

Product Change Notice

Issue Date: 28th Sept 2007

Change Type:

Avago Technologies has qualified an alternate dice source for GaP Red, Yellow, Orange and Green devices which will be used in Through Hole Lamps.

Parts Affected:

HLMF-K200	HLMP-1601	HLMP-4719-A00B2
HLMF-K200#2CA	HLMP-1620	HLMP-4719-BCB00
HLMF-K200#2UK	HLMP-1620-C00A1	HLMP-C215
HLMF-K200#2UL	HLMP-1620-C00A2	HLMP-C223
HLMF-K200#2UM	HLMP-1620-EFB00	HLMP-C315
HLMF-K200#2UN	HLMP-1621	HLMP-C315-L0002
HLMF-K200#2UP	HLMP-1700	HLMP-C323
HLMF-K205#2CA	HLMP-1700-B0002	HLMP-C415
HLMF-K205#2UL	HLMP-1700-B00A1	HLMP-C423
HLMF-K205#2UN	HLMP-1700-B00A2	HLMP-C423-L0002
HLMF-K300#2CA	HLMP-1700-B00DH	HLMP-D401
HLMF-K300#2UK	HLMP-1700-BC002	HLMP-D401-EF0FH
HLMF-K300#2UL	HLMP-1700-CD0FH	HLMP-D401-FI0UT
HLMF-K305	HLMP-1719	HLMP-K401
HLMF-K305#2CA	HLMP-1719-A0002	HLMP-K401-E0002
HLMF-K305#2UL	HLMP-1719-A00A1	HLMP-K401-EF000
HLMF-K400#2UL	HLMP-1719-A00A2	HLMP-K401-FGD00
HLMF-K400-FH0UL	HLMP-1719-A00DH	HLMP-K440
HLMF-K405	HLMP-1719-AB002	HLMP-N205-H00DD
HLMF-K500#2CA	HLMP-1721	HLMP-N305
HLMF-K500#2UL	HLMP-1722	HLMP-N305-G00DD
HLMF-K500#2UM	HLMP-1790	HLMP-N405#002
HLMF-K500#2UP	HLMP-1790-A0002	HLMP-N505-G0002
HLMF-K505	HLMP-1790-A00A1	HLMP-N505-G00DD
HLMF-K505#2CA	HLMP-1790-A00A2	HLMP-S201
HLMF-K505#2CD	HLMP-1790-A00DH	HLMP-S201-D0000
HLMF-K505#2UK	HLMP-3301	HLMP-S201-D0002
HLMF-K505#2UM	HLMP-3301-D0000	HLMP-S301
HLMP-0301	HLMP-3301-D0001	HLMP-S301-B0000
HLMP-0301-C0000	HLMP-3301-D0002	HLMP-S400
HLMP-0401	HLMP-3301-D00B2	HLMP-S401
HLMP-0401-B0000	HLMP-3301-F0001	QLMB-K401
HLMP-0401-D0002	HLMP-3301-F0002	QLMJ-A015-G00UQ
HLMP-0405	HLMP-3301-F00B2	QLMP-1389
HLMP-0800	HLMP-3301-F00DD	QLMP-1472-EFB02
HLMP-0805	HLMP-3301-F00R4	QLMP-1554-C00A1
HLMP-1301	HLMP-3301-FG000	QLMP-1576
HLMP-1301-E0002	HLMP-3301-FI0CA	QLMP-1635

HLMP-1301-E00A1	HLMP-3301-FI0UK	QLMP-1705
HLMP-1301-E00A2	HLMP-3301-FI0UT	QLMP-1794#SRA
HLMP-1301-G0000	HLMP-3316	QLMP-3358-F00B2
HLMP-1301-G0002	HLMP-3316-HK000	QLMP-3479-EF000
HLMP-1301-G00A1	HLMP-3316-HK0CA	QLMP-3579-EH000
HLMP-1301-G00FG	HLMP-3316-I0002	QLMP-3580-D00B2
HLMP-1301-GH000	HLMP-3351	QLMP-3624
HLMP-1301-GH002	HLMP-3351-D0000	QLMP-3646
HLMP-1321	HLMP-3351-D0002	QLMP-3647-B0000
HLMP-1321-G0002	HLMP-3351-F0002	QLMP-3674
HLMP-1340	HLMP-3351-F00R1	QLMP-3678
HLMP-1340-H00VR	HLMP-3357	QLMP-3718-L0000
HLMP-1340-J0002	HLMP-3366	QLMP-3727
HLMP-1367	HLMP-3390	QLMP-3736-G0000
HLMP-1401	HLMP-3401	QLMP-3738-FG000
HLMP-1401-D0002	HLMP-3401-E0002	QLMP-3838
HLMP-1401-D00A1	HLMP-3401-E00B2	QLMP-3861-K0B00
HLMP-1401-D00A2	HLMP-3401-EF000	QLMP-4059
HLMP-1401-E0000	HLMP-3401-EH0UK	QLMP-4060
HLMP-1401-E00FG	HLMP-3416	QLMP-4062
HLMP-1401-EF000	HLMP-3416-G0002	QLMP-4073
HLMP-1420	HLMP-3416-IJ000	QLMP-4735
HLMP-1421	HLMP-3451	QLMP-D272-J0000
HLMP-1421-F0002	HLMP-3451-D0000	QLMP-G242
HLMP-1421-F00A2	HLMP-3454	QLMP-G243-L0000
HLMP-1440	HLMP-3490	QLMP-G343-K0000
HLMP-1440-H0002	HLMP-3495	QLMP-J353-IJ0DJ
HLMP-1440-H00A2	HLMP-3600	QLMP-J353-IJ0R3
HLMP-1440-HI000	HLMP-3600-D00B2	QLMP-J353-IJ0VB
HLMP-1440-HIB00	HLMP-3601	QLMP-J361-IJGFA
HLMP-1440-IJB00	HLMP-3650	QLMP-J383-H0002
HLMP-1503	HLMP-3650-C00B2	QLMP-J596-IJ0FA
HLMP-1503-C0002	HLMP-3651	QLMP-K204
HLMP-1503-C00A1	HLMP-3707-L0002	QLMP-K206-HH0ED
HLMP-1503-C00A2	HLMP-3750	QLMP-K207-HH000
HLMP-1503-D0000	HLMP-3750-L0002	QLMP-K229#2MK
HLMP-1503-D0002	HLMP-3750-L00B2	QLMP-K270
HLMP-1503-D00FG	HLMP-3762	QLMP-K273-C0000
HLMP-1503-DE000	HLMP-3762-G00B2	QLMP-K285-G00FA
HLMP-1503-DE002	HLMP-3807-K0002	QLMP-K314-IJ0FA
HLMP-1503-E0000	HLMP-3850	QLMP-K334#2MK
HLMP-1520	HLMP-3850-K0002	QLMP-K343
HLMP-1521	HLMP-3850-K00B2	QLMP-K353
HLMP-1521-E0002	HLMP-3860	QLMP-K358-H00FA
HLMP-1521-E00A2	HLMP-3862	QLMP-K367
HLMP-1540	HLMP-4000	QLMP-K479
HLMP-1540-H0002	HLMP-4000#002	QLMP-K506-EE0ED
HLMP-1540-H00A1	HLMP-4000#010	QLMP-K526-D0000
HLMP-1540-H00VR	HLMP-4015	QLMP-K532-D0000
HLMP-1540-IJ000	HLMP-4700	QLMP-K556#2MK
HLMP-1573	HLMP-4700-C0002	QLMP-K575
HLMP-1575	HLMP-4700-C00B2	QLMP-K774-C00FD
HLMP-1600	HLMP-4700-CD0FH	QLMP-N299-GH002
HLMP-1600-D00A1	HLMP-4719	QLMP-S257
HLMP-1600-D00A2	HLMP-4719-A0002	QLMP-S561

