



Cypress Semiconductor Corporation, 198 Champion Court, San Jose, CA 95134. Tel: (408) 943-2600

PRODUCT CHANGE NOTIFICATION

PCN: PCN154207A

Date: December 14, 2015

Subject: Qualification of an Alternate Mold Compound and Die Attach Epoxy for TSOP Packages

Change Type: Major

Description of Change:

Cypress announced the qualification of an alternate die attach epoxy (Sumitomo CRM-1150B) and mold compound (Sumitomo G600B/SB) for the assembly of devices manufactured in TSOP packages assembled at Cypress Bangkok. **This addendum is to add an additional 153 parts numbers to those included in the original PCN, PCN154207.** The qualification will enable Cypress to continually provide world-class services and meet our customers' stringent quality and reliability requirements. TSOP packages assembled at Cypress Bangkok will use the following Bill of Materials (BOM).

TSOP		
	Current	New
Die Attach Epoxy	Ablestik 8340	Ablestik 8340 Sumitomo CRM-1150B
Mold Compound	Hitachi CEL 9200HF10 Hitachi CEL 9200HF10-U	Hitachi CEL 9200HF10 Hitachi CEL 9200HF10-U Sumitomo G600B Sumitomo G600SB

There are no changes to ordering part numbers. Product datasheets remain the same and can be downloaded from the Cypress Website (www.cypress.com).

Benefit of Change:

The addition of Sumitomo CRM-1150B die attached epoxy and G600B/G600SB mold compound allows the increase of assembly material availability and flexibility.

Affected Part Numbers: 837

Affected Parts: See the attached 'Affected Parts List' file for a list of all part numbers affected by this change. Note that any new TSOP parts that are introduced after the publication of this PCN may also be manufactured with CRM-1150B die attach epoxy and G600B/G600SB mold compound at the Cypress Bangkok facility.

Qualification Status:

The change has been qualified through a series of tests documented in Qualification Test Plan (QTP) 153704. The qualification report can be found as an attachment to this notification.

Sample Status:

Qualification samples are not built ahead of time for all part numbers affected by this change. Please contact your local Cypress Sales representative for sample availability as soon as possible, but within 30 days of the date of this PCN, to place any sample orders.

Approximate Implementation Date:

Effective 90 days from the date of this notification or upon customer approval, whichever comes first, all shipments of the affected part numbers in the attached file will be manufactured with the combination of the BOM shown above.

Anticipated Impact:

Products manufactured with Sumitomo CRM-1150B die attach epoxy and Sumitomo G600B/G600SB mold compound are completely compatible with existing product from a functional, parametric, and quality performance perspective.

Cypress recommends that customers take this opportunity to review these changes against current application notes, system design considerations and customer environment conditions to assess impact (if any) to their application.

Method of Identification:

There will be no changes to the part number. Cypress maintains traceability of product to wafer level, including wafer fabrication location, through the lot number marked on the package.

Response Required:

No response is required.

For additional information regarding this change, contact your local sales representative or contact the PCN Administrator at pcn_adm@cypress.com.

Sincerely,

Cypress PCN Administration

Item	Marketing Part Number	Sample Order Part Number	Remark
1	051GL256S90TFI010	Available to order; subject to lead time	Listed on PCN#154207
2	051GL512S10TFI010	Available to order; subject to lead time	Listed on PCN#154207
3	051JL032J70TFI010	Available to order; subject to lead time	Listed on PCN#154207
4	10324-02440	Available to order; subject to lead time	Listed on PCN#154207
5	462791-0870	Available to order; subject to lead time	Listed on PCN#154207
6	51-04565Z01-A	Available to order; subject to lead time	Listed on PCN#154207
7	51-14890Z01-A	Available to order; subject to lead time	Listed on PCN#154207
8	51-20632Z01-A	Available to order; subject to lead time	Listed on PCN#154207
9	51-20633Z01-A	Available to order; subject to lead time	Listed on PCN#154207
10	51-22113Z01-A	Available to order; subject to lead time	Listed on PCN#154207
11	51-22808Z01-A	Available to order; subject to lead time	Listed on PCN#154207
12	51-22809Z01-A	Available to order; subject to lead time	Listed on PCN#154207
13	7GA6Y0020	Available to order; subject to lead time	Listed on PCN#154207
14	7GA6Y0060	Available to order; subject to lead time	Listed on PCN#154207
15	7GA6Y0090M0	Available to order; subject to lead time	Listed on PCN#154207
16	811600-68260870	Available to order; subject to lead time	Listed on PCN#154207
17	811600-69040870	Available to order; subject to lead time	Listed on PCN#154207
18	811600-69370870	Available to order; subject to lead time	Listed on PCN#154207
19	811600-70810870	Available to order; subject to lead time	Listed on PCN#154207
20	811600-71480870	Available to order; subject to lead time	Listed on PCN#154207
21	949587-5110	Available to order; subject to lead time	Listed on PCN#154207
22	949587-5120	Available to order; subject to lead time	Listed on PCN#154207
23	949587-5980	Available to order; subject to lead time	Listed on PCN#154207
24	949587-6690	Available to order; subject to lead time	Listed on PCN#154207
25	99326-00619	Available to order; subject to lead time	Listed on PCN#154207
26	99326-00803	Available to order; subject to lead time	Listed on PCN#154207
27	99326-00904	Available to order; subject to lead time	Listed on PCN#154207
28	99326-00955	Available to order; subject to lead time	Listed on PCN#154207
29	99326-01329	Available to order; subject to lead time	Listed on PCN#154207
30	C3FBLY000085	Available to order; subject to lead time	Listed on PCN#154207
31	C3FBLY000143	Available to order; subject to lead time	Listed on PCN#154207
32	C3FBMY000245	Available to order; subject to lead time	Listed on PCN#154207
33	C3FBMY000307	Available to order; subject to lead time	Listed on PCN#154207
34	GE323776 1	Available to order; subject to lead time	Listed on PCN#154207
35	GE408998-1	Available to order; subject to lead time	Listed on PCN#154207
36	S29AL008J55TFAR20	Available to order; subject to lead time	Listed on PCN#154207
37	S29AL008J55TFAR20H	Available to order; subject to lead time	Listed on PCN#154207
38	S29AL008J55TFAR23	Available to order; subject to lead time	Listed on PCN#154207
39	S29AL008J55TFAR23H	Available to order; subject to lead time	Listed on PCN#154207
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46	S29AL008J55TFNR20	Available to order; subject to lead time	Listed on PCN#154207
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48	S29AL008J70TFI010	S29AL008J70TFI010	Listed on PCN#154207
49	S29AL008J70TFI013	Available to order; subject to lead time	Listed on PCN#154207
50	S29AL008J70TFI013H	Available to order; subject to lead time	Listed on PCN#154207

