

Specification for Approval

Date: 2023/08/29

Customer : _____

TAI-TECH P/N: HSF1210F2SV-SERIES-HD

CUSTOMER P/N: _____

DESCRIPTION: _____

QUANTITY: _____ pcs

REMARK:		
Customer Approval Feedback		

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Wire Wound Type Common Mode Filter

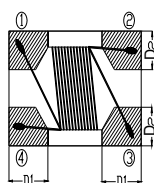
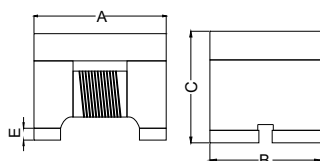
HSF1210F2SV-SERIES-HD

1. Features

1. High common mode impedance at high frequency cause excellent noise suppression performance.
2. HSF1210F2SV series realizes small size and low profile. 1.2x1.0x0.9 mm.
3. 100% Lead (Pb) & Halogen-Free and RoHS compliant.
4. Excellent for USB3.0
5. High reliability -Reliability tests comply with AEC-Q200
6. Operating temperature-55~+125°C (Including self - temperature rise)



2. Dimension



Series	A(mm)	B(mm)	C(mm)	D1(mm)	D2(mm)	E(mm)
1210F2SV	1.2±0.2	1.0±0.2	0.9 max.	0.35±0.1	0.35±0.1	0.03 min.

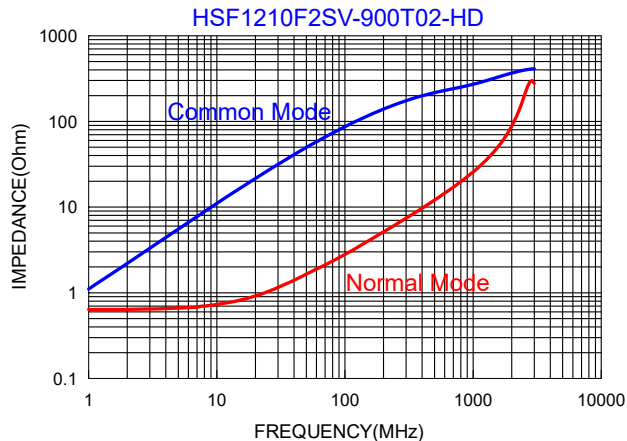
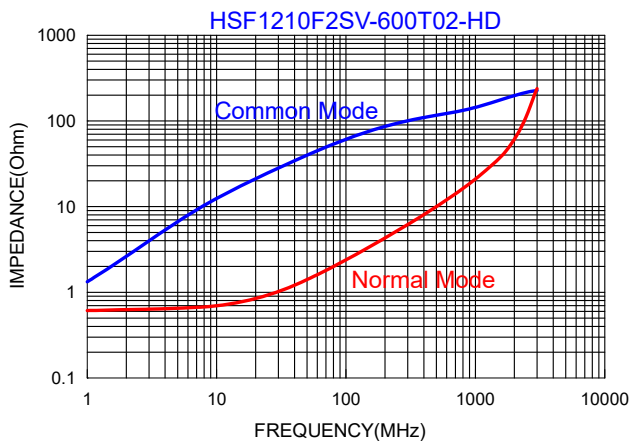
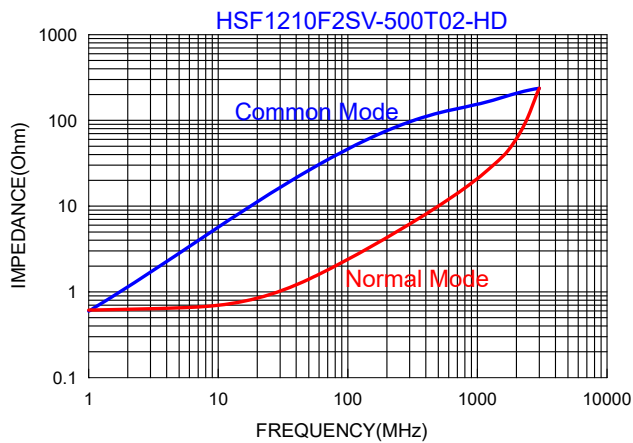
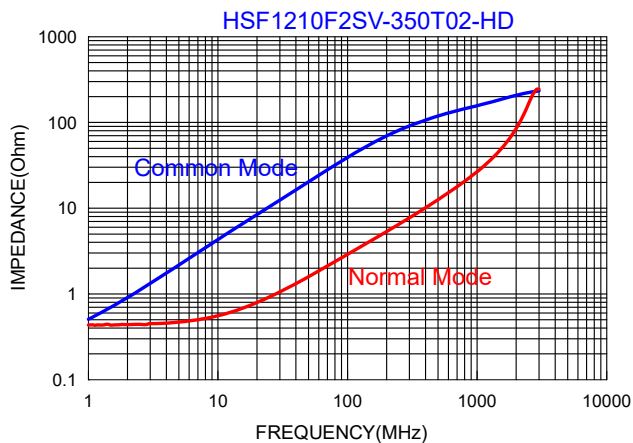
3. Part Numbering

