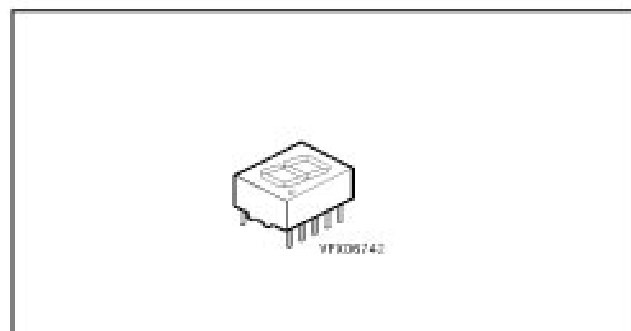


Seven Segment Display 10 mm (0.39")

HD 1105
HD 1107

Features

- Excellent readability by ambient light
- Excellent character appearance
- Evenly lighted segments
- Wide viewing angle $2\varphi = 50^\circ$
- Mitred corners on segments
- Grey package provides optimum contrast
- IC-compatible
- Right hand decimal



| Type | Polarity | Color of emission | Luminous intensity/ Segment $I_F = 10 \text{ mA}$ $I_V (\mu\text{cd})$ | Ordering code |
|-----------|----------------|-------------------|--|---------------|
| HD 1105 R | common anode | red | 550 (typ.) | Q68000-A5741 |
| HD 1105 O | | super-red | 3500 (typ.) | Q68000-A5766 |
| HD 1105 G | | green | 4000 (typ.) | Q68000-A6350 |
| HD 1107 R | common cathode | red | 550 (typ.) | Q68000-A5743 |
| HD 1107 O | | super-red | 3500 (typ.) | Q68000-A5772 |
| HD 1107 G | | green | 4000 (typ.) | Q68000-A6352 |

Maximum Ratings ($T_A = 25\text{ °C}$)

| Description | Symbol | Value | Unit |
|--|----------------------|---------------|------------|
| Operating temperature range | T_{op} | 0 ... + 85 | °C |
| Storage temperature range | T_{stg} | – 40 ... + 85 | °C |
| Lead soldering temperature, 2 mm from base | T_S | 260 | °C for 3 s |
| Peak forward current per segment or DP ¹⁾ $t_P \leq 10\text{ }\mu\text{s}$ HD 110* R HD 110* O, -G | I_{FM} I_{FM} | 500 150 | mA mA |
| DC forward current per segment or DP ²⁾ HD 110* R HD 110* O, -G | I_F I_F | 30 20 | mA mA |
| Reverse voltage per segment or DP | V_R | 6 | V |
| Total power dissipation $T_A \leq 45\text{ °C}$ | P_{tot} | 480 | mW |

1) Do not exceed maximum average current per segment (see graph of the permissible pulse handling capability)

2) Derate maximum average current above $T_A = 75\text{ °C}$ at 0.5 mA/°C per segment

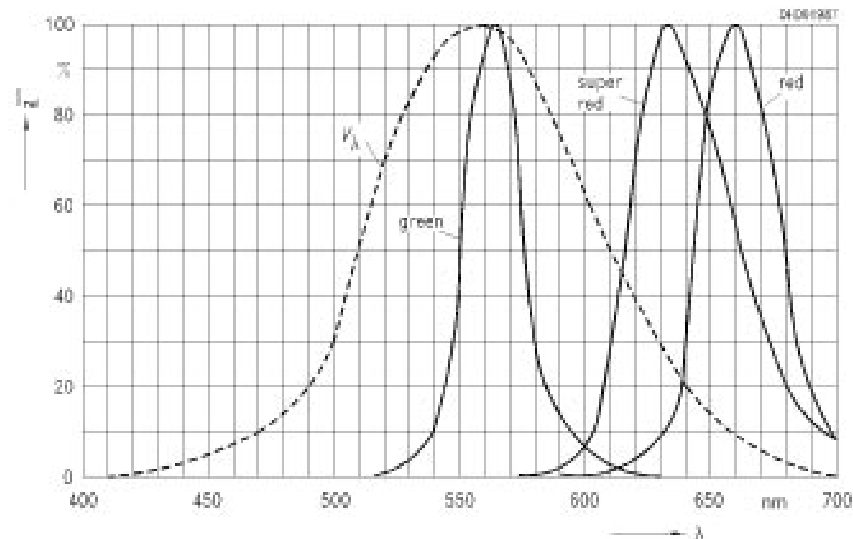
Characteristics ($T_A = 25\text{ }^{\circ}\text{C}$)