51	S29AL008J70TFI020	S29AL008J70TFI020	Listed on PCN#154207
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54	S29AL008J70TFI033	Available to order; subject to lead time	Listed on PCN#154207
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56	S29AL008J70TFI043	Available to order; subject to lead time	Listed on PCN#154207
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59	S29AL008J70TFN010	Available to order; subject to lead time	Listed on PCN#154207
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67	S29AL016J55TFIR10A	Available to order; subject to lead time	Listed on PCN#154207
68	S29AL016J55TFIR10H	Available to order; subject to lead time	Listed on PCN#154207
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71	S29AL016J55TFNR10	Available to order; subject to lead time	Listed on PCN#154207
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88	S29AL016J70TFI033	Available to order; subject to lead time	Listed on PCN#154207
89	S29AL016J70TFI040	Available to order; subject to lead time	Listed on PCN#154207
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177	S29GL032N90TFVR23	Available to order; subject to lead time	Listed on PCN#154207
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238	S29GL128P10TAI020	Available to order; subject to lead time	Listed on PCN#154207
239	S29GL128P10TFI010	S29GL128P10TFI010	Listed on PCN#154207
240	S29GL128P10TFI0105	Available to order; subject to lead time	Listed on PCN#154207
241	S29GL128P10TFI013	Available to order; subject to lead time	Listed on PCN#154207
242	S29GL128P10TFI020	Available to order; subject to lead time	Listed on PCN#154207
243	S29GL128P10TFI0205	Available to order; subject to lead time	Listed on PCN#154207
244	S29GL128P10TFI020D	Available to order; subject to lead time	Listed on PCN#154207
245	S29GL128P10TFI023	Available to order; subject to lead time	Listed on PCN#154207
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254	S29GL128P11TFI020D	Available to order; subject to lead time	Listed on PCN#154207

255	S29GL128P11TFI023	Available to order; subject to lead time	Listed on PCN#154207
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258	S29GL128P11TFIV20	Available to order; subject to lead time	Listed on PCN#154207
259	S29GL128P11TFIV23	Available to order; subject to lead time	Listed on PCN#154207
260	S29GL128P90TAIR10	Available to order; subject to lead time	Listed on PCN#154207
261	S29GL128P90TAIR20	Available to order; subject to lead time	Listed on PCN#154207
262	S29GL128P90TFCR10	S29GL128P90TFCR10	Listed on PCN#154207
263	S29GL128P90TFCR105	Available to order; subject to lead time	Listed on PCN#154207
264	S29GL128P90TFCR10D	Available to order; subject to lead time	Listed on PCN#154207
265	S29GL128P90TFCR13	Available to order; subject to lead time	Listed on PCN#154207
266	S29GL128P90TFCR20	S29GL128P90TFCR20	Listed on PCN#154207
267	S29GL128P90TFCR205	Available to order; subject to lead time	Listed on PCN#154207
268	S29GL128P90TFCR23	Available to order; subject to lead time	Listed on PCN#154207
269	S29GL128P90TFCR235	Available to order; subject to lead time	Listed on PCN#154207
270	S29GL128P90TFCR23D	Available to order; subject to lead time	Listed on PCN#154207
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274	S29GL128P90TFIR13	Available to order; subject to lead time	Listed on PCN#154207
275	S29GL128P90TFIR20	Available to order; subject to lead time	Listed on PCN#154207
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316	S29GL256P11TFIV13	Available to order; subject to lead time	Listed on PCN#154207
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319	S29GL256P90TFCR10	S29GL256P90TFCR10	Listed on PCN#154207
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325	S29GL256P90TFIR10	S29GL256P90TFIR10	Listed on PCN#154207
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354	S29GL512P10TACR10	Available to order; subject to lead time	Listed on PCN#154207
355	S29GL512P10TAIR10	Available to order; subject to lead time	Listed on PCN#154207
356	S29GL512P10TAIR20	Available to order; subject to lead time	Listed on PCN#154207

357	S29GL512P10TFCR10	S29GL512P10TFCR10	Listed on PCN#154207
358	S29GL512P10TFCR105	Available to order; subject to lead time	Listed on PCN#154207
359	S29GL512P10TFCR13	Available to order; subject to lead time	Listed on PCN#154207
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368	S29GL512P10TFIR23	Available to order; subject to lead time	Listed on PCN#154207
369	S29GL512P11TAI010	Available to order; subject to lead time	Listed on PCN#154207
370	S29GL512P11TAI013	Available to order; subject to lead time	Listed on PCN#154207
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373	S29GL512P11TFI010D	Available to order; subject to lead time	Listed on PCN#154207
374	S29GL512P11TFI013	Available to order; subject to lead time	Listed on PCN#154207
375	S29GL512P11TFI020	S29GL512P11TFI020	Listed on PCN#154207
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377	S29GL512P12TAIV20	Available to order; subject to lead time	Listed on PCN#154207
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385	S29GL512S10TFI010	S29GL512S10TFI010	Listed on PCN#154207
386	S29GL512S10TFI013	Available to order; subject to lead time	Listed on PCN#154207
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389	S29GL512S11TFA020	Available to order; subject to lead time	Listed on PCN#154207
390	S29GL512S11TFAV10	Available to order; subject to lead time	Listed on PCN#154207
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404	S29GL512S12TFIV10	Available to order; subject to lead time	Listed on PCN#154207
405	S29GL512S12TFIV20	Available to order; subject to lead time	Listed on PCN#154207
406	S29JL032J60TFI010	Available to order; subject to lead time	Listed on PCN#154207
407	S29JL032J60TFI013	Available to order; subject to lead time	Listed on PCN#154207

