

ZCONNECT SERIES

Product Specification



1. Scope / 概論

A leading professional solutions provider of waterproof connectors (overmolded with cable, receptacle, field installable) in the industry, Amphenol LTW always fulfills any requirements with high functionality and reliability products; even it is a very special requirement. And it is highly recommended to be applied to harsh environment.

Amphenol LTW (ALTW) 是防水連接器設計生產的領導者,主要包含線端,板端及現場組裝式連接器以滿足各種使用及特殊要求,產品具有高效能及高可靠性,非常適合在各種惡劣的環境條件下提供安裝及使用。

This product specification sheet describes the product application in the markets such as Renewable Energy, Industrial Automation, LED Lighting, Marine, Broadband Wireless Access, Smart Grid, Heavy Equipment, Medical, Electrical Vehicle....etc.
本規範主要描述了 Amphenol LTW(ALTW)產品的應用要求。本產品廣泛應用於可再生能源,工業自動化,LED,船舶,寬帶無線接入,智能電網,建築機械/重型車輛,醫療設備等,電動車行業....

2. Applicable Documents / 參考文件

2.1 Industry Document / 業界標準

Amphenol LTW (ALTW) 設計及生產的產品符合各項世界標準,包括 IEC, EIA, MIL, NMEA....

3. Specification / 規格

3.1 Material / 材質

Parts / 零件	Material / 材質
Connector / 連接器	Thermoplastic / 熱塑性塑膠
Pin / 端子	Copper Alloy / 銅合金
Pad / 固定片	Copper Alloy / 銅合金
PLUG/接插頭	Thermoplastic / 熱塑性塑膠

3.2 Rating / 操作評級

Voltage / 電壓	120V DC
Current / 電流	1A 1 安培
Operating Temperature / 操作溫度	-40°C~110°C 攝式-40 度~110 度
IP / 防水等級	Non-waterproof

4. Test Requirement/測試要求

LV214 Test/LV214 測試

Item / 項目	Requirments / 要求	Procedures / 規範
TG0 Inspection of as-received condition 檢查接收狀態	<ul style="list-style-type: none"> - Visual inspection - Contact resistance < 30mΩ - Insulation resistance > 100 MΩ - 目视检查 - 接觸阻抗< 30mΩ - 絕緣電阻>100 MΩ 	LV214

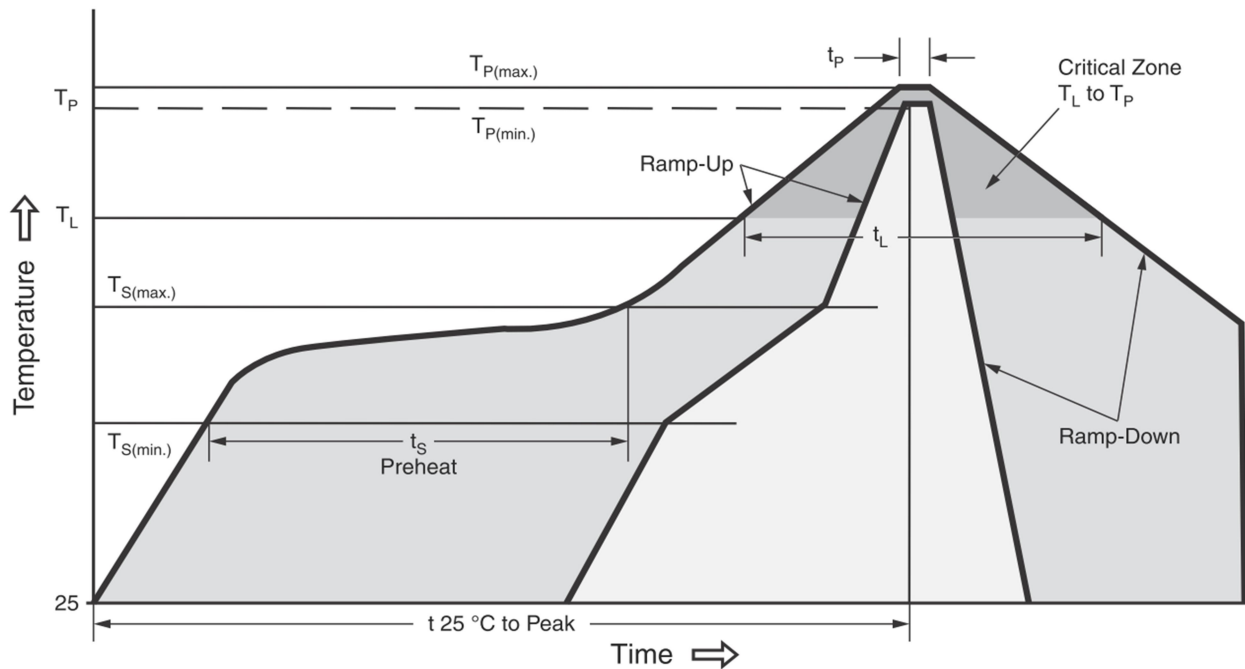
<p>TG2</p> <p>Material and surface analysis, contacts</p> <p>端子材料和表面分析</p>	<ul style="list-style-type: none"> - Visual inspection - Material specifications of contacts parts - 目視檢查 - 触点的材料规范部分 	<p>LV214</p>
<p>TG3</p> <p>Material and surface analysis, housings and single-wire seals</p> <p>材料和表面分析、外殼和線材密封</p>	<ul style="list-style-type: none"> - Visual inspection - Material specifications of housings and single-wire seals - 目視檢查 - 材料和表面分析、外殼和線材密封 	<p>LV214</p>
<p>TG4</p> <p>Contact engagement length</p> <p>接觸長度</p>	<ul style="list-style-type: none"> - Visual inspection - Contacts engagement length > 1mm - Clearance > 0mm (worst case) - 目視檢查 - 接觸接觸長度>1mm - 間隙>0mm(最壞情況下) 	<p>LV214</p>
<p>TG5</p> <p>Mechanical and thermal relaxation behavior</p> <p>機械和熱對端子的鬆弛影響</p>	<ul style="list-style-type: none"> - Visual inspection - Contact opening variation - Normal contact force variation - 目視檢查 - 端子開口變化 - 正向接觸力变化 	<p>LV214</p>
<p>TG7</p> <p>Handling and functional reliability of the housing</p>	<ul style="list-style-type: none"> - Visual inspection - Prevent misplug testing - Retention Force of the Housing Lock>75N - 目視檢查 - 防止錯誤插入 - 鎖殼的保持力>75N 	<p>LV214</p>
<p>TG11</p> <p>Contacts: Insertion and removal forces, mating cycle frequency</p> <p>Pin 針：插拔力、插拔週期頻率</p>	<ul style="list-style-type: none"> - Visual inspection - Mating cycles : 100 - Contact opening variation - Plugging/Removal force variation - 目視檢查 - 交配周期:100 次 - 触点開口变化 - 插入/移除力变化 	<p>LV214</p>
<p>TG12</p> <p>Current heating, derating</p> <p>電流加熱、降額</p>	<ul style="list-style-type: none"> - Visual inspection - Derating curve - 目視檢查 - 降額曲線 	<p>LV214</p>

