

SPECIFICATION FOR APPROVAL

CUSTOMER: 明泰

DESCRIPTION: Power Transformer

CUSTOMER PART NO.:

UMEC MODEL NO.: UT38A31S

ORDERING CODE(MPN): TG-UT38A31S

UMEC ISSUE NO.: USTA-112090

DATE: SEP./14/2023

Made in Taiwan (DATE CODE YYWWG)
China (DATE CODE YYWWCG)
Vietnam (DATE CODE YYWWVG)



APPROVED BY:

THIS SPECIFICATON IS:

☐ FULLY APPROVED

☐ DENIED

☐ APPROVED UNDER THE FOLLOWING CONDITIONS

SIGNATURE: _____ DATE: _____

NAME(PRINTED): _____

TITLE: _____



台中市工業區27路3號
3,27th Rd., Taichung Industrial Park,
Taichung, Taiwan, R.O.C.
TEL:(04)23590096
FAX:04-23590129

<http://www.umec.com.tw> E-mail:business@umec.com.tw



SPECIFICATION FOR APPROVAL

Universal Microelectronics Co., Ltd.
3,27Th Rd., Taichung Industrial Park,
Taichung, Taiwan, R.O.C.

(TEL: 886-4-23590096 FAX: 886-4-2359-0129)
<http://www.umecc.com.tw> E-mail: business@umecc.com.tw

UM MODEL NO. : UT38A31S	POWER TRANSFORMER		ISSUE NO. : USTA-112090	
CUSTOMER: 明泰	CUSTOMER'S P/N:	DATE: SEP./14/2023	UM REV: A1	SHEET: 1 OF 6

Materials List :

NO.	Item	Material Description	Temp. (Flame) Class	Vender	UL File NO.
1	CORE	Mn-Zn FERRITES., EFD15	—	ACME OR EQUIV.	—
2	BOBBIN	PHENILIC, PM-9630	V-0	SUMITOMO BAKELITE CO., LTD. OR EQUIV.	E41429
3	WIRE	POLYURETHANE, SFHW@ (All Color)	180°C	JUNG SHING WIRE CO., LTD. OR EQUIV.	E174837
4	TAPE	POLYIMIDE FILM TAPE FK-01%	180°C	CHANGSHU FUBANG ADHESIVE TAPE LTD CO OR EQUIV.	E248834
5	CLAMP	STAINLESS STEEL	—	JINSHENG ENTERPRISE CO., LTD. or EQUIV.	—
6	EPOXY	S-9001A	—	SHAW HUOW CO., LTD. OR EQUIV.	—
7	VARNISH	BC-359	130°C	JOHN C DOLPH CO., LTD. OR EQUIV.	E317427
8	SOLDER	Sn/Ag/Cu			

APPROVED BY	Andy Tseng	CHECKED BY	M.T.TSAI	DRAWN BY	Chin He
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CUSTOMER: 明泰	CUSTOMER'S P/N:	DATE: SEP./14/2023	UM REV: A1	SHEET: 2 OF 6

Electrical specifications at 25°C:

- 1.) Turns Ratio and Polarity : 1 : 0.25 \pm 3% at 15.75kHz 1V , PIN(5-3):(6,7-9,10) .
: 1 : 0.25 \pm 3% at 15.75kHz 1V , PIN(5-3):(2-1) .
- 2.) Inductance : 90uH \pm 10% , PIN(5-3), 100kHz, 0.1V .
: 80uH min. , PIN(5-3), 100kHz, 0.1V, 1.7A .
- 3.) Leakage Inductance : 1.0uH max. at 100kHz 0.1V , PIN(5-3) with PIN(1-2 & 6-7-9-10) shorted .
- 4.) D.C.R. : 300m Ω . max. , PIN(5-3) .
: 35m Ω . max. , PIN(6-10) .
: 35m Ω . max. , PIN(7-9) .
: 110m Ω . max. , PIN(2-1) .
- 5.) HI-POT Test : 1500Vrms 0.5mA 2s , PIN(1-2-3-5) to PIN(6-7-9-10) .
: 500Vrms 0.5mA 2s , PIN(5-3) to PIN(2-1) .
- 6.) Operating Temperature : -40 to +125°C .

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Schematic diagram & Dimensions: (UNIT :mm) Tolerances : +/-0.2mm

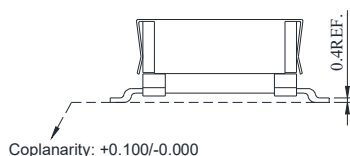
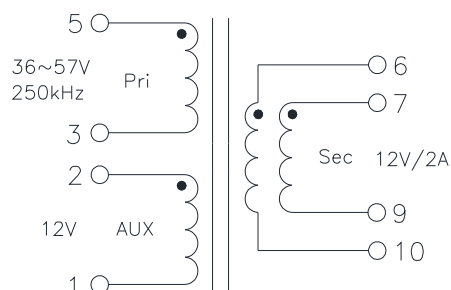
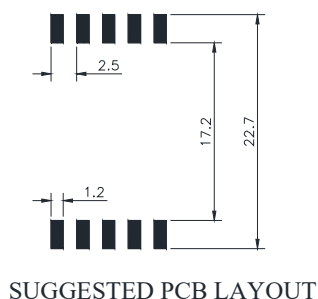
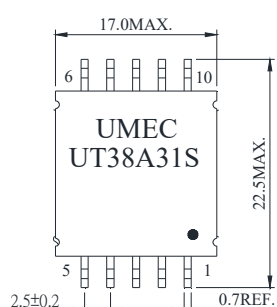
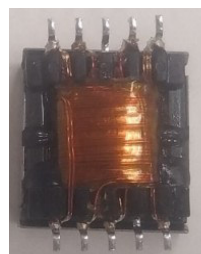


Photo:



