TAI-TECH

Wire Wound Type Common Mode Filter

DCM3532F2SF-800T02

	ECN HISTORY LIST								
REV	DATE	DESCRIPTION	APPROVED	CHECKED	DRAWN				
1.0	18/07/02	新發行	楊祥忠	林志鴻	張展耀				
備									
註									

Wire Wound Type Common Mode Filter

DCM3532F2SF-800T02

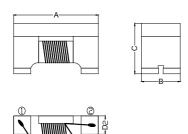
1. Features

- 1. High common mode impedance at high frequency effects excellent noise suppression performance.
- 2. DCM3532F2SF series realizes small size and low profile. 3.5x3.2x2.2 mm
- 3. 100% Lead(Pb) & Halogen-Free and RoHS compliant.



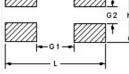


2. Dimension





Recommended PC Board Pattern



Series	A(mm)	B(mm)	C(mm)	D1(mm)	D2(mm)	L(mm)	H(mm)	G1(mm)	G2(mm)
3532F2SF	3.5±0.2	3.2±0.2	2.2±0.2	0.63±0.05	1.18±0.05	4.40	3.80	2.45	0.90

Units: mm

3. Part Numbering



A: Series

B: Dimension

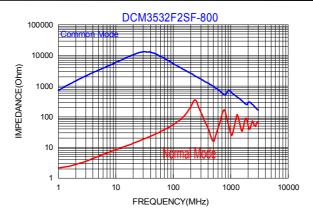
C: Material Ferrite Core
D: Number of Lines 2=2 lines
E: Type S=Shielded

F: Lead free

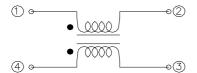
G: Inductance 800=80 μ H H: Rated Current 02=200mA

4. Specification

TAI-TECH Part Number	Inductance (μH) [100kHz]	DC Resistance (Ω) max.	Rated Current (mA)	Rated Volt. (Vdc)	IR (Ω) min.
DCM3532F2SF-800T02	75~160	1.3	200	50	10M

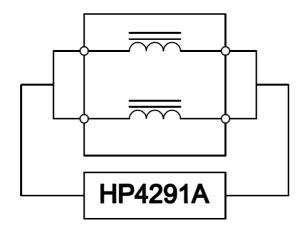


5. Schematic Diagram

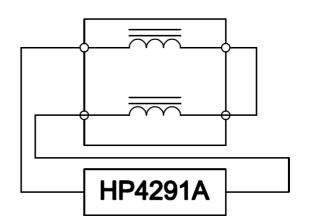


6. MEASURING CIRCUITS 2LINE

Common mode

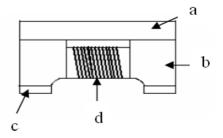


Differential mode



7. Materials

No.	Description	Specification
a.	Upper Plate	Ferrite
b.	Core	Ferrite Core
С	Termination	Tin (Pb Free)
d	Wire	Enameled Copper Wire



