

TecMQS/TecMCP 2.8 Series Headers

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1 GENERAL

1 综述

1.1 Purpose

1.1 目的

This application specification includes the guidelines to be followed during assembly, installation and some of the recommend functions of the **TecMQS/TecMCP 2.8** series connectors.

本规范用于指导 **TecMQS/TecMCP 2.8** 系列连接器的组装和安装以及一些推荐的功能。

1.2 Customer Drawing

1.2 客户图纸

This application specification is based on the latest valid customer drawings.

本规范基于以下有效客户图纸的最新版本。

C-2311788	4 WAY POWER/10 WAY/12 WAY HYBRID HEADER, 90 DEGREE
C-2321709	4 WAY POWER/10 WAY/12 WAY HYBRID HEADER, 180 DEGREE
C-2311621	8 WAY MQS PIN HEADER, 90 DEGREE
C-2320179	8 WAY MQS PIN HEADER, 180 DEGREE
C-2322610	12 WAY MQS PIN HEADER, 90 DEGREE
C-2322613	12 WAY MQS PIN HEADER, 180 DEGREE
C-2311622	16 WAY MQS PIN HEADER, 90 DEGREE
C-2320178	16 WAY MQS PIN HEADER, 180 DEGREE
C-2329531	20 WAY MQS PIN HEADER,90 DEGREE
C-2330352	20 WAY MQS PIN HEADER,180 DEGREE

1.3 P/N List

1.3 料号列表

Description	P/N	Pin Position	Type	Applicable Plug
TecMQS Series (Only Signal Pin)	*-2311621-*	8	90°	2322346-*
	-2320179-	8	180°	2322346-*
	-2322610-	12	90°	2322637-*
	-2322613-	12	180°	2322637-*
	-2311622-	16	90°	2301695-*
	-2320178-	16	180°	2301695-*
	-2329531-	20	90°	2329592-*
	-2330352-	20	180°	2329592-*
TecMCP 2.8 Series (With 4 Power Pin)	*-2311788-*	4P/10P/12P	90°	2322347-*
	-2321709-	4P/10P/12P	180°	2322347-*

1.4 Product Specification

1.4 产品规范

108-101528 TecMQS SERIES CONNECTORS
 108-101599 TecMCP 2.8 SERIES CONNECTORS

2 PRODUCT DESCRIPTION

2 产品说明

The **TecMQS/TecMCP 2.8** series connectors are applicative to the connection of body control module inside the vehicle and other application condition which the product spec can meet. The product spec can be got by the product specification 108-101528 and 108-101599.

TecMQS/TecMCP 2.8 系列连接器适用于车身控制模块以及其他产品性能可以满足的应用条件，产品规格可以通过产品规格标准 108-101528 和 108-101599 获取。