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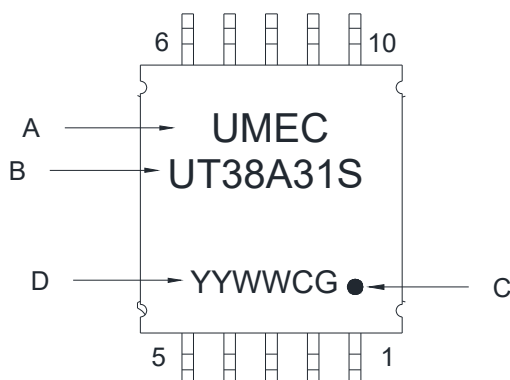
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Marking Information :



Notes:

- A. Logo : UMEC
- B. UM MODEL NO. : UT38A31S
- C. ● : Dot (PIN1)
- D. DATE CODE & RoHs Compliant : YYWWCG or YYWWG or YYWWVG

YY: Take year code last two digitals for a year of grace , ex: 2015→ 15, as year code

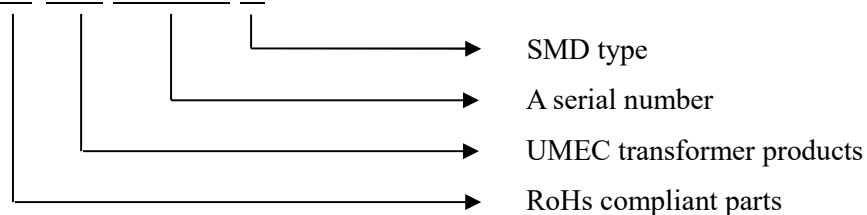
WW: Week Code , ex: 15 represents the fifteenth week of year .

C or V : “C” represents the product made in China ,“V” represents the product made in Vietnam ,
Otherwise made in Taiwan without “C &V ”.

G: RoHs Compliant

Product definition :

TG-UT 38A31 S



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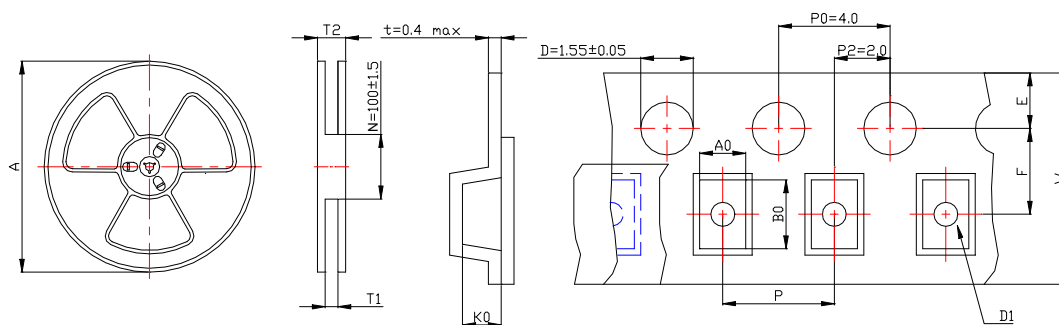
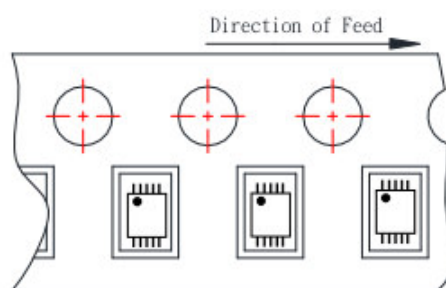
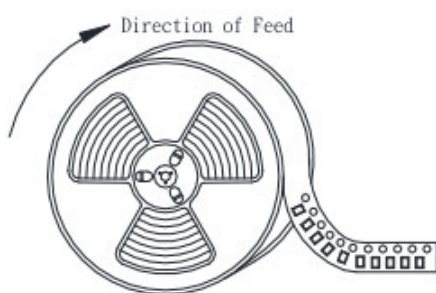
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Transformers Packaging Information Tape And Reel : (UNIT:mm)



ITEM NO.	CARRIER TAPE								PLASTIC REEL			PARTS PER REEL
	W	A ₀	B ₀	K ₀	E	F	P	D ₁	A	T ₁	T ₂	
EFD15-12PIN	44.0	17.35	22.5	9.0	1.75	20.2	24.0	2.0	330	45.4	50.4	250

Unit : mm

Notes:

- 1.) The packaging boxes would be marked with a green product mark that indicates that no lead (Pb) is present in the components and components are applicable to Lead-Free process .
- 2.) UMEC packing information is according with EIA-481-D standard, When W=32mm and other wider tapes that should have elongated sprocket holds on the other side.
- 3.) Approx. Weight : 5.95g/pcs
- 4.) Moisture Sensitivity Parts : Level 1

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Reflow soldering profile for soldering heat resistance testing: (IPC/JEDEC J-STD-020C)

The reflow profile specified in this section describes expected maximum heat exposure of components during the reflow process of UMEC SMD Magnetic Components. Temperature is measured on top of component. All components have to tolerate at least this profile two times (2x) without affecting electrical performance, mechanical performance or reliability.

Pb-free reflow profile requirements for soldering heat resistance			
Parameter	Reference	Specification	
		Large Body Thickness \geq 2.5mm and Volume \geq 350mm ³	Small Body Thickness \geq 2.5mm and Volume <350mm ³
Temperature gradient in preheating		3°C/s max.	
Soak time 150°C- 200°C	T _{soak}	60 -180 seconds	
Time above 217°C (T _l)	t _l	60 - 150 seconds	
Time within 5°C of actual peak	t ₃	20 -40 seconds	
Peak temperature in reflow	T _{peak}	245°C (+0/-5°C)	250°C (+0/-5°C)
Temperature gradient in cooling		6°C/second max	
Time 25 °C to Peak Temperature		8 minutes max.	

