

EASYLINE COB

1000 TO 5000 LM



EASYLINE COB LED MODULES

13009H1, 20015H1, 20025H1

Typical Applications

- Integration in reflector luminaires
- Residential lighting
- Furniture lighting
- Simple retail lighting
- Downlights

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- **LONG SERVICE LIFETIME: UP TO 50,000 HOURS**
- **IDEAL COMBINATION OF LED MODULES AND DRIVERS**
- **HIGHLY EFFICIENT: UP TO 164 LM/W**

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Technical Notes

- LED module for integration into luminaires
- Dimensions: 13.5x13.5 mm and 19x19 mm
- Light emitting surface (LES): Ø 9 mm und Ø 14 mm



Electrical Characteristics

Type	Typ. voltage DC					Typ. power consumption				
	250 mA V	350 mA V	500 mA V	700 mA V	1050 mA V	250 mA W	350 mA W	500 mA W	700 mA W	1050 mA W
at t_p = 25 °C										
ERC 13009H1	33.9	34.2	—	—	—	8.5	12.0	—	—	—
ERC 20015H1	—	34.0	34.4	34.9	—	—	11.9	17.2	24.5	—
ERC 20025H1	—	—	33.9	34.2	34.9	—	—	16.9	24.0	36.6
at t_p = 65 °C										
ERC 13009H1	33.2	33.6	—	—	—	8.3	11.8	—	—	—
ERC 20015H1	—	33.3	33.7	34.3	—	—	11.7	16.9	24.0	—
ERC 20025H1	—	—	33.2	33.6	34.2	—	—	16.6	23.5	35.9

Voltage and power tolerance: ±10 %

Maximum Ratings

Exceeding the maximum ratings can lead to reduction of service life or destruction of the modules.

Type	Operation temperature range at t _c point		Storage temperature range		Max. allowed repetitive peak current mA
	°C min.	°C max.	°C min.	°C max.	
ERC 13009H1	-40	+85	-40	+100	540
ERC 20015H1	-40	+85	-40	+100	900
ERC 20025H1	-40	+85	-40	+100	1440