2.1 TecMQS Series Header (Only Signal Pin)

2.1 TecMQS 系列板端连接器 (全部信号 Pin)

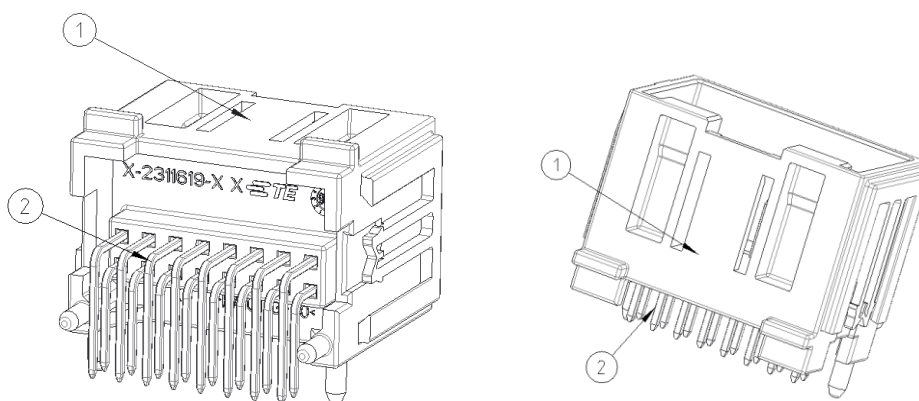


Fig 1 . TecMQS Series 16P Header

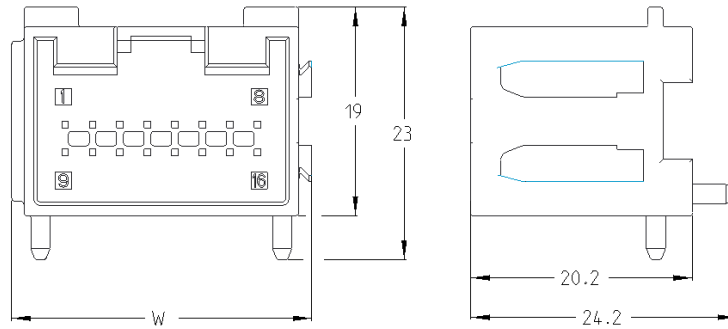
TecMQS series 16P header which has two different pin angle types include 90° type and 180° type are shown as Fig 1 for an example, 8P ,12P and 20P header is similar to 16P. 16P header contains below parts.

TecMQS 系列 16P 板端连接器如 Fig 1 所示，由于 Pin 针是否折弯存在 90°和 180° 两种类型，其只是作为一个示例，其余 8P 和 12P 以及 20P 的连接器的均是类似的结构，16P 板端连接器包含以下组件

Item	Name	Material	Color/Finish
1	Housing	PA10T	Black/Brown/Green/Blue (Four Options)
2	Signal Pin	CuZn30	Tin over Ni

The outline of TecMQS Series header is shown as below Fig 2

TecMQS 系列板端连接器的外形尺寸如 Fig 2 所示。



Pin Position	P/N	Width(W)
8	2311621-*/2320178-*	17.5mm
12	2322610-*/2322613-*	22.3mm
16	2311622-*/2320179-*	27.3mm
20	2329531-*/2330352-*	32.3mm

