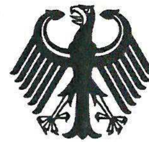
DAkkS
Deutsche
Akkreditierungsstelle

Deutsche Akkreditierungsstelle GmbH

Entrusted according to Section 8 subsection 1 AkkStelleG in connection with Section 1 subsection 1 AkkStelleGBV
Signatory to the Multilateral Agreements of
EA, ILAC and IAF for Mutual Recognition

Accreditation



The Deutsche Akkreditierungsstelle GmbH attests that the testing laboratory

OSRAM Opto Semiconductors Gesellschaft mit beschränkter Haftung
Reliability Engineering Test & Analysis Laboratory
Leibnizstraße 4, 93055 Regensburg

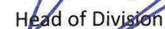
is competent under the terms of DIN EN ISO/IEC 17025:2005 to carry out tests in the following fields:

Measurement of LEDs, environmental simulation and analysis of optoelectronic semiconductor components

The accreditation certificate shall only apply in connection with the notice of accreditation of 19.01.2018 with the accreditation number D-PL-12130-01 and is valid until 18.01.2023. It comprises the cover sheet, the reverse side of the cover sheet and the following annex with a total of 04 pages.

Registration number of the certificate: **D-PL-12130-01-00**

Frankfurt am Main, 19.01.2018	Dipl.-Ing. (FH) Ralf Egner Head of Division	Translation issued: 19.01.2018	Head of Division



This document is a translation. The definitive version is the original German accreditation certificate.

See notes overleaf.

Deutsche Akkreditierungsstelle GmbH

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10117 Berlin

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60327 Frankfurt am Main

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The publication of extracts of the accreditation certificate is subject to the prior written approval by Deutsche Akkreditierungsstelle GmbH (DAkkS). Exempted is the unchanged form of separate disseminations of the cover sheet by the conformity assessment body mentioned overleaf.

No impression shall be made that the accreditation also extends to fields beyond the scope of accreditation attested by DAkkS.

The accreditation was granted pursuant to the Act on the Accreditation Body (AkkStelleG) of 31 July 2009 (Federal Law Gazette I p. 2625) and the Regulation (EC) No 765/2008 of the European Parliament and of the Council of 9 July 2008 setting out the requirements for accreditation and market surveillance relating to the marketing of products (Official Journal of the European Union L 218 of 9 July 2008, p. 30). DAkkS is a signatory to the Multilateral Agreements for Mutual Recognition of the European co-operation for Accreditation (EA), International Accreditation Forum (IAF) and International Laboratory Accreditation Cooperation (ILAC). The signatories to these agreements recognise each other's accreditations.

The up-to-date state of membership can be retrieved from the following websites:
EA: www.european-accreditation.org
ILAC: www.ilac.org
IAF: www.iaf.nu

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Annex to the Accreditation Certificate D-PL-12130-01-00 according to DIN EN ISO/IEC 17025:2005

Period of validity: 19.01.2018 to 18.01.2023 Date of issue: 19.01.2018

Holder of certificate:

OSRAM Opto Semiconductors Gesellschaft mit beschränkter Haftung
Reliability Engineering Test & Analysis Laboratory
Leibnizstraße 4, 93055 Regensburg

Tests in the fields:

Measurement of LEDs, environmental simulation and analysis of optoelectronic semiconductor components

Within the scope of accreditation marked with *), the testing laboratory is permitted, without being required to inform and obtain prior approval from DAkkS, to use standards or equivalent testing methods listed here with different issue dates.

The testing laboratory maintains a current list of all testing standards / equivalent testing procedures within the flexible scope of accreditation.

***Flexible Scope (Page 1-3) – Category III**
Not flexible Scope (Page 4)

Testing Field	Standard / In-House Procedure / Version	Title of Standard or In-House Procedure (Deviations / Modifications of Standard)	Test Range / Restrictions
Optic	CIE 127:2007	Measurement of LEDs	
Environmental simulation	JESD22-A101: 2015	Steady State Temperature Humidity Bias Life Test	
Environmental simulation	JESD22-A102: 2015	Accelerated Moisture Resistance – Unbiased Autoclave	
Environmental simulation	JESD22-A103: 2015	High Temperature Storage Life	

