

5 mm (T1 3/4) LED, Non Diffused Super-Bright, Hyper-Red GaAlAs-LED

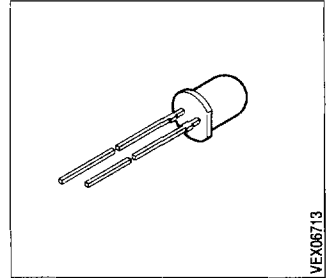
LH 5424

Besondere Merkmale

- eingefärbtes, klares Gehäuse
- Doppel-Heterostruktur in GaAlAs Technologie
- besonders hohe Lichtstärke
- Lötspieße ohne Aufsetzebene
- gegurtet lieferbar
- Störimpulsfest nach DIN 40839

Features

- colored, clear package
- double heterojunction in GaAlAs technology
- especially high luminous intensity
- solder leads without stand-off
- available taped on reel
- load dump resistant acc. to DIN 40839



| Typ Type | Emissionsfarbe Color of Emission | Gehäusefarbe Color of Package | Lichtstärke Luminous Intensity $I_F = 10 \text{ mA}$ I_V (mcd) | Bestellnummer Ordering Code |
|-------------|--|-------------------------------------|--|--------------------------------|
| LH 5424-QT | hyper-red | red clear | 63 ... 500 | Q62703-Q2242 |
| LH 5424-S | | | 160 ... 320 | Q62703-Q3826 |
| LH 5424-T | | | 250 ... 500 | Q62703-Q3827 |
| LH 5424-SU | | | 160 ... 800 | Q62703-Q3828 |

Streuung der Lichtstärke in einer Verpackungseinheit $I_{V \max} / I_{V \min} \leq 2.0$.
Luminous intensity ratio in one packaging unit $I_{V \max} / I_{V \min} \leq 2.0$.

Grenzwerte Maximum Ratings

| Bezeichnung Parameter | Symbol Symbol | Werte Values | Einheit Unit |
|--|------------------|-----------------|-----------------|
| Betriebstemperatur Operating temperature range | T_{op} | - 55 ... + 100 | °C |
| Lagertemperatur Storage temperature range | T_{stg} | - 55 ... + 100 | °C |
| Sperrschichttemperatur Junction temperature | T_j | + 100 | °C |
| Durchlaßstrom Forward current | I_F | 40 | mA |
| Stoßstrom Surge current $t \leq 10 \mu s, D = 0.005$ | I_{FM} | 0.5 | A |
| Sperrspannung Reverse voltage | V_R | 3 | V |
| Verlustleistung Power dissipation $T_A \leq 25 \text{ °C}$ | P_{tot} | 120 | mW |
| Wärmewiderstand Thermal resistance Sperrschicht / Luft Junction / air | $R_{th,JA}$ | 400 | K/W |

Kennwerte ($T_A = 25\text{ °C}$)

Characteristics

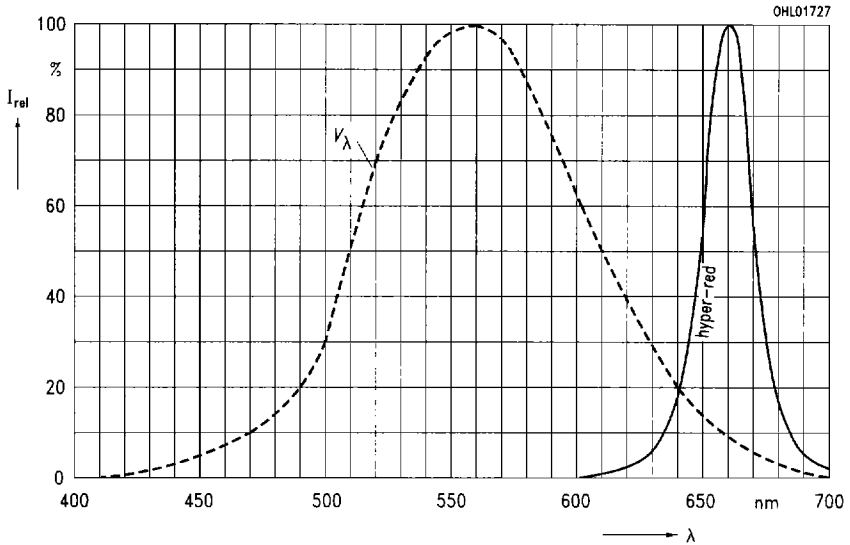
| Bezeichnung Parameter | Symbol Symbol | Werte Values | Einheit Unit |
|---|--|-----------------|--------------------------------|
| Wellenlänge des emittierten Lichtes Wavelength at peak emission $I_F = 20\text{ mA}$ | (typ.) λ_{peak} (typ.) | 660 | nm |
| Dominantwellenlänge Dominant wavelength $I_F = 20\text{ mA}$ | (typ.) λ_{dom} (typ.) | 645 | nm |
| Spektrale Bandbreite bei 50 % $I_{\text{rel max}}$ Spectral bandwidth at 50 % $I_{\text{rel max}}$ $I_F = 20\text{ mA}$ | (typ.) $\Delta\lambda$ (typ.) | 22 | nm |
| Abstrahlwinkel bei 50 % I_V (Vollwinkel) Viewing angle at 50 % I_V | 2φ | 16 | Grad deg. |
| Durchlaßspannung Forward voltage $I_F = 10\text{ mA}$ | (typ.) V_F (max.) V_F | 1.75 2.6 | V V |
| Sperrstrom Reverse current $V_R = 3\text{ V}$ | (typ.) I_R (max.) I_R | 0.01 10 | μA μA |
| Kapazität Capacitance $V_R = 0\text{ V}, f = 1\text{ MHz}$ | (typ.) C_0 | 25 | pF |
| Schaltzeiten: Switching times: I_V from 10 % to 90 % I_V from 90 % to 10 % $I_F = 100\text{ mA}, t_p = 10\text{ }\mu\text{s}, R_L = 50\text{ }\Omega$ | (typ.) t_r (typ.) t_f | 140 110 | ns ns |