Fig 2 . TecMQS Series Header Outline

2.2 TecMCP 2.8 Series Header (With 4 Power Pin)

2.2 TecMCP 2.8 系列板端连接器 (拥有 4 个电源 Pin)

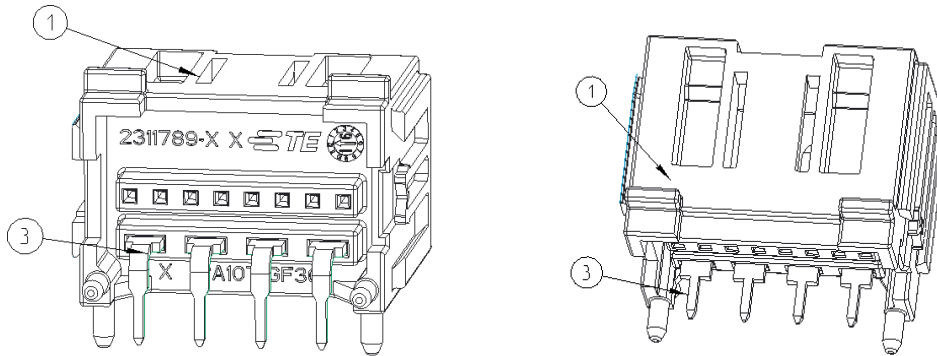


Fig 3 . TecMCP 2.8 Series 4P Header

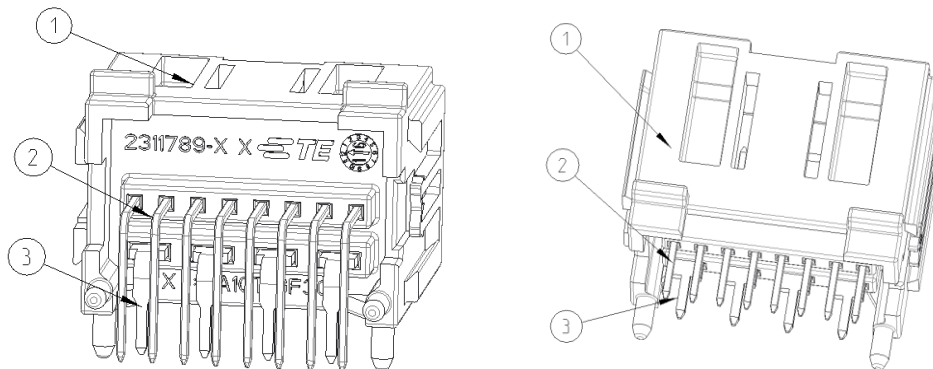


Fig 4 . TecMCP 2.8 Series hybrid 12P Header

TecMCP 2.8 Series 4P Header and hybrid 12P header both has two different pin angle types include 90° type and 180° type are shown as Fig 3 and Fig 4 . For example, The hybrid 12P header contains below parts

TecMCP 2.8 系列 4P 和混合 12P 板端连接器分别如 Fig 3 和 Fig 4 所示，由于 Pin 针是否折弯存在 90°和 180° 两种类型。作为一个示例，12P 混合 pin 板端连接器包含以下组件：

Item	Name	Material	Color/Finish
1	Housing	PA10T	Black/Brown/Green/Blue (Four Options)
2	Signal Pin	CuZn30	Tin over Ni
3	Power Pin	CuZn30	Tin over Ni

The outline of TecMCP 2.8 Series header is shown as below Fig 5

TecMCP 2.8 系列板端连接器的外形尺寸如 Fig 5 所示。

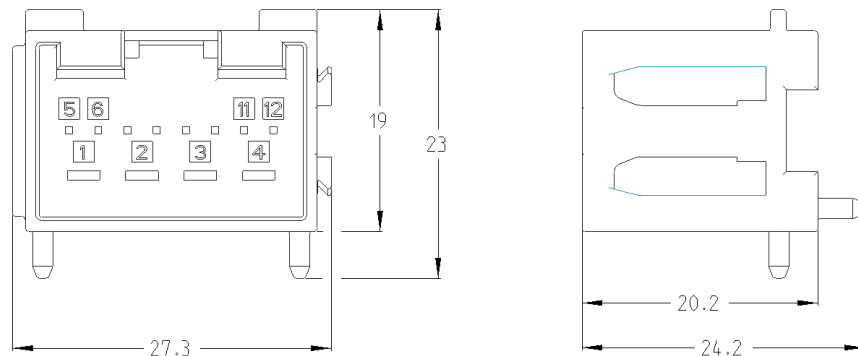


Fig 5 . TecMCP 2.8 Series Header Outline

3 PCB ASSEMBLY

3 PCB 组装

Tec MQS/Tec MCP 2.8 series headers are suitable for PIP(Pin In Paste) soldering and wave Soldering, soldering jig may be needed according to customer's application

Tec MQS/Tec MCP 2.8 板端连接器适用于通孔回流焊和波峰焊，根据客户应用的不同，可能需要焊接辅助治具。

3.1 Recommended PCB Lay-out

3.1 推荐的 PCB 板 Pin 孔分布

Recommended PCB Lay-Out of TecMQS 16P Header is shown as Fig 6 which is just as an example. All the PCB Lay-Out has been recommended on TE C-Drawing listed in section 1.2. TecMQS 16P 板端连接器的推荐 PCB Pin 孔分布 Fig 6 所示，其只是作为一个示例，所有 Pin 位数的产品的 PCB pin 孔分布均推荐于 TE 的客户图纸上，图纸列举如前文 1.2 章节。