HSF	1210	F	2	S	V	-	900	T	02	-	HD
A	B	C	D	E	F		G	H	I		J

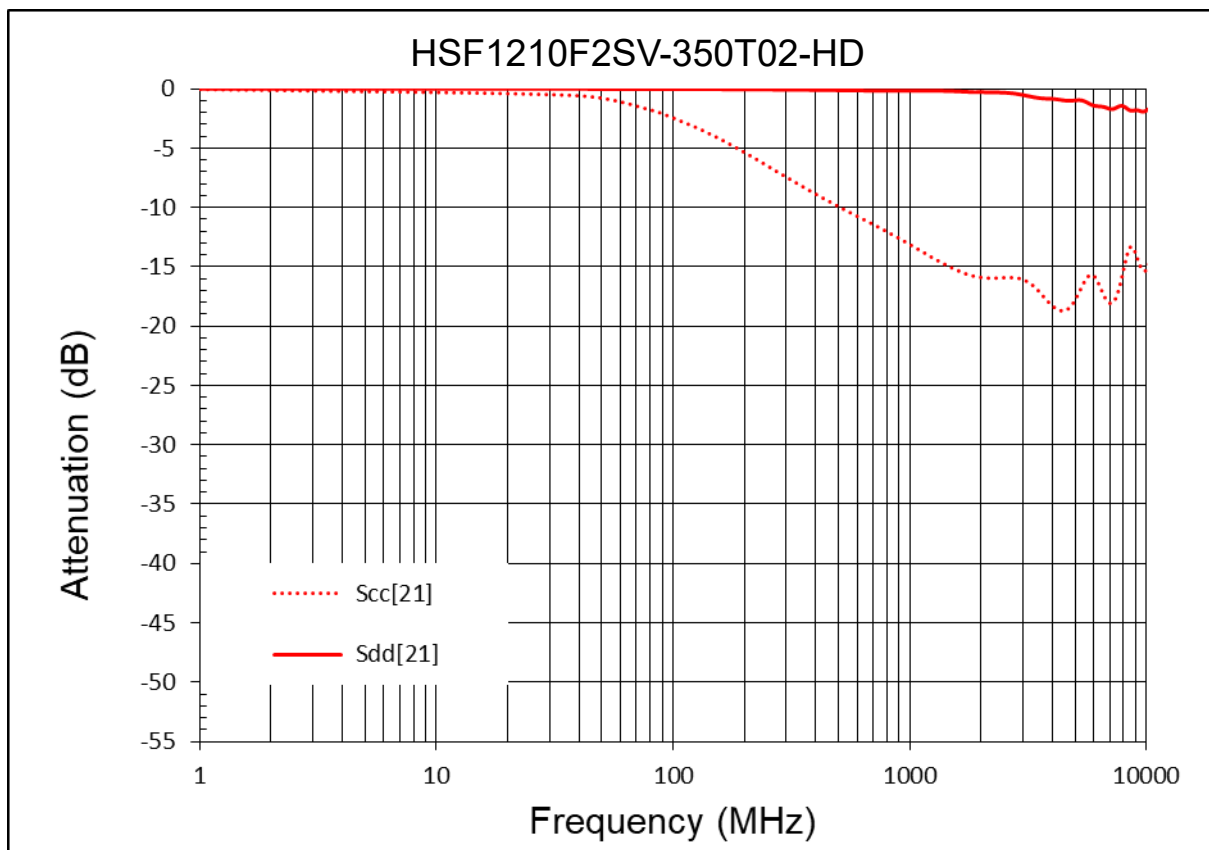
- A: Series
 B: Dimension
 C: Material Ferrite
 D: Number of Lines 2=2 lines
 E: Type S=Shielded, N=Unshielded
 F: Category Code V=Vehicle
 G: Impedance 900=90Ω
 H: Packaging T=Taping and Reel, B=Bulk
 I: Rated Current 02=200mA
 J: Control S/N

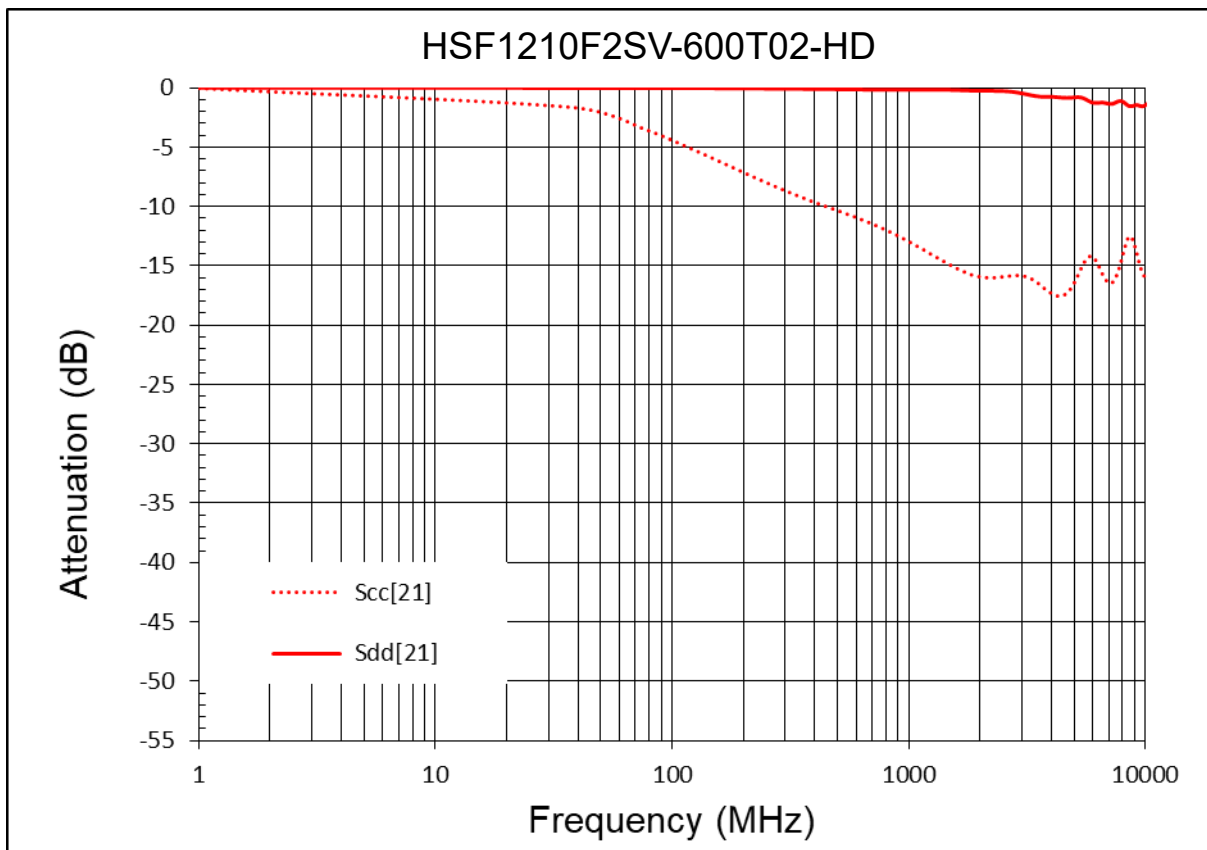
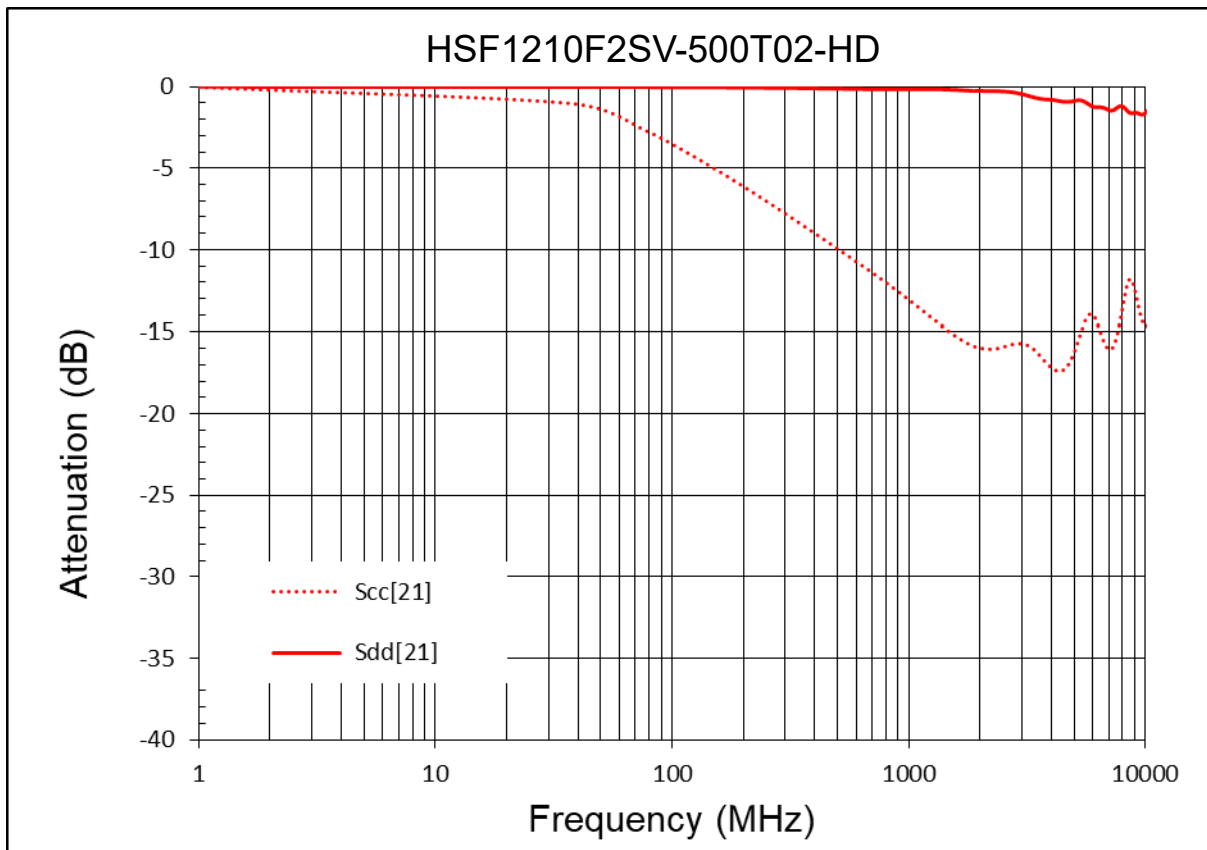
4. Specification