Note: The table is defined by UMEC's SMD magnetic components range, for the peak solder temperature rating of other components body, please refer to table 5-2 in IPC/JEDEC J-STD-020C

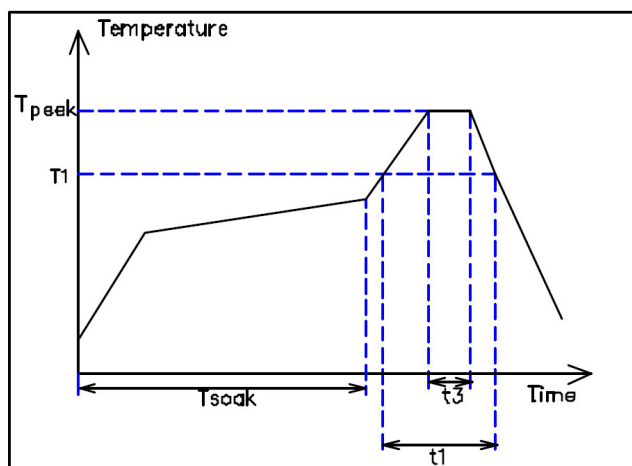


Figure 2. Reflow profile for soldering heat resistance testing

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PM-9630

File Number: E41429

Yellow Card® 

COMPANY

SUMITOMO BAKELITE CO LTD
5-8 HIGASHI-SHINAGAWA 2-CHOME
SHINAGAWA-KU, TOKYO 140-0002 Japan

MODEL INFO

SUMIKON: PM-9630
Phenolic (PF), furnished as pellets, granular material

FLAMMABILITY PROPERTIES	额定值	测试方法
Flammability		ANSI/UL 94
0.16 mm, Color: BK	V-0	
0.32 mm, Color: BK	V-0	
0.51 mm, Color: BK	V-0	
1.5 mm, Color: BK	V-0	
3.0 mm, Color: BK	V-0	
ISO/IEC FLAMMABILITY PROPERTIES	额定值	测试方法
Flammability		IEC 60695-11-10
0.16 mm, Color: BK	V-0	
0.32 mm, Color: BK	V-0	
0.51 mm, Color: BK	V-0	
1.5 mm, Color: BK	V-0	
3.0 mm, Color: BK	V-0	
Glow Wire Ignition Temperature (GWIT)		IEC 60695-2-13
0.51 mm	850 °C	

1.5 mm	930 °C	
3.0 mm	960 °C	
Glow Wire Flammability Index (GWFI)		IEC 60695-2-12
0.51 mm	960 °C	
1.5 mm	960 °C	
3.0 mm	960 °C	
ELECTRICAL PROPERTIES		
	额定值	测试方法
Hot-wire Ignition (HWI)		UL 746A
0.16 mm	PLC 4	
0.32 mm	PLC 3	
0.51 mm	PLC 0	
1.5 mm	PLC 0	
3.0 mm	PLC 0	
High Amp Arc Ignition (HAI)		UL 746A
0.16 mm	PLC 0	
0.32 mm	PLC 0	
0.51 mm	PLC 0	
1.5 mm	PLC 1	
3.0 mm	PLC 1	
Comparative Tracking Index (CTI)		UL 746A
Dielectric Strength		ASTM D149
High Voltage Arc Tracking Rate (HVTR)		
Volume Resistivity		ASTM D257/IEC 60093
High Voltage, Low Current Arc Resistance		
THERMAL PROPERTIES		
	额定值	测试方法
Relative Thermal Index - Electrical Strength		UL 746B
0.16 mm	150 °C	
0.32 mm	150 °C	

0.51 mm	170 °C	
1.5 mm	180 °C	
3.0 mm	180 °C	
Relative Thermal Index - Mechanical Impact		UL 746B
0.16 mm	150 °C	
0.32 mm	150 °C	
0.51 mm	155 °C	
1.5 mm	160 °C	
3.0 mm	170 °C	
Relative Thermal Index - Mechanical Strength		UL 746B
0.16 mm	150 °C	
0.32 mm	150 °C	
0.51 mm	160 °C	
1.5 mm	170 °C	
3.0 mm	180 °C	

Report Date: 1997-11-05

Revision Date: 2022-02-10

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OBMW2.E174837 - Magnet Wire - Component

Magnet Wire - Component

[See General Information for Magnet Wire - Component](#)**JUNG SHING WIRE CO LTD**

E174837

231 CHUNG CHENG RD

SEC 3

JEN-TEH

TAINAN, 717 TAIWAN

Material Designation	Mark Dsg	Base Coat	Top Coat	ANSI Type	Temp Class
AIW-2@, AIR(b), AINAR(b)	AIW-2@, AIR, AINAR	Polyamide-imide	-	MW 81-C	220
AIW-3@	AIW-3@	Polyamide-imide	-	MW 81-C	220
AIW@	AIW@	Polyamide-imide	-	MW 81-C	220
EIAIR(b), EIAINAR(b)	EIAIR(b), EIAINAR (b)	Polyester-imide	Polyamide-imide	MW 36-C	200 [#]
EIAIW@, EIW H@	EIAIW@, EIW H@	Polyester-imide	Polyamide-imide	MW 35-C	200 [#]
		Polyester-imide	Polyamide-imide	MW 73-C	200 [#]
EISVW, ESVR(b)	EISVW, ESVR	Polyester-imide	Polyamide	MW 76-C	180 [#]
EIW-2@	EIW-2@	Polyester-imide	-	MW 74-C	200 [#]
ESVALW	ESVALW	Polyester-imide	Polyamide	MW 76-A	180 [#]
LKY3ALW	LKY3ALW	Polyurethane	Polyamide	MW 80-A	155
		Polyurethane	Polyamide	MW 28-A	130 [#]
LOCKY3	LOCKY3	Polyurethane	Polyamide	MW 80-C	155

