

Product Change Notice

Issue Date: 30 April 2010

Change Type:

Please be informed that Avago Technologies is making the following product changes on PLCC LEDs listed below:

- 1) Introduction of an alternate manufacturing site for PLCC LED part numbers per Appendix A.
- 2) Update of recommended reflow soldering profile in product data sheet for PLCC LED part numbers per Appendix A.

Parts Affected:

ASMC-PAxx-xxxxx	HSME-A4xx-xxxxx	HSMU-A4xx-xxxxx	QSMC-PHxx-xxxxx
ASMC-PHxx-xxxxx	HSMG-A1xx-xxxxx	HSMV-A1xx-xxxxx	QSME-A1xx-xxxxx
ASMC-PRxx-xxxxx	HSMH-A1xx-xxxxx	HSMY-A1xx-xxxxx	QSMJ-A4xx-xxxxx
HSMA-A1xx-xxxxx	HSMJ-A1xx-xxxxx	HSMZ-A1xx-xxxxx	QSML-A1xx-xxxxx
HSMA-A4xx-xxxxx	HSMJ-A4xx-xxxxx	HSMZ-A4xx-xxxxx	QSML-A4xx-xxxxx
HSMC-A1xx-xxxxx	HSML-A1xx-xxxxx	QSMA-A1xx-xxxxx	QSMT-PAxx-xxxxx
HSMC-A4xx-xxxxx	HSML-A4xx-xxxxx	QSMA-A4xx-xxxxx	QSMT-PHxx-xxxxx
HSMD-A1xx-xxxxx	HSMS-A1xx-xxxxx	QSMC-A1xx-xxxxx	QSMT-SAxx-xxxxx
HSME-A1xx-xxxxx	HSMU-A1xx-xxxxx	QSMC-PAxx-xxxxx	QSMT-SHxx-xxxxx

Please refer to Appendix A for detailed part numbers affected by this change.

Description and Extent of Change:

1. Alternate manufacturing site

The selected manufacturing site has undergone Avago Technologies's qualification process and is deemed suitable as alternate manufacturing site for PLCC LEDs.

2. Update of recommended reflow soldering profile

As an effort to commit to RoHS Directive, Avago Technologies is taking initiative to update PLCC LED datasheet to only recommend Pb-Free reflow profile and Pb-Free solder paste to be use.

Reasons for Change:

1. Alternate manufacturing site

To ensure continuity of supply for part numbers per Appendix A.

2. Update of recommended reflow soldering profile

As an initiative of commit to RoHS directive.

Effect of Change on Fit, Form and Function

There is no effect on fit and function as per datasheet. Qualification and characterization have been conducted to ensure both current and alternate manufacturing site are comparable. The current and alternate manufacturing site for PLCC LED can be identified through the country of origin that indicated on the Mother Label and Baby Label. The country of origin on the mother label and baby label for alternate manufacturing site for PLCC LED will be from China.

Comparison of PLCC LED manufactured from current and alternate manufacturing sites as below:

	Current Manufacturing Site	Alternate Manufacturing Site
Package Lead frame Coating	External leads are matt tin plated	External leads are silver plated
Mother Label	(1P)Item: HSMC – A160 – Q00J1 (1T)Lot: Z103J0027203 LPN: UT10350220 (9D)MFG Date: 01 – MAR – 2010 (P)Customer Item: (V)Vendor ID: Dept ID: CMTLED Avago TECHNOLOGIES Standard Label L55002 RoHS Compliant Halogen Free x3 Max Temp 250 C MSL 2a (Q)QTY: 2000 CAT: R1 BIN: (9D)Date Code: 1009 Made in : TAIWAN	(1P)Item: HSMA – A149 – Q00J1 (1T)Lot: Y20100413001 LPN: UL10400001 (9D)MFG Date: 12 – APR – 2010 (P)Customer Item: (V)Vendor ID: Dept ID: CMTLED Avago TECHNOLOGIES Standard Label L55002 RoHS Compliant Halogen Free x3 Max Temp 250 C MSL 2a (Q)QTY: 2000 CAT: Q1 BIN: B VF: (9D)Date Code: 1015 Made in : CHINA
Baby Label	(1P)PART#: HSMC – A160 – Q00J1 (1T)LOT#: Z103J0027203 (9D)MFG Date: 01 – MAR – 2010 C/O TAIWAN (1T)TAPE DATE: 05 – MAR – 2010 Avago TECHNOLOGIES BABY LABEL COS0018 V0.0 (Q)QUANTITY: 2000 (9D)DATE CODE: D/C 1009 VF: CAT R1 BIN	(1P)PART#: HSMA – A149 – Q00J1 (1T)LOT#: Y20100413001 (9D)MFG Date: 12 – APR – 2010 C/O CHINA (1T)TAPE DATE: 13 – APR – 2010 Avago TECHNOLOGIES BABY LABEL COS0018 V0.0 (Q)QUANTITY: 2000 (9D)DATE CODE: D/C 1015 VF: CAT Q1 BIN B