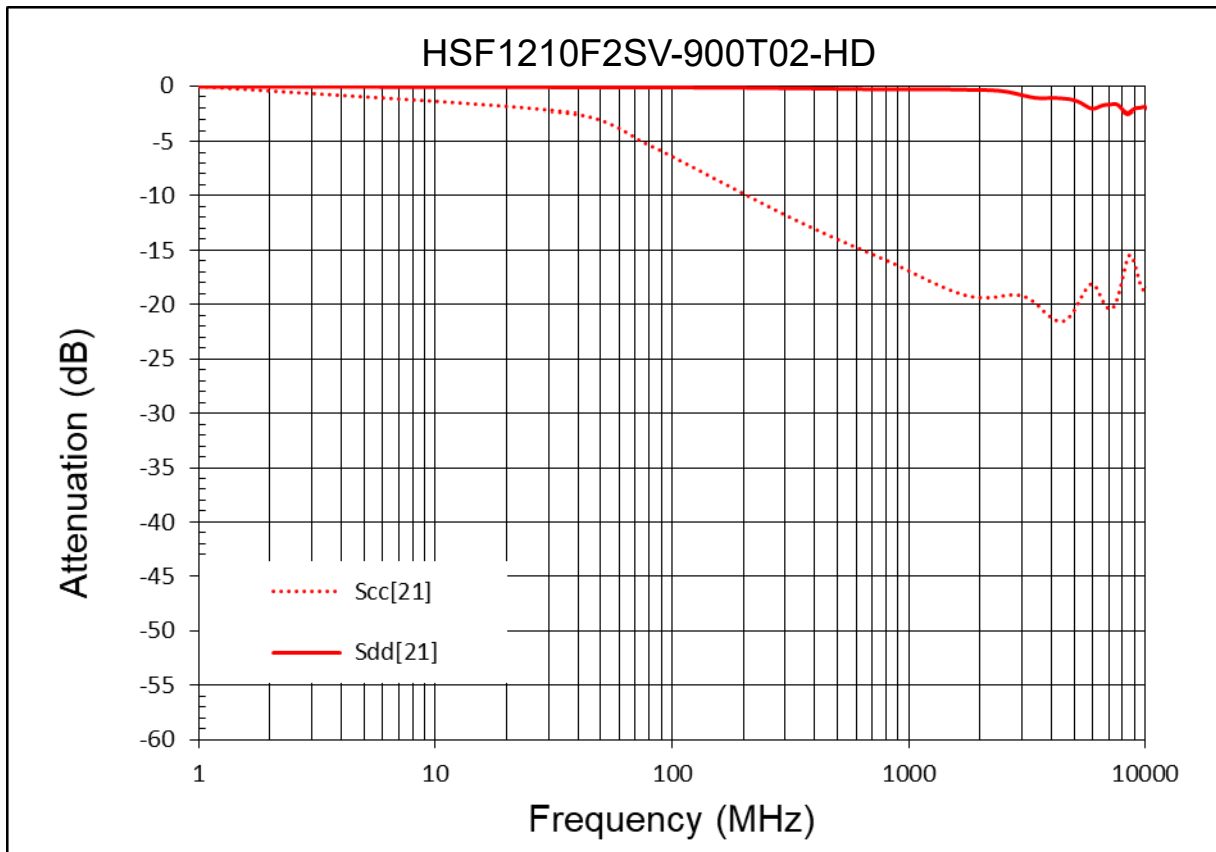
TAI-TECH Part Number	Common mode Impedance (Ω)	Test Frequency (MHz)	DC Resistance (Ω) max.	Rated Current (mA) max.	Rated Volt. (Vdc) max.	Withstand Volt. (Vdc) max.	IR (Ω) min.
HSF1210F2SV-350T02-HD	35±25%	100	0.30	200	50	125	10M
HSF1210F2SV-500T02-HD	50±25%	100	0.30	250	50	125	10M
HSF1210F2SV-600T02-HD	60±25%	100	0.30	250	50	125	10M
HSF1210F2SV-900T02-HD	90±25%	100	0.40	200	50	125	10M



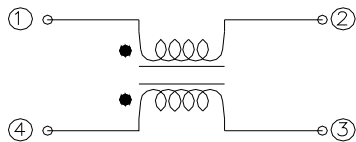
Sdd21&Scs21





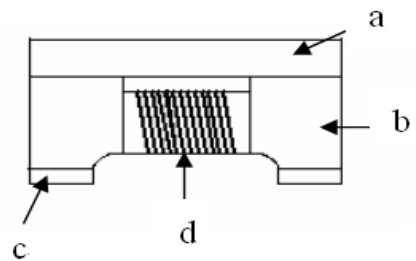


5. Schematic Diagram



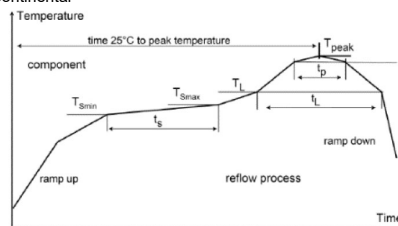
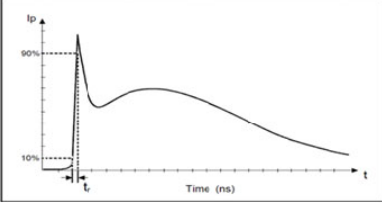
6. Materials