		Polyurethane	Polyamide	MW 28-C	130 [#]
LSFFW@	LSFFW@	Polyurethane	-	MW 79-C	155
LSFFY	LSFFY	Polyurethane	Polyamide	MW 80-C	155 [#]
PEW-2	PEW-2	Polyester	-	MW 5-C	155
PEW-3	PEW-3	Polyester	-	MW 5-C	155 [#]
PEW-4	PEW-4	Polyester	-	MW 5-C	155 [#]
PEW-5	PEW-5	Polyester	-	MW 5-C	155 [#]
PEY-2	PEY-2	Polyester	Polyamide	MW 24-C	155 [#]
PIW	PIW	Polyimide	-	MW 16-C	240
SF.EIW@	SF.EIW@	Polyester-imide	-	MW 77-C	180
SF.FLY@	SF.FLY@	Modified Polyester	Polyamide	MW 27-C	155
SFBW-2@	SFBW-2@	Polyurethane	-	MW 79-C	155
SFBY-2@	SFBY-2@	Polyurethane	Polyamide	MW 80-C	155 [#]
SFEIW-2@	SFEIW-2@	Polyester-imide	-	MW 77-C	180
SFFW-2@	SFFW-2@	Polyurethane	-	MW 79-C	155
SFFW@	SFFW@	Polyurethane	-	MW 79-C	155 [#]
SFFY-2@	SFFY-2@	Polyurethane	Polyamide	MW 80-C	155 [#]
		Polyurethane	Polyamide	MW 28-C	130 [#]
SFFY@	SFFY@	Polyurethane	Polyamide	MW 80-C	155 [#]
SFHW@	SFHW@	Polyurethane	-	MW 82-C	180

		Polyurethane	-	MW 85-C	180
SFHY@	SFHY@	Polyurethane	Polyamide	MW 83-C	180 [#]
UEW-4@	UEW-4@	Polyurethane	-	MW 75-C	130
UEWCS@, SFHW-2@	UEWCS@, SFHW-2@	Polyurethane	-	MW 82-C	180
		Polyurethane	-	MW 85-C	180
UEY-2@	UEY-2@	Polyurethane	Polyamide	MW 28-C	130
UEYT@	UEYT@	Polyurethane	Polyamide	MW 83-C	180
		Polyurethane	Polyamide	MW 80-C	155 [#]
		Polyurethane	Polyamide	MW 28-C	130 [#]

Material Designation	Mark Dsg	Base Coat	Top Coat	Bond Coat	ANSI/Conductor Type	Temp Class
AIALW	AIALW	Polyamide-imide	-	-	-	220
AILKN5@	AILKN5@	Polyamide-imide	-	Polyamide	-	200
AIN5NAR(b)	AIN5NAR	Polyamide-imide	-	Polyamide	-	200
EIW@	EIW@	Polyester-imide	-	-	-	220
FL.EILOCKY, SF.BLOCKBS	FL.EILOCKY, SF.BLOCKBS	Modified Polyester	Modified Polyamide	-	-	155
LSLKN2@	LSLKN2@	Polyurethane	-	Polyamide	MW 131-C	155
LSUEW	LSUEW	Polyurethane	-	-	-	130
PEALW	PEALW	Polyester	-	-	-	155
PESVW@	PESVW@	Polyester	-	Polyamide	-	155
PEW	PEW	Polyester	-	-	-	155
PINAR(b)	PINAR(b)	Polyimide	-	-	-	240
PIW-LZ(a)	PIW-LZ(a)	Polyimide	-	-	-	240

UL Product iQ™



OANZ2.E248834 - Insulating Tape - Component

Insulating Tape - Component

[See General Information for Insulating Tape - Component](#)**CHANGSHU FUBANG ADHESIVE TAPE LTD CO**

E248834

8 Fuqiang Road
 North Industrial Park, Zhitang Town
 Changshu, Jiangsu 215531 CHINA

Cat. No.	Color	Temp (°C)	Flame Retardant+	Optional Ratings	
				Sunlight Resistant+	Cold Resistant+
Fibrous Glass Cloth with rubber adhesive					
FCB-05	White	130	No	No	No
Non woven fiberglass cloth tapes with silicone adhesive					
FCB-01 (f)	White	180	No	No	No
PET film insulating tapes with acrylic adhesive					
FM-01 (a)	White	130	Yes	No	No
FM-01 (b)	Yellow	130	Yes	No	No
FM-02 (c)	White	130	Yes	No	No
FM-02 (d)	Yellow	130	Yes	No	No
PET film tapes with woven fiberglass reinforcement with acrylic adhesive					
FCB-02	White	155	No	No	No
Polyimide film insulating tapes with silicone adhesive					
FK-01%	Amber	180	No	No	No
FK-02	Amber	180	No	No	No
Woven fiberglass cloth reinforcements with acrylic adhesive					
FCB-03 (e)	White	155	No	No	No

+ Complies with "Flame Retardant" and/or "Cold Resistant" and/or "Sunlight Resistant" requirements if authorized in the table above and when so marked.

% - May be followed by four numbers indicating thickness. Example FK-01 0.052.

(a) - May be marked: "Adhesive side CTI 600 per IEC60112, 4th Edition (2003), Material Group I" and/or "Film side CTI 450(400) <1mm per IEC60112, 4th Edition (2003), Material Group II" or equivalent.

(b) - May be marked: "Adhesive side CTI 575 per IEC60112, 4th Edition (2003), Material Group II" and/or "Film side CTI 425(375) <1mm per IEC60112, 4th Edition (2003), Material Group II" or equivalent.

