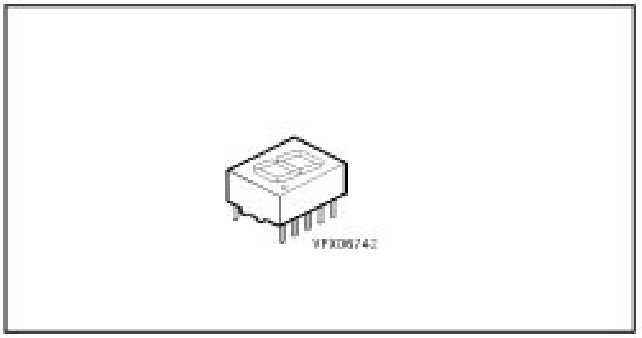
SIEMENS

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 2φ = 50 °
- 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 mA I_V (µcd)	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 °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] $t_P \leq 10$ µs 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 $T_A \leq 45$ °C	P_{tot}	480	mW

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

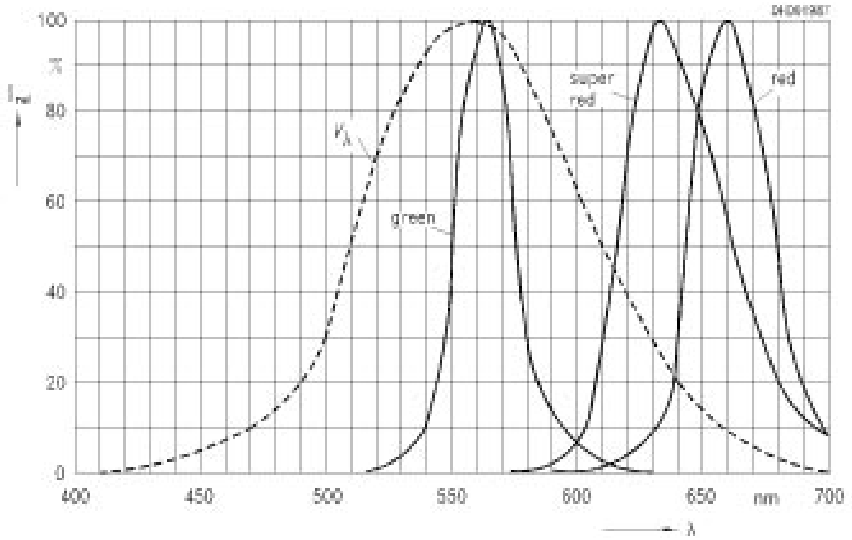
2) Derate maximum average current above T_A = 75 °C at 0.5 mA/°C per segment

Characteristics (T_A = 25 °C)

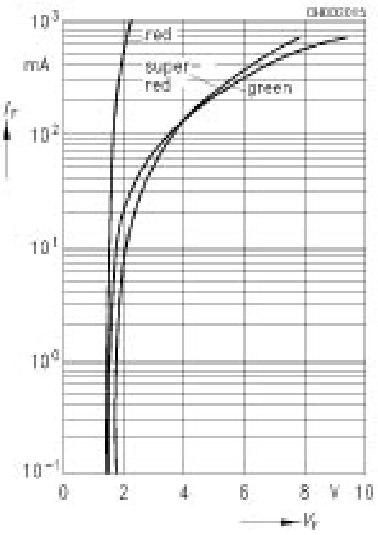
Parameter	Symbol	Values			Unit
		min	typ.	ma	
Luminous intensity per segment, I_F = 10 mA					
HD 1105 R, HD 1107 R	I_V	180	550	-	µcd
HD 1105 O, HD 1107 O	I_V	1100	3500	-	µcd
HD 1105 G, HD 1107 G	I_V	1100	4000	-	µcd
Peak wavelength, I_F = 10 mA					
HD 1105 R, HD 1107 R	λ_{peak}	-	660	-	nm
HD 1105 O,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

*) AQL = 0.4%

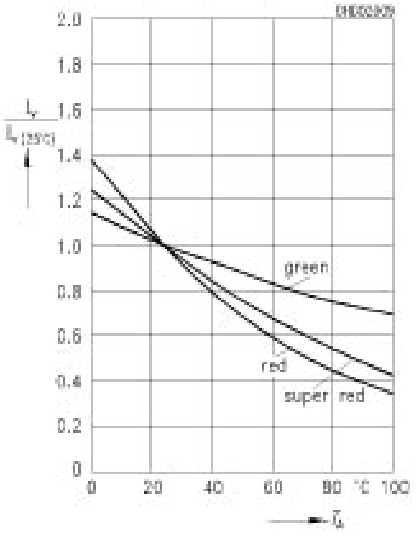
Relative spectral emission $I_{rel} = f(\lambda)$
$V(\lambda)$ = Standard eye response curve