Service life time

70,000 hrs. (L70/B10) at t_p = 25 °C

50,000 hrs. (L70/B10) at t_p = 65 °C

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Optical Characteristics

Type	Ref. No.	Colour	Correl. colour temp.* K	Typ. luminous flux** and efficiency at										Typ. beam angle °	Typ. CRI R _a	Photo-metric code	
				250 mA		350 mA		500 mA		700 mA		1050 mA					
				lm	lm/W	lm	lm/W	lm	lm/W	lm	lm/W	lm	lm/W	lm	lm/W		
at t_p = 25 °C																	
ERC 13009H1_VS 2700K CRI80	566203	warm white	2700	1200	142	1600	133	—	—	—	—	—	—	120	80	827/3x7	
ERC 13009H1_VS 3000K CRI80	566204	warm white	3000	1260	149	1680	140	—	—	—	—	—	—	120	80	830/3x7	
ERC 13009H1_VS 4000K CRI80	566205	neutral white	4000	1300	154	1730	144	—	—	—	—	—	—	120	80	840/3x7	
ERC 13009H1_VS 5000K CRI80	566206	cool white	5000	1325	156	1765	147	—	—	—	—	—	—	120	80	850/3x7	
ERC 13009H1_VS 2700K CRI90	566207	warm white	2700	995	117	1325	111	—	—	—	—	—	—	120	90	927/3x7	
ERC 13009H1_VS 3000K CRI90	566208	warm white	3000	1045	123	1395	116	—	—	—	—	—	—	120	90	930/3x7	
ERC 13009H1_VS 4000K CRI90	566209	neutral white	4000	1075	127	1435	120	—	—	—	—	—	—	120	90	940/3x7	
ERC 13009H1_VS 5000K CRI90	566210	cool white	5000	1100	130	1465	122	—	—	—	—	—	—	120	90	950/3x7	
ERC 20015H1_VS 2700K CRI80	566211	warm white	2700	—	—	1770	149	2445	142	3290	135	—	—	120	80	827/3x7	
ERC 20015H1_VS 3000K CRI80	566212	warm white	3000	—	—	1865	157	2575	150	3465	142	—	—	120	80	830/3x7	
ERC 20015H1_VS 4000K CRI80	566213	neutral white	4000	—	—	1920	161	2650	154	3565	146	—	—	120	80	840/3x7	
ERC 20015H1_VS 5000K CRI80	566214	cool white	5000	—	—	1955	164	2705	157	3635	149	—	—	120	80	850/3x7	
ERC 20015H1_VS 2700K CRI90	566215	warm white	2700	—	—	1470	123	2030	118	2730	112	—	—	120	90	927/3x7	
ERC 20015H1_VS 3000K CRI90	566216	warm white	3000	—	—	1545	130	2135	124	2875	118	—	—	120	90	930/3x7	
ERC 20015H1_VS 4000K CRI90	566217	neutral white	4000	—	—	1595	134	2200	128	2960	121	—	—	120	90	940/3x7	
ERC 20015H1_VS 5000K CRI90	566218	cool white	5000	—	—	1625	136	2245	130	3020	123	—	—	120	90	950/3x7	
ERC 20025H1_VS 2700K CRI80	566219	warm white	2700	—	—	—	—	2370	140	3225	135	4605	126	120	80	827/3x7	
ERC 20025H1_VS 3000K CRI80	566220	warm white	3000	—	—	—	—	2495	148	3395	142	4845	132	120	80	830/3x7	
ERC 20025H1_VS 4000K CRI80	566221	neutral white	4000	—	—	—	—	2570	152	3495	146	4990	136	120	80	840/3x7	
ERC 20025H1_VS 5000K CRI80	566222	cool white	5000	—	—	—	—	2620	155	3565	149	5090	139	120	80	850/3x7	
ERC 20025H1_VS 2700K CRI90	566223	warm white	2700	—	—	—	—	1970	117	2675	112	3825	104	120	90	927/3x7	
ERC 20025H1_VS 3000K CRI90	566224	warm white	3000	—	—	—	—	2070	123	2815	118	4025	110	120	90	930/3x7	