408	S29JL032J60TFI020	Available to order; subject to lead time	Listed on PCN#154207
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411	S29JL032J60TFI213	Available to order; subject to lead time	Listed on PCN#154207
412	S29JL032J60TFI220	Available to order; subject to lead time	Listed on PCN#154207
413	S29JL032J60TFI223	Available to order; subject to lead time	Listed on PCN#154207
414	S29JL032J60TFI310	Available to order; subject to lead time	Listed on PCN#154207
415	S29JL032J60TFI313	Available to order; subject to lead time	Listed on PCN#154207
416	S29JL032J60TFI320	Available to order; subject to lead time	Listed on PCN#154207
417	S29JL032J60TFI323	Available to order; subject to lead time	Listed on PCN#154207
418	S29JL032J60TFI410	Available to order; subject to lead time	Listed on PCN#154207
419	S29JL032J60TFI413	Available to order; subject to lead time	Listed on PCN#154207
420	S29JL032J60TFI420	Available to order; subject to lead time	Listed on PCN#154207
421	S29JL032J60TFI423	Available to order; subject to lead time	Listed on PCN#154207
422	S29JL032J70TFA020	S29JL032J70TFA020	Listed on PCN#154207
423	S29JL032J70TFI010	S29JL032J70TFI010	Listed on PCN#154207
424	S29JL032J70TFI013	Available to order; subject to lead time	Listed on PCN#154207
425	S29JL032J70TFI020	S29JL032J70TFI020	Listed on PCN#154207
426	S29JL032J70TFI023	Available to order; subject to lead time	Listed on PCN#154207
427	S29JL032J70TFI210	S29JL032J70TFI210	Listed on PCN#154207
428	S29JL032J70TFI213	Available to order; subject to lead time	Listed on PCN#154207
429	S29JL032J70TFI220	S29JL032J70TFI220	Listed on PCN#154207
430	S29JL032J70TFI223	Available to order; subject to lead time	Listed on PCN#154207
431	S29JL032J70TFI310	S29JL032J70TFI310	Listed on PCN#154207
432	S29JL032J70TFI313	Available to order; subject to lead time	Listed on PCN#154207
433	S29JL032J70TFI320	S29JL032J70TFI320	Listed on PCN#154207
434	S29JL032J70TFI323	Available to order; subject to lead time	Listed on PCN#154207
435	S29JL032J70TFI410	S29JL032J70TFI410	Listed on PCN#154207
436	S29JL032J70TFI413	Available to order; subject to lead time	Listed on PCN#154207
437	S29JL032J70TFI420	S29JL032J70TFI420	Listed on PCN#154207
438	S29JL032J70TFI423	Available to order; subject to lead time	Listed on PCN#154207
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440	S29JL064J55TFI003	Available to order; subject to lead time	Listed on PCN#154207
441	S29JL064J60TFA000	Available to order; subject to lead time	Listed on PCN#154207
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443	S29JL064J60TFI003	Available to order; subject to lead time	Listed on PCN#154207
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445	S29JL064J70TFI003	Available to order; subject to lead time	Listed on PCN#154207
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450	S29PL127J60TDI130H	Available to order; subject to lead time	Listed on PCN#154207
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452	S29PL127J60TFI130D	Available to order; subject to lead time	Listed on PCN#154207
453	S29PL127J60TFI130H	Available to order; subject to lead time	Listed on PCN#154207
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457	S29PL127J70TAI130H	Available to order; subject to lead time	Listed on PCN#154207
458	S29PL127J70TAI133	Available to order; subject to lead time	Listed on PCN#154207

459	S29PL127J70TF1130	Available to order; subject to lead time	Listed on PCN#154207
460	S29PL127J70TF1130H	Available to order; subject to lead time	Listed on PCN#154207
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463	S99-50234D	Available to order; subject to lead time	Listed on PCN#154207
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465	S99-50242 P	Available to order; subject to lead time	Listed on PCN#154207
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479	S99-50261	Available to order; subject to lead time	Listed on PCN#154207
480	S99-50266 P	Available to order; subject to lead time	Listed on PCN#154207
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484	S99-50295	Available to order; subject to lead time	Listed on PCN#154207
485	S99-50336 P	Available to order; subject to lead time	Listed on PCN#154207
486	S99-50338	S99-50338	Listed on PCN#154207
487	S99-50360	Available to order; subject to lead time	Listed on PCN#154207
488	S99AL008J0010	Available to order; subject to lead time	Listed on PCN#154207
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493	S99AL008J0060	Available to order; subject to lead time	Listed on PCN#154207
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497	S99AL008J0110	Available to order; subject to lead time	Listed on PCN#154207
498	S99AL008J0160	Available to order; subject to lead time	Listed on PCN#154207
499	S99AL008J0170	Available to order; subject to lead time	Listed on PCN#154207
500	S99AL008J0180	Available to order; subject to lead time	Listed on PCN#154207
501	S99AL008J0300	Available to order; subject to lead time	Listed on PCN#154207
502	S99AL008J0313	Available to order; subject to lead time	Listed on PCN#154207
503	S99AL008J0320	Available to order; subject to lead time	Listed on PCN#154207
504	S99AL008J0330	Available to order; subject to lead time	Listed on PCN#154207
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506	S99AL008J0350	Available to order; subject to lead time	Listed on PCN#154207
507	S99AL008J0360 P	Available to order; subject to lead time	Listed on PCN#154207
508	S99AL016J0023	Available to order; subject to lead time	Listed on PCN#154207
509	S99AL016J0030	Available to order; subject to lead time	Listed on PCN#154207

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614	S99JL032J0060	Available to order; subject to lead time	Listed on PCN#154207
615	S99JL032J0070	Available to order; subject to lead time	Listed on PCN#154207
616	S99JL032J0080	Available to order; subject to lead time	Listed on PCN#154207
617	S99JL032J0090	Available to order; subject to lead time	Listed on PCN#154207
618	S99JL032J0100	Available to order; subject to lead time	Listed on PCN#154207
619	S99JL032J0110	Available to order; subject to lead time	Listed on PCN#154207
620	S99JL032J0120	Available to order; subject to lead time	Listed on PCN#154207
621	S99JL032J0130	Available to order; subject to lead time	Listed on PCN#154207
622	S99JL032J0140	Available to order; subject to lead time	Listed on PCN#154207
623	S99JL032J0150	Available to order; subject to lead time	Listed on PCN#154207
624	S99JL032J0160	Available to order; subject to lead time	Listed on PCN#154207
625	S99JL032J0170 P	Available to order; subject to lead time	Listed on PCN#154207
626	S99JL032J0180 P	Available to order; subject to lead time	Listed on PCN#154207
627	S99JL032J0190 P	Available to order; subject to lead time	Listed on PCN#154207
628	S99JL064J0010	Available to order; subject to lead time	Listed on PCN#154207
629	S99JL064J0020	Available to order; subject to lead time	Listed on PCN#154207
630	S99JL064J0050	Available to order; subject to lead time	Listed on PCN#154207
631	S99JL064J0060	Available to order; subject to lead time	Listed on PCN#154207
632	S99JL064J0070 P	Available to order; subject to lead time	Listed on PCN#154207
633	S99JL064J0080 P	Available to order; subject to lead time	Listed on PCN#154207
634	S99JL064J0100 P	Available to order; subject to lead time	Listed on PCN#154207
635	S99PL127J0040	Available to order; subject to lead time	Listed on PCN#154207
636	S99PL127J0070	Available to order; subject to lead time	Listed on PCN#154207
637	S99PL127J0080	Available to order; subject to lead time	Listed on PCN#154207
638	S99PL127J0090	Available to order; subject to lead time	Listed on PCN#154207
639	S99PL127J0100	Available to order; subject to lead time	Listed on PCN#154207
640	S99PL127J0110	Available to order; subject to lead time	Listed on PCN#154207
641	S99PL127J0120	Available to order; subject to lead time	Listed on PCN#154207
642	S99PL127J0130	Available to order; subject to lead time	Listed on PCN#154207
643	S99PL127J0220	Available to order; subject to lead time	Listed on PCN#154207
644	S99PL127J0230 P	Available to order; subject to lead time	Listed on PCN#154207
645	S99PL127J0250 P	Available to order; subject to lead time	Listed on PCN#154207
646	V29GL01GP11TAIR20	Available to order; subject to lead time	Listed on PCN#154207
647	V29GL01GP11TFIR10	Available to order; subject to lead time	Listed on PCN#154207
648	V29GL128P10TAI020	Available to order; subject to lead time	Listed on PCN#154207
649	V29GL128P90TAIR10	Available to order; subject to lead time	Listed on PCN#154207
650	V29GL256P11TAI010	Available to order; subject to lead time	Listed on PCN#154207
651	V29GL256P11TAI020	Available to order; subject to lead time	Listed on PCN#154207
652	V29GL512P10TAI010	Available to order; subject to lead time	Listed on PCN#154207
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655	127156	Available to order; subject to lead time	additonal affected part
656	00002490481	Available to order; subject to lead time	additonal affected part
657	00002821753	Available to order; subject to lead time	additonal affected part
658	40060081	Available to order; subject to lead time	additonal affected part
659	40060107	Available to order; subject to lead time	additonal affected part
660	40060108	Available to order; subject to lead time	additonal affected part
661	40060144	Available to order; subject to lead time	additonal affected part
662	40060211	Available to order; subject to lead time	additonal affected part

