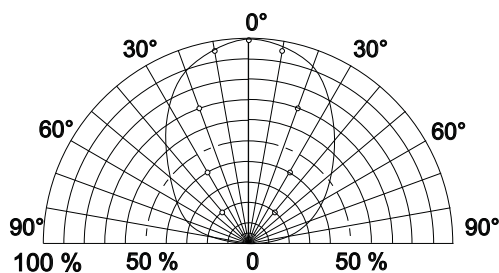
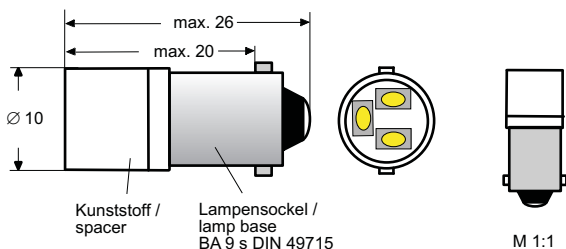
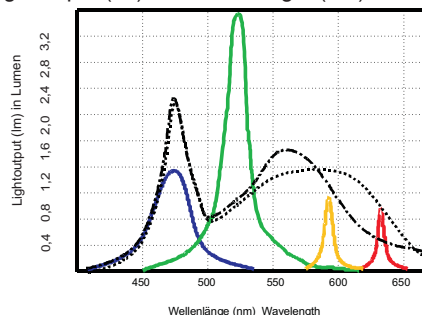


# Data Sheet Cluster LED BA9s 24 V AC/DC

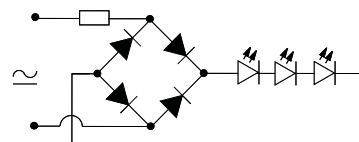


Radiation Pattern

Lightoutput (lm) and Wavelength (nm)



AC/DC Circuit



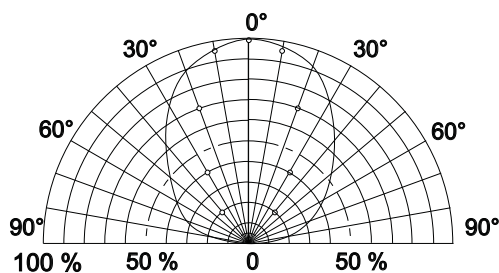
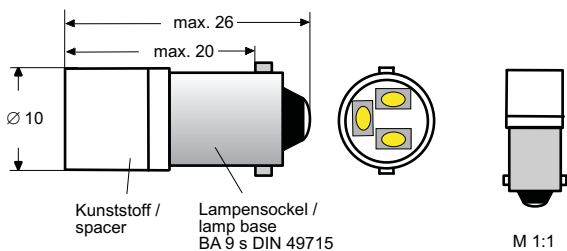
|                       |                  |
|-----------------------|------------------|
| Number of LED         | 3                |
| Storage Temperature   | - 35 °C + 100 °C |
| Operating Temperature | - 30 °C + 70 °C  |
| Voltage Tolerance     | 10%              |

| TSL-Code         | Voltage |       | Current | Wavelength          | Light output $\Phi_v$ (luminous flux) |              |
|------------------|---------|-------|---------|---------------------|---------------------------------------|--------------|
|                  | [V]     |       | [mA]    | [nm]                | [lm] min.                             | [lm] typical |
| 913S 13 2415 ER  | 24      | AC/DC | 15      | red/630             | 0,3                                   | 0,4          |
| 913S 13 2415 EY  | 24      | AC/DC | 15      | yellow/587          | 0,4                                   | 0,6          |
| 913S 13 2415 EG  | 24      | AC/DC | 15      | green/525           | 1,4                                   | 2,0          |
| 913S 13 2415 EB  | 24      | AC/DC | 15      | blue/470            | 0,7                                   | 1,0          |
| 913S 13 2415 WS  | 24      | AC/DC | 15      | white/x=0,31 y=0,32 | 4,8                                   | 6,8          |
| 913S 13 2415 WWS | 24      | AC/DC | 15      | warm white          | 2,5                                   | 3,6          |