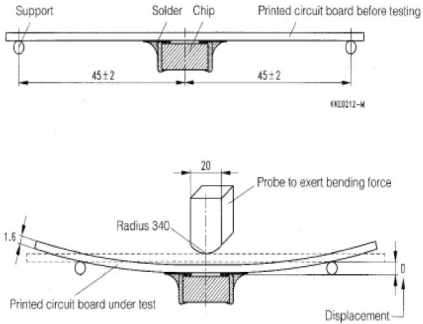
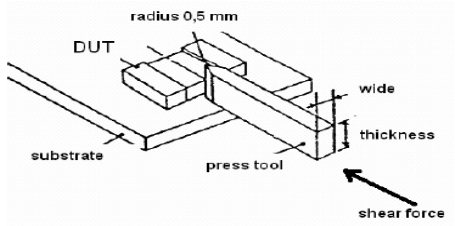
No.	Description	Specification
a.	Upper Plate	Ferrite
b.	Core	Ferrite Core
c.	Termination	Ag/Ni/Sn
d.	Wire	Enameled Copper Wire



7. Reliability and Test Condition

Item	Performance	Test Condition															
Operating temperature	-55~+125°C (Including self - temperature rise)																
Storage temperature	-55~+125°C (on board)																
Electrical Performance Test																	
Z(common mode)	Refer to standard electrical characteristics list.	Keysight E4991B + Keysight 16197A															
DCR		Agilent-34420A Agilent-4338B															
I.R.		Chroma 19073															
Temperature Rise Test	Rated Current ΔT 40°C Max	1.Applied the allowed DC current. 2.Temperature measured by digital surface thermometer															
Reliability Test																	
High Temperature Exposure(Storage) AEC-Q200	Appearance : No damage. Impedance : within±15% of initial value RDC : within ±15% of initial value and shall not exceed the specification value	Preconditioning: Run through reflow for 3 times.(IPC/JEDEC J-STD-020E Classification Reflow Profiles) Temperature : 125±2°C Duration : 1000hrs Min. Measured at room temperature after placing for 24±4 hrs.															
Temperature Cycling AEC-Q200		Preconditioning: Run through reflow for 3 times.(IPC/JEDEC J-STD-020E Classification Reflow Profiles) Condition for 1 cycle Step1 : -55±2°C 30min Min. Step2 : 125±2°C transition time 1min MAX. Step3 : 125±2°C 30min Min. Step4 : Low temp. Transition time 1min MAX. Number of cycles : 1000 Measured at room temperature after placing for 24±4 hrs.															
Moisture Resistance (AEC-Q200)		t=24 hours/cycle. Note: Steps 7a & 7b not required. Unpowered. Measurement at 24±2 hours after test conclusion.															
Biased Humidity (AEC-Q200)																	
High Temperature Operational Life (AEC-Q200)		Preconditioning: Run through reflow for 3 times.(IPC/JEDEC J-STD-020E Classification Reflow Profiles) Humidity : 85±3% R.H. Temperature : 85°C ±2°C Duration : 1000hrs Min. Measured at room temperature after placing for 24±4hrs.															
External Visual		Appearance : No damage.															
Physical Dimension		According to the product specification size measurement															
Resistance to Solvents	Add aqueous wash chemical - OKEM clean or equivalent.																
Mechanical Shock	Appearance : No damage. Impedance : within±15% of initial value RDC : within ±15% of initial value and shall not exceed the specification value	<table border="1"> <thead> <tr> <th>Type</th> <th>Peak value (g's)</th> <th>Normal duration (D) (ms)</th> <th>Wave form</th> <th>Velocity change (V)ft/sec</th> </tr> </thead> <tbody> <tr> <td>SMD</td> <td>100</td> <td>6</td> <td>Half-sine</td> <td>12.3</td> </tr> <tr> <td>Lead</td> <td>100</td> <td>6</td> <td>Half-sine</td> <td>12.3</td> </tr> </tbody> </table> 3 shocks in each direction along 3 perpendicular axes. (18 shocks).	Type	Peak value (g's)	Normal duration (D) (ms)	Wave form	Velocity change (V)ft/sec	SMD	100	6	Half-sine	12.3	Lead	100	6	Half-sine	12.3
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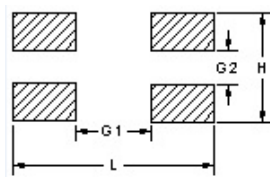
Item	Performance	Test Condition																																												
Vibration		Preconditioning: Run through reflow for 3 times.(IPC/JEDEC J-STD-020E Classification Reflow Profiles) Oscillation Frequency : 10Hz~2kHz~ 10Hz for 20 minutes Equipment : Vibration checker Total Amplitude : 5g Testing Time : 12 hours (20 minutes, 12 cycles each of 3 orientations)																																												
Resistance to Soldering Heat	Appearance : No damage. Impedance : within±15% of initial value RDC : within ±15% of initial value and shall not exceed the specification value	Test condition : <table border="1" data-bbox="946 378 1426 495"> <thead> <tr> <th>Temperature(°C)</th> <th>Time(s)</th> <th>Temperature ramp/immersion and emersion rate</th> <th>Number of heat cycles</th> </tr> </thead> <tbody> <tr> <td>260 ±5 (solder temp)</td> <td>10 ±1</td> <td>25mm/s ±6 mm/s</td> <td>1</td> </tr> </tbody> </table> Depth: completely cover the termination Continental  <table border="1" data-bbox="946 808 1417 981"> <thead> <tr> <th>Component Size</th> <th>Ramp up to 150°C</th> <th>T_{Smin}</th> <th>t_s</th> <th>T_{Smax}</th> <th>T_L</th> <th>t_L</th> <th>T_{peak}</th> <th>t_p**</th> <th>Ramp down</th> </tr> </thead> <tbody> <tr> <td>Thickness < 1.6mm or Thickness 1.6mm-2.5mm and volume < 300 mm³</td> <td>3.0±0.1°C/s</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>≥260°C</td> <td>≥40s</td> <td></td> </tr> <tr> <td>Thickness 1.6mm-2.5mm and volume 300-2000 mm³ or Thickness > 2.5mm and volume < 300 mm³</td> <td rowspan="3">The component shall be specified for usage in serial production with up to 3.0°C/s</td> <td rowspan="3">≥190°C</td> <td rowspan="3">≥110s</td> <td rowspan="3">≥200°C</td> <td rowspan="3">≥217°C</td> <td rowspan="3">≥90s</td> <td>≥250°C</td> <td>≥30s</td> <td rowspan="3">≥300s</td> </tr> <tr> <td>Thickness 1.6mm-2.5mm and volume > 2000 mm³ or Thickness > 2.5mm and volume > 300 mm³</td> <td>≥250°C</td> <td>≥30s</td> </tr> <tr> <td>Thickness > 2.5mm and volume > 300 mm³</td> <td>≥245°C</td> <td>≥30s</td> </tr> </tbody> </table> Table 1: Minimum requirements for lead-free soldering *peak temperature is measured on the centre top of the component package **tp measured @ Tpeak-5°C	Temperature(°C)	Time(s)	Temperature ramp/immersion and emersion rate	Number of heat cycles	260 ±5 (solder temp)	10 ±1	25mm/s ±6 mm/s	1	Component Size	Ramp up to 150°C	T _{Smin}	t _s	T _{Smax}	T _L	t _L	T _{peak}	t _p **	Ramp down	Thickness < 1.6mm or Thickness 1.6mm-2.5mm and volume < 300 mm ³	3.0±0.1°C/s						≥260°C	≥40s		Thickness 1.6mm-2.5mm and volume 300-2000 mm ³ or Thickness > 2.5mm and volume < 300 mm ³	The component shall be specified for usage in serial production with up to 3.0°C/s	≥190°C	≥110s	≥200°C	≥217°C	≥90s	≥250°C	≥30s	≥300s	Thickness 1.6mm-2.5mm and volume > 2000 mm ³ or Thickness > 2.5mm and volume > 300 mm ³	≥250°C	≥30s	Thickness > 2.5mm and volume > 300 mm ³	≥245°C	≥30s
Temperature(°C)	Time(s)	Temperature ramp/immersion and emersion rate	Number of heat cycles																																											
260 ±5 (solder temp)	10 ±1	25mm/s ±6 mm/s	1																																											
Component Size	Ramp up to 150°C	T _{Smin}	t _s	T _{Smax}	T _L	t _L	T _{peak}	t _p **	Ramp down																																					
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Thickness 1.6mm-2.5mm and volume 300-2000 mm ³ or Thickness > 2.5mm and volume < 300 mm ³	The component shall be specified for usage in serial production with up to 3.0°C/s	≥190°C	≥110s	≥200°C	≥217°C	≥90s	≥250°C	≥30s	≥300s																																					
Thickness 1.6mm-2.5mm and volume > 2000 mm ³ or Thickness > 2.5mm and volume > 300 mm ³							≥250°C	≥30s																																						
Thickness > 2.5mm and volume > 300 mm ³							≥245°C	≥30s																																						
Thermal shock (AEC-Q200)		Preconditioning: Run through reflow for 3 times.(IPC/JEDEC J-STD-020E Classification Reflow Profiles) Condition for 1 cycle Step1 : -55±2°C 15±1min Step2 : 125±2°C within 20Sec. Step3 : 125±2°C 15±1min Number of cycles : 300 Measured at room temperature after placing for 24±4hrs.																																												
ESD	Appearance : No damage. Impedance : within±15% of initial value RDC : within ±15% of initial value and shall not exceed the specification value	 Direct Contact and Air Discharge PASSIVE COMPONENT HBM ESD Discharge Waveform to a Coaxial Target Test method : AEC-Q200-002 Test mode : Contact Discharge Discharge level : 4 KV (Level: 2)																																												
Solderability	More than 95% of the terminal electrode should be covered with solder	a. Method B, 4hrs @155°C dry heat @235°C±5°C Testing Time : 5 +0/-0.5 seconds b. Method D category 3. (8hours ± 15 min)@ 260°C±5°C Testing Time : 30 +0/-0.5 seconds																																												
Electrical Characterization	Refer Specification for Approval	Summary to show Min, Max, Mean and Standard deviation.																																												
Flammability	Electrical Test not required.	V-0 or V-1 are acceptable.																																												