663	40060212	Available to order; subject to lead time	additonal affected part
664	40060225	Available to order; subject to lead time	additonal affected part
665	40060229	Available to order; subject to lead time	additonal affected part
666	40060259	Available to order; subject to lead time	additonal affected part
667	40060325	Available to order; subject to lead time	additonal affected part
668	40060327	Available to order; subject to lead time	additonal affected part
669	40060423	Available to order; subject to lead time	additonal affected part
670	40060424	Available to order; subject to lead time	additonal affected part
671	40060425	Available to order; subject to lead time	additonal affected part
672	40060426	Available to order; subject to lead time	additonal affected part
673	40060427	Available to order; subject to lead time	additonal affected part
674	40060428	Available to order; subject to lead time	additonal affected part
675	40060430	Available to order; subject to lead time	additonal affected part
676	40060431	Available to order; subject to lead time	additonal affected part
677	40060493	Available to order; subject to lead time	additonal affected part
678	40060519	Available to order; subject to lead time	additonal affected part
679	40060527	Available to order; subject to lead time	additonal affected part
680	40060531	Available to order; subject to lead time	additonal affected part
681	40060542	Available to order; subject to lead time	additonal affected part
682	8611200160	Available to order; subject to lead time	additonal affected part
683	8611200171	Available to order; subject to lead time	additonal affected part
684	520966230076	Available to order; subject to lead time	additonal affected part
685	051AL016J70TFI020	Available to order; subject to lead time	additonal affected part
686	0607-000023	Available to order; subject to lead time	additonal affected part
687	0791074549RFU00	Available to order; subject to lead time	additonal affected part
688	0791075319RFU00	Available to order; subject to lead time	additonal affected part
689	0791077399RQA00	Available to order; subject to lead time	additonal affected part
690	10324-04890	Available to order; subject to lead time	additonal affected part
691	1107-002331	Available to order; subject to lead time	additonal affected part
692	16-1011421-01	Available to order; subject to lead time	additonal affected part
693	16-1011421-01-T	Available to order; subject to lead time	additonal affected part
694	16-2948-02	Available to order; subject to lead time	additonal affected part
695	16-2948-02-T	Available to order; subject to lead time	additonal affected part
696	16-3160-01	Available to order; subject to lead time	additonal affected part
697	16-3160-01-T	Available to order; subject to lead time	additonal affected part
698	16-3329-02	Available to order; subject to lead time	additonal affected part
699	16-3329-02-T	Available to order; subject to lead time	additonal affected part
700	16-3417-01	Available to order; subject to lead time	additonal affected part
701	16-3417-01-T	Available to order; subject to lead time	additonal affected part
702	16-3446-01	Available to order; subject to lead time	additonal affected part
703	16-3446-01-T	Available to order; subject to lead time	additonal affected part
704	16-3636-01	Available to order; subject to lead time	additonal affected part
705	16-3636-01-P	Available to order; subject to lead time	additonal affected part
706	16-3636-01-T	Available to order; subject to lead time	additonal affected part
707	16-3696-01	Available to order; subject to lead time	additonal affected part
708	16-3696-01-T	Available to order; subject to lead time	additonal affected part
709	16-3743-01-T	Available to order; subject to lead time	additonal affected part
710	16-3791-01	Available to order; subject to lead time	additonal affected part
711	16-3791-01-T	Available to order; subject to lead time	additonal affected part
712	16-3852-01	Available to order; subject to lead time	additonal affected part
713	16-4001-01	Available to order; subject to lead time	additonal affected part