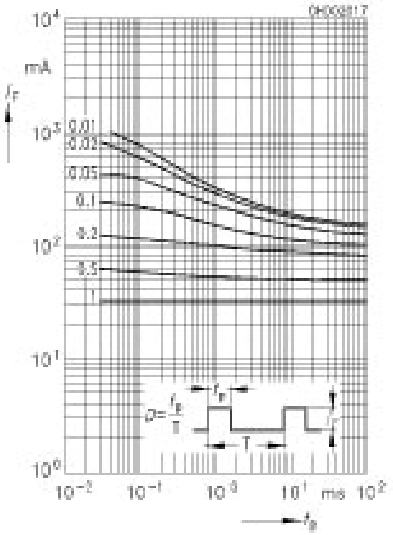
Forward current $I_F = f(V_F)$
T_A = 25 °C



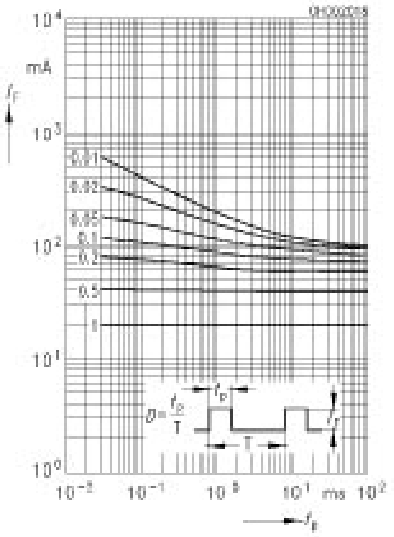
Rel. luminous intensity $I_V/I_{V\,(25\,°C)} = f(T_A)$
I_F = 10 mA



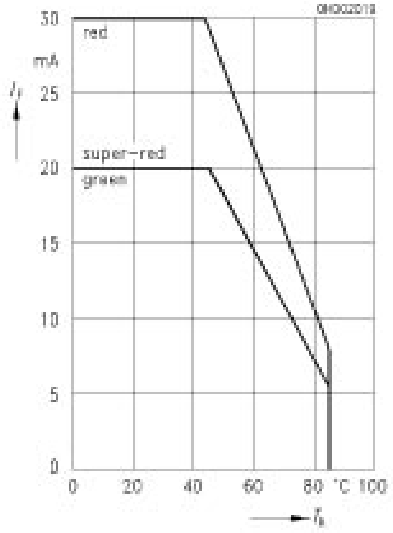
Permissible pulse handling capability
$I_F = f(t_p)$, $T_A \leq 45$ °C
red



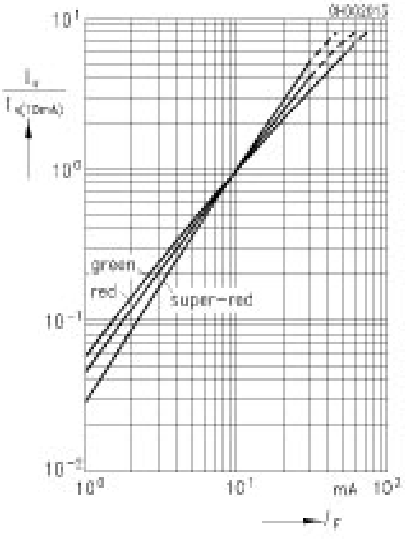
Permissible pulse handling capability
$I_F = f(t_p)$, $T_A \leq 45$ °C
super-red, green



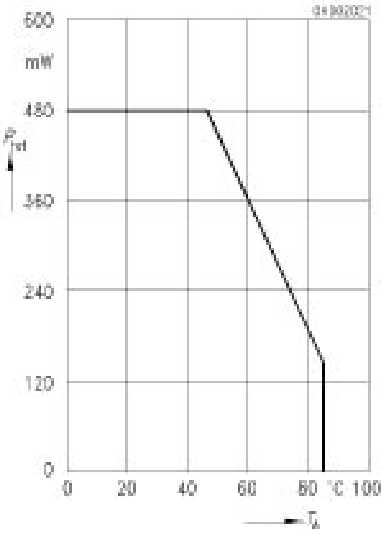
Max. permissible forward current
$I_F = f(T_A)$



Rel. luminous intensity $I_V/I_{V\,(10\,mA)} = f(I_F)$
T_A = 25 °C



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



Package Outlines