Internal Use

MT6253(aQFN) Rework SOP

QACS

2010/01

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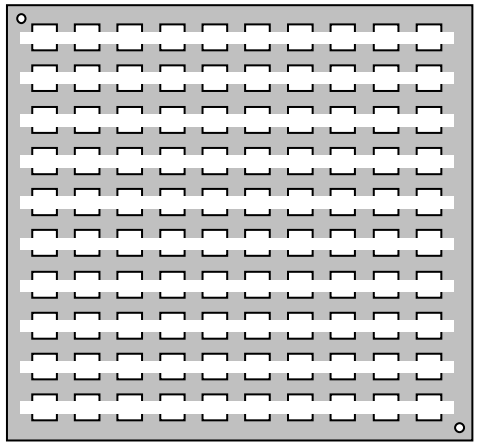
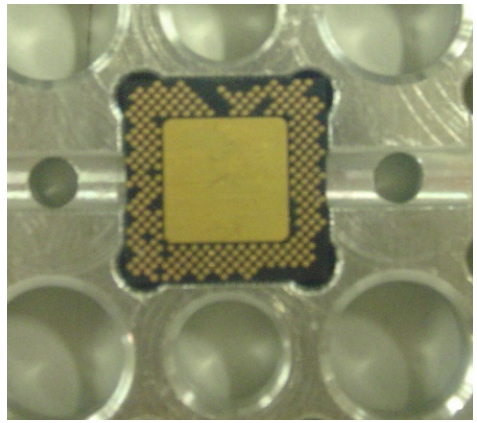
Pre-solder SOP for mass chips(Yield:98%)

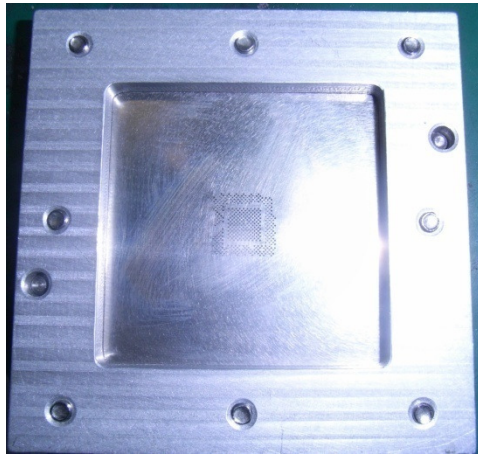
Flow	Equipment
Come out the stencil (Aperture as same as SMT stencil)	Carrier(provided by MTK)
1.De-absorb IC in an oven @125℃ for 4hrs， 2. Clean residual solder and flux with solder iron (350-400 ℃)	Oven, De-soldering wire， solder iron，tweezers
1.Place the ICs in the carrier, 2.Paste the solder on the pads in the screen printer	Screen printer，Rework Carrier
Heat the ICs in the carrier in the reflow oven; (The profile temperature should be 10℃ higher than normal)	Reflow oven
Quality inspection under a magnifier	Magnifier
1.Clean the residual flux with ultrasound washer， 2.Bake the ICs in the oven @125℃ for 4hrs	Ultrasound washer，oven，

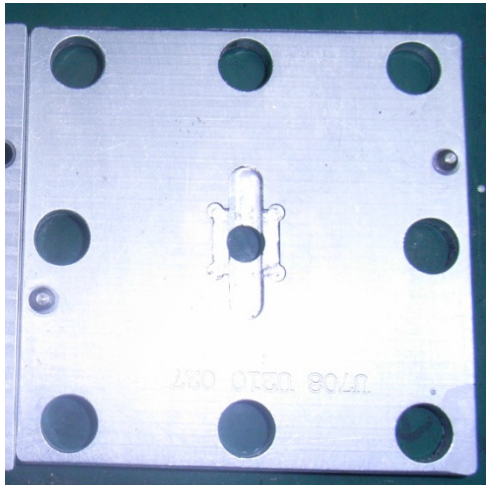




Pre-solder SOP for few chips (Yield:85%)

Flow	Equipment
Prepare the pre-solder jig (in the same aperture with the printing stencil)	Pre-solder jig
1.De-wet the ICs in an oven @125℃ for 4hrs， 2. Clean residual solder and flux with solder iron (350-400 ℃)	Oven, De-soldering wire， electric iron , tweezer
1.Position the ICs in the jig， 2.Use the stencil to cover the IC pads through guidepost	Pre-solder jig
Paste the solder on the pads	Small steel stencil
Remove the IC been printed, bake the IC for 60s using a hotgun @ 320 ℃ 。	Hot gun, nipper
Quality inspection under a magnifier	Magnifier





Note： *This method needn't the screen printer and reflow oven*

Repair/Rework SOP

Flow	Equipment	Remark
Baking: condition 100 ℃/4h	Oven(temperature can reach 100 ℃)	Avoid popcorn risk
1,Set Pre-heater at 150 ℃,hotgun at 330 ℃, make sure the temperature of solder reach **220 ℃~240 ℃ by using** a thermometer 。 2. Hotgun height： **1cm**, temperature of IC surface:300 ℃	1.Hotgun (outlet **2cm**) 2.Pre-heater(can be set at 150 ℃) 2. Thermometer (such as KIC)	Set right temperature of hot gun. Using pre-heater can shorten operation time greatly and lower popcorn risk
1.Paste flux，heat for **30s**，remove IC after solder meltdown. 2. Hotgun height：1cm	Brush，hotgun，pre-heater，tweezers	Remove IC when the solder meltdown completely，avoid pad falling off.
1.Clean E-pad with de-solder wire， 2.Clean pad with solder iron , which is set at **350 ~400℃.**	Pre-heater，de-soldering wire，tweezers，solder iron	Don't use de-soldering wire to clean small pad, avoid pad peeling
Paste flux on pad	brush	Choose colophonysolderingpaste as flux
Put pre-solder IC on PCB pad in right position	tweezers	Don't paste tin on PCB pad before mounting IC
1. Heat IC for **45s**，mount aQFN on PCB 2. Hotgun height：1cm	Pre-heater，hotgun,tweezers	Don't move and press IC when heating.

使用预热器进行返修效果对比

项目	常用维修方法 热风枪加热	MTK推荐维修方法 热风枪+预热器
热风枪设定温度	360～380℃	330 ℃
热风枪加热IC表面温度	360 ℃	300 ℃
热风枪加热IC底部温度	220 ℃	220 ℃
维修时间	拆IC：150s 装IC：180s	拆IC：30s 装IC：45s
爆板风险	较高(仅顶部加热，PCB上下表面温差大，加热时间长)	低(近似Reflow过程，温度更均匀，加热时间更短)
返修设备	热风枪，镊子，吸锡线，	热风枪，预热器，镊子，吸锡线
返修成功率	要求操作人员严格遵循维修SOP，设备稳定性要求较高	维修时间缩短，降低了对人员和设备的稳定性要求

预热器简介

厂家/型号	白光/ **HAKKO FR820**	快克电子/ **QUICK853**	安泰信/**ATTEN853A**
价格	RMB 2200	RMB 600	RMB 230
产地	日本	江苏常州	深圳
功率消耗	460W-540W	460W	540W
控温范围	150 ℃--300 ℃	120℃--250℃	120℃--250℃
风量	0.18mm^3/min	0.18mm^3/min	0.18mm^3/min(固定)
外部尺寸	140 x 70 x 170mm	100 x 60 x 170mm	140 x 55 x 170 mm
重量	0.6kg	1kg	约 1.0kg
外观			