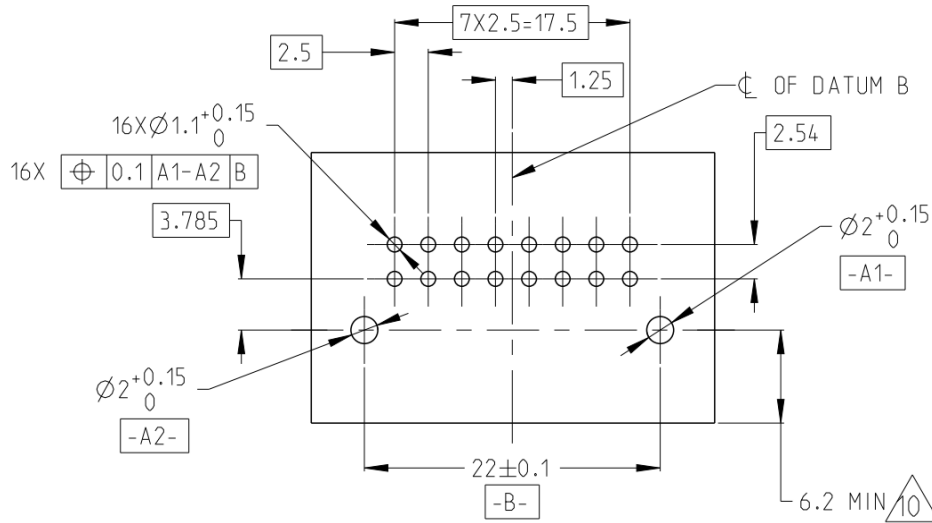


Fig 6 . Recommended PCB Lay-Out (Thickness 1.6±0.14mm)

3.2 Recommended assembly process

3.2 推荐的装配流程

Below process is only related with how to assemble header into PCB, not contains soldering process, soldering process should be established according to different soldering type(PIP or wave soldering)

下面的流程只涉及板端连接器与 PCB 板的组装过程，与焊接过程无关，焊接过程根据不同的焊接类型来建立。

- 1) Fixing PCB, then catch the header, making pins are on vertical with PCB when inserted into PCB
- 1) 固定 PCB 板，抓取板端连接器，使得 Pin 针与 PCB 板保持垂直
- 2) Making guide pins and Pins aligning with PCB pin holes, then Insert gradually.
- 2) 使得导向柱和 Pin 针与 PCB 对应孔队正，逐渐插入
- 3) After guide pins inserted into guide pin holes, the other pins inserted into pin holes. Header stand off surface should contact with PCB surface after insertion process.
- 3) 导向柱插入孔后，Pin 针插入对应孔，插入后,板端连接器压板面需紧贴在 PCB 板面上，

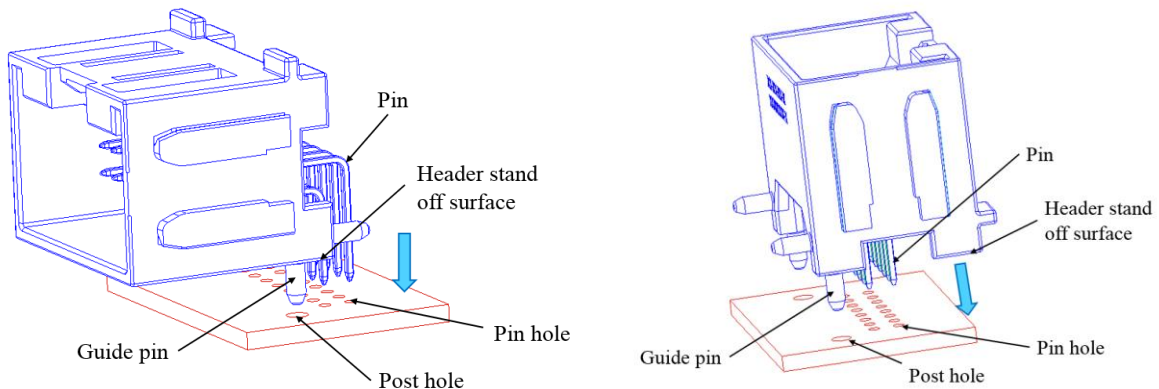


Fig 7 . PCB Assembly

Insertion process is shown as Fig 7 is just for an example
板端连接器插入 PCB 的过程示意图如 Fig 7 所示，其仅是一个示例。