Item	Performance	Test Condition
<p>Board Flex</p>	<p>Appearance : No damage. Impedance : within $\pm 15\%$ of initial value RDC : within $\pm 15\%$ of initial value and shall not exceed the specification value</p>	<p>Preconditioning: Run through reflow for 3 times. (IPC/JEDEC J-STD-020E Classification Reflow Profiles) Place the 100mm X 40mm board into a fixture similar to the one shown in below Figure with the component facing down. The apparatus shall consist of mechanical means to apply a force which will bend the board (D) x = 2 mm minimum. The duration of the applied forces shall be 60 (+ 5) sec. The force is to be applied only once to the board.</p> 
<p>Terminal Strength(SMD)</p>	<p>Appearance : No damage. Impedance : within $\pm 15\%$ of initial value RDC : within $\pm 15\%$ of initial value and shall not exceed the specification value</p>	<p>AEC-Q200,TAI-TECH SPEC 3N / 30 SECONDS</p> 

8. Soldering and Mounting

8-1. Recommended PC Board Pattern

HSF1210F2S	
L(mm)	1.55
H(mm)	1.10
G1(mm)	0.65
G2(mm)	0.30



8-2. Soldering

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

8-2.1 Soldering Reflow:

Recommended temperature profiles for lead free re-flow soldering in Figure 1. Table 1.1&1.2 (J-STD-020E)

8-2.2 Soldering Iron:

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. (Figure 2.)

- Preheat circuit and products to 150°C
- Never contact the ceramic with the iron tip
- Use a 20 watt soldering iron with tip diameter of 1.0mm
- 350°C tip temperature (max)
- 1.0mm tip diameter (max)
- Limit soldering time to 4~5sec.

Fig.1 Soldering Reflow

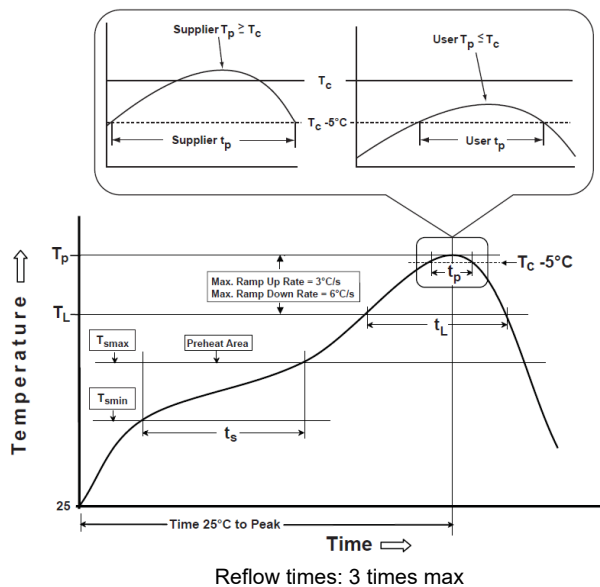


Fig.2 Iron soldering temperature profiles

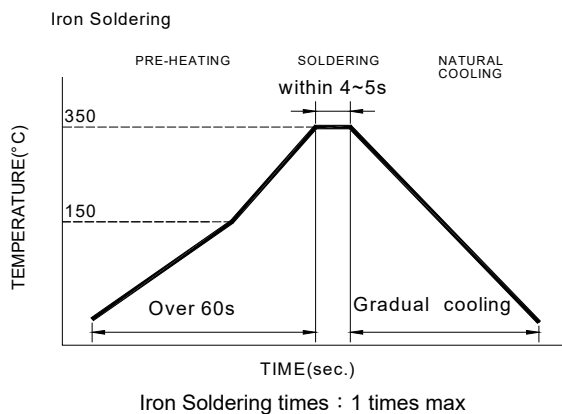


Table (1.1): Reflow Profiles

Profile Type:	Pb-Free Assembly
Preheat -Temperature Min(T_{smin}) -Temperature Max(T_{smax}) -Time(t_s)from(T_{smin} to T_{smax})	150°C 200°C 60-120seconds
Ramp-up rate(T_L to T_p)	3°C/second max.
Liquidus temperature(T_L) Time(t_L)maintained above T_L	217°C 60-150 seconds
Classification temperature(T_c)	See Table (1.2)
Time(t_p) at $T_c - 5^\circ\text{C}$ (T_p should be equal to or less than T_c .)	< 30 seconds
Ramp-down rate(T_p to T_L)	6°C /second max.
Time 25°C to peak temperature	8 minutes max.