8. Reliability and Test Condition

Item	Performance	Test Condition
Operating temperature	-40~+125℃ (Including self - temperature rise)	
Storage temperature	-40~+125℃ (on board)	
Electrical Performance Te	est	
Z(common mode)		Agilent-4291A+ Agilent -16197A
DCR	Refer to standard electrical characteristics list.	Agilent-4338B
I.R.		Agilent4339
Temperature Rise Test	Rated Current < 1A ΔT 20°C Max Rated Current ≥ 1A ΔT 40°C Max	1.Applied the allowed DC current. 2.Temperature measured by digital surface thermometer
Reliability Test	1	
Life Test		Preconditioning: Run through IR reflow for 2 times.(IPC/JEDEC J-STD-020DClassification Reflow Profiles) Temperature: 125±2°C Applied current: rated current Duration: 1000±12hrs Measured at room temperature after placing for 24±2 hrs
Load Humidity		Preconditioning: Run through IR reflow for 2 times.(IPC/JEDEC J-STD-020DClassification Reflow Profiles Humidity: 85±2-%R.H, Temperature: 85°C±2°C Duration: 1000hrs Min. with 100% rated current
Moisture Resistance	Appearance: No damage. Inductance: within±10% of initial value Impedance: within±15% of initial value RDC: within ±15% of initial value and shall not exceed the specification value	Measured at room temperature after placing for 24±2 hrs Preconditioning: Run through IR reflow for 2 times. (IPC/JEDEC J-STD-020DClassification Reflow Profiles 1. Baked at50℃ for 25hrs, measured at room temperature after placing for 4 hrs. 2. Raise temperature to 65±2℃ 90-100%RH in 2.5hrs, and keep 3 hours, cool down to 25℃ in 2.5hrs. 3. Raise temperature to 65±2℃ 90-100%RH in 2.5hrs, and keep 3 hours, cool down to 25℃ in 2.5hrs,keep at 25℃ 80-100%RH for 15min and vibrate at the frequency of 10 to 55 Hz to 10 Hz, measure at room temperature after placing for 1~2 hrs.
Thermal shock		Preconditioning: Run through IR reflow for 2 times.(IPC/JEDEC J-STD-020Dclassification Reflow Profiles Condition for 1 cycle Step1: -40±2°C 30±5min Step2: 25±2°C ≤0.5min Step3: 125±2°C 30±5min Number of cycles: 500
Vibration		Measured at room temperature after placing for 24±2 hrs Oscillation Frequency: 10 ~ 2K ~ 10Hz for 20 minutes Equipment: Vibration checker Total Amplitude:1.52mm±10% Testing Time: 12 hours(20 minutes, 12 cycles each of 3 orientations).

Item	Performance	Test Condition					
Bending	Appearance : No damage.	Shall be mounted on a FR4 substrate of the following dimensions: >=0805 inch(2012mm):40x100x1.2mm <0805 inch(2012mm):40x100x0.8mm Bending depth: >=0805 inch(2012mm):1.2mm <0805 inch(2012mm):0.8mm duration of 10 sec.					
	Inductance: within±10% of initial value RDC: within ±15% of initial value and shall not exceed the specification value	Type Peak Normal Wave value duration (D) Wave form (Vi)ft/sec					
Shock		SMD 50 11 Half-sine 11.3					
		Lead 50 11 Half-sine 11.3					
Solder ability	More than 95% of the terminal electrode should be covered with solder。	Preheat: 150°C,60sec Solder: Sn96.5% Ag3% Cu0.5% Temperature: 245±5°C ∘ Flux for lead free: Rosin. 9.5% ∘ Dip time: 4±1sec ∘ Depth: completely cover the termination					
Resistance to Soldering Heat		Depth: completely cover the termination Temperature (°C) Time(s) Temperature ramp/immersion and emersion rate heat cycles 260 ±5 (solder temp) 10 ±1 25mm/s ±6 mm/s 1					
Terminal Strength	Appearance: No damage. Impedance: within±15% of initial value Inductance: within±10% of initial value RDC: within ±15% of initial value and shall not exceed the specification value	Preconditioning: Run through IR reflow for 2 times.(IPC/JEDEC J-STD-020DClassification Reflow Profiles With the component mounted on a PCB with the device to be tested, apply a force(>0805:1fg, <=0805:0.5kg)to the side of a device being tested. This force shall be applied for 60 +1 seconds. Also the force shall be applied gradually as not to apply a shock to the component being tested.					
		substrate press tool					

9. Soldering and Mounting

9-1. Soldering

Mildly activated rosin fluxes are preferred. TAI-TECH terminations are suitable for all wave and re-flow soldering systems. If hand soldering cannot be avoided, the preferred technique is the utilization of hot air soldering tools.

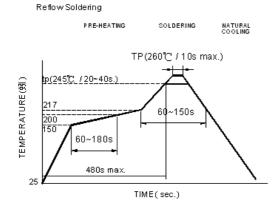
9-1.1 Solder re-flow:

Recommended temperature profiles for re-flow soldering in Figure 1.

9-1.2 Soldering Iron(Figure 2):

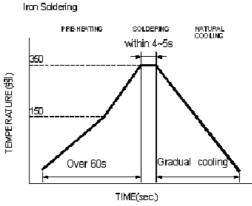
Products attachment with a soldering iron is discouraged due to the inherent process control limitations. In the event that a soldering iron must be employed the following precautions are recommended.