Effective Date of Change:

The shipment of alternate site PLCC2 and PLCC 4 will begin on 30 July 2010. Different site can be shipped in the same shipment and this can be identified from the baby label on the reel and mother label on moisture barrier bag.

Qualification Data:

Test	Reference	Sample Size	Test Result
High humidity high temperature operating life test (WHTOL) 85°C/85%RH,17mA (PLCC 2) 85°C/85%RH,22mA (PLCC 4)	JESD22-A101	56	Passed 336 hours
High temperature operating life test (HTOL) 85°C, 17mA (PLCC 2) 85°C, 22mA (PLCC4)	JESD22-A108	56	Passed 336 hours
High humidity high temperature reverse bias test (WHTRB) 85°C/85%RH, 5VRB	Avago Req	30	Passed 168 hours
Temperature Cycling -55/100oC 15/5/15min	JESD22-A104	100	Passed 100 cycles
Solder heat resistance (SHR) 260°C, 5 sec (light up test)	JESD22-B106	22	Passed

Further test result will be provided upon request.

These changes have been reviewed and approved by Avago Technologies engineers and managers per Avago Technologies procedure: Change Control and Customer Notification, A-5962-6052-80.

Please contact your Avago Technologies field sales engineer or Contact Center (<http://www.avagotech.com/contact/>) for any questions or support requirements. Please return any response as soon as possible, but not to exceed 30 days.