T_p: maximum peak package body temperature, **T_c**: the classification temperature.

For user (customer) **T_p** should be equal to or less than **T_c**.

Table (1.2) Package Thickness/Volume and Classification Temperature (T_c)

	Package Thickness	Volume mm ³ <350	Volume mm ³ 350-2000	Volume mm ³ >2000
PB-Free Assembly	<1.6mm	260°C	260°C	260°C
	1.6-2.5mm	260°C	250°C	245°C
	≥2.5mm	250°C	245°C	245°C

Reflow is referred to standard IPC/JEDEC J-STD-020E ◦



測試報告 Test Report

號碼(No.): ETR23302694

日期(Date): 17-Mar-2023

頁數(Page): 1 of 15

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.)
慶邦電子元件(泗洪)有限公司 (TAIPAQ ELECTRONICS (SI-HONG) CO., LTD.)
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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 the applicant as) :

樣品名稱(Sample Name) : WIREWOUND SERIES
樣品型號(Style/Item No.) : WCM(YCW) · WCL · HSF · HDMI · DVI · BCM · PCM · TCM · LCM · LPF · TXF · ACM · DCM(YLW) · WIH · BPH · TNH · YCM · STF · APO · QLL · FGO · APOC · TLAN SERIES

=====
收件日(Sample Receiving Date) : 10-Mar-2023
測試期間(Testing Period) : 10-Mar-2023 to 17-Mar-2023

測試需求(Test Requested) : 依據客戶要求進行測試·測試項目請參閱測試結果表格。(Testing item(s) is/are specified by client. Please refer to result table for testing item(s).)

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: 6621A826

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測試報告

Test Report

號碼(No.): ETR23302694

日期(Date): 17-Mar-2023

頁數(Page): 2 of 15

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.)

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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))	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))	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.
汞 (Hg) (Mercury (Hg))	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))	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.

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測試報告

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西北臺慶科技股份有限公司 (TAI-TECH ADVANCED ELECTRONICS CO., LTD.)
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測試項目 (Test Items)	測試方法 (Method)	單位 (Unit)	MDL	結果 (Result)
				No.1
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.
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	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.	

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測試項目 (Test Items)	測試方法 (Method)	單位 (Unit)	MDL	結果 (Result)
				No.1
鄰苯二甲酸丁苯甲酯 (BBP) (Butyl benzyl phthalate (BBP))	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))		mg/kg	50	n.d.
鄰苯二甲酸二(2-乙基己基)酯 (DEHP) (Di-(2-ethylhexyl) phthalate (DEHP))		mg/kg	50	n.d.
鄰苯二甲酸二異丁酯 (DIBP) (Diisobutyl phthalate (DIBP))		mg/kg	50	n.d.
鄰苯二甲酸二異癸酯 (DIDP) (Diisodecyl phthalate (DIDP)) (CAS No.: 26761-40-0, 68515-49-1)		mg/kg	50	n.d.
鄰苯二甲酸二異壬酯 (DINP) (Diisononyl phthalate (DINP)) (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 (DNOP)) (CAS No.: 117-84-0)		mg/kg	50	n.d.
鄰苯二甲酸二正戊酯 (DNPP) (Di-n-pentyl phthalate (DNPP)) (CAS No.: 131-18-0)		mg/kg	50	n.d.
鄰苯二甲酸二正己酯 (DNHP) (Di-n-hexyl phthalate (DNHP)) (CAS No.: 84-75-3)		mg/kg	50	n.d.

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測試項目 (Test Items)	測試方法 (Method)	單位 (Unit)	MDL	結果 (Result)
				No.1
六溴環十二烷及所有主要被辨別出的異構物(HBCDD) (α- HBCDD, β- HBCDD, γ- HBCDD) (Hexabromocyclododecane (HBCDD) and all major diastereoisomers identified (α- HBCDD, β- HBCDD, γ- HBCDD)) (CAS No.: 25637-99-4, 3194-55-6 (134237-51-7, 134237-50-6, 134237-52-8))	參考IEC 62321-9: 2021 · 以氣相層析儀/質譜儀分析。(With reference to IEC 62321-9: 2021, analysis was performed by GC/MS.)	mg/kg	20	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	n.d.
氯 (Cl) (Chlorine (Cl)) (CAS No.: 22537-15-1)		mg/kg	50	n.d.
溴 (Br) (Bromine (Br)) (CAS No.: 10097-32-2)		mg/kg	50	n.d.
碘 (I) (Iodine (I)) (CAS No.: 14362-44-8)		mg/kg	50	n.d.
全氟辛烷磺酸及其鹽類 (PFOS and its salts) (CAS No.: 1763-23-1 and its salts)	參考CEN/TS 15968: 2010 · 以液相層析串聯質譜儀分析。(With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS.)	mg/kg	0.01	n.d.
全氟辛酸及其鹽類 (PFOA and its salts) (CAS No.: 335-67-1 and its salts)		mg/kg	0.01	n.d.
銻 (Sb) (Antimony (Sb)) (CAS No.: 7440-36-0)	參考US EPA 3052: 1996 · 以感應耦合電漿發射光譜儀分析。(With reference to US EPA 3052: 1996, analysis was performed by ICP-OES.)	mg/kg	2	82.3
鈹 (Be) (Beryllium (Be)) (CAS No.: 7440-41-7)		mg/kg	2	n.d.

