 56±15% CHANGE TO 51±15% 3.WINDING CONSTRUCTION : TOP SIDE T6 TAPE 1TS CHANGE TO T6 TAPE 2TS	4.DCR : A. L(8-9) 39±20% CHANGE TO 35±20% B. L(7-10) 46±20% CHANGE TO 41±20%	(胡朝易 08/17/'20) (Factory Request//N202065)

DELTA CONFIDENTIAL

A


A

B

B

C

C

 台達電子工業股份有限公司 DELTA ELECTRONICS, INC.	DIMENSIONAL TOLERANCES () () () () <30 : ±0.25 DECIMALS UP~100 : ±0.2 UP~600 : ±1.5 >30~100 : ±0.35 X : ±0.3 100~150 : ±0.25 150~200 : ±0.3 600~900 : ±2.4 >100~300 : ±0.5 X.X : ±0.2 200~250 : ±0.35 250~300 : ±0.4 900~OVER : ±3.1 ABOVE 300 : ±0.6 X.XX : ±0.1 300~350 : ±0.45 HOLES : ±0.05 ANGLES : ±0.5° 350~400 : ±0.5				Vendor P/N: MV-LT19607 Drawn: MJ.CHENG Design: 胡朝易	DESCRIPTION: TRANSFORMER MAIN PART NO.: 2870683300 SHEET 1 OF 5
	THESE DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF DELTA ELECTRONICS, INC. AND SHALL NOT BE REPRODUCED OR USED AS THE BASIS FOR THE MANUFACTURE OR SELL OF APPARATUSES OR DEVICES WITHOUT PERMISSION.	SCALE UNIT mm USED ON	08/17/'20 08/17/'20	REV. 02		

1

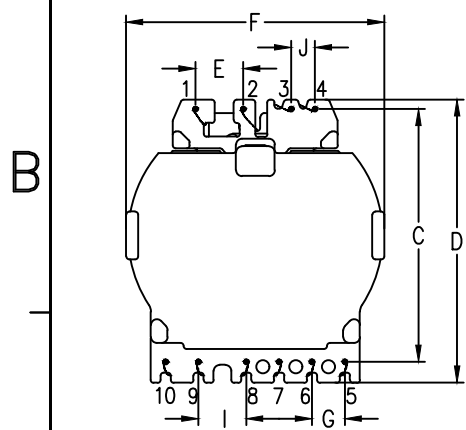
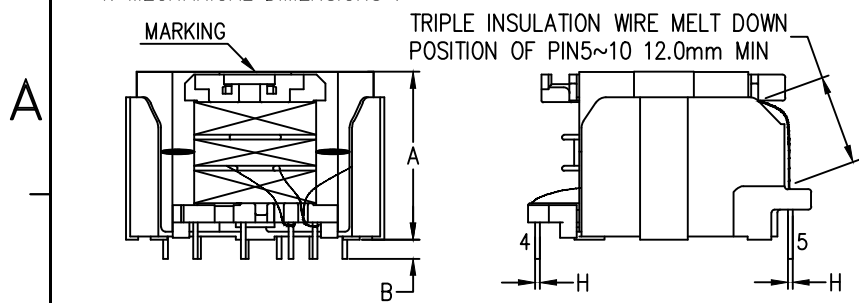
2

3

4

WINDING DIRECTION (BOTTOM VIEW)	TEST TERMINAL	TEST CONDITION	L (mH)	LK (uH)	DCR (mΩ)	TURN RATIO(mV)	TURNS	WIRE GAUGE	HI-POT TEST 60Hz, 2s
COUNTERCLOCK WISE	1-2	40kHz,1V	1.8±10%	385 MAX	510±20%	20kHz,1V	53	∅0.1x17C TIW-3/(SWT)	(PRI SHORT CORE) TO SEC 3750Vac
COUNTERCLOCK WISE	3-4			SEC SHORT	113±20%	51±15%	3	∅0.25 TEX-E OR TLW-BB	BASE TO CORE 3000Vac
COUNTERCLOCK WISE	8-9	CONTINUOUS WINDING			35±20%	172±5%	10	∅0.25x7C TEX-ELZ	PRI TO PRI 500Vac
COUNTERCLOCK WISE	7-10		41±20%	172±5%	10	∅0.25x7C TEX-ELZ	SEC TO SEC 500Vac		
COUNTERCLOCK WISE	5-6		113±20%	51±15%	3	∅0.25 TEX-E OR TLW-BB	PRI TO CORE 500Vac		
COUNTERCLOCK WISE									
									ARCING CURRENT ≤ 10.0mA
									LEAKAGE CURRENT ≤ 1.0mA
									INDUCED VOLTAGE
									L(1-2) : 1.0KVo-p MAX/1s

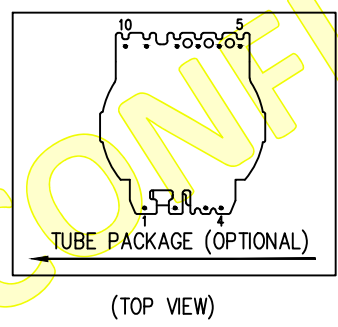
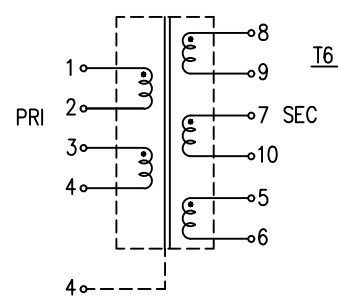
1. MECHANICAL DIMENSIONS :



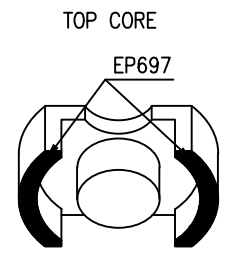
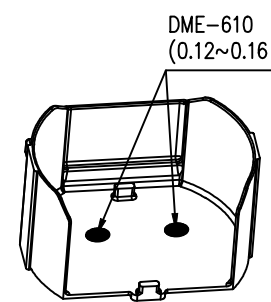
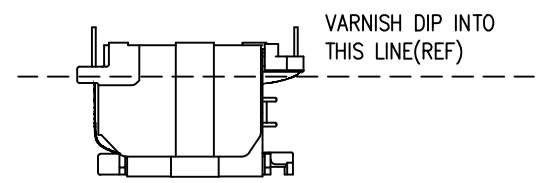
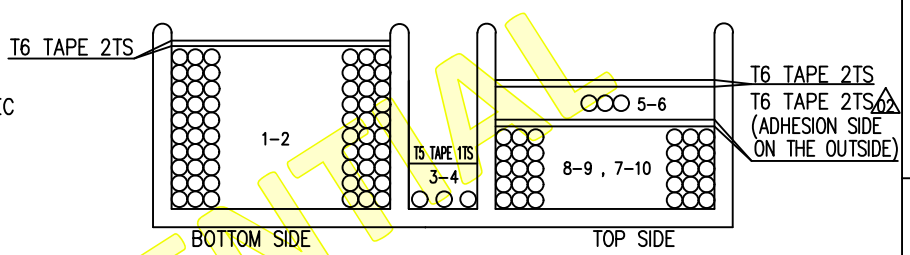
- UNIT : mm
A = 29.4 MAX
B = 3.2±0.3
C = 42.3±0.4
D = 49.2 MAX
E = 8.0±0.2
F = 44.5 MAX
G = 5.5±0.2
H = ∅0.8±0.1
I = 8.0±0.2
J = 4.0±0.2

BOBBIN P/N : 517987
BASE P/N : 317970
CORE SIZE : PJ40/26.6
HOLE DIMENSION : ∅1.2

2. SCHEMATIC:



3. WINDING CONSTRUCTION:



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DIMENSIONAL TOLERANCES			
()	()	()	()
<30	±0.25	DECIMALS	UP~100 : ±0.2
>30~100	±0.35	X	100~150 : ±0.25
>100~300	±0.5	X.X	150~200 : ±0.3
HOLES	±0.05	X.XX	200~300 : ±0.35
		ANGLES: ±0.5°	300~350 : ±0.4
			350~400 : ±0.5
SCALE	UNIT	mm	USED ON