(c) - May be marked: "Adhesive side CTI 600 per IEC60112, 4th Edition (2003), Material Group I" and/or "Film side CTI 450(375) <1mm per IEC60112, 4th Edition (2003), Material Group II" or equivalent.

(d) - May be marked: "Adhesive side CTI 575 per IEC60112, 4th Edition (2003), Material Group II" and/or "Film side CTI 450(375) <1mm per IEC60112, 4th Edition (2003), Material Group II" or equivalent.

(e) - May be marked "Comparative Tracking Index (CTI) performance level on film and adhesive side per UL 746A/ASTM3638, indicates PLC=0, CTI equal to or greater than 600V" or equivalent.

(f) - May be marked "Film and Adhesive side CTI Performance Level Category PLC = 0, Voltage 600+, per UL 746A/ASTM D3638" or equivalent.

Marking: Company name or tradename "E248834" and catalog designation printed on the central paper core or outer package.

Last Updated on 2017-03-02

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OBOR2.E317427 - Varnishes - Component

Varnishes - Component

[See General Information for Varnishes - Component](#)**JOHN C DOLPH CO**

E317427

200 Von Roll Dr

Schenectady, NY 12306 USA

Varnish Designation	ANSI Type	Thermal Class (°C)		
		Twisted Pair	Helical Coil	Curved Electrode
74043	MW 35-C	180	-	-
74115, 74118	MW 35-C	180	-	-
AC-41, EB-41, AC-46, ER-41, ER-41-EF, AC-41-6, EB-41-EF	MW 28-C	130	-	-
	MW 35-C	180	-	-
AC-43, EB-43-HG, EB-43-FB, AC-43-66, EG-43/698-D, EG-43/759-D, ER-43/368-D	MW 24-C	155	155	-
	MW 28-C	130	130	-
	MW 35-C	180	180	-
AC-65	MW 35-C	180	-	-
BB-353	MW 35-A	200	220	-
	MW 35-C	200	180	-
BC-325	MW 35-C	200	200	-
BC-340	MW 24-C	155	180	-
	MW 35-C	180	200	-

BC-346A, BC-346-A, BC-346B, BC-346-E, BB-348, BB-346-HF, BC-346HF, BG-346A, BB-346-A, BB-346/A, BC-370				
	MW 16-C	240	200	-
	MW 24-C	155	180	-
	MW 28-C	155	130	-
	MW 30-C	180	180	-
	MW 35-C	200	200	-
	-	-	-	180
BC-352	MW 16-C	220	-	-
	MW 35-C	180	-	-
BC-356, BC-359, PDR-1695, BB-359FR, BB-359MS, BC-359/569-D	MW 24-C	155	155	-
	MW 28-C	130	130	-
	MW 35-C	180	200	-
BC-362	MW 16-C	220	180	-
	MW 35-C	180	200	-
BC-367@	MW 35-C	180	-	-
BC-380@	MW 35-C	180	-	-
BC-380@, BC-380/874-D	MW 35-C	180	-	-
CC-1080L, CC-1082, CC-1094, CC-1096, CC-1080L/530-D, CC-1250, CC-1260, CC-1260LV, CC-1260T, CN-1139, CC-1092-FC				
	MW 16-C	220	-	-
	MW 28-C	130	130	-



測試報告

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環隆科技股份有限公司 (UNIVERSAL MICROELECTRONICS CO., LTD.)

台中市工業區27路3號 (3, 27TH RD., TAICHUNG INDUSTRIAL PARK, TAICHUNG, TAIWAN, R. O. C.)

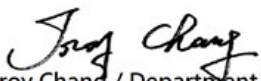
以下測試樣品係由申請廠商所提供及確認 (The following sample(s) was/were submitted and identified by the applicant as) :

送樣廠商(Sample Submitted By) : 環隆科技股份有限公司 (UNIVERSAL MICROELECTRONICS CO., LTD.)
樣品名稱(Sample Name) : TRANSFORMERS / INDUCTORS
樣品型號(Style/Item No.) : UT1XXXXX, UT2XXXXX, UT2XXXXX-XX, UT2XXXXX-XXTS,
UT3XXXXX, UT4XXXXX, UT5XXXXX, UT6XXXXX, UT9XXXXX,
UTBXXXXXX, SQXXXXXXXXXX SERIES

收件日(Sample Receiving Date) : 09-Dec-2022
測試期間(Testing Period) : 09-Dec-2022 to 16-Dec-2022

測試需求(Test Requested) : (1) 依據客戶指定，測試鎘、鉛、汞、六價鉻、多溴聯苯、多溴聯苯醚，
DBP, BBP, DEHP, DIBP。 (As specified by client, to test Cadmium, Lead, Mercury, Cr(VI), PBBs, PBDEs, DBP, BBP, DEHP, DIBP contents in the submitted sample(s).)
(2) 依據客戶指定，測試鹵素-氟、氯、溴、碘。 (As specified by client, to test Halogen-Fluorine, Chlorine, Bromine, Iodine in the submitted sample.)

測試結果(Test Results) : 請參閱下一頁 (Please refer to following pages.)


Troy Chang / Department Manager
Signed for and on behalf of
SGS TAIWAN LTD.
Chemical Laboratory - Taipei



PIN CODE: 6416E857

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台中市工業區27路3號 (3, 27TH RD., TAICHUNG INDUSTRIAL PARK, TAICHUNG, TAIWAN, R. O. C.)