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測試項目 (Test Items)	測試方法 (Method)	單位 (Unit)	MDL	結果 (Result)
				No.1
聚氯乙烯 (Polyvinyl chloride) (PVC)	參考ASTM E1252: 2021 · 以傅立葉轉換紅外線光譜儀及焰色法分析。(With reference to ASTM E1252: 2021, analysis was performed by FT-IR and Flame Test.)	**	-	Negative

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. ** = 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. 全氟辛烷磺酸及其鹽類包含等物質 (PFOS and its salts including) :
CAS No.: 1763-23-1, 2795-39-3, 29457-72-5, 29081-56-9, 70225-14-8, 56773-42-3, 251099-16-8, 307-35-7, 91036-71-4, 4021-47-0 and others.
8. 全氟辛酸及其鹽類包含等物質 (PFOA and its salts including) :
CAS No.: 335-67-1, 335-95-5, 2395-00-8, 335-93-3, 335-66-0, 3825-26-1 and others.
9. 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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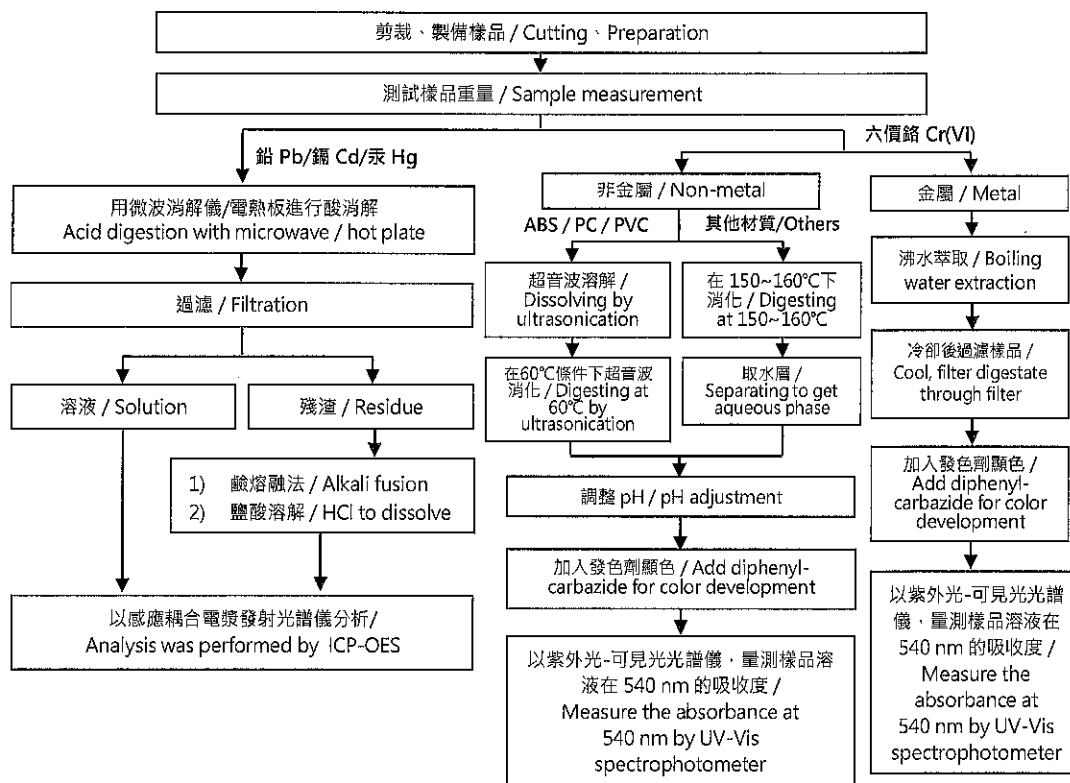
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重金屬流程圖 / Analytical flow chart of heavy metal

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)



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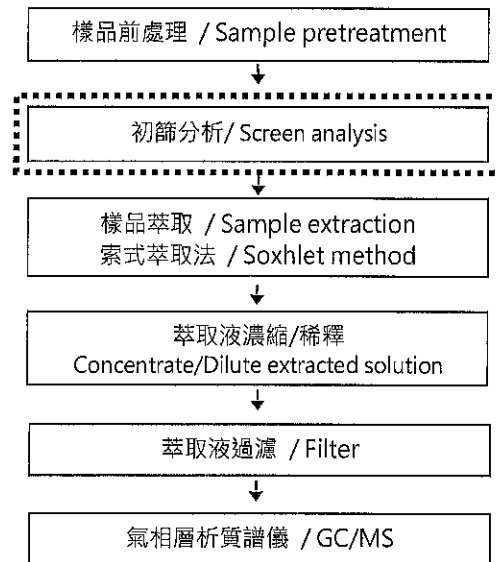
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多溴聯苯/多溴聯苯醌分析流程圖 / Analytical flow chart - PBBs/PBDEs

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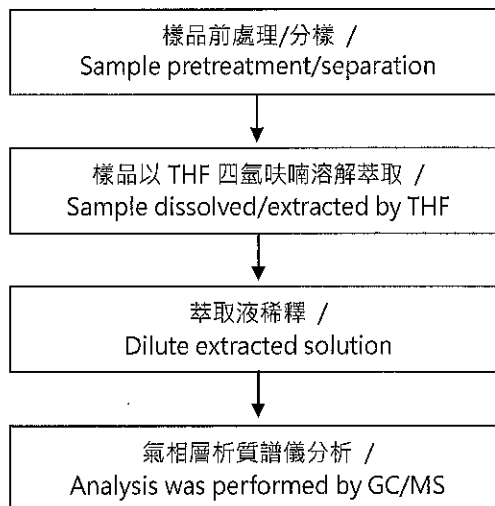
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可塑劑分析流程圖 / Analytical flow chart - Phthalate

【測試方法/Test method: IEC 62321-8】



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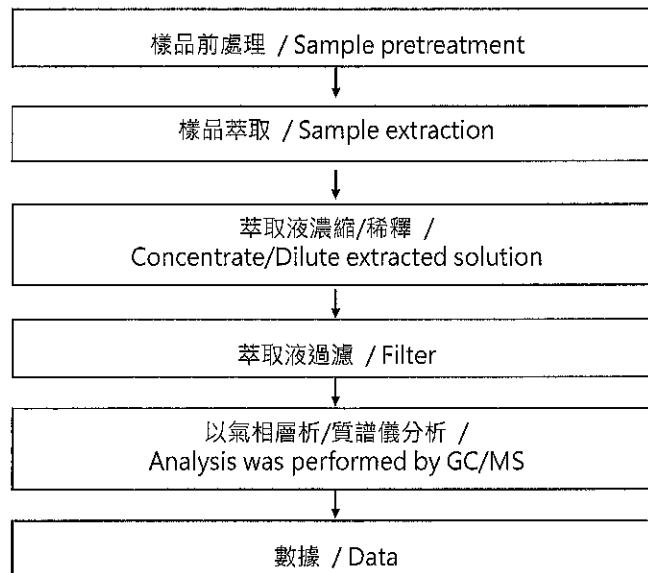
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六溴環十二烷分析流程圖 / Analytical flow chart - HBCDD