| Parameter | Symbol | Values | | | Unit |
|--|---|---------------------|---------------------|-------------------|--|
| | | min | typ. | ma | |
| Luminous intensity per segment, $I_F = 10\text{ mA}$ HD 1105 R, HD 1107 R HD 1105 O, HD 1107 O HD 1105 G, HD 1107 G | I_V I_V I_V | 180 1100 1100 | 550 3500 4000 | - - - | μcd μcd μcd |
| Peak wavelength, $I_F = 10\text{ mA}$ HD 1105 R, HD 1107 R HD 1105 O, HD 1107 O HD 1105 G, HD 1107 G | λ_{peak} λ_{peak} λ_{peak} | - - - | 660 630 565 | - - - | nm nm nm |
| Dominant wavelength (Digit average) HD 1105 R, HD 1107 R HD 1105 O, HD 1107 O HD 1105 G, HD 1107 G | λ_{dom} λ_{dom} λ_{dom} | - 612 562 | 645 - - | - 625 575 | nm nm nm |
| Forward voltage per segment*, $I_F = 20\text{ mA}$ HD 1105 R, HD 1107 R HD 1105 O, HD 1107 O HD 1105 G, HD 1107 G | V_F V_F V_F | - - - | 1.6 2.0 2.4 | 2.0 3.0 3.0 | V V V |
| Break down voltage per segment* $I_R = 10\text{ }\mu\text{A}$ | V_{BR} | 6 | 15 | - | V |
| Max. thermal resistance | R_{thJA} | - | - | 120 | $^{\circ}\text{C/W/Seg}$ |

*) AQL = 0.4%

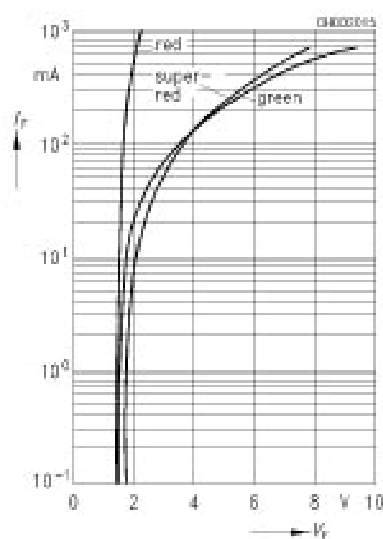
Relative spectral emission $I_{rel} = f(\lambda)$

