

## Test Report

No. HKGEC1600277703

Date: 26 Apr 2016

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EIC SEMICONDUCTOR CO.,LTD

65,68 SOI CHALONGKUNG 31,I-EA-T FREE ZONE

LAT KRABAND INDUSTRIAL ESTATE,LUMPLATIEW LAT KRABANG

BANGKOK 10520

THAILAND

The following sample(s) was/were submitted and identified on behalf of the clients as : AXIAL LEAD DIODES

SGS Job No. : 3335711 - HK

Manufacturer : EIC SEMICONDUCTOR CO., LTD.

Country of Origin : THAILAND

Country of Destination : THAILAND

Date of Sample Received : 06 Apr 2016

Testing Period : 06 Apr 2016 - 18 Apr 2016

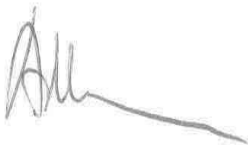
Test Requested : Selected test(s) as requested by client.

Test Method : Please refer to next page(s).

Test Results : Please refer to next page(s).

Conclusion : Based on the performed tests on submitted sample(s), the results of Lead, Mercury, Cadmium, Hexavalent chromium, Polybrominated biphenyls (PBBs), Polybrominated diphenyl ethers (PBDEs) and Phthalates such as Bis(2-ethylhexyl) phthalate (DEHP) , Butyl benzyl phthalate (BBP), Dibutyl phthalate (DBP) , and Diisobutyl phthalate (DIBP) comply with the limits as set by RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU.

Signed for and on behalf of  
SGS Hong Kong Limited.



Lam Ka Yung, Allen  
Chemist

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Test Results :

### Test Part Description :

Specimen No.	SGS Sample ID	Description
1	HKG16-002777.003	Black Plastic w/ Silvery Printing w/ Coppery an Silvery Metal w/ White Ceramic w/ Chip - Body
2	HKG16-002777.004	Metal w/ Silvery Plating (Base: Coppery Metal) - Pin

Remarks :

- (1) 1 mg/kg = 1 ppm = 0.0001%
- (2) MDL = Method Detection Limit
- (3) ND = Not Detected ( < MDL )
- (4) "-" = Not Regulated

### RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU

- Test Method :
- (1) With reference to IEC 62321-5:2013, determination of Cadmium by ICP-OES.
  - (2) With reference to IEC 62321-5:2013, determination of Lead by ICP-OES.
  - (3) With reference to IEC 62321-4:2013, determination of Mercury by ICP-OES.
  - (4) With reference to IEC 62321:2008, determination of Hexavalent Chromium by Colorimetric Method using UV-Vis.
  - (5) With reference to IEC 62321-6:2015, determination of PBBs and PBDEs by GC-MS.
  - (6) With reference to EN 14372:2004, determination of phthalates by GC-MS.

Test Item(s)	Limit	Unit	MDL	003
Cadmium (Cd)	100	mg/kg	2	ND
Lead (Pb)	1,000	mg/kg	2	62
Mercury (Hg)	1,000	mg/kg	2	ND
Hexavalent Chromium (CrVI)	1,000	mg/kg	2	ND
Sum of PBBs	1,000	mg/kg	-	ND
Monobromobiphenyl	-	mg/kg	5	ND
Dibromobiphenyl	-	mg/kg	5	ND
Tribromobiphenyl	-	mg/kg	5	ND
Tetrabromobiphenyl	-	mg/kg	5	ND
Pentabromobiphenyl	-	mg/kg	5	ND
Hexabromobiphenyl	-	mg/kg	5	ND
Heptabromobiphenyl	-	mg/kg	5	ND
Octabromobiphenyl	-	mg/kg	5	ND
Nonabromobiphenyl	-	mg/kg	5	ND
Decabromobiphenyl	-	mg/kg	5	ND
Sum of PBDEs	1,000	mg/kg	-	ND

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<u>Test Item(s)</u>	<u>Limit</u>	<u>Unit</u>	<u>MDL</u>	<u>003</u>
Monobromodiphenyl ether	-	mg/kg	5	ND
Dibromodiphenyl ether	-	mg/kg	5	ND
Tribromodiphenyl ether	-	mg/kg	5	ND
Tetrabromodiphenyl ether	-	mg/kg	5	ND
Pentabromodiphenyl ether	-	mg/kg	5	ND
Hexabromodiphenyl ether	-	mg/kg	5	ND
Heptabromodiphenyl ether	-	mg/kg	5	ND
Octabromodiphenyl ether	-	mg/kg	5	ND
Nonabromodiphenyl ether	-	mg/kg	5	ND
Decabromodiphenyl ether	-	mg/kg	5	ND
Dibutyl Phthalate (DBP)	1,000	mg/kg	30	ND
Benzylbutyl Phthalate (BBP)	1,000	mg/kg	30	ND
Bis-(2-ethylhexyl) Phthalate (DEHP)	1,000	mg/kg	30	ND
Diisobutyl Phthalate (DIBP)	1,000	mg/kg	30	ND

Notes :

(1) The maximum permissible limit is quoted from RoHS Directive (EU) 2015/863.

### RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU

Test Method : (1) With reference to IEC 62321-5:2013, determination of Cadmium by ICP-OES.  
 (2) With reference to IEC 62321-5:2013, determination of Lead by ICP-OES.  
 (3) With reference to IEC 62321-4:2013, determination of Mercury by ICP-OES.  
 (4) With reference to IEC 62321-7-1:2015, determination of Hexavalent Chromium by Colorimetric Method using UV-Vis.