Vendor P/N:	MV-LT19607
Drawn:	MJ.CHENG
Design:	胡朝易
	08/17/'20
	08/17/'20

THIRD ANGLE PROJECTION	DESCRIPTION:	
	TRANSFORMER MAIN	
A4 SIZE	PART NO.:	REV.
	2870683300	02
	SHEET	2 OF 5

4. PACKAGE MUST BE IN COMPLIANCE WITH PACKING
 SPEC. NO. : 3525298500 CATRON NO. : 3512142900
 100.9g/PC 11.18kg/CARTON 96PCS/CARTON

5. MARKING : ON THE CENTER OF TOP COPPER
 BLACK INK

: PART NO REV.
 XX : DRAWING REV CODE.
 XXXX : DATE CODE
 MP-130R (##)
 MV-LT19607 DELTA ** : WORKING TEAM
 □XXXX(X)X** : FACTORY CODE
 DET : DELTA THAILAND PLANT
 DCWM : DELTA WUJIANG PLANT
 DCZM : DELTA CHENZHOU PLANT
 OK LABEL MUST STAMPED UL MARK



6. CORE GAP : 0.44mm(REF)(ON THE CENTER LEG OF TOP CORE)

7. VARNISH : BC-346-A(VACUUM)(CONSISTENCY 14±1SEC)

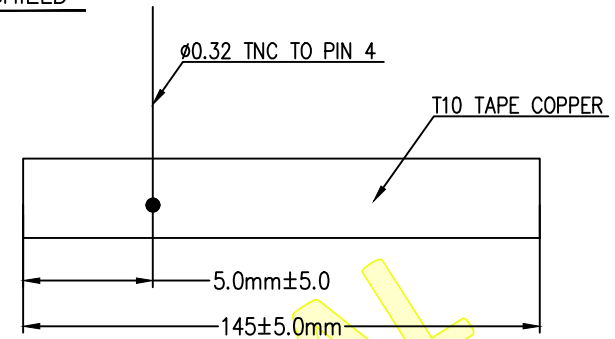
8. FOR ENVIRONMENT CONCERNS , ALL PARTS MUST FOLLOW
 DELTA'S SPECIFICATION "10000-0162"(THE MANAGEMENT
 STANDARDS FOR ENVIRONMENT-RELATED SUBSTANCE.)

9. SAFETY DISTANCE DESIGN: PRI TO SEC 12.0mm MIN
 SEC TO CORE 12.0mm MIN

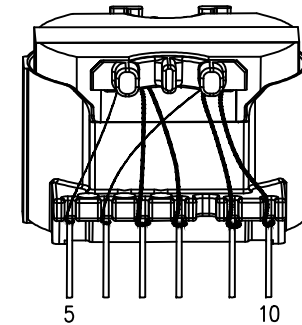
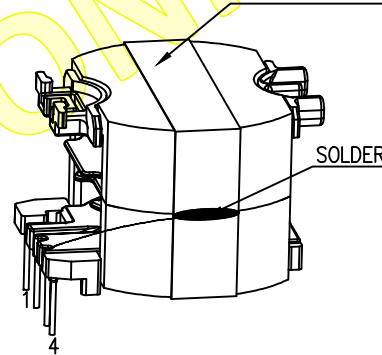
10. L(5-6) & L(7-10) & L(8-9)START FROM TOP SIDE TO TOP SIDE.

△11. L(1-2) WINDING CAN BE 10±3 LAYER

OUTER SHIELD



OUTER SHIELD :
 T10 TAPE COPPER 1TS TO PIN4



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 OR DEVICES WITHOUT PERMISSION.

DIMENSIONAL TOLERANCES

()	()	()	()
<30 : ±0.25	DECIMALS	UP~100 : ±0.2	UP~600 : ±1.5
>30~100 : ±0.35	X : ±0.3	100~150 : ±0.25	600~900 : ±2.4
>100~300 : ±0.5	X.X : ±0.2	150~200 : ±0.3	900~OVER : ±3.1
HOLES : ±0.05	X.XX : ±0.1	200~250 : ±0.35	
	ANGLES : ±0.5°	250~300 : ±0.4	
		300~350 : ±0.45	
		350~400 : ±0.5	

SCALE	UNIT	mm	USED ON

Vendor P/N: MV-LT19607

Drawn: M.J.CHENG
 08/17/'20

Design: 胡朝易
 08/17/'20



DESCRIPTION:
 TRANSFORMER MAIN



A4
 SIZE

PART NO.: 2870683300

SHEET 3 OF 5

REV.
 02

12. MATERIAL LIST :					
NO.	PART	MANUFACTURER	MANUFACTURER PART NO.	DESCRIPTION	UL FILE NO.
1	BOBBIN	SUMITOMO BAKELITE CO LTD	150°C 94V-0 PM-9630 (0.4mm MINBOBBIN WALL)	PHENOLIC (PF), "SUMIKON", FURNISHED AS PELLETS, GRANULAR MATERIAL.	E41429
		SUMITOMO BAKELITE CO LTD	150°C 94V-0 PM-9823 (0.4mm MINBOBBIN WALL)	PHENOLIC (PF), FURNISHED AS PELLETS.	E41429
		CHANG CHUN PLASTICS CO LTD	150°C 94V-0 T200HF (0.4mm MIN BOBBIN WALL)	PHENOLIC MOLDING COMPOUND (PMC), FURNISHED AS PELLETS, GRANULAR MATERIAL, OR POWDER	E59481
		CHANG CHUN PLASTICS CO LTD	150°C 94V-0 T220NA (0.4mm MIN BOBBIN WALL)	PHENOLIC MOLDING COMPOUND (PMC), FURNISHED AS PELLETS.	E59481
2	BASE	SUMITOMO BAKELITE CO LTD	150°C 94V-0 PM-9630 (0.4mm MINBOBBIN WALL)	PHENOLIC (PF), "SUMIKON", FURNISHED AS PELLETS, GRANULAR MATERIAL.	E41429
		SUMITOMO BAKELITE CO LTD	150°C 94V-0 PM-9823 (0.4mm MINBOBBIN WALL)	PHENOLIC (PF), FURNISHED AS PELLETS.	E41429
		CHANG CHUN PLASTICS CO LTD	150°C 94V-0 T200HF (0.4mm MIN BOBBIN WALL)	PHENOLIC MOLDING COMPOUND (PMC), FURNISHED AS PELLETS, GRANULAR MATERIAL, OR POWDER	E59481
		CHANG CHUN PLASTICS CO LTD	150°C 94V-0 T220NA (0.4mm MIN BOBBIN WALL)	PHENOLIC MOLDING COMPOUND (PMC), FURNISHED AS PELLETS.	E59481
3	TAPE	3M COMPANY ELECTRICAL MARKETS DIV (EMD)	130°C MATERIAL GROUP I NO.1351-1	POLYESTER FILM/MAT COMPOSITE INSULATING TAPES	E17385
		3M COMPANY ELECTRICAL MARKETS DIV (EMD)	130°C MATERIAL GROUP II NO.1350F-1	POLYESTER FILM/MAT COMPOSITE INSULATING TAPES	E17385
		3M COMPANY ELECTRICAL MARKETS DIV (EMD)	130°C MATERIAL GROUP II NO.1350T-3	MULTILAYER POLYETHYLENE TEREPHALATE FILM INSULATING TAPES	E17385
		3M COMPANY ELECTRICAL MARKETS DIV (EMD)	130°C MATERIAL GROUP IIIa NO.1350F-2	POLYESTER FILM/MAT COMPOSITE INSULATING TAPES	E17385
		SYMBIO INC	130°C MATERIAL GROUP I(FOR UL), GROUP II(FOR TUV) NO.35660Y	POLYETHYLENE-TEREPHALATE FILM INSULATING TAPES WITH ACRYLIC ADHESIVE	E50292
		JINGJIANG YAHUA PRESSURE SENSITIVE GLUE CO LTD	130°C MATERIAL GROUP I NO.CT	POLYETHYLENE TEREPHALATE FILM INSULATING TAPES	E165111
		XINFENG GHILLIE ELECTRICAL MATERIALS CO LTD	130°C MATERIAL GROUP I NO.JL-P208(a)	FLAME RETARDANT POLYESTER FILM INSULATING TAPES	E326305