$V(\lambda)$ = Standard eye response curve



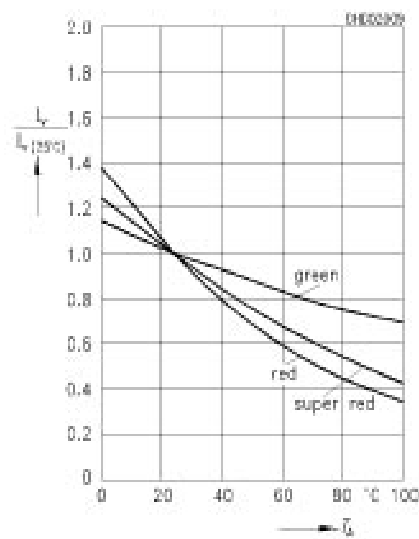
Forward current $I_F = f(V_F)$

$T_A = 25^\circ\text{C}$



Rel. luminous intensity $I_v/I_v(25^\circ\text{C}) = f(T_A)$

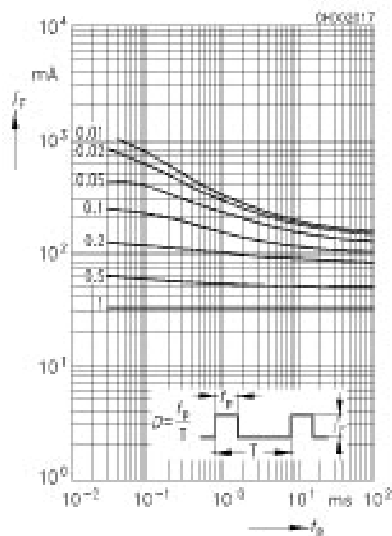
$I_F = 10\text{ mA}$



Permissible pulse handling capability

$$I_F = f(t_P), T_A \leq 45^\circ\text{C}$$

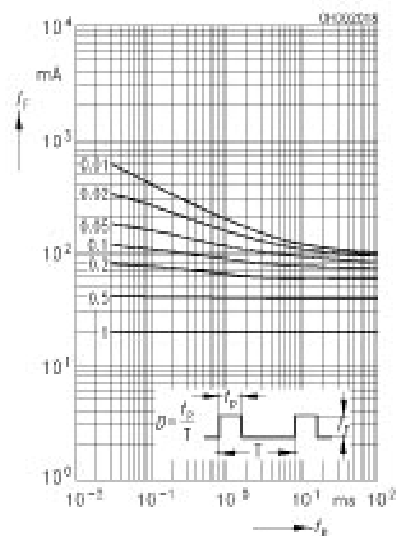
red



Permissible pulse handling capability

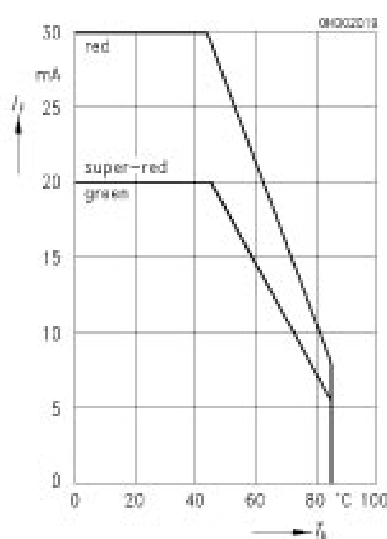
$$I_F = f(t_P), T_A \leq 45^\circ\text{C}$$