714	16-4001-01-T	Available to order; subject to lead time	additonal affected part
715	16-4072-01	Available to order; subject to lead time	additonal affected part
716	16-4072-01A	Available to order; subject to lead time	additonal affected part
717	16-4072-01A-T	Available to order; subject to lead time	additonal affected part
718	16-4072-01-T	Available to order; subject to lead time	additonal affected part
719	16-4110-01	Available to order; subject to lead time	additonal affected part
720	16-4110-01-T	Available to order; subject to lead time	additonal affected part
721	16-4369-01	Available to order; subject to lead time	additonal affected part
722	16-4369-01-T	Available to order; subject to lead time	additonal affected part
723	16-4370-01	Available to order; subject to lead time	additonal affected part
724	28044600 B	Available to order; subject to lead time	additonal affected part
725	28051630 B	Available to order; subject to lead time	additonal affected part
726	28055481 B	Available to order; subject to lead time	additonal affected part
727	28096793 C	Available to order; subject to lead time	additonal affected part
728	28319201 A	Available to order; subject to lead time	additonal affected part
729	28328261 A	Available to order; subject to lead time	additonal affected part
730	28370621 A	Available to order; subject to lead time	additonal affected part
731	363531-0010 00	Available to order; subject to lead time	additonal affected part
732	457780-1130	Available to order; subject to lead time	additonal affected part
733	457780-2260	Available to order; subject to lead time	additonal affected part
734	462791-0720	Available to order; subject to lead time	additonal affected part
735	51-06054Z01-A	Available to order; subject to lead time	additonal affected part
736	51-09540Z01-A	Available to order; subject to lead time	additonal affected part
737	51-15483Z01-A	Available to order; subject to lead time	additonal affected part
738	51-29093Z01-A	Available to order; subject to lead time	additonal affected part
739	51-32240Z01-A	Available to order; subject to lead time	additonal affected part
740	584271-003-00	Available to order; subject to lead time	additonal affected part
741	588127-001-00	Available to order; subject to lead time	additonal affected part
742	593153-001-00	Available to order; subject to lead time	additonal affected part
743	593153-001-69	Available to order; subject to lead time	additonal affected part
744	593995-003-38	Available to order; subject to lead time	additonal affected part
745	593995-005-69	Available to order; subject to lead time	additonal affected part
746	7GA6Y0119	Available to order; subject to lead time	additonal affected part
747	8 611 200 160	Available to order; subject to lead time	additonal affected part
748	8 611 200 975	Available to order; subject to lead time	additonal affected part
749	8 611 200 977	Available to order; subject to lead time	additonal affected part
750	949587-9970	Available to order; subject to lead time	additonal affected part
751	949588-0020	Available to order; subject to lead time	additonal affected part
752	955153-00027	Available to order; subject to lead time	additonal affected part
753	99326-00621	Available to order; subject to lead time	additonal affected part
754	99326-E0955	Available to order; subject to lead time	additonal affected part
755	A2C00037444	Available to order; subject to lead time	additonal affected part
756	A2C00042866	Available to order; subject to lead time	additonal affected part
757	A2C00043590	Available to order; subject to lead time	additonal affected part
758	A2C00049050	Available to order; subject to lead time	additonal affected part
759	A2C00051468	Available to order; subject to lead time	additonal affected part
760	A2C00052627	Available to order; subject to lead time	additonal affected part
761	A2C0005401500	Available to order; subject to lead time	additonal affected part
762	A2C00054218	Available to order; subject to lead time	additonal affected part
763	A2C00054397	Available to order; subject to lead time	additonal affected part
764	A2C00054398	Available to order; subject to lead time	additonal affected part

765	A2C00054400	Available to order; subject to lead time	additonal affected part
766	A2C00054812	Available to order; subject to lead time	additonal affected part
767	A2C00056002	Available to order; subject to lead time	additonal affected part
768	A2C00063405	Available to order; subject to lead time	additonal affected part
769	A2C00063407	Available to order; subject to lead time	additonal affected part
770	A2C00063448	Available to order; subject to lead time	additonal affected part
771	A2C00064358 A	Available to order; subject to lead time	additonal affected part
772	A2C00064519	Available to order; subject to lead time	additonal affected part
773	A2C00949500 A	Available to order; subject to lead time	additonal affected part
774	A2C0114600000 A	Available to order; subject to lead time	additonal affected part
775	A2C01419000 A	Available to order; subject to lead time	additonal affected part
776	A2C01566600	Available to order; subject to lead time	additonal affected part
777	A2C01601400	Available to order; subject to lead time	additonal affected part
778	DK280319	Available to order; subject to lead time	additonal affected part
779	E3203004079	Available to order; subject to lead time	additonal affected part
780	EAN62691701	Available to order; subject to lead time	additonal affected part
781	EAN62827101	Available to order; subject to lead time	additonal affected part
782	EP10-002165	Available to order; subject to lead time	additonal affected part
783	EP10-002257	Available to order; subject to lead time	additonal affected part
784	EP10-002258	Available to order; subject to lead time	additonal affected part
785	K770005C-F9C000	Available to order; subject to lead time	additonal affected part
786	K770053C-FYC000	Available to order; subject to lead time	additonal affected part
787	MSP55LV128T-E1-TH-001	Available to order; subject to lead time	additonal affected part
788	P770012CF9C000	Available to order; subject to lead time	additonal affected part
789	P770012C-F9C000	Available to order; subject to lead time	additonal affected part
790	P770019CF8C002	Available to order; subject to lead time	additonal affected part
791	P7700280F0C000	Available to order; subject to lead time	additonal affected part
792	PT363531-0010 Rev 00	Available to order; subject to lead time	additonal affected part
793	S29GL01GS11TFA010	Available to order; subject to lead time	additonal affected part
794	S29GL01GS11TFB010	Available to order; subject to lead time	additonal affected part
795	S29GL01GS12TFVV20	Available to order; subject to lead time	additonal affected part
796	S29GL128S90TFA010	Available to order; subject to lead time	additonal affected part
797	S29GL256S90TFA010	Available to order; subject to lead time	additonal affected part
798	S29GL512N11TFVR20	Available to order; subject to lead time	additonal affected part
799	S29GL512P11TAI013	Available to order; subject to lead time	additonal affected part
800	S29GL512S10TFA010	Available to order; subject to lead time	additonal affected part
801	S29GL512S12TFBV10	Available to order; subject to lead time	additonal affected part
802	S29GL512S12TFBV20	Available to order; subject to lead time	additonal affected part
803	S29GL512S12TFIV10	Available to order; subject to lead time	additonal affected part
804	S29GL512S12TFIV20	Available to order; subject to lead time	additonal affected part
805	S29GL512S12TFVV20	Available to order; subject to lead time	additonal affected part
806	S34ML02G100TFA000	Available to order; subject to lead time	additonal affected part
807	S34ML02G100TFA003	Available to order; subject to lead time	additonal affected part
808	S34ML02G100TFB000	Available to order; subject to lead time	additonal affected part
809	S34ML02G100TFB003	Available to order; subject to lead time	additonal affected part
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811	S34ML02G100TFV000	Available to order; subject to lead time	additonal affected part
812	S34ML02G100TFV003	Available to order; subject to lead time	additonal affected part
813	S34ML02G104TFA010	Available to order; subject to lead time	additonal affected part
814	S34ML02G104TFA013	Available to order; subject to lead time	additonal affected part
815	S34ML02G104TFI010	Available to order; subject to lead time	additonal affected part