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	Drawn: M.J.CHENG 08/17/'20 Design: 胡朝易 08/17/'20	 THIRD ANGLE PROJECTION	PART NO.: 2870683300 SHEET 4 OF 5	REV. 02			



Engineering Change Notice(ECN)

ECN No.: N202065

Delta P/N(台達料號)	Vendor P/N(廠商料號)	Delta P/N Revision(台達料號版本)	
2870683300	MV-LT19607	02	
Customer(客戶)	Issued Department(發行單位)	Issued Date(發行日期)	
LT	MSBU	2020.08.17	
Change Items(變更項目)	Descriptions of Requested Change(變更內容)		
1.NOTE 11 2.TURN RATIO 3.WINDING CONSTRUCTION 4.DCR	1. ADD NOTE 11: L(1-2) WINDING CAN BE ±3 LAYER 2.TURN RATIO : A. L(3-4) 56±15% CHANGE TO 51±15% B. L(5-6) 56±15% CHANGE TO 51±15% 3.WINDING CONSTRUCTION : TOP SIDE T6 TAPE 1TS CHANGE TO T6 TAPE 2TS 4.DCR : A. L(8-9) 39±20% CHANGE TO 35±20% B. L(7-10) 46±20% CHANGE TO 41±20%		
Reasons For Change(變更理由)		Materials Take Action(物料處理方式)	
<input type="checkbox"/> Customer Request . . . <input checked="" type="checkbox"/> Factory Request . . . 工廠問題點修改 <input type="checkbox"/> Quality Request . . . <input type="checkbox"/> CPC Request . . . <input type="checkbox"/> Correction . . .		A.Finish Goods: 1.Warehouse: <input checked="" type="checkbox"/> a.Waive <input type="checkbox"/> b.Sorting <input type="checkbox"/> c.Rework <input type="checkbox"/> d.Scrap Quantity: <u>0</u> PCS . . . 2.WIP: <input checked="" type="checkbox"/> a.Waive <input type="checkbox"/> b.Sorting <input type="checkbox"/> c.Rework <input type="checkbox"/> d.Scrap Quantity: <u>0</u> PCS . . . B.Material: 1.Warehouse: <input checked="" type="checkbox"/> a.Waive <input type="checkbox"/> b.Sorting <input type="checkbox"/> c.Rework <input type="checkbox"/> d.Scrap Quantity: <u>0</u> PCS . . . 2.WIP: <input checked="" type="checkbox"/> a.Waive <input type="checkbox"/> b.Sorting <input type="checkbox"/> c.Rework <input type="checkbox"/> d.Scrap Quantity: <u>0</u> PCS . . .	
Change Types and Effective Time(變更種類及生效時間)			
<input type="checkbox"/> Immediated Change(立即變更) <input checked="" type="checkbox"/> Running Change Implement Date for Running Change: <u>2020/11/17</u>			
To	<input checked="" type="checkbox"/> 東莞(DG) <input checked="" type="checkbox"/> 泰國(DET) <input checked="" type="checkbox"/> 吳江(WJ) <input type="checkbox"/> 蕪湖(WH) <input type="checkbox"/> 桃園(DEIT) <input checked="" type="checkbox"/> 中壢(DEIC) <input type="checkbox"/> 郴州(CZ)		
	<input checked="" type="checkbox"/> 物管(M/C) <input checked="" type="checkbox"/> 品管(QC) <input checked="" type="checkbox"/> 製造(P/E) <input type="checkbox"/> 生技(I/E) <input type="checkbox"/> 生管(P/C) <input type="checkbox"/> 外加(Sub) <input checked="" type="checkbox"/> 工程(Eng) <input checked="" type="checkbox"/> 材料工程 <input type="checkbox"/> Choke 採購		
Drawn	MJ.CHENG 08/17/'20	Design	胡朝易 08/17/'20
Ecn Effective Feed Back:			

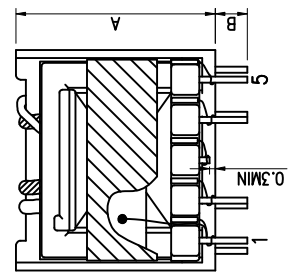
The following Page(s) are related to Illustration-10. The next supplement, if applicable, will be identified with a new Supplement Page Heading.

1 2 3 4

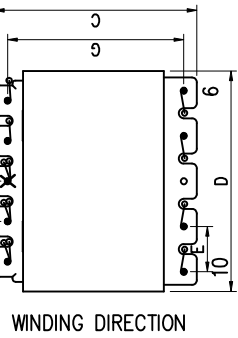
TEST TERMINAL	TEST CONDITION	L(mH)	LK(uH)	DCR(mΩ)	TURN RATION (mV)	TURNS	WIRE GAUGE	HI-POT TEST 60Hz,2s (PRI SHORT CORE) TO SEC 4000Vac ARGING CURRENT OFF (PRI SHORT CORE) TO SEC 3000Vac ARGING CURRENT ON
4-3-5	40KHz,1V	3.0±10%	50.0 MAX	4430.0±20%	20KHz ,1V	70+70		
4-3			SEC SHORT	1717.0±20%	500.0±5%	70	φ0.15 2UEWN	
2-1				253.0±20%	121.4±7%	17	φ0.15 2UEWN	
6-7				85.0±20%	92.8±7%	13	φ0.35 TRW(B)-M	
2-1						17	φ0.15 2UEWN	
10-9				85.0±20%	78.5±7%	11	φ0.35 TRW(B)-M	
3-5				2356.0±20%	500.0±5%	70	φ0.15 2UEWN	
								INDUCED VOLTAGE
								L(4-5) : 1.0kVo-p MAX/1s
								ARCING CURRENT ≤=10.0mA
								LEAKAGE CURRENT ≤=1.0mA

1. MECHANICAL DIMENSIONS :

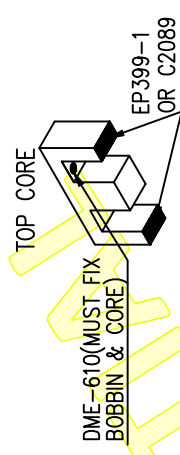
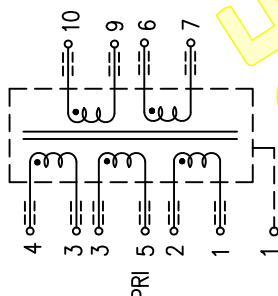
DATUM LINE WITH OUTER WINDING POINT 14.5mm MIN



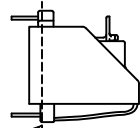
- UNIT : mm
 A = 21.0 MAX
 B = 3.2±0.3
 C = 22.0 MAX
 D = 22.5 MAX
 E = 4.5±0.3
 F = 4.0±0.3
 G = 17.5±0.3
 H = φ0.6±0.1



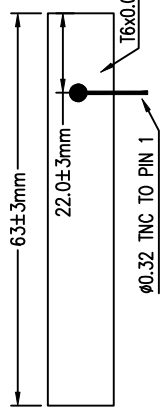
2. SCHEMATIC :



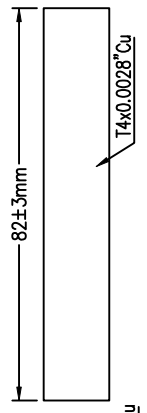
VARNISH DIP INTO THIS LINE(REF)



OUTER SHIELD 1



OUTER SHIELD 2



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DIMENSIONAL TOLERANCES

SCALE	UNIT	mm	USED ON
()	DECIMALS		
<30	X	±0.25	
>30-100	X	±0.3	
>100-300	X.X	±0.5	
>300-500	X.XX	±0.1	
>500-1000	ANGLES	±0.5°	
	HOLES	±0.05	

