

**Product Change Notice**

PCN1102 (v1.0) December 01, 2011

**Overview**

This notice describes the footprint and package changes to the 44 Lead Quad Flat Pack (QFP) Package for all of Holt's ARINC family of devices.

**Description**

Added Greatek Electronic's Taiwan assembly facility to our qualified supplier list as an approved MQFP package subcontract manufacturer to increase Holt Integrated Circuits manufacturing capacity for products being assembled in this package type. Greatek Electronics has achieved facility certification to ISO 9000-2008, ISO/TS 16949-2009 and ISO 14001-200 and has been a Holt qualified supplier for two years. More information is available at Greatek's website:

<http://www.greatek.com.tw/iso.htm>

Greatek assembles devices in the 44-Lead Quad Flat Pack (QFP) Package which are compliant to JEDEC package drawing MS-022. This change affects FIT and FORM as indicated below:

<b>Assembly Site</b>	CEI-Thailand	Greatek - Taiwan
<b>Package Type</b>	LQFP	MQFP
<b>JEDEC</b>	N/A	MS-022
<b>Package Body</b>	10x10x1.4 ( mm)	10x10x2.0 (mm)
<b>Footprint</b>	13.9 mm	13.2 mm
<b>Lead Count</b>	44	44
<b>Mold Compound</b>	Sumitomo EME 6600CGL	Sumitomo G600F
<b>Dap Size</b>	252 mils x 252 mils	275 mils x 275 mils
	300 mils x 300 mils	300 mils x 300 mils
<b>Die Attach</b>	Ablebond 84-1 LMISR4	CRM-1076DJ-G
<b>Bond Wire Material</b>	Gold	Gold
<b>Bond Wire Diameter</b>	1.20 mils	1.20 mils
<b>Lead Frame Material</b>	Cu w/Ag spot	Cu w/Ag spot
<b>Lead Finish</b>	Solder Plate: 80/20 Sn/Pb	Solder Dip: 80/20 Sn/Pb
<b>Lead Finish (Pb free devices)</b>	100% matte Sn (RoHS compliant)	100% matte Sn (RoHS compliant)
<b>Flammability Rating</b>	UL94 V-0 and IEC Standard 695-2-2	UL94 V-0 and IEC Standard 695-2-2
<b>Moisture Sensitivity Level</b>	Level 3	Level 3
<b>Reflow Temperature</b>	260 °C	260 °C

The 44-MQFP package assembly is fully qualified at the Greatek, Taiwan location. (See Qualification Data in Table 2) There is no change to Function, Quality or Reliability of these devices.

**Reason**

The 44-Lead MQFP at Greatek, Taiwan is being added to ensure uninterrupted and guaranteed supply of QFP package configuration device products.

**Response**

**Note:** In accordance with JESD46-C, this change is deemed accepted by the customer if no acknowledgement is received within 30 days from this notice.

No response is required. For additional information or questions, please contact:

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Holt Integrated Circuits, 23351 Madero, Mission Viejo, CA 92691, Tel: (949) 859-8800, Fax: (949) 859-9643

### Products Affected

Table 1 summarizes the products affected by this PCN. All parts listed are affected by this change.

**Table 1 Products:**

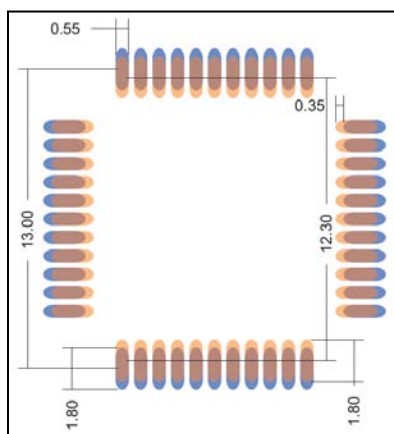
HI-3282PQx	HI-3586PQx	HI-3717PQx	HI-8448PQx	HI-8589PQx
HI-3282PQx-10	HI-3587PQx	HI-3593PQx	HI-8448PQx-10	HI-8589PQx-10
HI-3585PQx	HI-3588PQx	HI-8282APQx	HI-8581PQx	HI-8599PQx
		HI-8282APQx-10	HI-8581PQx-10	HI-8599PQx-10

### Traceability

A Date Code and Country of Origin facilitate package traceability. Parts from Table 1 can be shipped with a Country of Origin of Taiwan and a Date Code of 1145 or later, beginning Jan 1st, 2012. Product from the CEI, Thailand location will stop shipping upon inventory depletion.