4 ASSEMBLY OF COVER AND HEADER

4 壳体与板端连接器的组装

Mating slot is recommended. Dimensions of mating slot can be designed according to convex rib dimensions shown on TE drawing. As shown in Fig 8, when plug inserted, header can be supported by mating slot not just by PCB. This design can protect soldering between header and PCB.

壳体上凹槽的设计是被推荐的，凹槽的尺寸可以通过凸筋的尺寸来设计，凸筋的尺寸推荐于 TE 的图纸。如 Fig 8 所示，当母端连接器插入时，板端连接器可以通过凸筋和凹槽的装配来被壳体支撑，而不仅仅依靠 PCB。这个设计可以保护板端连接器与 PCB 的焊接点。

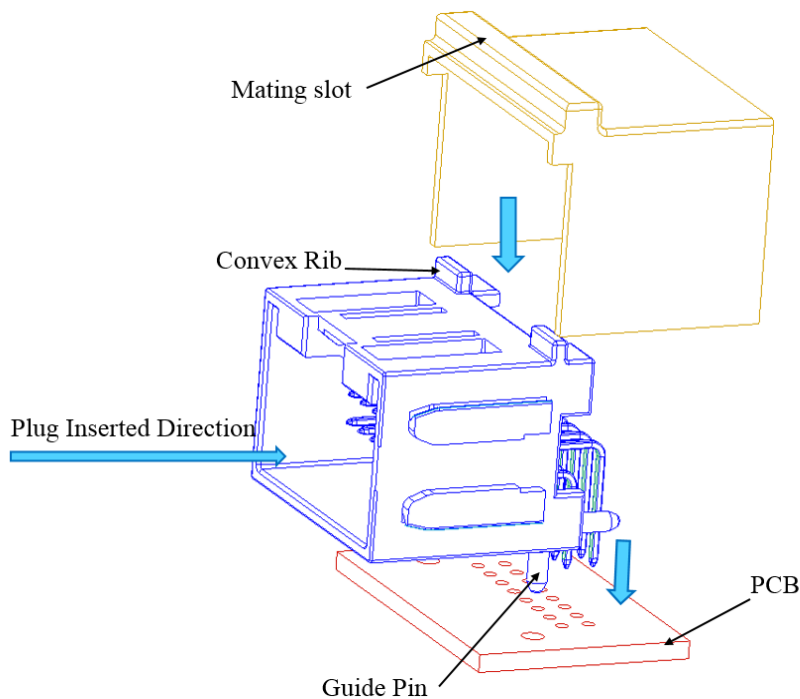


Fig 8 . Assembly of cover and header

5 HEADER COMBINATION

5 Header 的组合

Single header can be combined to be an integration to provide a flexible pin size application, an example is shown as Fig 9. This assembly process can only be done by TE Connectivity and supply to customer.