Vendor P/N: AV-LT517028

Drawn: 葛麗華 10/22/18

Design: 周麗君 10/22/18

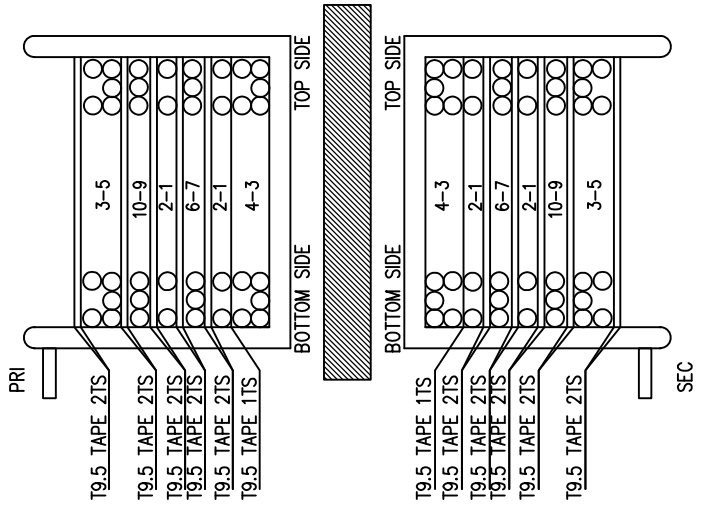
THIRD ANGLE PROJECTION

DESCRIPTION: TRANSFORMER

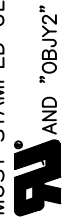
PART NO.: 2873193100

REV. 04

3. WINDING CONSTRUCTION :



- 4. PACKAGE MUST BE IN COMPLIANCE WITH PACKING SPEC. NO. : 3526490400
- 10.5 g/PCE 5.28 kg/CARTON 360 PCS/CARTON
- 5. MARKING : ON THE CENTER OF PIN5~6 SIDE BASE BLACK INK
- MP-130N DELTA XX : REV
- AV-LTS17028 (00) XXXX : DATE CODE
- XXXX(XX)** ** : WORKING TEAM
- XXXX(XX)** : FACTORY CODE
- DET : DELTA THAILAND PLANT
- DCWM : DELTA WUJIANG PLANT
- DCZM : DELTA CHENZHOU PLAT
- OK LABEL MUST STAMPED UL MARK



6. CORE GAP : 0.2mm (REF) (ON THE CENTER LEG OF TOP CORE)

7. VARNISH : BC-346-A(VACUUM) (CONSISTENCY 14±1S)

8. SAFETY DISTANCE DESIGN: PRI TO SEC 14.5mm MIN SEC TO CORE 14.5mm MIN

CORE IS BELONG TO PRI

9. ALL PIN OF THE TEFLON TUBE MUST DEEP INTO THE INTERNAL WINDING 2.0mm MIN TO PREVENT CROSSOVER

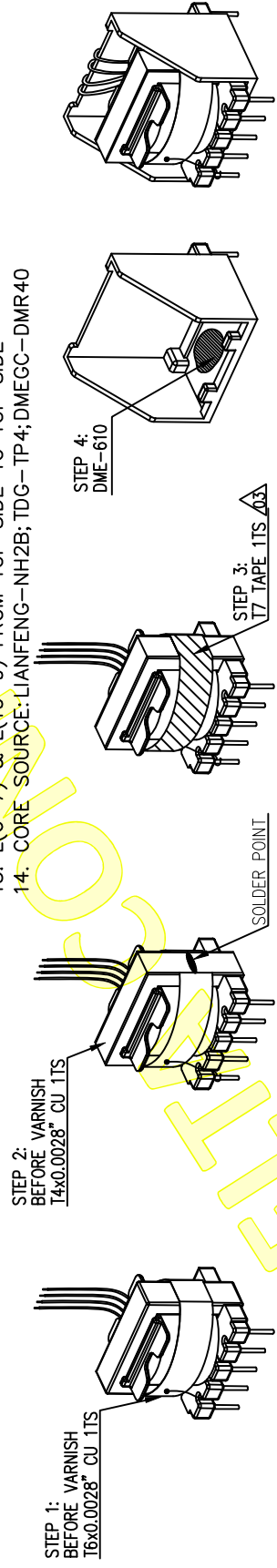
10. NOT FULL ONE LAYER MUST USE LOOSE WINDING.

11. FOR ENVIRONMENT CONCERNS , ALL PARTS MUST FOLLOW DELTA'S SPECIFICATION "10000-0162"(THE MANAGEMENT STANDARDS FOR ENVIRONMENT-RELATED SUBSTANCE.)

12. BOTTOM CORE AND BASE MUST BE FIXED WITH DEM-610(≥2/3 BASE VOLUME)

13. L(6-7) & L(10-9) FROM TOP SIDE TO TOP SIDE

14. CORE SOURCE:LIANFENG-NH2B;TDG-TP4;DMEGC-DMR40



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DIMENSIONAL TOLERANCES

SCALE	UNIT	mm	USED ON
()	DECIMALS		
<30	X	: ±0.25	
>30-100	X	: ±0.3	
>100-300	X	: ±0.5	
>300-500	X	: ±0.6	
>500-1000	X	: ±0.8	
>1000-3000	X	: ±1.0	
>3000-10000	X	: ±1.5	
>10000	X	: ±2.0	
HOLES	ANGLES	: ±0.1	
		: ±0.5	

Vendor P/N:	AV-LTS17028
Drawn:	葛麗華 10/22/18
Design:	周麗君 10/22/18

THIRD ANGLE PROJECTION	DESCRIPTION:
A4	TRANSFORMER
SIZE	PART NO.: 2873193100
SHEET 3 OF 4	REV. 04

1

2

3

4

15. MATERIAL LIST : ~~02~~

NO.	PART	MANUFACTURER	MANUFACTURER PART NO.	DESCRIPTION	UL FILE NO.
1	BOBBIN	SUMITOMO BAKELITE CO LTD	150°C 94V-0 PM-9630 (0.4mm MIN BOBBIN WALL)	PHENOLIC (PF), "SUMIKON", FURNISHED AS PELLETS, GRANULAR MATERIAL.	E41429
2	BASE	SUMITOMO BAKELITE CO LTD	150°C 94V-0 PM-9630 (0.4mm MIN BOBBIN WALL)	PHENOLIC (PF), "SUMIKON", FURNISHED AS PELLETS, GRANULAR MATERIAL.	E41429
3	TAPE	3M COMPANY ELECTRICAL MARKETS DIV (EMD)	130°C MATERIAL GROUP II NO.1350F-1	FLAME RETARDANT POLYESTER FILM INSULATING TAPE	E17385
		SYMBIO INC	130°C MATERIAL GROUP I (FOR UL), GROUP II (FOR TUV) NO.35660Y	POLYETHYLENE-TEREPHTHALATE FILM INSULATING TAPES WITH ACRYLIC ADHESIVE	E50292
4	TUBING	JINGJIANG YAHUA PRESSURE SENSITIVE GLUE CO LTD	130°C MATERIAL GROUP I NO.CT	POLYETHYLENE TEREPHTHALATE FILM TAPE	E165111
		GREAT HOLDING INDUSTRIAL CO LTD	200°C IFL VW-1 200°C IFT VW-1	NOT HEAT-SHRINKABLE POLYTETRAFLUOROETHYLENE (PTFE) TUBING.	E156256
5	MAGNET WIRE	UL RECOGNIZED	UL RECOGNIZED	130°C MW28 130°C MW75 155°C MW79 155°C MW80 180°C MW-82 180°C MW-83	UL RECOGNIZED
		GREAT LEOFロン INDUSTRIAL CO LTD	130~C NO:TRW(B)-M (VDE NO:136581) 130~C NO:TRW(B) (VDE NO:136581)	SINGLE-AND MULTI-LAYER INSULATED WINDING WIRE	E211989
6	VARNISH	JOHN C DOLPH CO	200°C NO.BC-346-A		E317427



台達電子工業股份有限公司
DELTA ELECTRONICS, INC.