super-red, green



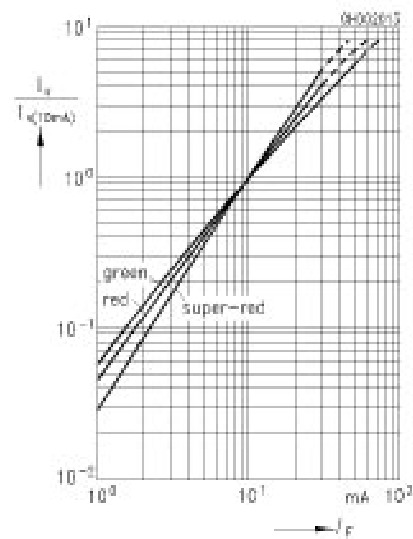
Max. permissible forward current

$$I_F = f(T_A)$$

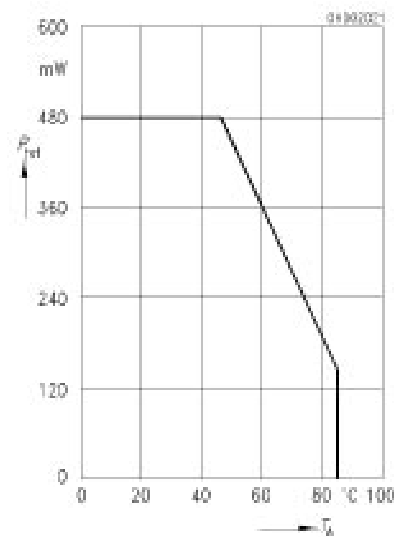


Rel. luminous intensity $I_V/I_V(10\text{ mA}) = f(I_F)$

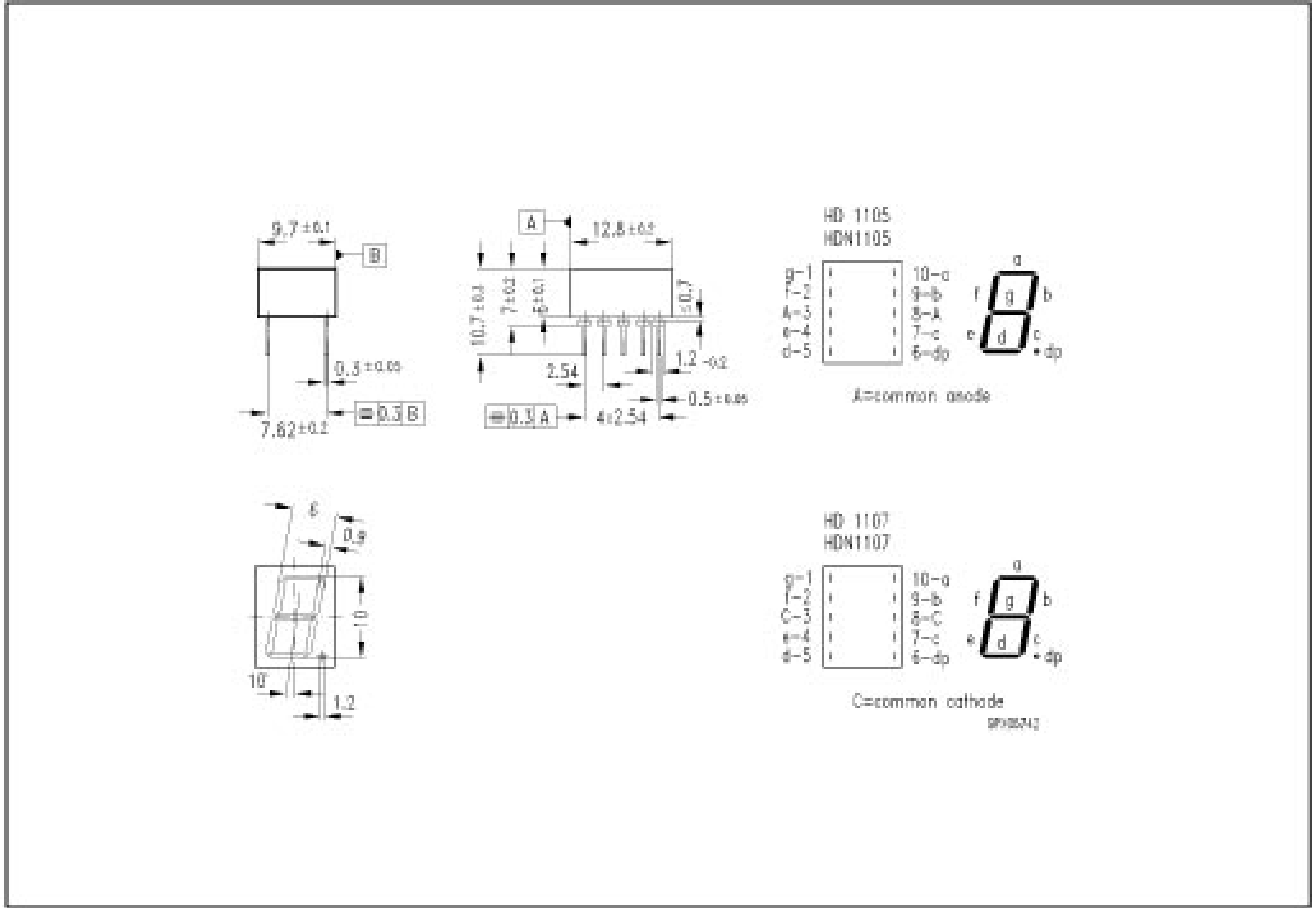
$$T_A = 25^\circ\text{C}$$



Total power dissipation $P_{tot} = f(T_A)$



Package Outlines



This datasheet has been download from:

www.datasheetcatalog.com

Datasheets for electronics components.