单一的 Header 可以被组合成一个组合体以适应一些要求尺寸大小更灵活的应用场合，一个组合的例子如图 Fig 9 所示。该拼接制程只能由 TE Connectivity 来做，然后供给客户。

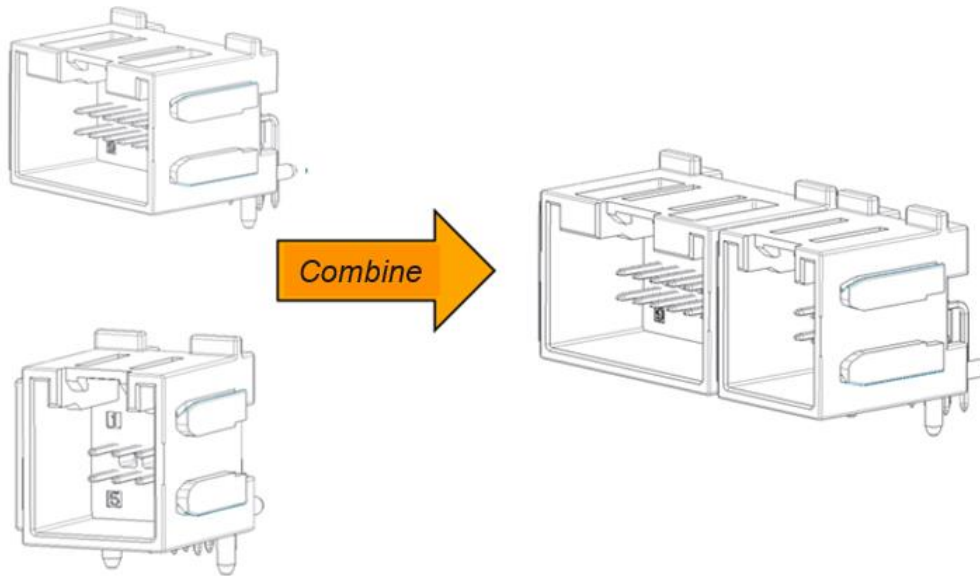


Fig 9 . Single headers combined to integration

This header combination can't be separated without damage the component.
这种组合是不可以拆卸的。

6 PACKAGE AND STORAGE

6 包装与储存

6.1 Package

6.1 包装

The applicative package type for both TecMQS Series and TecMCP 2.8 Series are Tray.
Different pin position or pin angle type has different tray spec, but for every P/N, there will be a certain TE spec recommended, Please contact TE Connectivity for more information. For example, the picture of the tray for TecMQS 8P 180° is shown as Fig 10.

对于 TecMQS 系列和 TecMCP 2.8 系列，适用的包装均是 Tray 盘，不同的 Pin 位数或者 Pin 折弯类型可能会有不同规格 Tray，但是对每一个料号的连接器，均会有一个推荐的 TE 规格 Tray 与之对应，可以联系 TE Connectivity 获取这方面更多的信息。例如 TecMQS 8P 180°的 tray 图片如 Fig 10 所示。

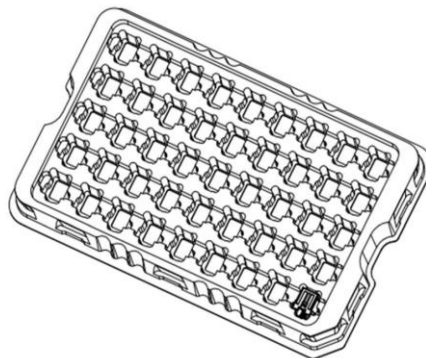


Fig 10 . Recommended Tray for TecMQS 8P Header

6.2 Storage

6.2 储存

- 1) Avoid storing the headers in a moist or dusty place.
 Stock the headers in a comparatively dry and clean palce(recommended spec 5~35°C, 25%~75%RH) away from direct sunlight.
 - 2) Avoid leaving or carrying the headers in an open area without wrappig it in proper material.
 - 3) Do not drop or shock the headers when carrying it.
- 1) 避免在潮湿和多灰尘的环境中储存该板端连接器产品
 在相对干燥和洁净的环境中储存（推荐环境标准：温度 5~35°C，湿度 25%~75%RH），避免阳光直射。
 - 2) 避免将该板端连接器产品脱离包装在开放环境中放置储存或者运输
 - 3) 避免在运输过程中让该产品受到跌落或者强烈震动

7 RECOMMENDED REFLOW TEMPERATURE CURVE

7 推荐的回流焊温度曲线

If the reflow soldering is required by customer for commodity header series connectors.