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DIMENSIONAL TOLERANCES

()	()	()	()
<30	: ±0.25	UP-100	: ±0.25
>30-100	: ±0.35	UP-100	: ±0.25
>100-300	: ±0.5	UP-100	: ±0.25
>300-500	: ±0.6	UP-100	: ±0.25
>500-1000	: ±0.7	UP-100	: ±0.25
>1000-3000	: ±0.8	UP-100	: ±0.25
>3000-10000	: ±1.0	UP-100	: ±0.25
>10000	: ±1.2	UP-100	: ±0.25
HOLES	: ±0.05	UP-100	: ±0.25
ANGLES	: ±0.5°	UP-100	: ±0.25

SCALE: UNIT: mm USED ON:

Vendor P/N: AV-LTST17028

Drawn: 葛麗華 10/22/18

Design: 周麗君 10/22/18

() UP-600 : ±1.5
600-900 : ±2.4
900-OVER : ±3.1

THIRD ANGLE PROJECTION

DESCRIPTION: TRANSFORMER

Part No.: 2873193100

REV. 04

A4 SIZE

SHEET 4 OF 4

1

2

3

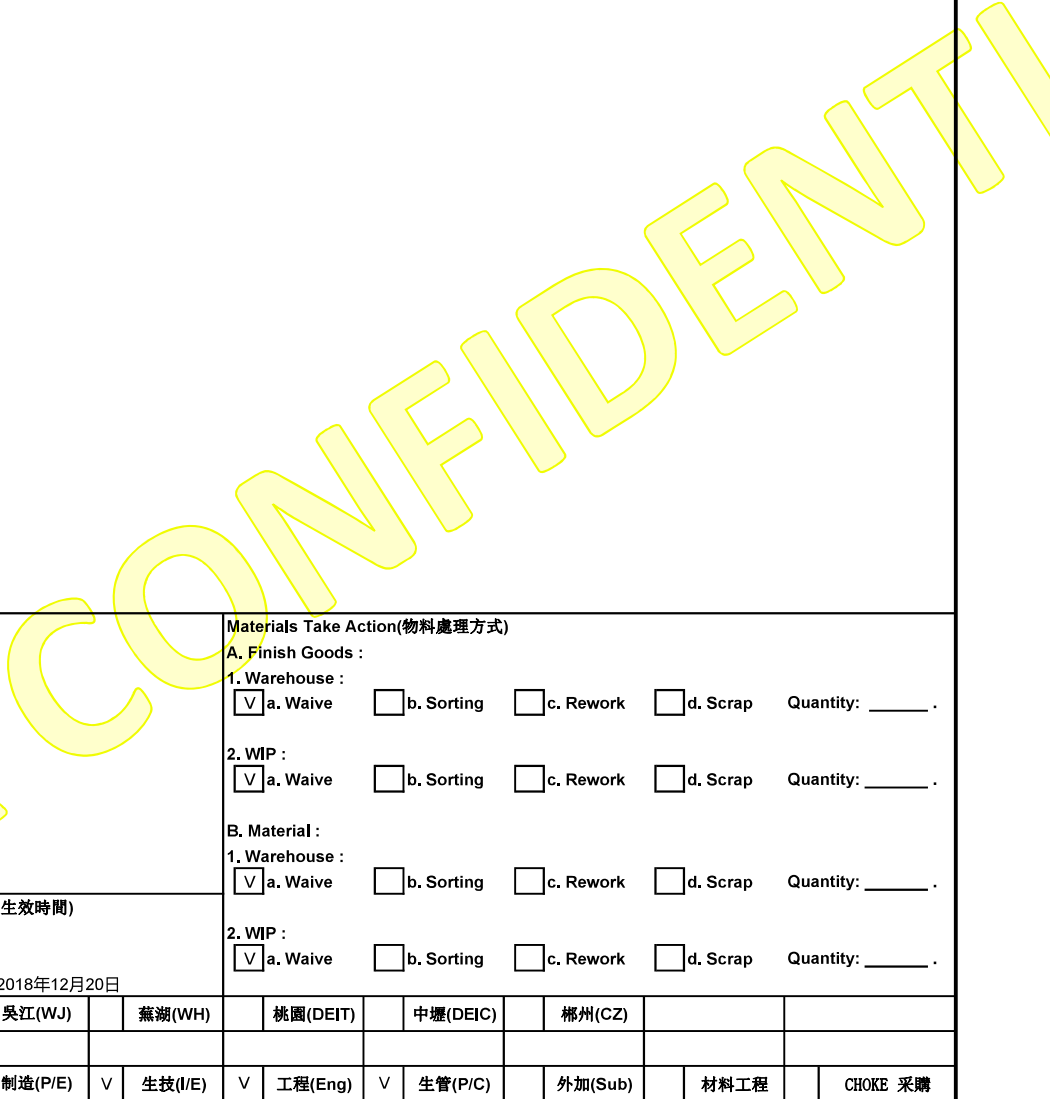
4



Engineering Change Notice(ECN)

ECN NO.: 112HN1810031

Delta P/N(台達料號)	Vendor P/N(廠商料號)	Delta P/N Revision(廠商料號版本)	
2873193100	AV-LTS17028	04	
Customer(客戶)	Issued Department(發行單位)	Issued Date(發行日期)	
LTBU	SDC-MAG	2018.10.19	
Change Items(變更項目)	Descriptions of Requested Change(變更內容)		
1. DCR	1. DCR A. CHANGE DCR (3-5) FROM 3297.0±20% TO 2356.0±20% B. CHANGE DCR (6-7) FROM 2356.0±20% TO 85.0±20%		
Reasons For Change(變更理由)		Materials Take Action(物料處理方式)	
<input type="checkbox"/> Process Improvement(with name) : <input type="checkbox"/> Revise Usage : <input type="checkbox"/> Customer Request (with name) : <input type="checkbox"/> 2nd Source : <input type="checkbox"/> Quality Issue : <input type="checkbox"/> Safety Request : <input type="checkbox"/> Standardized : <input checked="" type="checkbox"/> Correction : 1 <input type="checkbox"/> Cost Down : <input type="checkbox"/> Others:		A. Finish Goods : 1. Warehouse : <input checked="" type="checkbox"/> a. Waive <input type="checkbox"/> b. Sorting <input type="checkbox"/> c. Rework <input type="checkbox"/> d. Scrap Quantity: ____ . 2. WIP : <input checked="" type="checkbox"/> a. Waive <input type="checkbox"/> b. Sorting <input type="checkbox"/> c. Rework <input type="checkbox"/> d. Scrap Quantity: ____ . B. Material : 1. Warehouse : <input checked="" type="checkbox"/> a. Waive <input type="checkbox"/> b. Sorting <input type="checkbox"/> c. Rework <input type="checkbox"/> d. Scrap Quantity: ____ . 2. WIP : <input checked="" type="checkbox"/> a. Waive <input type="checkbox"/> b. Sorting <input type="checkbox"/> c. Rework <input type="checkbox"/> d. Scrap Quantity: ____ .	
Change Types and Effective Time(變更各類及生效時間)			
<input type="checkbox"/> Immediated Change (立即變更) <input checked="" type="checkbox"/> Running Change Implement Date for Running Change : 2018年12月20日			
Imp 東莞(DG) 泰國(DET) <input checked="" type="checkbox"/> 吳江(WJ) 蕪湖(WH) 桃園(DEIT) 中壢(DEIC) 郴州(CZ)			
Implement Date for Running Change :			
<input checked="" type="checkbox"/> 物管(M/C) <input checked="" type="checkbox"/> 品管(QC) <input checked="" type="checkbox"/> 製造(P/E) <input checked="" type="checkbox"/> 生技(I/E) <input checked="" type="checkbox"/> 工程(Eng) <input checked="" type="checkbox"/> 生管(P/C) 外加(Sub) 材料工程 CHOKE 採購			
Drawn		Design	
葛丽华		周丽君	
2018.10.19		2018.10.19	
ECN Effective Feed Back :			



The following Page(s) are related to Illustration-11. The next supplement, if applicable, will be identified with a new Supplement Page Heading.