### Qualification Data: Table 2

Reliability Test	Requirement	Results		Results
		QR-1003 Rev 1.0 100-LQFP HI-8045	100-LQFP HI-6120	QR-1131 Rev 1.0 44-MQFP HI-3588
Device Characterization	Final Test yield analysis over -55°C and +125°C temperature extremes.	225/0	225/0	225/00
Precondition (PC)	MSL 3	11/0	11/0	11/0
PC + HAST	96 hrs	45/0	45/0	45/0
PC + Autoclave	96 hrs	45/0	45/0	45/0
PC + Temp Cycle	1000 cycles	45/0	45/0	45/0
PC + HTS	1000 hrs	45/0	45/0	45/0



PKG Footprint (mm)	Land Pattern Layout Color	Land Pattern (mm)
13.9	BLUE	13.0
13.2	ORANGE	12.3

\*Red indicates overlap between two patterns

Figure 1) Land Pattern Overlay

Holt has included the following drawing showing the overlay between the 13.2 mm and 13.9 mm footprint for a PCB land pattern and does not anticipate any issues as a result of the change.

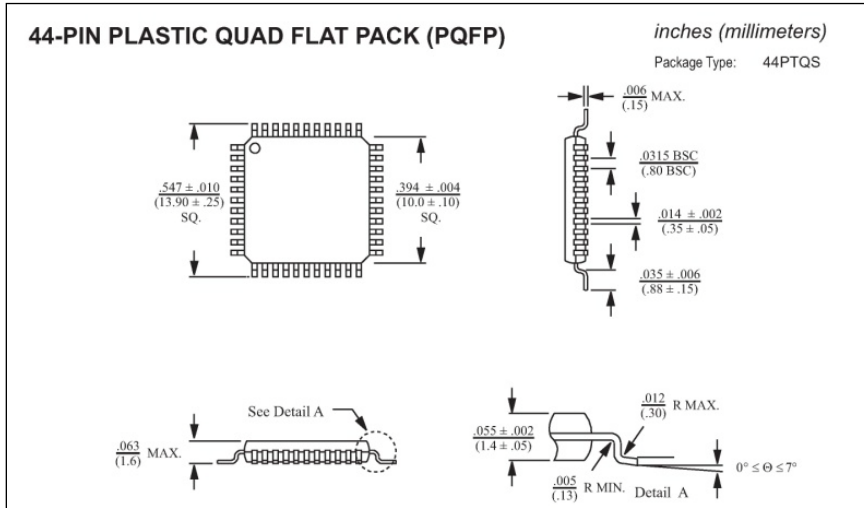


Figure 2) 13.9 package = Blue PCB Land Pattern (CEI)

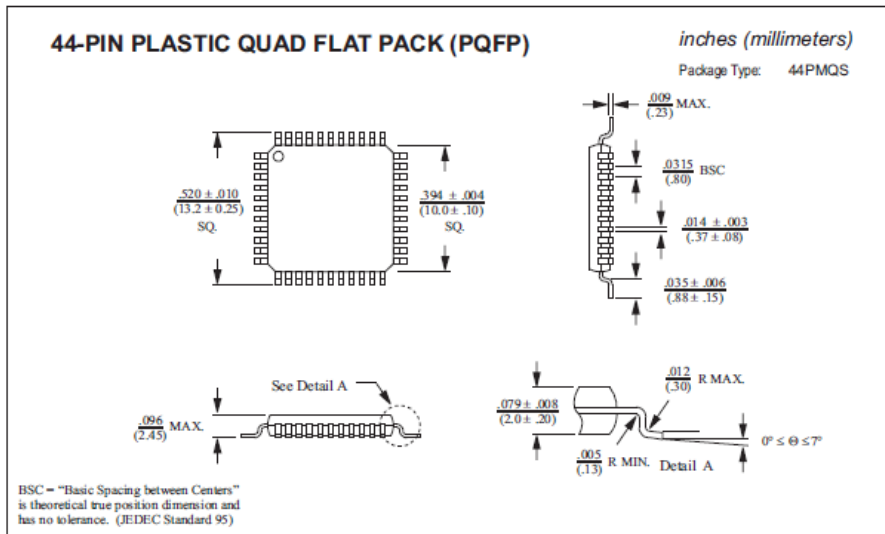


Figure 3) 13.2 package = Orange PCB Land Pattern (GREATEK)

### Additional Documentation

Below is a list of documents that are associated with this notice:

- QR-1003 Rev. 1.0 100-Lead QFP Package Qualification Greatek, Taiwan
- QR-1131 Rev. 1.0 44-Lead QFP Package Qualification Greatek, Taiwan

### Revision History

The following table shows the revision history for this document.

Date	Version	Revision Description
12/01/11	1.0	Initial Release