ERC 20025H1_VS 4000K CRI90	566225	neutral white	3000	—	—	—	—	2135	126	2900	121	4145	113	120	90	940/3x7	
ERC 20025H1_VS 5000K CRI90	566226	cool white	5000	—	—	—	—	2175	129	2955	123	4225	115	120	90	950/3x7	
at t_p = 65 °C																	
ERC 13009H1_VS 2700K CRI80	566203	warm white	2700	1125	136	1495	127	—	—	—	—	—	—	120	80	827/3x7	
ERC 13009H1_VS 3000K CRI80	566204	warm white	3000	1185	143	1570	133	—	—	—	—	—	—	120	80	830/3x7	
ERC 13009H1_VS 4000K CRI80	566205	neutral white	4000	1220	147	1620	137	—	—	—	—	—	—	120	80	840/3x7	
ERC 13009H1_VS 5000K CRI80	566206	cool white	5000	1240	149	1650	140	—	—	—	—	—	—	120	80	850/3x7	
ERC 13009H1_VS 2700K CRI90	566207	warm white	2700	935	113	1240	105	—	—	—	—	—	—	120	90	927/3x7	
ERC 13009H1_VS 3000K CRI90	566208	warm white	3000	980	118	1305	111	—	—	—	—	—	—	120	90	930/3x7	
ERC 13009H1_VS 4000K CRI90	566209	neutral white	4000	1010	122	1345	114	—	—	—	—	—	—	120	90	940/3x7	
ERC 13009H1_VS 5000K CRI90	566210	cool white	5000	1030	124	1370	116	—	—	—	—	—	—	120	90	950/3x7	
ERC 20015H1_VS 2700K CRI80	566211	warm white	2700	—	—	1665	142	2290	136	3065	128	—	—	120	80	827/3x7	
ERC 20015H1_VS 3000K CRI80	566212	warm white	3000	—	—	1750	150	2410	143	3225	134	—	—	120	80	830/3x7	
ERC 20015H1_VS 4000K CRI80	566213	neutral white	4000	—	—	1805	154	2480	147	3320	138	—	—	120	80	840/3x7	
ERC 20015H1_VS 5000K CRI80	566214	cool white	5000	—	—	1840	157	2530	150	3385	141	—	—	120	80	850/3x7	
ERC 20015H1_VS 2700K CRI90	566215	warm white	2700	—	—	1380	118	1900	112	2545	106	—	—	120	90	927/3x7	
ERC 20015H1_VS 3000K CRI90	566216	warm white	3000	—	—	1455	124	2000	118	2675	112	—	—	120	90	930/3x7	
ERC 20015H1_VS 4000K CRI90	566217	neutral white	4000	—	—	1495	128	2060	122	2755	115	—	—	120	90	940/3x7	
ERC 20015H1_VS 5000K CRI90	566218	cool white	5000	—	—	1525	130	2100	124	2810	117	—	—	120	90	950/3x7	
ERC 20025H1_VS 2700K CRI80	566219	warm white	2700	—	—	—	—	2235	132	3030	129	4300	120	120	80	827/3x7	
ERC 20025H1_VS 3000K CRI80	566220	warm white	3000	—	—	—	—	2355	139	3190	136	4525	126	120	80	830/3x7	
ERC 20025H1_VS 4000K CRI80	566221	neutral white	4000	—	—	—	—	2425	143	3285	140	4660	130	120	80	840/3x7	
ERC 20025H1_VS 5000K CRI80	566222	cool white	5000	—	—	—	—	2470	146	3350	143	4750	132	120	80	850/3x7	
ERC 20025H1_VS 2700K CRI90	566223	warm white	2700	—	—	—	—	1855	110	2515	107	3570	99	120	90	927/3x7	
ERC 20025H1_VS 3000K CRI90	566224	warm white	3000	—	—	—	—	1955	116	2645	113	3755	104	120	90	930/3x7	
ERC 20025H1_VS 4000K CRI90	566225	neutral white	3000	—	—	—	—	2010	119	2725	116	3865	108	120	90	940/3x7	
ERC 20025H1_VS 5000K CRI90	566226	cool white	5000	—	—	—	—	2050	121	2780	118	3940	110	120	90	950/3x7	