Relative spektrale Emission $I_{rel} = f(\lambda)$, $T_A = 25\text{ }^\circ\text{C}$, $I_F = 20\text{ mA}$

Relative spectral emission

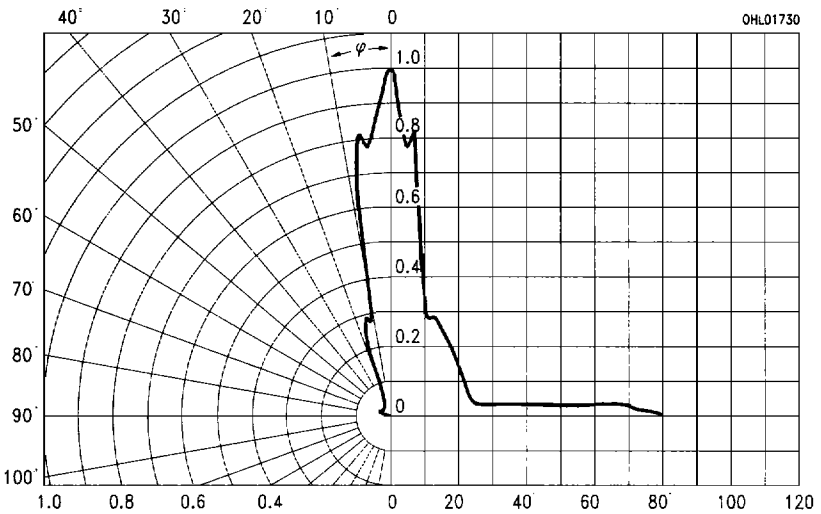
$V(\lambda)$ = spektrale Augenempfindlichkeit