- Preheat circuit and products to 150°C
 Never contact the ceramic with the iron tip
 1.0mm
 350°C tip temperature (max)
 Never contact the ceramic with the iron tip
 1.0mm tip diameter of 1.0mm
 1.0mm tip diameter (max)
- 350°C tip temperature (max)
- Limit soldering time to 4~5 sec.



Reflow times: 3 times max.

Fig.1

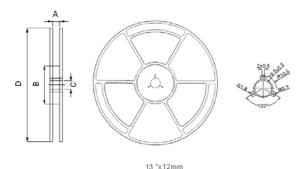


Iron Soldering times: 1 times max.

Fig.2

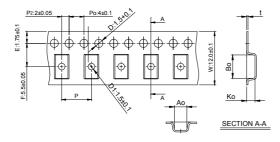
10. Packaging Information

10-1. Reel Dimension



Туре	A(mm)	B(mm)	C(mm)	D(mm)
13"x12mm	12±1.5	100±0.5	13.2±0.5	330±0.5

10-2. Tape Dimension / 12mm

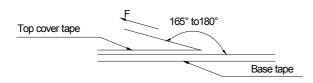


Series	size	Bo(mm)	Ao(mm)	Ko(mm)	P(mm)	t(mm)
DCM3532F2S	3532	3.80±0.1	3.40±0.1	2.50±0.1	8.0±0.1	0.26±0.05

10-3. Packaging Quantity

Chip size	Chip/Reel	Inner Box	Carton	
DCM3532F2S	2000	4000	32000	

9-4. Tearing Off Force



The force for tearing off cover tape is 15 to 80 grams in the arrow direction under the following conditions.

F	Room Temp.	Room Humidity	Room atm	Tearing Speed
	(℃)	(%)	(hPa)	mm/min
	5~35	45~85	860~1060	300

Application Notice

- · Storage Conditions(component level)
- To maintain the solderability of terminal electrodes:
- 1. TAI-TECH products meet IPC/JEDEC J-STD-020D standard-MSL, level 1.
- 3. Recommended products should be used within 12 months form the time of delivery.
- 4. The packaging material should be kept where no chlorine or sulfur exists in the air.
- Transportation
- 1. Products should be handled with care to avoid damage or contamination from perspiration and skin oils.
- 2. The use of tweezers or vacuum pick up is strongly recommended for individual components.
- 3. Bulk handling should ensure that abrasion and mechanical shock are minimized.



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西北臺慶科技股份有限公司 / TAI-TECH ADVANCED ELECTRONICS CO., LTD.

(臺慶精密電子(昆山)有限公司 / TAI-TECH ADVANCED ELECTRONICS (KUN-SHAN) CO. LTD.)

(慶邦電子元器件(泗洪)有限公司 / TAIPAQ ELECTRONICS (SI-HONG) CO., LTD.)

桃園市楊梅區幼獅工業區幼四路1號 / NO. 1, YOU 4TH ROAD, YOUTH INDUSTRIAL DISTRICT, YANG-MEI, TAO-YUAN CITY, TAIWAN, R. O. C.

(江蘇省昆山市篷朗昆嘉高科技工業區郭澤路 / GUO-ZE ROAD, KUNJIA HI-TECH INDUSTRIAL PARK, KUN-SHAN, JIANG-SU, CHINA)

(中國,江蘇省,宿遷市,泗洪縣,經濟開發區杭州路南側,建設北路東側 / THE SOUTH HANGZHOU ROAD AND THE EAST JIANSHE ROAD, ECONOMIC DEVELOPMENT ZONE, SIHONG COUNTY, SUQIANCITY, JIANGSU PROVINCE, P. R, CHINA)

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/on behalf of the applicant as):

樣品名稱(Sample Description)

WIREWOUND SERIES

樣品型號(Style/Item No.)