Typical Light Output in Lumen (lm), Tolerance +/- 25%

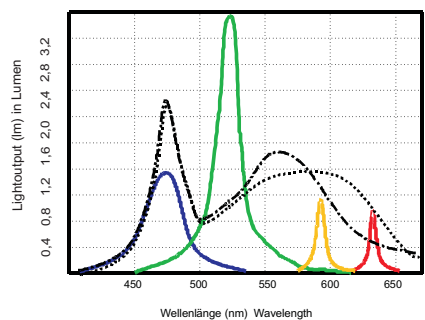
|                |  |                   |  |                                                                   |  |               |  |        |  |
|----------------|--|-------------------|--|-------------------------------------------------------------------|--|---------------|--|--------|--|
|                |  |                   |  | Maßstab 1:1                                                       |  | (Gewicht)     |  |        |  |
|                |  |                   |  | (Werkstoff, Halbzeug)<br>(Rohteil-Nr)<br>(Modell- oder Gesenk-Nr) |  |               |  |        |  |
|                |  |                   |  | Cluster LED Ba9s<br>AC/DC Type                                    |  |               |  |        |  |
|                |  | Datum             |  |                                                                   |  |               |  | Name   |  |
|                |  | Bearb. 17.02.2010 |  |                                                                   |  |               |  | Müller |  |
|                |  | Gepr. 00.00.00    |  |                                                                   |  |               |  |        |  |
|                |  | Norm              |  |                                                                   |  |               |  |        |  |
|                |  |                   |  | <div style="text-align: center;"> </div>                          |  |               |  |        |  |
|                |  |                   |  |                                                                   |  |               |  |        |  |
| Zust. Änderung |  | Datum             |  | Name                                                              |  | Ursprung      |  |        |  |
|                |  |                   |  | Ersatz für:                                                       |  | Ersatz durch: |  |        |  |
|                |  |                   |  |                                                                   |  | Blatt         |  |        |  |
|                |  |                   |  |                                                                   |  | Blätter       |  |        |  |

**Data Sheet Cluster LED BA9s 230 V AC and 110 - 130 V AC with internal DIAC**  
Reduction of LED glowing in off status up to 30 V AC



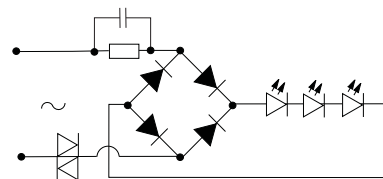
Radiation Pattern

Lightoutput (lm) and Wavelength (nm)



AC Circuit

Number of LED: 3  
Storage Temperature: - 35 °C + 100 °C  
Operating Temperature: - 30 °C + 70 °C  
Voltage Tolerance: 10%



| TSL-Code           | Voltage  |    | Current | Wavelength          | Light output $\Phi_v$ (luminous flux) |              |
|--------------------|----------|----|---------|---------------------|---------------------------------------|--------------|
|                    | [V]      |    | [mA]    | [nm]                | [lm] min.                             | [lm] typical |
| 913S 13 1310 ER-D  | 110 -130 | AC | 10      | red/630             | 0,1                                   | 0,2          |
| 913S 13 1310 EY-D  | 110 -130 | AC | 10      | yellow/587          | 0,2                                   | 0,3          |
| 913S 13 1310 EG-D  | 110 -130 | AC | 10      | green/525           | 0,7                                   | 1,0          |
| 913S 13 1310 EB-D  | 110 -130 | AC | 10      | blue/470            | 0,3                                   | 0,4          |
| 913S 13 1310 WS-D  | 110 -130 | AC | 10      | white/x=0,31 y=0,32 | 2,5                                   | 3,5          |
| 913S 13 1310 WWS-D | 110 -130 | AC | 10      | warm white          | 1,4                                   | 2,0          |
| 913S 13 2310 ER-D  | 230      | AC | 10      | red/630             | 0,1                                   | 0,2          |
| 913S 13 2310 EY-D  | 230      | AC | 10      | yellow/587          | 0,2                                   | 0,3          |
| 913S 13 2310 EG-D  | 230      | AC | 10      | green/525           | 0,7                                   | 1,0          |
| 913S 13 2310 EB-D  | 230      | AC | 10      | blue/470            | 0,3                                   | 0,4          |
| 913S 13 2310 WS-D  | 230      | AC | 10      | white/x=0,31 y=0,32 | 2,5                                   | 3,5          |
| 913S 13 2310 WWS-D | 230      | AC | 10      | warm white          | 1,4                                   | 2,0          |

Typical Light Output in Lumen (lm), Tolerance +/- 25%

|        |            |        |      |                                                                   |             |               |
|--------|------------|--------|------|-------------------------------------------------------------------|-------------|---------------|
|        |            |        |      | Maßstab 1:1                                                       |             | (Gewicht)     |
|        |            |        |      | (Werkstoff, Halbzeug)<br>(Rohteil-Nr)<br>(Modell- oder Gesenk-Nr) |             |               |
|        |            |        |      | <b>Cluster LED Ba9s<br/>AC Type</b>                               |             |               |
| Datum  |            | Name   |      |                                                                   |             |               |
| Bearb. | 17.02.2010 | Müller |      |                                                                   |             |               |
| Gepr.  | 00.00.00   |        |      |                                                                   |             |               |
| Norm   |            |        |      |                                                                   |             |               |
|        |            |        |      | <b>TAUNUSLICHT</b>                                                |             |               |
|        |            |        |      |                                                                   |             |               |
|        |            |        |      | Blatt                                                             |             |               |
|        |            |        |      | Blätter                                                           |             |               |
| Zust.  | Änderung   | Datum  | Name | Ursprung                                                          | Ersatz für: | Ersatz durch: |