REV.	Description
00	SPEC.ISSUE (CUHCO-160120GA, L3) (CHOKE EASY) (JEASON.LIAO 07/23/'19) (DELTA)
01	<p>1. MECHANICAL DIMENSIONS :</p> <p>A. ADD G DIMENSION 2.45 MAX</p> <p>B. REVISE DRAWING</p> <p>2. BOM : (REVISE 2876421000)</p> <p>A. 4010700200 (WIRE CU 0.65 0UEMN MW-28C NAT) 1.77 GRM CHANGE TO 1.67 GRM</p> <p>B. 4020399500 (ADHESIVE EPOXY BLK 4076B TAIWAN FIRST) 0.15 GRM CHANGE TO 0.12 GRM</p> <p>C. 4024009600 (ADHESIVE EPOXY BLK DME-619 U-BOND) 0.15 GRM CHANGE TO 0.12 GRM</p> <p>3. BOM : (REVISE 2876421000)</p> <p>A. 31796381R0 CHANGE TO 31796381R1</p> <p>B. 4090007000 & 4090050500 0.05 GRM CHANGE TO 0.074 GRM</p> <p>C. 4010700200 1.67 GRM CHANGE TO 1.84 GRM</p> <p>(JEASON.LIAO 08/14/'19) (Factory Request. : 物料NPE問題 // N192020)</p>
02	<p>1. MECHANICAL DIMENSIONS :</p> <p>A. REVISE DRAWING</p> <p>B. E DIMENSION 14.6mm MAX CHANGE TO 15.6mm MAX</p> <p>C. G DIMENSION 2.45mm MAX CHANGE TO 2.95mm MAX</p> <p>2. PACKAGE :</p> <p>A. 3.8g/PC CHANGE TO 4.2g/PC</p> <p>B. 3.69Kg/CARTON CHANGE TO 3.92Kg/CARTON</p> <p>(JEASON.LIAO 11/18/'19) (Factory Request. // N192346)</p>



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	<p>UP=600 : ±1.5 600-900 : ±2.4 900-OVER : ±3.1</p> <p>UP=100 : ±0.2 100-150 : ±0.25 150-200 : ±0.3 200-300 : ±0.4 300-400 : ±0.5 400-500 : ±0.6</p> <p>DIMENSIONAL TOLERANCES</p> <p>SCALE: () UNIT: mm USED ON: ()</p> <p><30 : ±0.25 >30-100 : ±0.35 >100-300 : ±0.5 HOLE: 30 : ±0.6 HOLES : ±0.05</p>	<p>11/18/'19</p> <p>11/18/'19</p>	<p>PART NO.: 2876421000</p> <p>SHEET 1 OF 3</p>

10. MATERIAL LIST :								
NO.	PART	MANUFACTURER	MANUFACTURER PART NO.	DESCRIPTION	UL FILE NO.			
1	BASE	SUMITOMO BAKELITE CO LTD	150°C 94V-0 PM-9630 (0.4mm MINBOBBIN WALL)	PHENOLIC (PF), "SUMIKON", FURNISHED AS PELLETS, GRANULAR MATERIAL.	E41429			
		SUMITOMO BAKELITE CO LTD	150°C 94V-0 PM-9823 (0.4mm MINBOBBIN WALL)	PHENOLIC (PF), FURNISHED AS PELLETS.	E41429			
		CHANG CHUN PLASTICS CO LTD	150°C 94V-0 T200HF (0.4mm MIN BOBBIN WALL)	PHENOLIC MOLDING COMPOUND (PMC), FURNISHED AS PELLETS, GRANULAR MATERIAL, OR POWDER	E59481			
		CHANG CHUN PLASTICS CO LTD	150°C 94V-0 T220NA (0.4mm MIN BOBBIN WALL)	PHENOLIC MOLDING COMPOUND (PMC), FURNISHED AS PELLETS.	E59481			
		UL RECOGNIZED	UL RECOGNIZED	130°C MW28 130°C MW75 155°C MW79 155°C MW80 155°C MW5 180°C MW-82 180°C MW-83 200°C MW35	UL RECOGNIZED			
2	MAGNET WIRE	UL RECOGNIZED	UL RECOGNIZED					

 台達電子工業股份有限公司 DELTA ELECTRONICS, INC.	DIMENSIONAL TOLERANCES () () () <30 : ±0.25 >30-100 : ±0.35 >100-300 : ±0.5 >300-500 : ±0.75 >500-800 : ±1.0 >800-1000 : ±1.5 HOLES : ±0.05 ANGLES : ±0.5°		() () () UP-600 : ±1.5 600-900 : ±2.4 900-OVER : ±3.1		Vendor P/N: CRV-LT19225 Drawn: M.I.CHENG Design: JEASON.LIAO	THIRD ANGLE PROJECTION A4 SIZE	DESCRIPTION: INDUCTOR PART NO.: 2876421000 SHEET 3 OF 3	REV. 02
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Engineering Change Notice(ECN)

ECN No.: N192346

Delta P/N(台達料號) 2876421000	Vendor P/N(廠商料號) CRV-LT19225	Delta P/N Revision(台達料號版本) 02	
Customer(客戶) LTBU	Issued Department(發行單位) MSBU	Issued Date(發行日期) 2019.11.18	
Change Items(變更項目)	Descriptions of Requested Change(變更內容)		
1. MECHANICAL DIMENSIONS 2. PACKAGE 3. BOM	1. MECHANICAL DIMENSIONS : A. REVISE DRAWING B. E DIMENSION 14.6mm MAX CHANGE TO 15.6mm MAX C. G DIMENSION 2.45mm MAX CHANGE TO 2.95mm MAX 2. PACKAGE : A. 3.8g/PC CHANGE TO 4.2g/PC B. 3.69Kg/CARTON CHANGE TO 3.92Kg/CARTON 3. BOM : (REVISE 2876421000) A. 31796381R0 CHANGE TO 31796381R1 B. 4090007000 & 4090050500 0.05 GRM CHANGE TO 0.074 GRM C. 4010700200 1.67 GRM CHANGE TO 1.84 GRM		
Reasons For Change(變更理由)		Materials Take Action(物料處理方式)	
<input type="checkbox"/> Customer Request : <input checked="" type="checkbox"/> Factory Request : 修改工廠問題點 <input type="checkbox"/> Quality Request : <input type="checkbox"/> CPC Request : <input type="checkbox"/> Correction :		A.Finish Goods: 1.Warehouse: <input checked="" type="checkbox"/> a.Waive <input type="checkbox"/> b.Sorting <input type="checkbox"/> c.Rework <input type="checkbox"/> d.Scrap Quantity:____. 2.WIP: <input checked="" type="checkbox"/> a.Waive <input type="checkbox"/> b.Sorting <input type="checkbox"/> c.Rework <input type="checkbox"/> d.Scrap Quantity:____. B.Material: 1.Warehouse: <input checked="" type="checkbox"/> a.Waive <input type="checkbox"/> b.Sorting <input type="checkbox"/> c.Rework <input type="checkbox"/> d.Scrap Quantity:____. 2.WIP: <input checked="" type="checkbox"/> a.Waive <input type="checkbox"/> b.Sorting <input type="checkbox"/> c.Rework <input type="checkbox"/> d.Scrap Quantity:____.	
Change Types and Effective Time(變更種類及生效時間)			
<input type="checkbox"/> Immediated Change(立即變更) <input checked="" type="checkbox"/> Running Change Implement Date for Running Change: 2019.12.31			
To	<input type="checkbox"/> 東莞(DG) <input type="checkbox"/> 泰國(DET) <input checked="" type="checkbox"/> 吳江(WJ) <input type="checkbox"/> 蕪湖(WH) <input type="checkbox"/> 桃園(DEIT) <input checked="" type="checkbox"/> 中壢(DEIC) <input type="checkbox"/> 郴州(CZ)		
	<input type="checkbox"/> 物管(M/C) <input type="checkbox"/> 品管(QC) <input type="checkbox"/> 製造(P/E) <input type="checkbox"/> 生技(I/E) <input type="checkbox"/> 生管(P/C) <input type="checkbox"/> 外加(Sub) <input checked="" type="checkbox"/> 工程(Eng) <input type="checkbox"/> 材料工程 <input type="checkbox"/> Choke 採購		
Drawn	MJ.CHENG 11/18/'19	Design	廖晟恩 11/18/'19
Ecn Effective Feed Back:			

The following Page(s) are related to Illustration-12. The next supplement, if applicable, will be identified with a new Supplement Page Heading.