WCM · WCL · HSF · HDMI · DVI · BCM · PCM · TCM · LCM · LPF · TXF · ACM · DCM · WIH ·

BPH · TNH · YCM · STF SERIES

收件日期(Sample Receiving Date)

2018/03/15

測試期間(Testing Period)

2018/03/15 TO 2018/03/22

測試結果(Test Results) :

請參閱下一頁 (Please refer to following pages).



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測試結果(Test Results)

測試部位(PART NAME)No.1

: 整體混測 (MIXED ALL PARTS)

測試項目 (Test Items)	單位 (Unit)	測試方法 (Method)	方法偵測 極限値 (MDL)	結果 (Result)
				No. 1
鍋 / Cadmium (Cd)	mg/kg	参考IEC 62321-5 (2013),以感應耦合 電漿原子發射光譜儀檢測. / With	2	n. d.
鉛 / Lead (Pb)	mg/kg	reference to IEC 62321-5 (2013) and performed by ICP-AES.	2	n. d.
汞 / Mercury (Hg)	mg/kg	参考IEC 62321-4 (2013),以感應耦合 電漿原子發射光譜儀檢測. / With reference to IEC 62321-4 (2013) and performed by ICP-AES.	2	n. d.
六價络 / Hexavalent Chromium Cr(VI)	mg/kg	参考IEC 62321-7-2 (2017),以UV-VIS 檢測. / With reference to IEC 62321-7-2 (2017) and performed by UV-VIS.	8	n. d.
多溴聯苯總和 / Sum of PBBs	mg/kg		_	n. d.
一溴聯苯 / Monobromobiphenyl	mg/kg	[5	n. d.
二溴聯苯 / Dibromobiphenyl	mg/kg]	5	n. d.
三溴聯苯 / Tribromobiphenyl	mg/kg	l	5	n. d.
四溴聯苯 / Tetrabromobiphenyl	mg/kg	參考IEC 62321-6 (2015),以氣相層析	5	n. d.
五溴聯苯 / Pentabromobiphenyl	mg/kg	/質譜儀檢測. / With reference to	5	n. d.
六溴聯苯 / Hexabromobiphenyl	mg/kg	IEC 62321-6 (2015) and performed by GC/MS.	5	n. d.
七溴聯苯 / Heptabromobiphenyl	mg/kg	by GO/ MO.	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.

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測試項目 (Test Items)	單位 (Unit)	測試方法 (Method)	方法偵測 極限値 (MDL)	結果 (Result) No.1
多溴聯苯醚總和 / Sum of PBDEs	mg/kg		-	n. d.
一溴聯苯醚 / Monobromodiphenyl ether	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	4 HIRO 20001 0 (2015)	5	n. d.
四溴聯苯醚 / Tetrabromodiphenyl ether	mg/kg	參考IEC 62321-6 (2015),以氣相層析	5	n. d.
五溴聯苯醚 / Pentabromodiphenyl ether	mg/kg	/質譜儀檢測. / With reference to IEC 62321-6 (2015) and performed	5	n. d.
六溴聯苯醚 / Hexabromodiphenyl ether	mg/kg	by GC/MS.	5	n. d.
七溴聯苯醚 / Heptabromodiphenyl ether	mg/kg	by dc/ms.	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.
六溴環十二烷及所有主要被辨別出的異構物 / Hexabromocyclododecane (HBCDD) and all major diastereoisomers identified (α - HBCDD, β - HBCDD, γ - HBCDD) (CAS No.: 25637-99-4 and 3194-55-6 (134237-51-7, 134237-50-6, 134237-52-8))	mg/kg	参考IEC 62321 (2008),以氣相層析/ 質譜儀檢測. / With reference to IEC 62321 (2008). Analysis was performed by GC/MS.	5	n. d.
鹵素 / Halogen				
鹵素(氟)/ Halogen-Fluorine (F) (CAS No.: 14762-94-8)	mg/kg		50	n. d.
鹵素(氣)/ Halogen-Chlorine (C1) (CAS No.: 22537-15-1)	mg/kg	参考BS EN 14582 (2016),以離子層析 儀分析. / With reference to BS EN	50	n. d.
鹵素(溴)/ Halogen-Bromine (Br) (CAS No.: 10097-32-2)	mg/kg	14582 (2016). Analysis was performed by IC.	50	n. d.
鹵素(碘)/ Halogen-Iodine(I)(CAS No.: 14362-44-8)	mg/kg		50	n. d.