<u>Test Item(s)</u>	<u>Limit</u>	<u>Unit</u>	<u>MDL</u>	<u>004</u>
Cadmium (Cd)	100	mg/kg	2	ND
Lead (Pb)	1,000	mg/kg	5	ND
Mercury (Hg)	1,000	mg/kg	2	ND
Hexavalent Chromium (Cr(VI))▼	-	µg/cm <sup>2</sup>	0.1	ND

Notes :

- (1) The maximum permissible limit is quoted from RoHS Directive (EU) 2015/863.  
 (2) ▼ =
- The sample is positive for CrVI if the CrVI concentration is greater than 0.13 µg/cm<sup>2</sup>. The sample coating is considered to contain CrVI
  - The sample is negative for CrVI if CrVI is ND (concentration less than 0.10 µg/cm<sup>2</sup>). The coating is considered a non-CrVI based coating
  - The result between 0.10 µg/cm<sup>2</sup> and 0.13 µg/cm<sup>2</sup> is considered to be inconclusive - unavoidable coating variations may influence the determination
- Information on storage conditions and production date of the tested sample is unavailable and thus

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Cr(VI) results represent status of the sample at the time of testing.

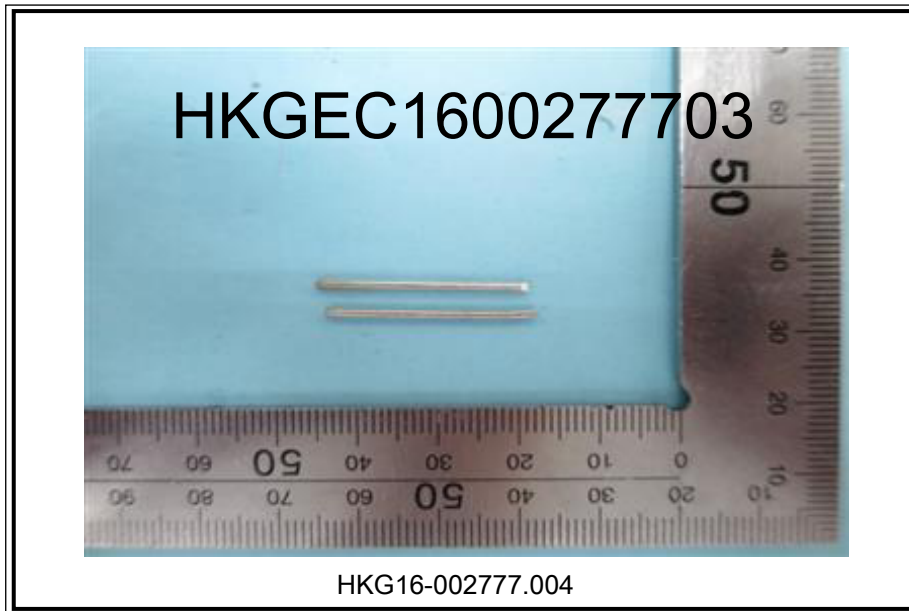
IEC 62321 series is equivalent to EN 62321 series

[http://www.cenelec.eu/dyn/www/f?p=104:30:1742232870351101::::FSP\\_ORG\\_ID,FSP\\_LANG\\_ID:1258637,25](http://www.cenelec.eu/dyn/www/f?p=104:30:1742232870351101::::FSP_ORG_ID,FSP_LANG_ID:1258637,25)

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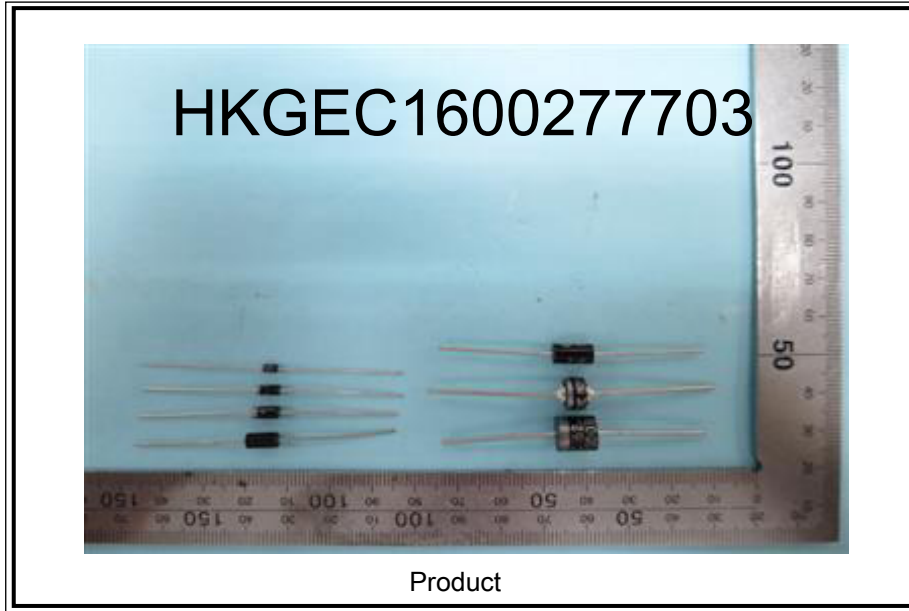
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Sample photo:



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SGS authenticate the photo on original report only

\*\*\* End of Report \*\*\*

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