測試部位敘述 (Test Part Description)

No.1 : 整體混測 (MIXED ALL PARTS)

測試結果 (Test Results)

測試項目 (Test Items)	測試方法 (Method)	單位 (Unit)	MDL	結果 (Result)
				No.1
鎘 (Cd) (Cadmium (Cd)) (CAS No.: 7440-43-9)	參考IEC 62321-5: 2013 · 以感應耦合電漿發射光譜儀分析。(With reference to IEC 62321-5: 2013, analysis was performed by ICP-OES.)	mg/kg	2	n.d.
鉛 (Pb) (Lead (Pb)) (CAS No.: 7439-92-1)		mg/kg	2	n.d.
汞 (Hg) (Mercury (Hg)) (CAS No.: 7439-97-6)	參考IEC 62321-4: 2013+ AMD1: 2017 · 以感應耦合電漿發射光譜儀分析。(With reference to IEC 62321-4: 2013+ AMD1: 2017, analysis was performed by ICP-OES.)	mg/kg	2	n.d.
六價鉻 Cr(VI) (Hexavalent Chromium Cr(VI)) (CAS No.: 18540-29-9)	參考IEC 62321-7-2: 2017 · 以紫外光-可見光分光光度計分析。(With reference to IEC 62321-7-2: 2017, analysis was performed by UV-VIS.)	mg/kg	8	n.d.
一溴聯苯 (Monobromobiphenyl)	參考IEC 62321-6: 2015 · 以氣相層析儀/質譜儀分析。(With reference to IEC 62321-6: 2015, analysis was performed by GC/MS.)	mg/kg	5	n.d.
二溴聯苯 (Dibromobiphenyl)		mg/kg	5	n.d.
三溴聯苯 (Tribromobiphenyl)		mg/kg	5	n.d.
四溴聯苯 (Tetrabromobiphenyl)		mg/kg	5	n.d.
五溴聯苯 (Pentabromobiphenyl)		mg/kg	5	n.d.
六溴聯苯 (Hexabromobiphenyl)		mg/kg	5	n.d.
七溴聯苯 (Heptabromobiphenyl)		mg/kg	5	n.d.
八溴聯苯 (Octabromobiphenyl)		mg/kg	5	n.d.
九溴聯苯 (Nonabromobiphenyl)		mg/kg	5	n.d.
十溴聯苯 (Decabromobiphenyl)		mg/kg	5	n.d.
多溴聯苯總和 (Sum of PBBs)		mg/kg	-	n.d.

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環隆科技股份有限公司 (UNIVERSAL MICROELECTRONICS CO., LTD.)

台中市工業區27路3號 (3, 27TH RD., TAICHUNG INDUSTRIAL PARK, TAICHUNG, TAIWAN, R. O. C.)

測試項目 (Test Items)	測試方法 (Method)	單位 (Unit)	MDL	結果 (Result)
				No.1
一溴聯苯醚 (Monobromodiphenyl ether)	參考IEC 62321-6: 2015 · 以氣相層析儀/ 質譜儀分析。(With reference to IEC 62321-6: 2015, analysis was performed by GC/MS.)	mg/kg	5	n.d.
二溴聯苯醚 (Dibromodiphenyl ether)		mg/kg	5	n.d.
三溴聯苯醚 (Tribromodiphenyl ether)		mg/kg	5	n.d.
四溴聯苯醚 (Tetrabromodiphenyl ether)		mg/kg	5	n.d.
五溴聯苯醚 (Pentabromodiphenyl ether)		mg/kg	5	n.d.
六溴聯苯醚 (Hexabromodiphenyl ether)		mg/kg	5	n.d.
七溴聯苯醚 (Heptabromodiphenyl ether)		mg/kg	5	n.d.
八溴聯苯醚 (Octabromodiphenyl ether)		mg/kg	5	n.d.
九溴聯苯醚 (Nonabromodiphenyl ether)		mg/kg	5	n.d.
十溴聯苯醚 (Decabromodiphenyl ether)		mg/kg	5	n.d.
多溴聯苯醚總和 (Sum of PBDEs)		mg/kg	-	n.d.
鄰苯二甲酸丁苯甲酯 (BBP) (Butyl benzyl phthalate (BBP)) (CAS No.: 85-68-7)	參考IEC 62321-8: 2017 · 以氣相層析儀/ 質譜儀分析。(With reference to IEC 62321-8: 2017, analysis was performed by GC/MS.)	mg/kg	50	n.d.
鄰苯二甲酸二丁酯 (DBP) (Dibutyl phthalate (DBP)) (CAS No.: 84-74-2)		mg/kg	50	n.d.
鄰苯二甲酸二異丁酯 (DIBP) (Diisobutyl phthalate (DIBP)) (CAS No.: 84-69-5)		mg/kg	50	n.d.
鄰苯二甲酸二(2-乙基己基)酯 (DEHP) (Di- (2-ethylhexyl) phthalate (DEHP)) (CAS No.: 117-81-7)		mg/kg	50	n.d.
氟 (F) (Fluorine (F)) (CAS No.: 14762-94- 8)	參考BS EN 14582: 2016 · 以離子層析儀 分析。(With reference to BS EN 14582: 2016, analysis was performed by IC.)	mg/kg	50	189
氯 (Cl) (Chlorine (Cl)) (CAS No.: 22537- 15-1)	參考BS EN 14582: 2016 · 以離子層析儀 分析。(With reference to BS EN 14582: 2016, analysis was performed by IC.)	mg/kg	50	n.d.
溴 (Br) (Bromine (Br)) (CAS No.: 10097- 32-2)	參考BS EN 14582: 2016 · 以離子層析儀 分析。(With reference to BS EN 14582: 2016, analysis was performed by IC.)	mg/kg	50	n.d.
碘 (I) (Iodine (I)) (CAS No.: 14362-44-8)	參考BS EN 14582: 2016 · 以離子層析儀 分析。(With reference to BS EN 14582: 2016, analysis was performed by IC.)	mg/kg	50	n.d.

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台中市工業區27路3號 (3, 27TH RD., TAICHUNG INDUSTRIAL PARK, TAICHUNG, TAIWAN, R. O. C.)