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測試項目 (Test Items)	單位 (Unit)	測試方法 (Method)	方法侦测 極限値 (MDL)	結果 (Result) No.1
鄰苯二甲酸丁苯甲酯 / BBP (Butyl Benzyl phthalate) (CAS No.: 85-68-7)	mg/kg		50	n. d.
鄰苯二甲酸二丁酯 / DBP (Dibutyl phthalate) (CAS No.: 84-74-2)	mg/kg		50	n. d.
鄉苯二甲酸二 (2-乙基己基)酯 / DEHP (Di- (2-ethylhexyl) phthalate) (CAS No.: 117-81-7)	mg/kg	参考IEC 62321-8 (2017),以氣相層析 儀/質譜儀檢測. / With reference to IEC 62321-8 (2017). Analysis was performed by GC/MS.	50	n. d.
鄰苯二甲酸二異丁酯 / DIBP (Di- isobutyl phthalate) (CAS No.: 84-69- 5)	mg/kg		50	n. d.
鄰苯二甲酸二異癸酯 / DIDP (Di- isodecyl phthalate) (CAS No.: 26761- 40-0; 68515-49-1)	mg/kg		50	n. d.
鄰苯二甲酸二異壬酯 / DINP (Di- isononyl phthalate) (CAS No.: 28553- 12-0; 68515-48-0)	mg/kg		50	n. d.
鄰苯二甲酸二正辛酯 / DNOP (Di-n-octyl phthalate) (CAS No.: 117-84-0)	mg/kg		50	n. d.
鄰苯二甲酸二正己酯 / DNHP (Di-n- hexyl phthalate) (CAS No.: 84-75-3)	mg/kg		50	n. d.
鄰苯二甲酸二戊酯 / DNPP (Di-n-pentyl phthalate) (CAS No.: 131-18-0)	mg/kg		50	n. d.
绨 / Antimony (Sb)	mg/kg	参考US EPA 3052 (1996),以感應耦合 電漿原子發射光譜儀檢測. / With reference to US EPA 3052 (1996). Analysis was performed by ICP-AES.	2	n. d.
鈹 / Beryllium (Be)	mg/kg		2	n. d.

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測試項目 (Test Items)	單位 (Unit)	測試方法 (Method)	方法侦测 極限値 (MDL)	結果 (Result) No.1
全氟辛烷磺酸 / Perfluorooctane sulfonates (PFOS-Acid, Metal Salt, Amide)		参考US EPA 3550C (2007),以液相層析/質譜儀檢測. / With reference to US EPA 3550C (2007). Analysis was	10	n. d.
全氟辛酸 / PFOA (CAS No.: 335-67-1)	mg/kg	performed by LC/MS.	10	n. d.
聚氯乙烯 / PVC	**	以紅外光譜分析及焰色法檢測. / Analysis was performed by FTIR and FLAME Test.	_	Negative

備註(Note):

- 1. mg/kg = ppm ; 0.1wt% = 1000ppm
- 2. n.d. = Not Detected (未檢出)
- 3. MDL = Method Detection Limit (方法偵測極限值)
- 4. "-" = Not Regulated (無規格值)
- 5. **= Qualitative analysis (No Unit) 定性分析(無單位)
- 6. Negative = Undetectable 陰性(未偵測到); Positive = Detectable 陽性(已偵測到)
- 7. 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 samples was/were analyzed on behalf of the applicant as mixing sample in one testing. The above results was/were only given as the informality value.)

PFOS参考資訊(Reference Information): 持久性有機污染物 POPs - (EU) 757/2010

PFOS濃度在物質或製備中不得超過0.001%(10ppm),在半成品、成品或零部件中不得超過0.1%(1000ppm),在紡織品或塗 層材料中不得超過1µg/m2。

(Outlawing PFOS as substances or preparations in concentrations above 0.001% (10ppm), in semi-finished products or articles or parts at a level above 0.1%(1000ppm), in textiles or other coated materials above $1\mu g/m^2$.)