* Colour tolerance: 3 MacAdam | ** Production tolerance of luminous flux and efficiency: ±10 %

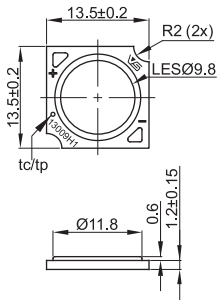
Minimum order quantity: t.b.d.

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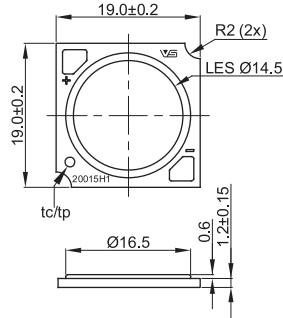
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Mechanical Dimensionns

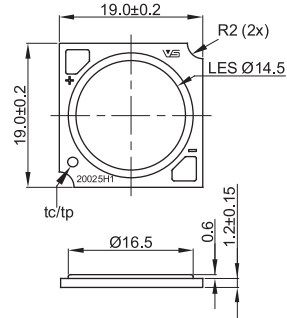
ERC 13009H1



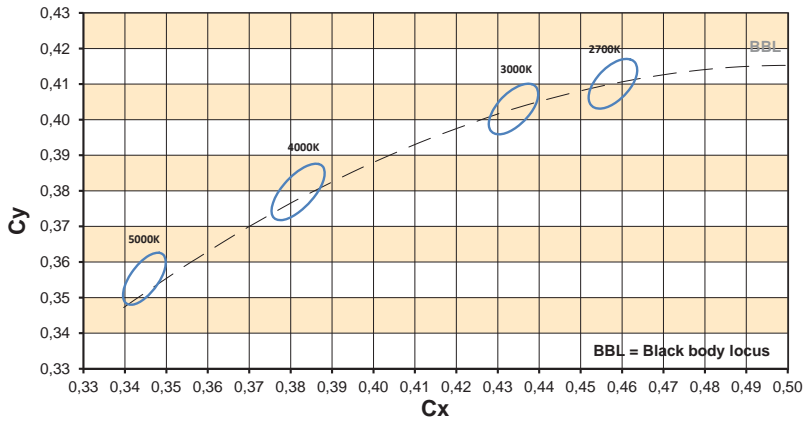
ERC 20015H1



ERC 20025H1



Bins



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Assembly and Safety Information

Installation must be carried out under observation of the relevant regulations and standards. The LED modules are designed for operation within a casing or luminaire. Installation must be carried out in a voltage-free state (i.e. disconnection from the mains). The following advice must be observed; non-observance can result in the destruction of the LED assembly modules, fire and/or other hazards.

- ESD (electrostatic discharge) protection measures must be observed when handling and installing the LED modules. See VS's application notes on ESD protection.
- LED assembly modules must not be subjected to any undue mechanical stress, e. g.:
 - do not treat as bulk cargo
 - avoid shear and compressive forces during handling and installation
 - do not damage circuit paths
 - do not touch the yellow phosphorus layer
- The module must be fixed onto a thermally conductive surface.
- Safe operation only possible by the use of external constant current sources (I_{max} , see table "Electrical Characteristics").
- Operation only with power supply units that feature the following protection:
 - Short-circuit protection
 - Overload protection
 - Overheating protection
 - SELV (Safety Extra Low Voltage); $U_{max.} \leq 60\text{ V}$
 - $I_{max.}$ (see table "Maximum Ratings") must not be exceeded.
- When operating devices will be selected care has been taken to ensure that the maximum values (see table "Maximum Ratings") will not be exceeded.
- Please ensure the correct polarity of the leads prior to commissioning. Reversed polarity can destroy the modules.
- Safety regulations acc. to EN 60598 (or further standards) has to be observed if the maximum output voltage exceed the permitted touchable value.
- Measurement tolerances:
 - luminous flux: $\pm 7\%$
 - voltage: $\pm 3\%$
 - CRI: ± 2
- A parallel connection of the modules is not allowed.
- To ensure problem-free operation, the specified maximum temperature at the t_c point (see "Operating Life") must be observed (and measured in accordance with EN 60598-1). To satisfy this point, it may be necessary to put measures in place to ensure any heat is dissipated from the PCB to the environment.
- In the event of outdoor applications or applications in damp locations, care must be taken to protect LED assembly modules against humidity, splashes and jets of water. Any corrosion damage resulting from humidity or contact with condensation will not be recognised as a defect or manufacturing fault. LED assembly modules are not specially protected against foreign bodies or dust. Depending on the type of application, further protection must be ensured to prevent dust and foreign bodies from entering.
- Operating LED modules in the presence of certain chemical substances or in chemically enriched (aggressive) environments can impair module functionality or even cause total module failure. Detailed information can be found in our "Chemical Incompatibility" PDF on our website www.vossloh-schwabe.com
- The photobiological safety of the LED modules must be classified into risk groups in accordance with EN 62471
Rating in accordance with IEC / TR 62778: risk group 1
Except the following products at the mentioned operating current are classified into risk group 2:
ERC 20025 H1, 5000 K, > 900 mA

Product Guarantee

- 5 years
- The conditions for the Product Guarantee of the Vossloh-Schwabe Group shall apply as published on our homepage (www.vossloh-schwabe.com).
We will be happy to send you these conditions upon request.

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