<p>TG13</p> <p>Housing influence on the derating</p> <p>外殼對降額的影響</p>	<ul style="list-style-type: none"> - Visual inspection - Derating curve - 目視檢查 - 降額曲線 	<p>LV214</p>
<p>TG14</p> <p>Thermal time constant (current excess temperature at n times rated current)</p> <p>熱時間常數 (N 倍額定電流時的電流超溫)</p>	<ul style="list-style-type: none"> - Visual inspection - Temperature curve - Contact opening variation - 目視檢查 - 溫度曲線 - 触点開口变化 	<p>LV214</p>
<p>TG17</p> <p>Dynamic load</p> <p>動態負載</p>	<ul style="list-style-type: none"> - Visual inspection - Severity : 1 - Contact resistance < 30mΩ - 目視檢查 - 严重程度:1 - 接触电阻 < 30mΩ 	<p>LV214</p>
<p>TG28</p> <p>Locking noise</p> <p>對鎖聲響</p>	<ul style="list-style-type: none"> - Visual inspection - Measure the sound produced by the locking - 目視檢查 - 測量卡扣扣合時產生的聲響 	<p>LV214</p>

5. SMT temperature curve /SMT 溫度曲線

Recommended Soldering Profiles		
Classification of Reflow Profiles		
Profile Feature	Sn – Pb Eutectic Assembly	Lead (Pb)-Free Assembly (e.g.SnAgCu)
Average ramp-up rate (T(Smax.) to TP)	3 °C/s maximum	
Preheat		
• Temperature minimum (TS(min.))	100°C	150°C
• Temperature maximum (TS(max.))	150°C	200°C
• Time (TS(min.) to TS(max.)) (tS)	60 s to 120 s	60 s to 180 s
Time maintained above		
• Temperature minimum (TL)	183°C	217°C
• Time (TL)	60 s to 150 s	60 s to 150 s
Minimum peak temperature (TP(min.))	215°C	235°C
Recommended peak temperature (TP)	235°C	250°C
Maximum peak temperature (TP(max.))	260°C	260°C
Time within 5°C of actual peak temperature (tP)	10 s to 40 s	20 s to 40 s
Ramp-down rate	6°C/s maximum	6°C/s maximum
Time 25°C to peak temperature	6 min maximum	8 min maximum

Reflow Soldering Profiles



6. Quality Assurance Provisions/品質保證

Unless otherwise specified, in the contract or purchase order, we will be responsible for the quality of the part as it is delivered to client. We will be responsible for having controlled processes to ensure product is in total compliance with this specification. Failing lots shall be subject to return or other corrective action.

除非在合同或採購訂單中另有規定者外，我們將對交付給客戶的部件質量負責。我們將負責控制流程，以確保產品完全符合規格。未通過的批次應退回或採取其他糾正措施。

Re-qualification Testing : 重新資格測試

If changes significantly affecting form, fit or function are made to the product or manufacturing process, product assurance shall coordinate requalification testing, consisting of all or part of the original testing sequence as determined by development/product, quality and reliability engineering.

如果對產品或製造過程產生顯著影響的形狀，配合或功能的變化，產品保證應協調重新認證測試，包括由開發/產品，質量和可靠性工程確定的全部或部分的原始測試順序。

Our products perform per the specification and criteria described in this document; any usage outside and/or deviating from the specification and criteria described in this document, and/or any alteration, modification, transformation, and application not mentioned in this document must be checked and agreed with ALTW in prior. Failure to check and get our agreement, ALTW will bear no responsibility for any consequence that might arise. It is strongly advised to always check with ALTW for any product application not mentioned in this document and/or applications that need clarifications.

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7. Revision/版本

Document Name		ZCONNECT		
Revision	ECN NO.	Description	Date	Sign
A		New Released	2021/10/28	范小鋒