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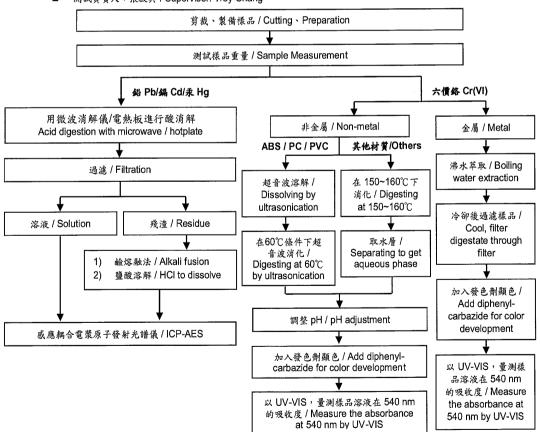
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<u> 重金屬流程圖 / Analytical flow chart of Heavy Metal</u>

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)

測試人員:王志瑋 / Technician: JR Wang

測試負責人:張啟興 / Supervisor: Troy Chang



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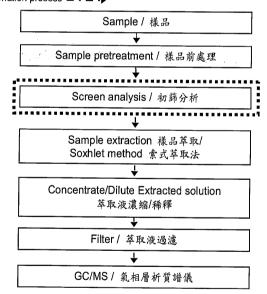
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多溴聯苯/多溴聯苯醚分析流程圖 / Analytical flow chart - PBB/PBDE

- 測試人員:涂雅苓 / Technician: Yaling Tu
- 測試負責人:張啟興 / Supervisor: Troy Chang

初次測試程序 / First testing process _ 選擇性篩檢程序 / Optional screen process •••••• 確認程序 / Confirmation process _ . _ . ▶



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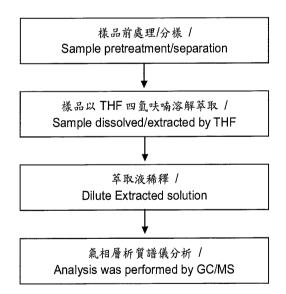
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可塑劑分析流程圖 / Analytical flow chart - Phthalate

測試人員:徐毓明 / Technician: Andy Hsu

測試負責人:張啟興 / Supervisor: Troy Chang

【测試方法/Test method: IEC 62321-8】



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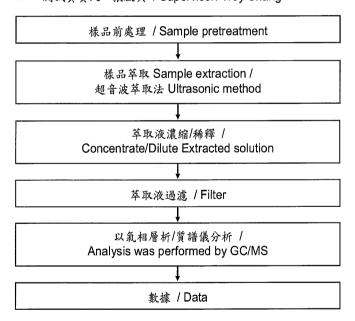
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六溴環十二烷分析流程圖 / Analytical flow chart - HBCDD

- 測試人員:涂雅苓 / Technician: Yaling Tu
- 測試負責人:張啟興 / Supervisor: Troy Chang



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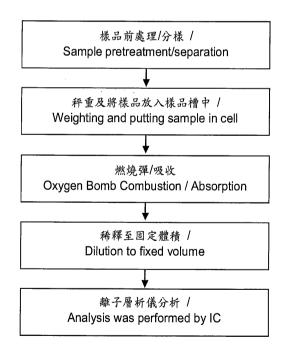
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鹵素分析流程圖 / Analytical flow chart - Halogen

- 測試人員: 陳恩臻 / Technician: Rita Chen
- 測試負責人:張啟興 / Supervisor: Troy Chang



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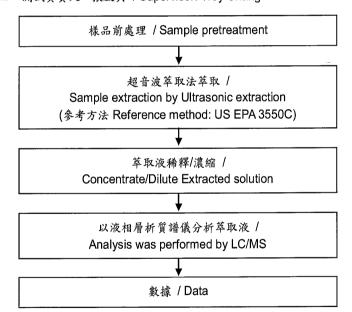
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全氟辛酸/全氟辛烷磺酸分析流程圖 / Analytical flow chart - PFOA/PFOS