Testing Field	Standard / In-House Procedure / Version	Title of Standard or In-House Procedure (Deviations / Modifications of Standard)	Test Range / Restrictions
Environmental simulation	JESD22-A104: 2015	Temperature Cycling	
Environmental simulation	JESD22-A105: 2011	Power Temperature Cycling	
Environmental simulation	JESD22-A106: 2016	Thermal Shock	
Environmental simulation	JESD22-A108: 2016	Temperature, Bias and Operating Life	
Environmental simulation	JESD22-A113: 2016	Preconditioning of Nonhermetic Surface Mount Devices Prior to Reliability Testing	
Environmental simulation	JESD22-A119: 2015	Low Temperature Storage Life	
Environmental simulation	JESD22-B106: 2016	Resistance to Soldering Temperature for Through-Hole Mounted Devices	
Environmental simulation	ANSI/ESDA/JEDEC JS-001: 2017	Electrostatic Discharge Sensitivity Testing Human Body Model (HBM) - Component Level	
Environmental simulation	IEC 60068-2-2: 2007	Environmental testing - Part 2-2: Tests - Test B: Dry heat	
Environmental simulation	DIN EN 60068-2-2: 2008	Environmental testing - Part 2-2: Tests - Test B: Dry heat (IEC 60068-2-2:2007); German Version EN 60068-2-2:2007	
Environmental simulation	IEC 60068-2-14: 2009	Environmental testing - Part 2-14: Tests - Test N: Change of temperature	Limitation: without Na, Nb
Environmental simulation	DIN EN 60068-2-14: 2010	Environmental testing - Part 2-14: Tests - Test N: Change of temperature (IEC 60068-2-14:2009); German version EN 60068-2-14:2009	Limitation: without Na, Nb
Environmental simulation	IEC 60068-2-20:2008	Environmental testing – Part 2-20: Tests – Test T: Test methods for solderability and resistance to soldering heat of devices with	

Testing Field	Standard / In-House Procedure / Version	Title of Standard or In-House Procedure (Deviations / Modifications of Standard)	Test Range / Restrictions
		leads	
Environmental simulation	DIN EN 60068-2-20: 2009	Environmental testing - Part 2-20: Tests - Test T: Test methods for solderability and resistance to soldering heat of devices with leads (IEC 60068-2-20:2008); German version EN 60068-2-20:2008	
Environmental simulation	IEC 60068-2-58: 2015	Environmental testing – Part 2-58: Tests – Test Td: Test methods for solderability, resistance to dissolution of metallization and to soldering heat of surface mounting devices (SMD)	
Environmental simulation	DIN EN 60068-2-58: 2016	Environmental testing - Part 2-58: Tests - Test Td: Test methods for solderability, resistance to dissolution of metallization and to soldering heat of surface mounting devices (SMD) (IEC 60068-2-58:2015); German version EN 60068-2-58:2015	
Environmental simulation	IEC 60068-2-67: 1995	Environmental testing Part 2-67: Tests – Test Cy: Damp Heat, Steady State, Accelerated Test Primarily Intended for Components	
Environmental simulation	DIN EN 60068-2-67 1996-07	Environmental testing - Part 2: Tests; test Cy: Damp heat, steady state, accelerated test primarily intended for components (IEC 60068-2-67:1995); German version EN 60068-2-67:1996	
Environmental simulation	IEC 60068-2-78: 2012	Environmental testing - Part 2-78: Tests - Test Cab: Damp heat, steady state	
Environmental simulation	DIN EN 60068-2-78 2014-02	Environmental testing - Part 2-78: Tests - Test Cab: Damp heat, steady state (IEC 60068-2-78:2012); German version EN 60068-2-78:2013	
Environmental simulation	IEC 61760-1: 2016	Surface mounting technology – Part 1: Standard method for the specification of surface mounting components (SMD)	

Fachbereich	Norm / Hausverfahren / Version	Titel der Norm oder des Hausverfahrens (ggf. Abweichungen / Modifizierungen von Normverfahren angeben)	Prüfbereich / Einschränkung
Fault analysis	A63501-R0108:V3	Elementanalyse mit EDX / Elemental analysis with EDX	
Fault analysis	A63501-R0109:V3	Schliffe eingebetteter Bauteile anfertigen / Cross sectioning of embedded samples	
Fault analysis	A63501-R0110:V3	Messung von geometrischen Größen am REM / Measurement of geometrical dimensions with SEM	
Fault analysis	A63501-R0111:V2	Röntgenanalyse & Bewertung / X-ray analysis & evaluation	
Fault analysis	A63501-R0112:V3	Elektronenmikroskopische Untersuchung / Electron microscopy inspection	
Fault analysis	A63501-R0375:V1	Focussed Ion Beam (FIB) Untersuchung / Focussed Ion Beam (FIB) investigation	