



## **Product Change Notices**

**PCN No.: 20160702**

**Date: July 28, 2016**

**Subject: Add new LF SOP-8/PP(12R) for SOP-8/PP package**

This is to inform you that AME add new LF(Lead Frame) SOP-8/PP(12R) for SOP-8 /PP package with below conditions:

1. AME ensure this new LF SOP-8/PP(12R) is 100% in compliance with AME product specifications.
2. AME had qualified this new LF SOP-8/PP(12R) with reliability test.
3. With this new lead frame SOP-8/PP(12R) the small exposed Cu will show on each lead as figure 1.
4. The Part Number of each product is unchanged, but identification via D/C is available.

This notification is for your information and concurrence.

If you require AME Qual/Rel data or samples to qualify this change, please contact AME, Inc. directly or through AME's authorized Sales Representative or Distributor.

Please note this PCN will be effective 30 days after the issuing date automatically if we do not receive any response, comment or questions from you.

If you have any questions concerning this change, please contact:

**PCN Originator:**

Name: Jerry Su-Manager, Engineering Department

Email: [JerryS@ame.com.tw](mailto:JerryS@ame.com.tw)

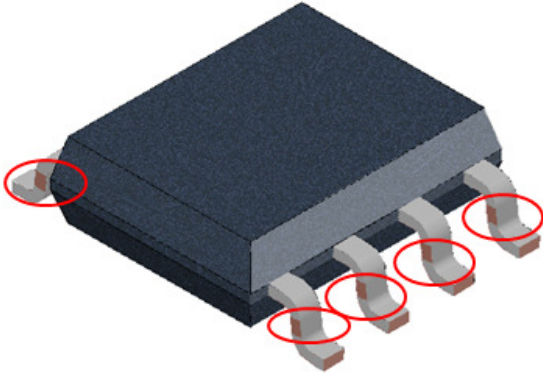
Phone: +886.2.2627.8687 # 2110

The expected 1st affected shipment date is August 28, 2016

**Reason of Change:**

Adding new SOP-8/PP(12R ) LF is to expand throughput.

Figure 1.





AME, Inc. 安茂微電子股份有限公司

REL-SOP-8/PP -L/F: 12R-A

# Reliability Report for SOP-8/PP (L/F: 12R) Series Product

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**Prepared by Eric Chen, Manager of Quality & Reliability Dept.**



## **Conclusion:**

The SOP-8/PP L/F: 12R series product has successfully met AME's reliability standard that is required on all AME, Inc. products.

Furthermore, QRA Dept. of AME, Inc. monitors the reliability continuously to make sure that all SOP-8/PP series product will still meet AME's reliability standard in the future.

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I 、 Package Reliability Test Result

II 、 IR-reflow Test Result



## I 、 Package Reliability Test Result:

Test Item	Test Condition	Sample Size / Failures	Result
MSL	85/85 168 hours IR-reflow 3 cycles Peak Temp.= 260°C IPC/JEDEC J-STD-020D	22 pcs / 0 pcs	Level 1
HTS	Precondition <sup>NOTE 1</sup> Temp.=150°C Duration=1000 hours Unbiased, Read at 1000 hours	77 pcs / 0 pcs	Pass
THT	Precondition <sup>NOTE 1</sup> Temp.=85°C, R.H.=85% Duration=1000 hours Unbiased, Read at 1000 hours	77 pcs / 0 pcs	Pass
PCT	Precondition <sup>NOTE 1</sup> Temp.=121°C, R.H.=100% 15PSIG, Unbiased Duration=168 hours Read at 168 hours	77 pcs / 0 pcs	Pass
TCT	Precondition <sup>NOTE 1</sup> -65°C ~ 150°C 500 cycles Unbiased, Read at 500 cycles	77 pcs / 0 pcs	Pass
Solderability	Temp.=260°C (lead-free) Duration=5sec	5 pcs / 0 pcs	Pass

**NOTE 1:** 85/85 168 hours + IR-reflow 3 cycles with Peak Temp.= 260°C

## II 、IR-reflow Test Result:

Test Item	Test Condition	Sample Size / Failures	Result
IR-reflow	See IR reflow Profile Perform 3 cycles test	22 pcs / 0 pcs	Pass

IR reflow Profile:

Profile Feature	Pb-Free Assembly
Average Ramp-Up Rate ( $T_{s_{max}}$ to $T_p$ )	3°C/second max.
<b>Preheat</b> - Temperature Min ( $T_{s_{min}}$ ) - Temperature Max ( $T_{s_{max}}$ ) - Time ( $t_{s_{min}}$ to $t_{s_{max}}$ )	150°C 200°C 60~180 seconds
<b>Time maintained above</b> - Temperature ( $T_L$ ) - Time ( $t_L$ )	217°C 60~150 seconds
Peak/Classification Temperature ( $T_p$ )	260°C
Time within 5°C of actual Peak Temperature ( $t_p$ )	20~40 seconds
Ramp-Down Rate	6°C/second max.
Time 25°C to Peak Temperature	8 minutes max.