- 測試人員:涂雅苓 / Technician: Yaling Tu
- 測試負責人:張啟興 / Supervisor: Troy Chang



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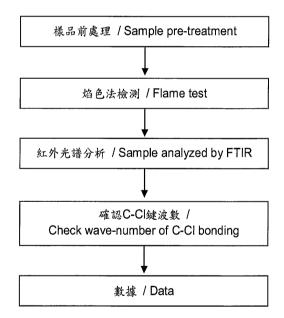
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聚氯乙烯物質判定分析流程圖 / Analysis flow chart - PVC

- 測試人員:涂雅苓 / Technician: Yaling Tu
- 測試負責人:張啟興 / Supervisor: Troy Chang



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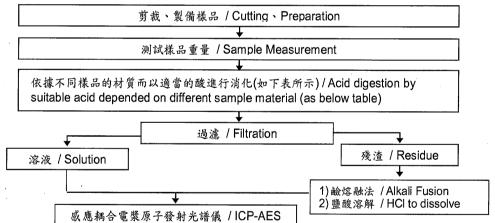
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> 根據以下的流程圖之條件,樣品已完全溶解。 / These samples were dissolved totally by pre-conditioning method according to below flow chart.

- 測試人員:王志瑋 / Technician: JR Wang
- 測試負責人:張啟興 / Supervisor: Troy Chang

元素以 ICP-AES 分析的消化流程圖 (Flow Chart of digestion for the elements analysis performed by ICP-AES)



鋼,銅,鋁,焊錫 / Steel, copper, aluminum, solder	王水,硝酸,鹽酸,氫氣酸,雙氧水/
	Aqua regia, HNO ₃ , HCl, HF, H ₂ O ₂
玻璃 / Glass	硝酸,氫氟酸 / HNO ₃ /HF
金,鉑,鈀,陶瓷 / Gold, platinum, palladium, ceramic	王水 / Aqua regia
銀 / Silver	硝酸 / HNO ₃
塑膠 / Plastic	硫酸,雙氧水,硝酸,鹽酸 / H ₂ SO ₄ , H ₂ O ₂ , HNO ₃ , HCI
其他 / Others	加入適當的試劑至完全溶解 / Added appropriate reagent to total digestion

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SG

測試報告

號碼(No.): CE/2018/34305

日期(Date): 2018/03/22

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Test Report

西北臺慶科技股份有限公司 / TAI-TECH ADVANCED ELECTRONICS CO., LTD.

(臺慶精密電子(昆山)有限公司 / TAI-TECH ADVANCED ELECTRONICS (KUN-SHAN) CO. LTD.)

(慶邦電子元器件(泗洪)有限公司 / TAIPAQ ELECTRONICS (SI-HONG) CO., LTD.)

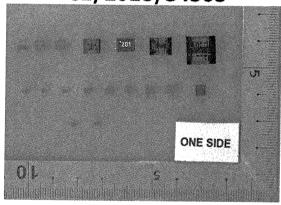
桃園市楊梅區幼獅工業區幼四路1號 / NO. 1, YOU 4TH ROAD, YOUTH INDUSTRIAL DISTRICT, YANG-MEI, TAO-YUAN CITY, TAIWAN, R. O. C.

(江蘇省昆山市篷朗昆嘉高科技工業區郭澤路 / GUO-ZE ROAD, KUNJIA HI-TECH INDUSTRIAL PARK, KUN-SHAN, JIANG-SU, CHINA)

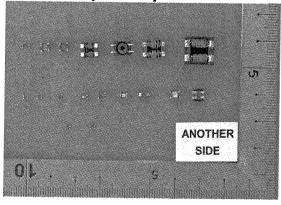
(中國,江蘇省,宿遷市,泗洪縣,經濟開發區杭州路南側,建設北路東側 / THE SOUTH HANGZHOU ROAD AND THE EAST JIANSHE ROAD, ECONOMIC DEVELOPMENT ZONE, SIHONG COUNTY, SUQIANCITY, JIANGSU PROVINCE, P, R, CHINA)

> * 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.)

> > CE/2018/34305



CE/2018/34305



** 報告結尾 (End of Report) **

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