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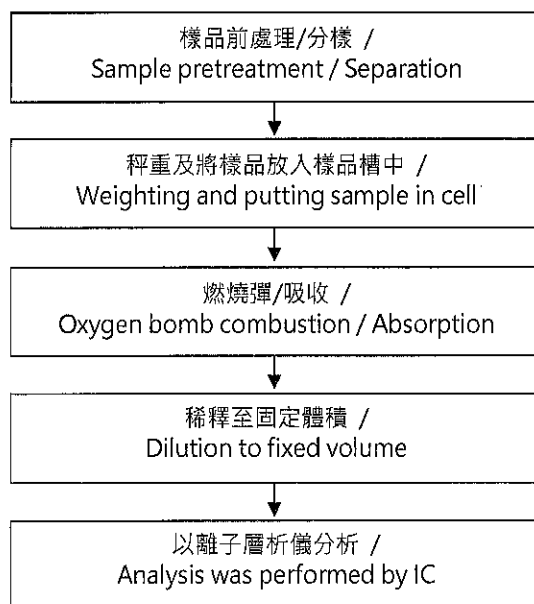
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鹵素分析流程圖 / Analytical flow chart - Halogen



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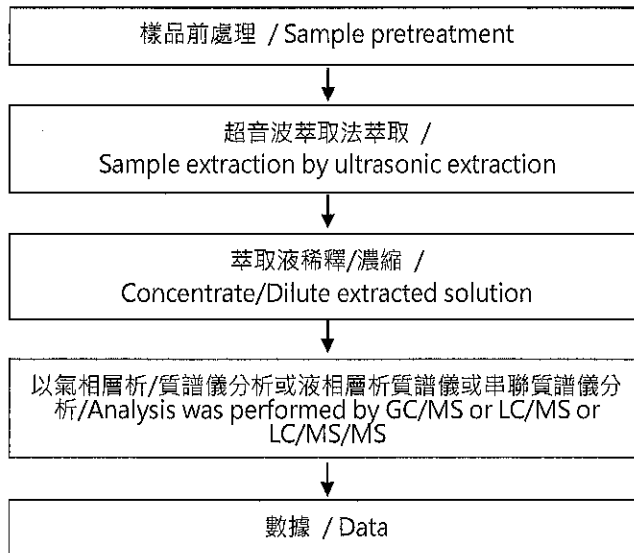
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全氟化合物(包含全氟辛酸/全氟辛烷磺酸/其相關化合物等等)分析流程圖 / Analytical flow chart – PFAS (including PFOA/PFOS/its related compound, etc.)



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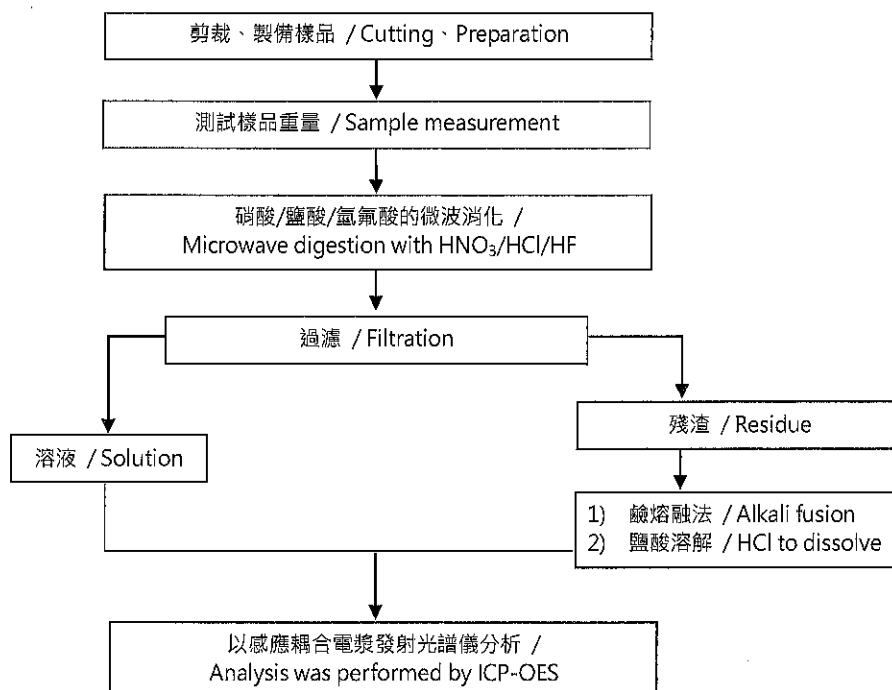
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元素(含重金屬)分析流程圖 / Analytical flow chart of elements (Heavy metal included)

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.

【參考方法/Reference method : US EPA 3051A · US EPA 3052】



* US EPA 3051A 方法未添加氫氟酸 / US EPA 3051A method does not add HF.

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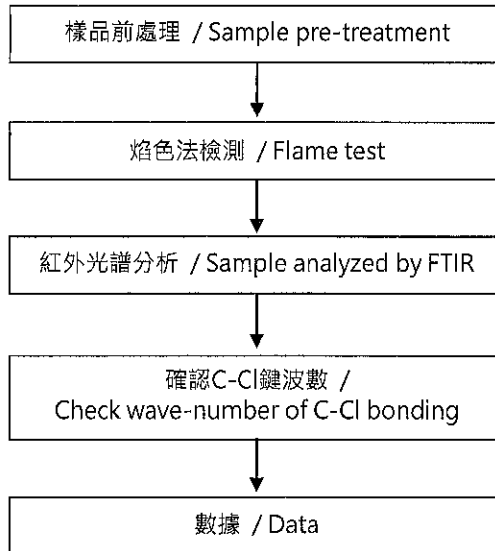
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聚氯乙炔物質判定分析流程圖 / Analysis flow chart - PVC



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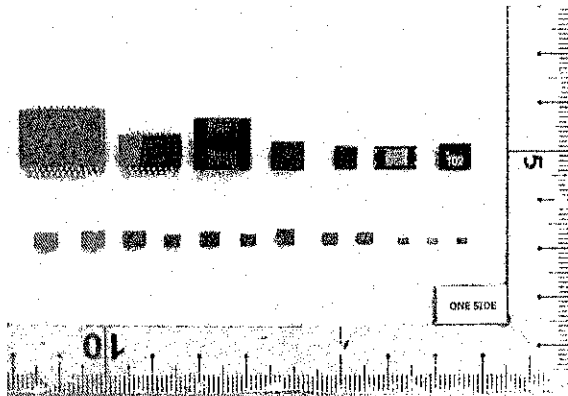
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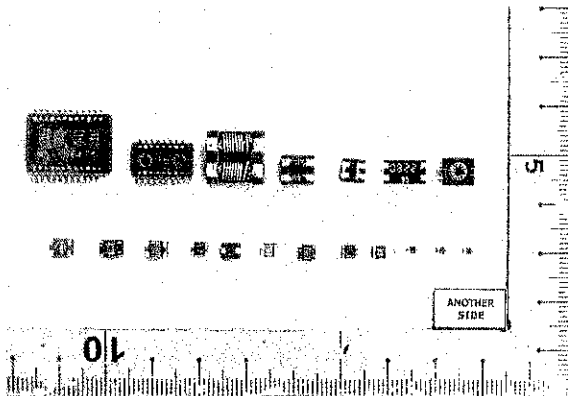
* 照片中如有箭頭標示，則表示為實際檢測之樣品/部位。*

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

ETR23302694



ETR23302694



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