816	S34ML02G104TFI013	Available to order; subject to lead time	additonal affected part
817	S34ML04G100TFA000	Available to order; subject to lead time	additonal affected part
818	S34ML04G100TFA003	Available to order; subject to lead time	additonal affected part
819	S34ML04G100TFB000	Available to order; subject to lead time	additonal affected part
820	S34ML04G100TFB003	Available to order; subject to lead time	additonal affected part
821	S34ML04G100TFI900	Available to order; subject to lead time	additonal affected part
822	S34ML04G100TFI903	Available to order; subject to lead time	additonal affected part
823	S34ML04G100TFV000	Available to order; subject to lead time	additonal affected part
824	S34ML04G100TFV003	Available to order; subject to lead time	additonal affected part
825	S99-50297 P	Available to order; subject to lead time	additonal affected part
826	S99-50399	Available to order; subject to lead time	additonal affected part
827	S99GL256S0160 P	Available to order; subject to lead time	additonal affected part
828	S99GL512N0060 P	Available to order; subject to lead time	additonal affected part
829	S99JL064J0100 P	Available to order; subject to lead time	additonal affected part
830	S99ML02G10030	Available to order; subject to lead time	additonal affected part
831	S99ML02G10040	Available to order; subject to lead time	additonal affected part
832	S99ML02G10042	Available to order; subject to lead time	additonal affected part
833	S99ML04G10040	Available to order; subject to lead time	additonal affected part
834	S99ML04G10042	Available to order; subject to lead time	additonal affected part
835	SGIPC-000614	Available to order; subject to lead time	additonal affected part
836	SGIPC-000617	Available to order; subject to lead time	additonal affected part
837	SGIPC-000618	Available to order; subject to lead time	additonal affected part

Cypress Semiconductor Package Qualification Report

**QTP# 153704 VERSION **
September 2015**

**TSOP 48LD (20x12x1.2mm)
TSOP 56LD (20x14x1.2mm)
Pure Sn Lead Frame, Copper Wire
MSL3, 260°C Reflow
BKK-Thailand (SB)**

FOR ANY QUESTIONS ON THIS REPORT, PLEASE CONTACT
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Francis Classe (FCCL)
Quality & Reliability Manager

Approved By:
Don Darling (DCDA)
Reliability Director

PACKAGE QUALIFICATION HISTORY

QTP Number	Description of Qualification Purpose	Date
153704	Qualification of an Alternate Mold Compound (Sumitomo G600B/G600SB) and Die Attach Epoxy (Sumitomo CRM-1150B) for TSOP Packages	Sept. 2015

MAJOR PACKAGE INFORMATION USED IN THIS QUALIFICATION	
Package Designation:	TSOP Type I
Package Outline, Type, or Name:	TSOP 48LD / 56LD
Mold Compound Name/Manufacturer:	EME G600B/G600SB Sumitomo
Mold Compound Flammability Rating:	V-0 equivalent (UL94)
Oxygen Rating Index:	>28
Lead Frame Designation:	TSOP
Lead Frame Material:	Copper
Lead Finish, Composition / Thickness:	Pure Sn
Die Backside Preparation Method/Metallization:	Backgrind
Die Separation Method:	Saw
Die Attach Supplier:	Sumitomo
Die Attach Material:	CRM-1150B
Bond Diagram Designation:	F09-Bonding diagrams
Wire Bond Method:	Thermosonic
Wire Material/Size:	Cu/ 0.9 Mil
Thermal Resistance Theta JA °C/W:	40.1°C/W
Package Cross Section Yes/No:	Yes
Assembly Process Flow:	F02-001.32
Name/Location of Assembly (prime) facility:	BKK-Thailand (SB)
MSL Level	3
Reflow Profile	260C

ELECTRICAL TEST / FINISH DESCRIPTION	
Test Location:	BKK – Thailand (SB)

Note: Please contact a Cypress Representative for other packages availability.

RELIABILITY TESTS PERFORMED PER SPECIFICATION REQUIREMENTS

Stress/Test	Test Condition (Temp/Bias)	Result P/F
Acoustic Microscopy	J-STD-020 Precondition: JESD22 Moisture Sensitivity Level (192 Hrs., 30°C, 60% RH, 260°C Reflow)	P
Constructional Analysis	Criteria: Meet external and internal characteristics of Cypress package	P
High Temperature Operating Life Early Failure Rate	Dynamic Operating Condition, Vcc = 3.6V, 150 C/125 C JESD22-A108	P
High Temperature Operating Life Latent Failure Rate	Dynamic Operating Condition, Vcc = 3.6V, 150 C/125 C JESD22-A108	P
Electrostatic Discharge Charge Device Model (ESD-CDM)	250V/500V/750V/1,000V JESD22-C101	P
High Accelerated Saturation Test (HAST)	JEDEC STD 22-A110: 130°C, 85% RH, 3.6V Precondition: JESD22 Moisture Sensitivity Level (192 Hrs., 30 °C, 60% RH, 260°C Reflow)	P
High Temperature Storage	JESD22-A103:200°C No bias	P
Unbiased Temperature/Humidity (Unbiased HAST)	JESD22-A118:130°C /85%RH Precondition: JESD22 Moisture Sensitivity Level (192 Hrs., 30 °C, 60% RH, 260°C Reflow)	P
Temperature Cycle	JESD-A104, -40°C to 150°C Precondition: JESD22 Moisture Sensitivity Level (192 Hrs., 30°C, 60% RH, 260°C Reflow)	P



Reliability Test Data

QTP #: 153705

Device	Fab Lot #	Assy Lot #	Ass Loc	Duration	Samp	Rej	Failure Mechanism
STRESS: ACOUSTIC, MSL3							
S29GL032N (98M68B)	J2094Z0	RFB0412	SB-Thailand	COMP	231	0	
S29GL032N (98M68B)	J2094Z0	RFB0411	SB-Thailand	COMP	231	0	
S29GL032N (98M68B)	J2094Z0	RFB0409	SB-Thailand	COMP	231	0	
S29GL01GS (98661A2)	14T62091234B7	RFB0614	SB-Thailand	COMP	231	0	
S29GL01GS (98661A2)	14T62091260E1	RFB0615	SB-Thailand	COMP	231	0	
S29GL01GS (98661A2)	14T62091074C7	RFB0616	SB-Thailand	COMP	231	0	
3ML01G12 (98855AC)	BGK4110A0	RFB9918	SB-Thailand	COMP	196	0	
3ML01G12 (98855AC)	BGK4110A0	RFB9864	SB-Thailand	COMP	196	0	
3ML01G12 (98855AC)	BGK7730A0	RFB9923	SB-Thailand	COMP	182	0	
3ML01G12 (98855AC)	BGK7730A0	RFB9924	SB-Thailand	COMP	182	0	
STRESS: HI-ACCEL SATURATION TEST (130C, 85%RH, 3.6V), PRE COND 192 HR 30C/60%RH (MSL3)							
S29GL032N (98M68B)	J2094Z0	RFB0412	SB-Thailand	96	77	0	
S29GL032N (98M68B)	J2094Z0	RFB0411	SB-Thailand	96	77	0	
S29GL032N (98M68B)	J2094Z0	RFB0409	SB-Thailand	96	77	0	
S29GL032N (98M68B)	J2094Z0	RFB0411	SB-Thailand	192	77	0	
S29GL032N (98M68B)	J2094Z0	RFB0409	SB-Thailand	192	77	0	
S29GL01GS (98661A2)	14T62091234B7	RFB0614	SB-Thailand	96	77	0	
S29GL01GS (98661A2)	14T62091260E1	RFB0615	SB-Thailand	96	77	0	
S29GL01GS (98661A2)	14T62091074C7	RFB0616	SB-Thailand	96	77	0	
3ML01G12 (98855AC)	BGK4110A0	RFB9918	SB-Thailand	96	42	0	
3ML01G12 (98855AC)	BGK4110A0	RFB9864	SB-Thailand	96	42	0	
3ML01G12 (98855AC)	BGK4110A0	RFB9918	SB-Thailand	192	42	0	
3ML01G12 (98855AC)	BGK4110A0	RFB9864	SB-Thailand	192	42	0	
3ML01G12 (98855AC)	BGK7730A0	RFB9923	SB-Thailand	96	28	0	
3ML01G12 (98855AC)	BGK7730A0	RFB9924	SB-Thailand	96	28	0	