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REV.	Description	REV.	Description
00	PILOT RUN ON SDLV035C14E/SDLV025C10E, FL50(Single) (Change Base from 2875155200) Lijun.Zhou 2019.06.11 (SID)		
01	1. SPEC A. ADD L(1,3)(2,4 SHORT) 10.8 MIN B. CHANGE L1-L2 FROM 2 MAX TO 0.625 MAX C. CHANGE 0.5 QUEWR TO 0.5 QUEWN D. CHANGE DIMENSION A FROM 12.1 MAX TO 12.2 MAX 2. PACKAGE: CHANGE 0.95 g/PCE TO 0.8 g/PCE 3. BOM A. CHANGE 4010610000 FROM 0.4 GRM TO 0.587 GRM B. DEL 40106100300 C. DEL 4020193300 D. ADD 4024009600 CC 100% 0.01 GRM E. ADD 4020399500 CC 0% 0.01 GRM Lijun.Zhou 2019.07.31 112HN1907050		
02	1. DELETE BASE MATERIAL PM9823, T200HF, HTNFR52G30NH, NO.IS-300, FR7026VOF IN MATERIAL LIST Lijun.Zhou 2019.09.19 112HN1909022		
			DDCC-ChungLi Document is Released 2019.09.24 15:02:14 +08'00'



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	<p>DIMENSIONAL TOLERANCES</p> <p>() () () ()</p> <p>DECIMALS X : ±0.3 XX : ±0.2 XXX : ±0.1</p> <p>ANGLES: ±0.5°</p>	<p>Part No: 2875494700</p>	<p>REV. 02</p>	

1

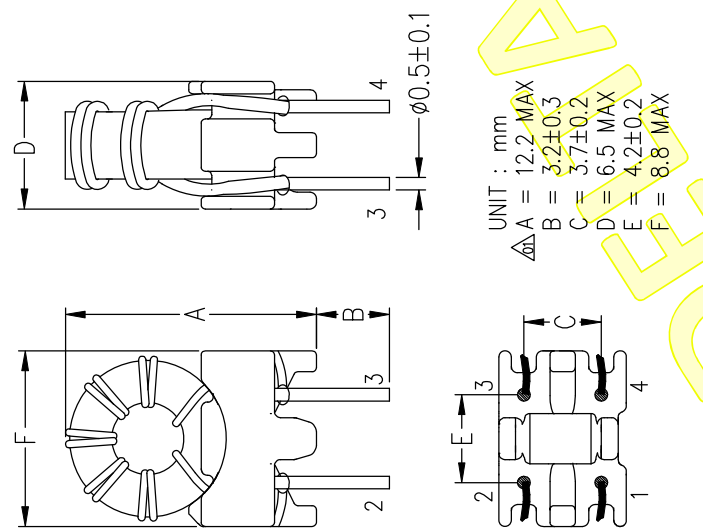
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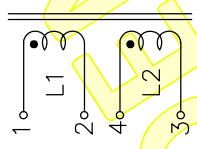
4

TEST TERMINAL	TEST CONDITION	L (uH)	DCR(mV)	TURNS	WIRE GAUGE	HI-POT TEST 60Hz,2S
L1(1-2)	40kHz,1V	3.6 MIN	7.04±3.52	6	ø0.50 0UEWN	L1 TO L2 500Vdc
L2(4-3)	40kHz,1V	3.6 MIN	7.04±3.52	6	ø0.50 0UEWN	
L1(1-2)	160kHz,1V	2.0 MIN				
L2(4-3)	160kHz,1V	2.0 MIN				
/L1-L2/	40kHz,1V	0.625 MAX				LEAKAGE CURRENT=<1.0mA
ΔL(1,3)(2,4 SHORT)	40kHz,1V	10.8 MIN				

1. MECHANICAL DIMENSIONS :



2. SCHEMATIC:



- PACKAGE MUST BE IN COMPLIANCE WITH PACKING SPEC. NO. : 3526469100 0.8 g/PCE 2.77 kg/CARTON 1584 PCS/CARTON
- VARNISH : NO.
- WINDING & BASE MUST BE FIXED BY ADHESIVE
- AVERAGE THE WINDING ON THE CORE.
- NO ABRASION AND SCRATCH ON THE WIRE.
- ALL PARTS MUST FOLLOW DELTA'S HALOGEN-FREE GUIDELINE "10000-2003" FOR ENVIRONMENT CONCERNS ; ALL PARTS MUST FOLLOW DELTA'S SPECIFICATION "10000-0162"(THE MANAGEMENT STANDARDS FOR ENVIRONMENT-RELATED SUBSTANCE.)
- WINDING DIRECTION:

A

B

C

A

B

C

BASE P/N : 3174784
 HOLE DIMENSION : ø0.8
 CORE : TOR6x3x3 NI-ZN UI=850



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DIMENSIONAL TOLERANCES		UNIT	mm	USED ON
()	<30	: ±0.25		
()	>30-100	: ±0.35		
()	>100-300	: ±0.5		
()	>300-500	: ±0.75		
()	>500-1000	: ±1.0		
()	>1000	: ±1.5		
()	UP-100	: ±0.2		
()	100-150	: ±0.25		
()	150-200	: ±0.3		
()	200-250	: ±0.35		
()	250-300	: ±0.4		
()	300-350	: ±0.45		
()	350-400	: ±0.5		

Vendor P/N:	LFV-LTS19041	THIRD ANGLE PROJECTION	DESCRIPTION:	LINE FILTER (HF)
Drawn:	葛麗華	09/1919	PART NO.:	2875494700
Design:	周麗君	09/1919	SIZE	A4
			SHEET	2 OF 3

FRAME NAME : DF-MAGA4H-1R01.DWG
 PILOT RUN ON DCCMM

BU : LTBV

EDM : PEDM000321531

2

3

4

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2

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11. MATERIAL LIST :					
NO.	PART	MANUFACTURER	MANUFACTURER PART NO.	DESCRIPTION	UL FILE NO.
1	MAGNET WIRE	UL RECOGNIZED	UL RECOGNIZED	130°C MW28 130°C MW75 155°C MW5 155°C MW79 155°C MW80 180°C MW-82 180°C MW-83 220°C MW35	UL RECOGNIZED
2	BASE	SUMITOMO BAKELITE CO LTD	150°C 94V-0 PM-9630 (0.4mm MINBOBBIN WALL)	PHENOLIC (PF), "SUMIKON", FURNISHED AS PELLETS.GRANULAR MATERIAL.	E41429
		CHANG CHUN PLASTICS CO LTD	150°C 94V-0 T220NA (0.4mm MIN BOBBIN WALL)	PHENOLIC MOLDING COMPOUND (PMC), FURNISHED AS PELLETS.	E59481

A

B

C

A

B

C



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SCALE	UNIT	mm	USED ON
DIMENSIONAL TOLERANCES			
()	()	()	()
<30	: ±0.25	UP~100	: ±0.2
>30~100	: ±0.35	100~150	: ±0.25
>100~300	: ±0.5	600~900	: ±2.4
ABOVE 300	: ±0.6	900~OVER	: ±3.1
HOLES	: ±0.05	200~250	: ±0.35
		250~300	: ±0.4
		300~350	: ±0.45
		350~400	: ±0.5

Vendor P/N:	LFV-LTS19041
Drawn:	葛麗華 09/19/19
Design:	周麗君 09/19/19

THIRD ANGLE PROJECTION	DESCRIPTION: LINE FILTER (HF)
A4	PART NO.: 2875494700
SIZE	SHEET 3 OF 3

REV.	02
------	----

FRAME NAME : DF-MAGA4H-1R01.DWG

2

3

4



Engineering Change Notice(ECN)