備註(Note) :

1. mg/kg = ppm ; 0.1wt% = 0.1% = 1000ppm
2. MDL = Method Detection Limit (方法偵測極限值)
3. n.d. = Not Detected (未檢出) ; 小於MDL / Less than MDL
4. "-" = Not Regulated (無規格值)
5. 樣品的測試是基於申請人要求混合測試，報告中的混合測試結果不代表其中個別單一材質的含量。
The sample(s) was/were analyzed on behalf of the applicant as mixing sample in one testing. The above result(s) was/were only given as the informality value.

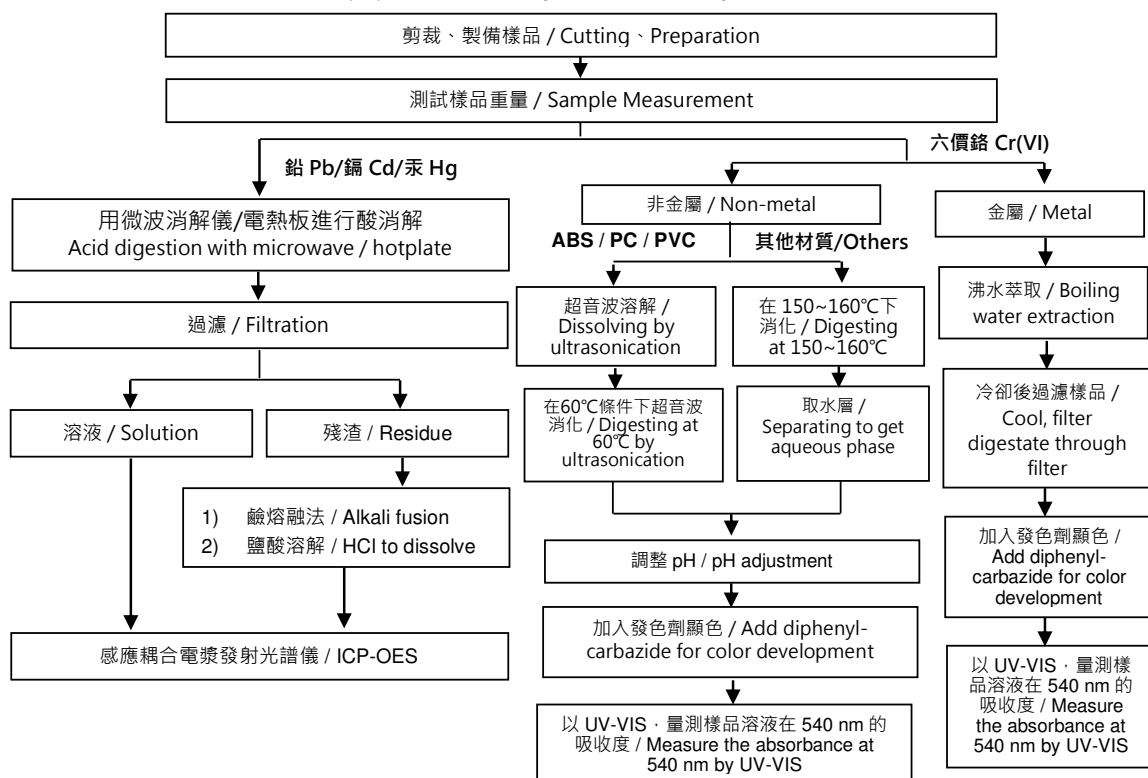
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台中市工業區27路3號 (3, 27TH RD., TAICHUNG INDUSTRIAL PARK, TAICHUNG, TAIWAN, R. O. C.)

重金屬流程圖 / Analytical flow chart of Heavy Metal

根據以下的流程圖之條件，樣品已完全溶解。(六價鉻測試方法除外)

These samples were dissolved totally by pre-conditioning method according to below flow chart. (Cr⁶⁺ test method excluded)

測試報告

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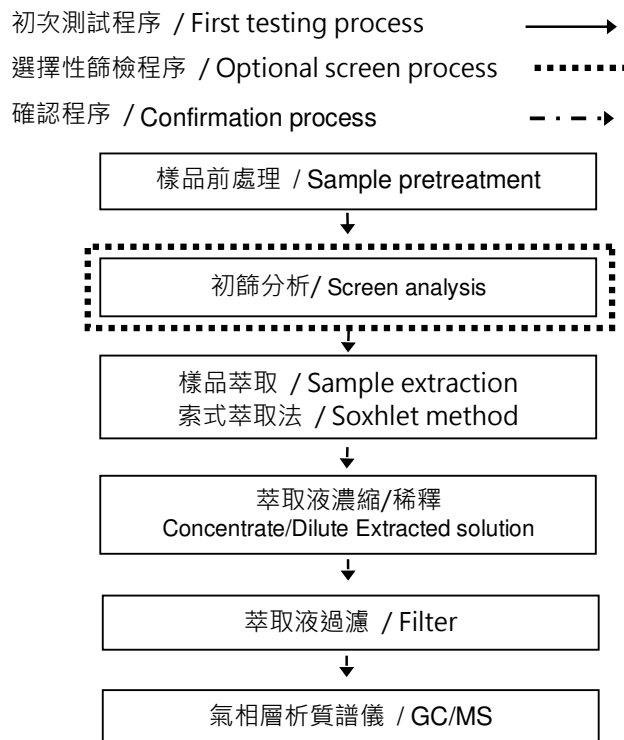
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台中市工業區27路3號 (3, 27TH RD., TAICHUNG INDUSTRIAL PARK, TAICHUNG, TAIWAN, R. O. C.)