Reliability Test Data

QTP #: 153705

Device	Fab Lot #	Assy Lot #	Ass Loc	Duration	Samp	Rej	Failure Mechanism
STRESS: TEMPERATURE CYCLE COND. C -40C TO 150C, PRE COND 192 HRS 30C/60%RH, MSL3							
S29GL032N (98M68B)	J2094Z0	RFB0412	SB-Thailand	1000	77	0	
S29GL032N (98M68B)	J2094Z0	RFB0411	SB-Thailand	1000	77	0	
S29GL032N (98M68B)	J2094Z0	RFB0409	SB-Thailand	1000	77	0	
S29GL032N (98M68B)	J2094Z0	RFB0412	SB-Thailand	1500	77	0	
S29GL032N (98M68B)	J2094Z0	RFB0411	SB-Thailand	1500	77	0	
S29GL032N (98M68B)	J2094Z0	RFB0409	SB-Thailand	1500	77	0	
S29GL01GS (98661A2)	14T62091234B7	RFB0614	SB-Thailand	1000	77	0	
S29GL01GS (98661A2)	14T62091260E1	RFB0615	SB-Thailand	1000	77	0	
S29GL01GS (98661A2)	14T62091074C7	RFB0616	SB-Thailand	1000	77	0	
3ML01G12 (98855AC)	BGK4110A0	RFB9918	SB-Thailand	1000	77	0	
3ML01G12 (98855AC)	BGK4110A0	RFB9864	SB-Thailand	1000	77	0	
3ML01G12 (98855AC)	BGK4110A0	RFB9918	SB-Thailand	1500	74	0	
3ML01G12 (98855AC)	BGK4110A0	RFB9864	SB-Thailand	1500	75	0	
3ML01G12 (98855AC)	BGK7730A0	RFB9923	SB-Thailand	1000	77	0	
3ML01G12 (98855AC)	BGK7730A0	RFB9924	SB-Thailand	1000	77	0	
STRESS: UNBIASED TEMPERATURE/HUMIDITY (130C, 85%RH), PRE COND 192 HR 30C/60%RH (MSL3)							
S29GL032N (98M68B)	J2094Z0	RFB0412	SB-Thailand	96	77	0	
S29GL032N (98M68B)	J2094Z0	RFB0411	SB-Thailand	96	77	0	
S29GL032N (98M68B)	J2094Z0	RFB0409	SB-Thailand	96	77	0	
S29GL01GS (98661A2)	14T62091234B7	RFB0614	SB-Thailand	96	77	0	
S29GL01GS (98661A2)	14T62091260E1	RFB0615	SB-Thailand	96	77	0	
S29GL01GS (98661A2)	14T62091074C7	RFB0616	SB-Thailand	96	77	0	
3ML01G12 (98855AC)	BGK4110A0	RFB9918	SB-Thailand	96	48	0	
3ML01G12 (98855AC)	BGK4110A0	RFB9864	SB-Thailand	96	48	0	
3ML01G12 (98855AC)	BGK7730A0	RFB9923	SB-Thailand	96	77	0	
3ML01G12 (98855AC)	BGK7730A0	RFB9924	SB-Thailand	96	77	0	

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Reliability Test Data

QTP #: 153705

<i>Device</i>	<i>Fab Lot #</i>	<i>Assy Lot #</i>	<i>Ass Loc</i>	<i>Duration</i>	<i>Samp</i>	<i>Rej</i>	<i>Failure Mechanism</i>
STRESS: CONSTRUCTIONAL ANALYSIS							
S29GL032N (98M68B)	J2094Z0	RFB0409	SB-Thailand	COMP	30	0	
3ML01G12 (98855AC)	BGK4110A0	RFB9919	SB-Thailand	COMP	30	0	
3ML01G12 (98855AC)	BGK7730A0	RFB9924	SB-Thailand	COMP	20	0	
STRESS: ESD-CHARGE DEVICE MODEL							
S29GL032N (98M68B)	J2094Z0	RFB0412	SB-Thailand	COMP	15	0	
S29GL032N (98M68B)	J2094Z0	RFB0411	SB-Thailand	COMP	15	0	
S29GL032N (98M68B)	J2094Z0	RFB0409	SB-Thailand	COMP	15	0	
3ML01G12 (98855AC)	BGK4110A0	RFB9918	SB-Thailand	COMP	15	0	
3ML01G12 (98855AC)	BGK4110A0	RFB9864	SB-Thailand	COMP	15	0	
3ML01G12 (98855AC)	BGK7730A0	RFB9923	SB-Thailand	COMP	15	0	
3ML01G12 (98855AC)	BGK7730A0	RFB9924	SB-Thailand	COMP	15	0	
STRESS: HIGH TEMPERATURE STORAGE, PLASTIC, 200C							
S29GL032N (98M68B)	J2094Z0	RFB0409	SB-Thailand	350	45	0	
S29GL01GS (98661A2)	14T62091234B7	RFB0614	SB-Thailand	350	43	0	
3ML01G12 (98855AC)	BGK4110A0	RFB9919	SB-Thailand	350	45	0	