Appendix A

1. ASMC-PAB9-TV005	51. HSMC-A161-S00J1	101. HSML-A161-S4WJ1	151. QSMC-A132-K3JL2
2. ASMC-PHB9-TW005	52. HSMC-A400-S30M1	102. HSML-A401-U40M1	152. QSMC-A135-S00J1
3. ASMC-PRB9-TV005	53. HSMC-A401-T40M1	103. HSML-A401-U8PM1	153. QSMC-A136-R30J1
4. HSMA-A100-J80L2	54. HSMC-A401-T80M1	104. HSMS-A100-J00J1	154. QSMC-A141-Q7J1
5. HSMA-A100-Q00H1	55. HSMC-A401-U30M1	105. HSMS-A100-J80J2	155. QSMC-A143-S40J1
6. HSMA-A100-Q00J1	56. HSMC-A401-U80M1	106. HSMS-A100-K20J2	156. QSMC-A145-S30J1
7. HSMA-A100-Q0PJ1	57. HSMD-A100-J00J1	107. HSMS-A100-K20J5	157. QSMC-A148-Q8J1
8. HSMA-A100-Q30J1	58. HSMD-A100-J7PJ2	108. HSMS-A100-K30J2	158. QSMC-A151-Q70J1
9. HSMA-A100-Q35J1	59. HSMD-A100-K4PJ2	109. HSMS-A100-K40J2	159. QSMC-A151-S00J1
10. HSMA-A100-Q3YJ1	60. HSMD-A100-L00J1	110. HSMS-A100-L00J1	160. QSMC-A175-Q90J1
11. HSMA-A100-Q6WJ1	61. HSMD-A100-L40J1	111. HSMU-A100-R00J1	161. QSMC-A199-S00J1
12. HSMA-A100-Q9YJ1	62. HSME-A100-L01J1	112. HSMU-A100-S00J1	162. QSMC-PAGR-TV7N5
13. HSMA-A100-R0PJ1	63. HSME-A100-L7YJ1	113. HSMU-A100-U4WJ1	163. QSMC-PHM1-TW005
14. HSMA-A100-R3PJ1	64. HSME-A100-M02J1	114. HSMU-A400-U85M1	164. QSME-A115-N82J1
15. HSMA-A100-R40J1	65. HSME-A100-M0LJ1	115. HSMV-A100-T00J1	165. QSME-A151-M4PJ1
16. HSMA-A100-R45J1	66. HSME-A100-M3PJ1	116. HSMY-A100-J00J1	166. QSME-A190-P7LJ1
17. HSMA-A100-R4WJ1	67. HSME-A100-M41H1	117. HSMY-A100-J45J2	167. QSMJ-A4V1-W60M1
18. HSMA-A101-R8WJ1	68. HSME-A100-M4PJ1	118. HSMY-A100-L00J1	168. QSML-A118-T00J1
19. HSMA-A101-S00J1	69. HSME-A100-N32J1	119. HSMY-A100-L4YJ1	169. QSML-A118-T70J1
20. HSMA-A101-S3WJ1	70. HSME-A100-N82J1	120. HSMZ-A100-R00J1	170. QSML-A136-R7YJ1
21. HSMA-A101-S70J1	71. HSME-A100-Q3TJ1	121. HSMZ-A100-S80J1	171. QSML-A136-S3PJ1
22. HSMA-A101-T2WJ1	72. HSME-A401-P4PM1	122. HSMZ-A100-T00J1	172. QSML-A419-V6WM1
23. HSMA-A160-Q00J1	73. HSMG-A100-E82L2	123. HSMZ-A100-T30J1	173. QSMT-PAGR-SAB05
24. HSMA-A160-S7WJ1	74. HSMG-A100-H01J1	124. HSMZ-A100-T70J1	174. QSMT-PHGR-SAB05
25. HSMA-A161-S00J1	75. HSMG-A100-J02J1	125. HSMZ-A400-U80M1	175. QSMT-SAB4-PAC05
26. HSMA-A161-S3WJ1	76. HSMG-A100-J02J2	126. HSMZ-A400-V30M1	176. QSMT-SHB4-PAC05
27. HSMA-A161-S7WJ1	77. HSMG-A100-K42J2	127. QSMA-A115-Q00J1	
28. HSMA-A400-T35M1	78. HSMG-A100-K62J2	128. QSMA-A117-T2WJ1	
29. HSMA-A401-U20M1	79. HSMG-A100-K62J5	129. QSMA-A132-K7YL2	
30. HSMA-A401-U45M1	80. HSMG-A100-K72J2	130. QSMA-A134-S3VJ1	
31. HSMA-A401-U7VM1	81. HSMG-A100-L02J1	131. QSMA-A134-S3WJ1	
32. HSMA-A401-U80M1	82. HSMG-A100-L82J1	132. QSMA-A135-S00J1	
33. HSMA-A401-V30M1	83. HSMH-A100-G50L2	133. QSMA-A136-S4WJ1	
34. HSMA-A401-V3WM1	84. HSMH-A100-L00J1	134. QSMA-A140-R3YJ1	
35. HSMA-A411-V2VM1	85. HSMH-A100-N00J1	135. QSMA-A141-R4QJ1	
36. HSMC-A100-N00H1	86. HSMH-A100-N30J1	136. QSMA-A143-S7NJ1	
37. HSMC-A100-P30J1	87. HSMH-A100-P70J1	137. QSMA-A149-Q00J1	
38. HSMC-A100-P70J1	88. HSMJ-A100-Q00J1	138. QSMA-A151-R35J1	
39. HSMC-A100-Q00J1	89. HSMJ-A100-R40J1	139. QSMA-A157-S6J1	
40. HSMC-A100-Q30J1	90. HSMJ-A101-R80J1	140. QSMA-A172-R2WJ1	
41. HSMC-A100-Q40J1	91. HSMJ-A101-S00J1	141. QSMA-A197-Q7J2	
42. HSMC-A100-Q70J1	92. HSMJ-A401-T40M1	142. QSMA-A419-U6JM1	
43. HSMC-A100-R00J1	93. HSMJ-A401-U40M1	143. QSMA-A419-U7JM1	
44. HSMC-A100-R20J1	94. HSML-A100-Q00J1	144. QSMA-A419-U7YM1	
45. HSMC-A101-R70J1	95. HSML-A100-Q7PJ1	145. QSMA-A419-V2JM1	
46. HSMC-A101-R80J1	96. HSML-A100-R7PJ1	146. QSMA-A419-V6JM1	
47. HSMC-A101-S00J1	97. HSML-A100-R7YJ1	147. QSMA-A419-V7YM1	
48. HSMC-A101-S30J1	98. HSML-A101-S00J1	148. QSMA-A499-U2WM1	
49. HSMC-A101-S40J1	99. HSML-A101-S40J1	149. QSMC-A111-R70J1	
50. HSMC-A160-Q00J1	100. HSML-A101-S4WJ1	150. QSMC-A127-Q40J1	