多溴聯苯/多溴聯苯醚分析流程圖 / Analytical flow chart - PBBs/PBDEs



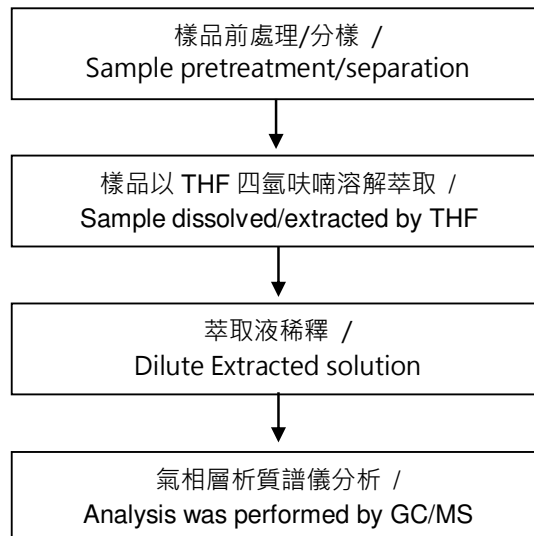
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台中市工業區27路3號 (3, 27TH RD., TAICHUNG INDUSTRIAL PARK, TAICHUNG, TAIWAN, R. O. C.)

可塑劑分析流程圖 / Analytical flow chart - Phthalate

【測試方法/Test method: IEC 62321-8】



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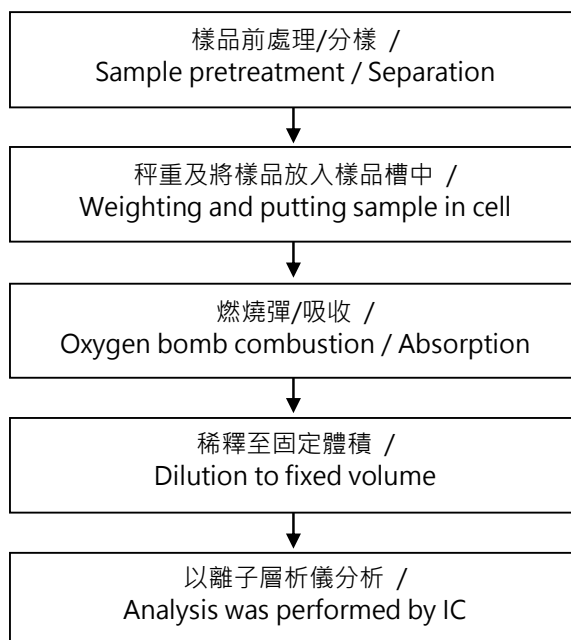
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台中市工業區27路3號 (3, 27TH RD., TAICHUNG INDUSTRIAL PARK, TAICHUNG, TAIWAN, R. O. C.)

鹵素分析流程圖 / Analytical flow chart - Halogen



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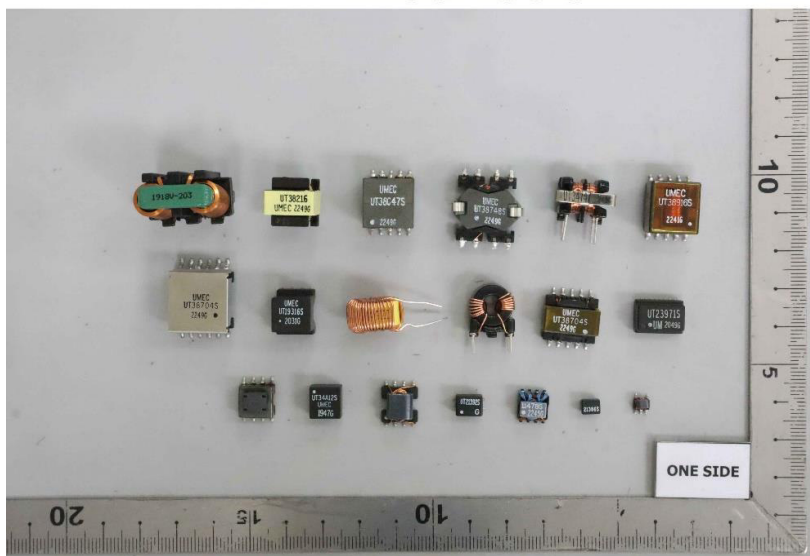
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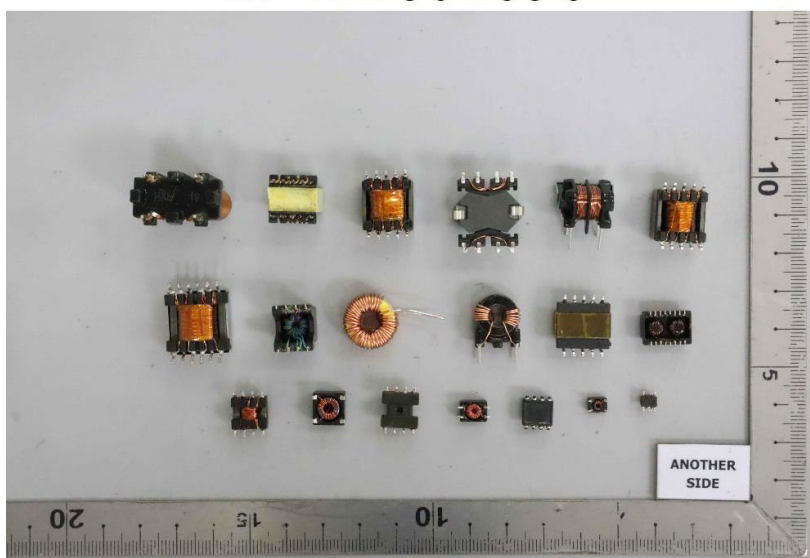
* 照片中如有箭頭標示，則表示為實際檢測之樣品/部位。*

(The tested sample / part is marked by an arrow if it's shown on the photo.)

ETR22C01890



ETR22C01890



** 報告結尾 (End of Report) **

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