Description and Extent of Change:

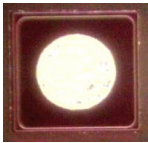
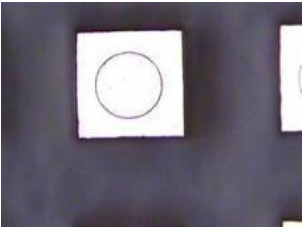
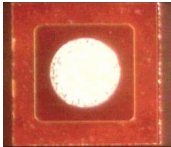
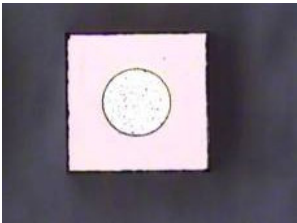
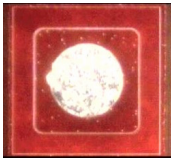
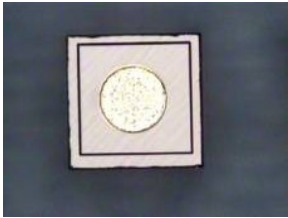
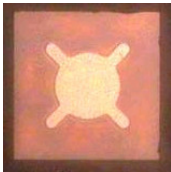
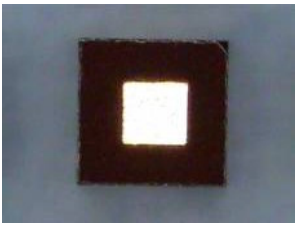
The selected die shall be used in GaP Red, Yellow, Orange and Green Through Hole Lamps, which will serve the same functionality as the existing die.

Reasons for Change:

This is to ensure continuous supply of the GaP Red, Yellow, Orange and Green Through Hole Lamps.

Effect of Change on Fit, Form, Function, Quality, or Reliability:

There will be no change on form, fit, function, quality or reliability on the finished products. However, there is a slight difference between the die top surface of the existing die versus the alternate die. Below are the pictures showing the difference between them.

Die Type	Picture	
	Existing die	Alternate die
GaP Red		
GaP Yellow		
GaP Orange		
GaP Green		

Effective Date of Change:

The shipment of the alternate dice source will begin from 28th Dec 2007 (WW52'07). From this date onwards, shipment may contain either existing parts or parts with alternate dice source.

Qualification Data:

Qualification data has been generated and approved.
These are the main qualification data for reference.

Item	Test Type	Condition	Total sample size ^[2]	Test Criteria	Test Result
1	2XTTW -> Temperature cycle (TMCL)	-55 to 100°C, 15 mins dwell, 5 minutes transfer (All colors)	2250	No open/short	Passed 100cycles
2	High Temperature Operating Life test ^[1] (HTOL)	55°C, 30mA (max rated If for Green & Red)	168	No open/short, Iv degradation <50%	Passed 1000hrs
		55°C, 20mA (max rated If for Yellow)	84		Passed 1000hrs
3	Wet High Temperature Operating Life test ^[1] (WHTOL)	85°C/85%RH, 15mA (Green & Red)	168		Passed 1000hrs
		85°C/85%RH, 16mA (Yellow)	84		Passed 1000hrs
4	Wet High Temperature Storage Life test. (WHTSL)	85°C/85%RH (All colors)	252		Passed 1000hrs

Note:

1. Accelerated test condition with higher stress current was used to achieve the equivalent 1000hrs at typical stress current.
2. Samples are built from 3 wafers/colors.

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.