Standard eye response curve



Abstrahlcharakteristik $I_{rel} = f(\varphi)$

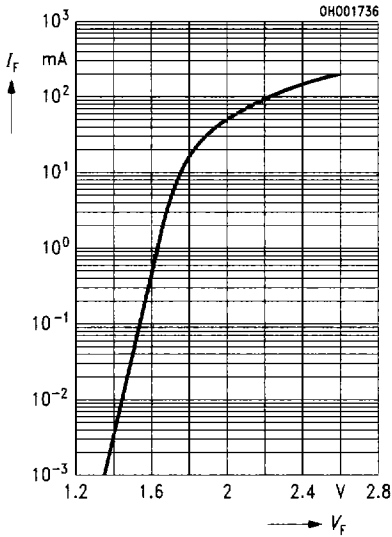
Radiation characteristic



Durchlaßstrom $I_F = f(V_F)$

Forward current

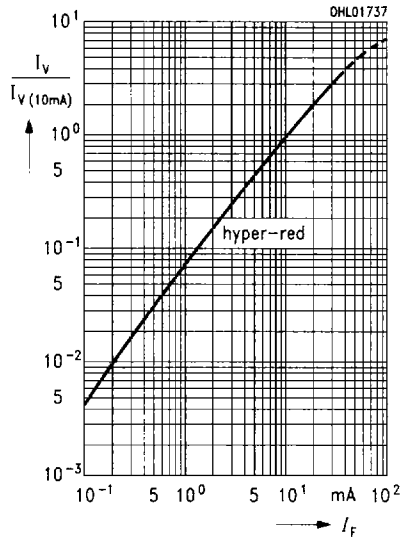
$T_A = 25^\circ\text{C}$



Relative Lichtstärke $I_V/I_{V(10\text{mA})} = f(I_F)$

Relative luminous intensity

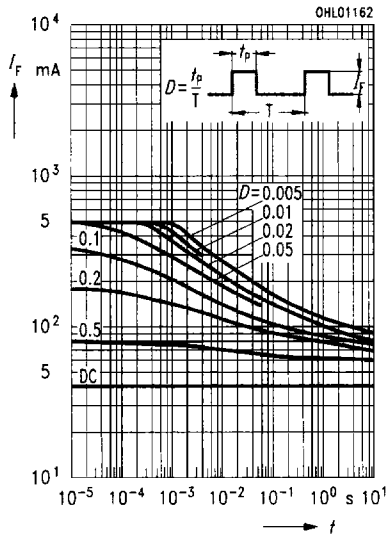
$T_A = 25^\circ\text{C}$



Zulässige Impulsbelastbarkeit $I_F = f(t_p)$

Permissible pulse handling capability

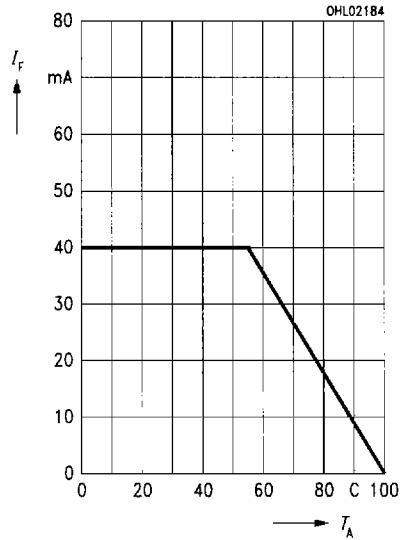
Duty cycle $D = \text{parameter}$, $T_A = 25^\circ\text{C}$



Maximal zulässiger Durchlaßstrom

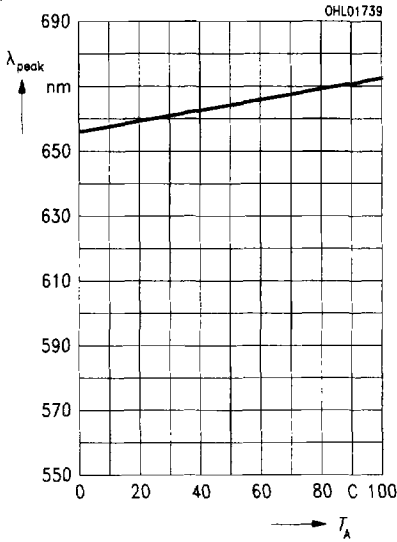
Max. permissible forward current

$I_F = f(T_A)$



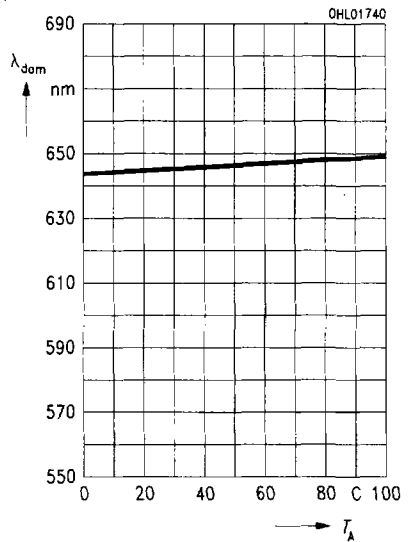
Wellenlänge der Strahlung $\lambda_{\text{peak}} = f(T_A)$
Wavelength at peak emission

$I_F = 20 \text{ mA}$



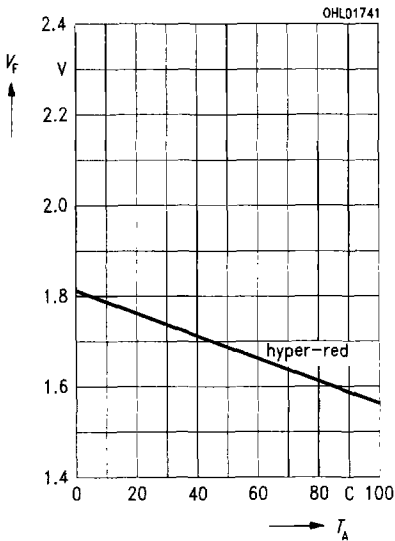
Dominantwellenlänge $\lambda_{\text{dom}} = f(T_A)$
Dominant wavelength

$I_F = 20 \text{ mA}$



Durchlaßspannung $V_F = f(T_A)$
Forward voltage

$I_F = 10 \text{ mA}$



Relative Lichtstärke $I_V/I_{V(25^\circ\text{C})} = f(T_A)$
Relative luminous intensity

$I_F = 10 \text{ mA}$