Reliability Test Data

QTP #: 153705

<i>Device</i>	<i>Fab Lot #</i>	<i>Assy Lot #</i>	<i>Ass Loc</i>	<i>Duration</i>	<i>Samp</i>	<i>Rej</i>	<i>Failure Mechanism</i>
STRESS: HIGH TEMPERATURE OPERATING LIFE, PLASTIC, 125C/150C							
S29GL032N (98M68B)	J2094Z0	RFB0412	SB-Thailand	168	77	0	
S29GL032N (98M68B)	J2094Z0	RFB0411	SB-Thailand	168	77	0	
S29GL032N (98M68B)	J2094Z0	RFB0409	SB-Thailand	168	77	0	
S29GL032N (98M68B)	J2094Z0	RFB0412	SB-Thailand	500	77	0	
S29GL032N (98M68B)	J2094Z0	RFB0411	SB-Thailand	500	77	0	
S29GL032N (98M68B)	J2094Z0	RFB0409	SB-Thailand	500	77	0	
S29GL032N (98M68B)	J2094Z0	RFB0412	SB-Thailand	1000	77	0	
S29GL032N (98M68B)	J2094Z0	RFB0411	SB-Thailand	1000	77	0	
S29GL032N (98M68B)	J2094Z0	RFB0409	SB-Thailand	1000	77	0	
S29GL01GS (98661A2)	14T62091234B7	RFB0614	SB-Thailand	168	77	0	
S29GL01GS (98661A2)	14T62091260E1	RFB0615	SB-Thailand	168	77	0	
S29GL01GS (98661A2)	14T62091074C7	RFB0616	SB-Thailand	168	77	0	



Document History Page

Document Title: QTP #153704: TSOP I 48LD (20X12X1.2MM), TSOP I 56LD PURE SN LEADFINISH, 0.8MIL CU WIRE, MSL3, 260C REFLOW, BKK-THAILAND(SB)
Document Number: 002-03590

Rev.	ECN No.	Orig. of Change	Description of Change
**	4927696	EKNG	Initial spec release.

Package Chemistry Substances Analysis Table

Package Type:	TSOP 048 (Pb-free)
Dimension:	18.4 x 12 x 1 mm
Weight of Unit Package:	524.3
Temperature rating:	260 °C
MSL:	3

PRODUCT IS RoHS COMPLIANT

Description	Chemicals Present	CAS Number	unit weight(mg)	unit weight/package (%)	Amount (ppm)
Silicon Die	#1 Silicon	7440-21-3	11	2.1	21,398
	subtotal		11	2.1	21,398
Bond wire 0.8 mil	#1 Copper	7440-50-8	0.58	0.11	1,114
	subtotal		0.58	0.11	1,114
Die Attach CRM-1150B	#1 Organic filler	Trade Secret	0.105	0.0200	200
	#2 Silica	Trade Secret	0.042	0.0080	80
	#3 Epoxy Resin A	9003-36-5	0.079	0.0150	150
	#4 Epoxy Resin B	Trade Secret	0.079	0.0150	150
	#5 Diluent	Trade Secret	0.126	0.0241	241
	#6 Phenolic Hardener	Trade Secret	0.079	0.015	150
	#7 Adhesion promoter	Trade Secret	0.02	0.003	30
subtotal			0.53	0.10	1,002
Leadframe CDA 194	#1 Copper	7440-50-8	91.0	17.4	173,577
	#2 Iron	7439-89-6	2.2	0.43	4,275
	#3 Zinc	7440-66-6	0.093	0.018	178
	#4 Phosphorus	7723-14-0	0.047	0.0089	89
subtotal			93.4	17.8	178,119
Internal Plating	#1 Silver	7440-22-4	0.14	0.026	257
	subtotal		0.14	0.026	257
Mold compound EME-G600SB/EME-G600B	#1 Carbon Black	1333-86-4	2.5	0.5	4,746
	#2 Epoxy Resin	Trade Secret	33.18	6.33	63,277
	#3 Silica (Amorphous)	60676-86-0	362.48	69.13	691,305
	#4 Phenol Resin	Trade Secret	12.4	2.37	23,729
	#5 Phosphoric Catalyst	Trade Secret	4.1	0.8	7,910
subtotal			414.7	79.1	790,967
External Plating	#1 Tin	7440-31-5	3.7	0.71	7,141
	subtotal		3.7	0.71	7,141
TOTAL PACKAGE			524.3	100.0	1,000,000

Disclaimer:

In general, two decimal values are shown. However, some variance remains from package to package. The mass values presented are thought to be accurate to within 20 percent. The report does not include materials not intentionally added to our products (impurities), or material concentrations less than 1 ppm.

Package Chemistry Substances Analysis Table

Package Type:	TSOP 056 (Pb-free)
Dimension:	18.4 x 14 x 1 mm
Weight of Unit Package:	586.0
Temperature rating:	260 °C
MSL:	3

PRODUCT IS RoHS COMPLIANT

Description	Chemicals Present	CAS Number	unit weight(mg)	unit weight/package (%)	Amount (ppm)
Silicon Die	#1 Silicon	7440-21-3	91.40	15.60	155,970
	subtotal		91	15.60	155,970
Bond wire	#1 Copper	7440-50-8	0.13	0.02	227
0.8mils	subtotal		0.13	0.02	227
Die Attach	#1 Organic filler	Trade Secret	0.908	0.15	1,549
CRM-1150B	#2 Silica	Trade Secret	0.363	0.06	619
	#3 Epoxy Resin A	9003-36-5	0.68	0.12	1,161
	#4 Epoxy Resin B	Trade Secret	0.68	0.12	1,161
	#5 Diluent	Trade Secret	1.09	0.19	1,858
	#6 Phenolic Hardener	Trade Secret	0.68	0.12	1,161
	#7 Adhesion promoter	Trade Secret	0.14	0.02	232
	subtotal		4.54	0.77	7,743
Leadframe	#1 Copper	7440-50-8	133	22.70	227,019
CDA 194	#2 Iron	7439-89-6	3.3	0.56	5,591
	#3 Zinc	7440-66-6	0.137	0.02	233
	#4 Phosphorus	7723-14-0	0.068	0.01	116
	subtotal		136.5	23.30	232,960
Internal Plating	#1 Silver	7440-22-4	0.32	0.06	554
	subtotal		0.32	0.06	554
Mold compound	#1 Carbon Black	1333-86-4	2.09	0.36	3,559
EME-G600SB/EME-G600B	#2 Epoxy Resin	Trade Secret	27.81	4.75	47,456
	#3 Silica (Amorphous)	60676-86-0	303.82	51.85	518,453
	#4 Phenol Resin	Trade Secret	10.43	1.78	17,796
	#5 Phosphoric Catalyst	Trade Secret	3.48	0.59	5,932
	subtotal		347.6	59.32	593,196
External Plating	#1 Tin	7440-31-5	5.48	0.94	9,351
	subtotal		5.48	0.94	9,351
TOTAL PACKAGE			586.0	100.00	1,000,000

Disclaimer:

In general, two decimal values are shown. However, some variance remains from package to package. The mass values presented are thought to be accurate to within 20 percent. The report does not include materials not intentionally added to our products (impurities), or material concentrations less than 1 ppm.