ECN NO.: 112HN1909022

Delta P/N(台達料號)	Vendor P/N(廠商料號)	Delta P/N Revision(廠商料號版本)																															
2875494700	LFV-LTS19041	02																															
Customer(客戶)	Issued Department(發行單位)	Issued Date(發行日期)																															
LTBU	SDC-MAG	2019.9.18																															
Change Items(變更項目)	Descriptions of Requested Change(變更內容)																																
1. MATERIAL LIST	1. DELETE BASE MATERIAL PM9823 , T200HF, HTNFR52G30NH, NO.IS-300, FR7026V0F IN MATERIAL LIST																																
Reasons For Change(變更理由)		Materials Take Action(物料處理方式)																															
<input checked="" type="checkbox"/> Customer Request. : 1 删除不用的BASE材质 <input type="checkbox"/> Factory Request : <input type="checkbox"/> Quality Request. : <input type="checkbox"/> CPC Request. : <input type="checkbox"/> Correction. :		A. Finish Goods : 1. Warehouse : <input checked="" type="checkbox"/> a. Waive <input type="checkbox"/> b. Sorting <input type="checkbox"/> c. Rework <input type="checkbox"/> d. Scrap Quantity: ____ . 2. WIP : <input checked="" type="checkbox"/> a. Waive <input type="checkbox"/> b. Sorting <input type="checkbox"/> c. Rework <input type="checkbox"/> d. Scrap Quantity: ____ . B. Material : 1. Warehouse : <input checked="" type="checkbox"/> a. Waive <input type="checkbox"/> b. Sorting <input type="checkbox"/> c. Rework <input type="checkbox"/> d. Scrap Quantity: ____ . 2. WIP : <input checked="" type="checkbox"/> a. Waive <input type="checkbox"/> b. Sorting <input type="checkbox"/> c. Rework <input type="checkbox"/> d. Scrap Quantity: ____ .																															
Change Types and Effective Time(變更各類及生效時間)																																	
<input type="checkbox"/> Immediated Change (立即變更) <input checked="" type="checkbox"/> Running Change Implement Date for Running Change : 2019年11月17日																																	
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 12.5%;"></td> <td style="width: 12.5%;">東莞(DG)</td> <td style="width: 12.5%;">泰國(DET)</td> <td style="width: 12.5%; text-align: center;">v</td> <td style="width: 12.5%;">吳江(WJ)</td> <td style="width: 12.5%;">蕪湖(WH)</td> <td style="width: 12.5%;">桃園(DEIT)</td> <td style="width: 12.5%;">中壘(DEIC)</td> <td style="width: 12.5%;">郴州(CZ)</td> <td style="width: 12.5%;"></td> </tr> <tr> <td style="text-align: center;">TO</td> <td style="text-align: center;">v</td> <td style="text-align: center;">v</td> <td style="text-align: center;">v</td> <td style="text-align: center;">v</td> <td style="text-align: center;">v</td> <td style="text-align: center;">v</td> <td style="text-align: center;">v</td> <td style="text-align: center;">v</td> <td style="text-align: center;">v</td> </tr> <tr> <td></td> <td>物管(M/C)</td> <td>品管(QC)</td> <td>制造(P/E)</td> <td>生技(I/E)</td> <td>工程(Eng)</td> <td>生管(P/C)</td> <td>外加(Sub)</td> <td>材料工程</td> <td>CHOKE 採購</td> </tr> </table>			東莞(DG)	泰國(DET)	v	吳江(WJ)	蕪湖(WH)	桃園(DEIT)	中壘(DEIC)	郴州(CZ)		TO	v	v	v	v	v	v	v	v	v		物管(M/C)	品管(QC)	制造(P/E)	生技(I/E)	工程(Eng)	生管(P/C)	外加(Sub)	材料工程	CHOKE 採購		
	東莞(DG)	泰國(DET)	v	吳江(WJ)	蕪湖(WH)	桃園(DEIT)	中壘(DEIC)	郴州(CZ)																									
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Drawn		Design																															
葛丽华		周丽君																															
2019年9月18日		2019年9月18日																															
ECN Effective Feed Back :																																	

DELTA CONFIDENTIAL

TEST RECORD NO. 1

SAMPLES:

Samples of the LED drivers as indicated below and constructed as described herein were subjected to the following tests.

Model USC4-320280GA.

All tests except Increased-Ambient Temperature Test were conducted at Delta Electronics Inc., 3 TungYuan Rd., Chungli Industrial Zone, Taoyuan City, 320 Taiwan under UL CTDP program.

Increased-Ambient Temperature Test were conducted at UL LLC.

GENERAL:

Test results relate only to the items tested.

INPUT	UL 8750- 8.2
WORKING VOLTAGE MEASUREMENT	UL 8750- 7.8.2, 8.6.1 CSA 250.13- 8.8.3, 9.4.1
DIELECTRIC VOLTAGE WITHSTAND	UL 8750- 8.6 CSA 250.13- 9.4
TEMPERATURE TEST	UL 8750- 8.3 CSA 250.13- 9.3
LEAKAGE CURRENT TEST	UL 8750- 8.9 CSA 250.13- 9.7 UL 1310 - 26 (CSA 223, 6.5)
ABNORMAL COMPONENT FAILURE	UL 8750- 8.7.2 UL 1310- 39.7 CSA 250.13- 9.5.2 CSA 223-M91- 6.7
OUTPUT LOADING TEST	UL 8750- 8.7.3 CSA C22.2 No. 250.13- 9.5.3
CLASS 2 OUTPUT CIRCUITS- OUTPUT VOLTAGE	UL 8750- 7.12.1 (UL 1310- 28) CSA 250.13- 8.12.1 (CSA 223- 6.2.1)
CLASS 2 OUTPUT CIRCUITS- OUTPUT CURRENT & POWER	UL 8750- 7.12.1 (UL 1310- 30) CSA 250.13- 8.12.1 (CSA 223- 6.2.4)
INCREASED-AMBIENT TEMPERATURE TEST CLASS P LED DRIVERS	UL 8750- SE4.3.4
BONDING CIRCUIT IMPEDANCE:	UL 8750- 8.21

The test methods and results of the above tests have been reviewed and found in accordance with the requirements in UL 8750 2nd Edition and CAN/CSA C22.2 No. 250.13-17 3rd Edition.

Test Record Summary:

The results of this investigation, including construction review and testing, indicate that the products evaluated comply with the applicable requirements in the standards noted below and, therefore, such products are judged eligible to bear UL's Mark as described on the Conclusion Page of this Report.

Standard	Title	Edition or Publication Date	Latest Revision Date
UL 8750	Light Emitting Diode (LED) Equipment For Use In Lighting Products	2nd	2020-09-11
CSA C22.2 No. 250.13-17	Light emitting diode (LED) equipment for lighting applications	3rd	October, 2017

CONCLUSION

Samples of the products covered by this Report have been found to comply with the requirements covering the category and the products are found to comply with UL's applicable requirements. The description and test result in this Report are only applicable to the samples investigated by UL and does not signify UL certification or that the products described are covered under UL's Follow-Up Service Program. When covered under UL's Follow-Up Service Program, the manufacturer is authorized to use the UL Listing Mark on such products which comply with UL's Follow-Up Service Procedure and any other applicable requirements of UL LLC. The Listing Mark of UL LLC on the product, or the UL symbol on the product and the Listing Mark on the smallest unit container in which the product is packaged, is the only method to identify products investigated by UL to published requirements and manufactured under UL's Listing and Follow-Up Service.

This Report is intended solely for the use of UL LLC (UL) and the Applicant for establishment of UL certification coverage of the described products under UL's Follow-Up Service. UL retains all rights, title and interest (including exclusive ownership) in this Report and all copyright therein. The Applicant or its designated agent shall not disclose or otherwise distribute this Report or its contents to any third party, except as required for purposes of compliance with laws, regulations, or other existing agreements or schemes in which UL is currently a participant. Any other use of this Report including, without limitation, evaluation or certification by a party other than UL is prohibited and renders this Report null and void. UL shall not incur any obligation or liability for any loss, expense, or punitive damages, arising out of, or in connection with, the use or reliance upon the contents of this Report to anyone other than the Applicant as provided in the agreement between UL and Applicant. Any use or reference to UL's name or certification marks by anyone other than the Applicant in accordance with the agreement is prohibited without the express written approval of UL. Any information and documentation involving UL Mark services are provided on behalf of UL LLC (UL) or any authorized licensee of UL. Any information and documentation involving UL Mark services are provided on behalf of UL LLC (UL) or any authorized licensee of UL. UL shall not otherwise be responsible to anyone for the use of or reliance upon the contents of this Report.

Evaluator:

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UL Taiwan Co., Ltd.

Preliminary Reviewer/Test Data Validator:
Wade Huang
Project Engineer
UL Taiwan Co., Ltd.