Recommended reflow temperature curve is shown as Fig 11. Max temperature is

260°C for 3~5 seconds. **Only one reflow is recommended.**

如果客户对于 Commodity Header 系列连接器采用回流焊制程，推荐的回流焊温度曲线如 Fig 11，该推荐温度曲线的最大温度在 260°C，持续时间 3~5S。**建议只过一遍 Reflow 制程。**

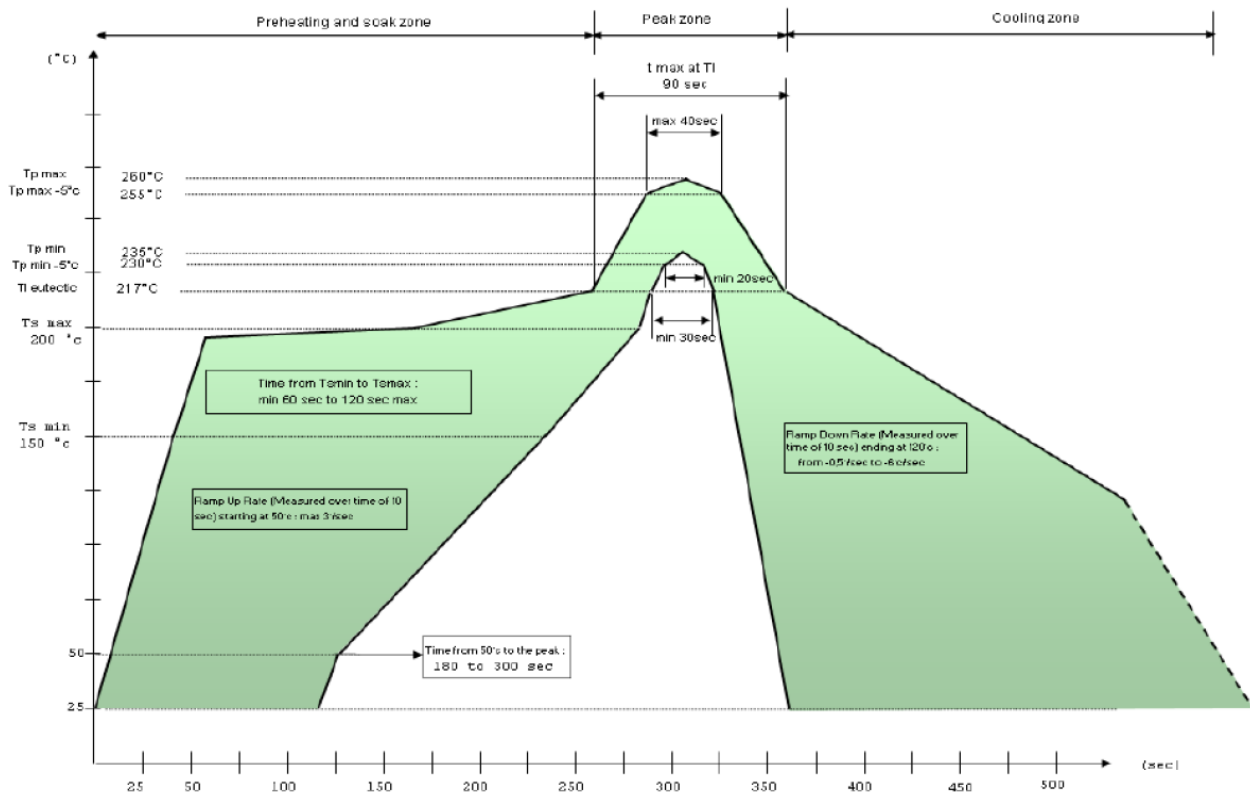


Fig 11 . Recommended reflow temperature curve