

Honeywell International Inc.
 Honeywell Aerospace Defense & Space
 12001 Highway 55 N
 Plymouth, MN 55441

Date: 02 August 2012

Process/ Product Change Notification (PCN) #: 12-04

Title of PCN: HMC1043 Max Reflow Temperature Change to 240°C

Product IDs affected: This PCN affects all HMC1043 and HMC1043-TR parts with date code greater than 1202.

Reason For the Change: Honeywell recently purchased a bridge-buy of the HMC1043 from our current supplier. Requalification of a minor process change was performed concurrent with build to maximize yield and product quality. Results of the requal are forcing us to examine alternate datasheet specifications to deliver them to you with quality consistent with Honeywell's policies and practices. Unexpected failures seen in the qual results indicate the product is not capable of 260°C reflow conditions.

Description of Change: Honeywell has re-run our qualification activity to internal standards at two lower temperature reflow settings (220°C and 240°C) and determined that the parts need to be reclassified for a lower reflow temperature. Legacy parts were qualified at 260°C, current parts are now qualified at 240°C.

Projected timing of change and implementation date: Parts qualified at 240°C have completed production and are currently available to existing customers.

Anticipated impact on Quality and Reliability: The lowering of the max reflow temperature rating to no *higher* than 240°C may have an impact on how customers use this product. See summary table below for qualification results:

Qualification summary for HMC1043:				
TEST Group #1	Duration	Conditions	Quantity Passed	Note
MSL3 260°C MSL 3 Pre-condition	192 hours	30°C, 60%RH Post MSL	210/225	1
UHAST w/ precondition	96 hours	110°C, 85% RH	0/0	
Temperature Cycling w/ precondition	200 cycles	-55°C to +125°C	0/0	
Temperature Cycling w/ precondition	700 cycles	-55°C to +125°C	0/0	
TEST Group #2	Duration	Conditions	Quantity Passed	Note
MSL3 240°C Pre-condition	192 hours	30°C, 60%RH Post MSL	225/225	
UHAST w/ Pre-condition	96 hours	110°C, 85% RH	74/75	2
Temperature Cycling w/ precondition	200 cycles	-55°C to +125°C	75/75	
Temperature Cycling w/ precondition	700 cycles	-55°C to +125°C	74/74	

TEST Group #3	Duration	Conditions	Quantity Passed	Note
MSL3 220°C Pre-condition	192 hours	30°C, 60%RH Post MSL	225/225	
UHAST w/ precondition	96 hours	110°C, 85% RH	74/75	3
Temperature Cycling w/ precondition	200 cycles	-55°C to +125°C	75/75	
Temperature Cycling w/ precondition	700 cycles	-55°C to +125°C	75/75	

Note 1:

15 Parts failed Internal Solder reflow on the Z Sensor. Qualification testing discontinued with test group #1 due to high failure rate

Note 2:

1 Part Failed, EOS/ESD damage; unrelated to solder process change

Note 3:

1 Part failed, internal solder bump defect: unrelated to solder process change

Qualification Status: Complete. Note: Based on our qualification test results, Honeywell will offer the HMC1043 and HMC1043-TR with full warranty when used with a reflow profile up to 240°C. Reflowing the part at temperatures above 240°C will void the warranty for this part.

Honeywell Contact (for further questions):

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Customer Approval

Customer acknowledges notification of this process change and accepts parts with the reflow temperature restriction as described above.

Customer Representative Signature _____ **Date** _____

Company Name _____