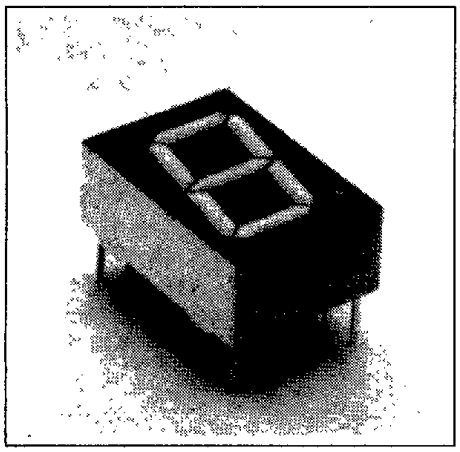
SIEMENS

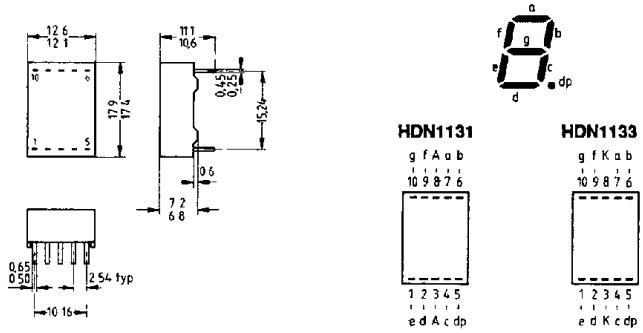
SUPER-RED HDN1131/1133O
GREEN HDN1131/1133G

0.59″ (13 mm) SEVEN SEGMENT NUMERIC DISPLAY LOW CURRENT

T-41-33



Package Dimensions mm



FEATURES

- **Current Consumption 2 mA**
- **Direct Drive by CMOS Microprocessor, Gate and LSTTL Modules**
- **Space Saving**
- **Lower Assembly Costs**
- **No Display and LED Driver Modules**
- **Good Readability in Unfavorable Lighting Conditions**
- **Climate-Proof**
- **High Packing Density**
- **Grey Package for Optimal Contrast**
- **Long Service Life**
- **Shock and Vibration Resistant**
- **Readable over Large Distances**

DESCRIPTION

The HDN1131/1133 are one digit, seven segment, low current LED displays. The character height is 13 mm. The displays are available in super-red and green. Applications include state-of-the-art industrial and consumer electronics, especially where low current consumption is required, e.g. portable appliances and battery-operated appliances.

Maximum Ratings

Total Power Dissipation per Segment or Dot [1] (T_A=80°C) (P_{TOT}) ..... 20 mW
Operating and Storage Temperature Range (T_{OP}, T_{STG}) ..... -40°C to +85°C
Forward Current per Segment or Dot [1] (I_F) ..... 7.5 mA
Surge Current per Segment [1] (t_p≤10 µs, D ≤ 0.005) (I_{FM}) ..... 150 mA
Reverse Voltage (V_R) ..... 6 V
Thermal Resistance (R_{THJA}) ..... 115 K/W
Junction Temperature (T_J) ..... 100°C

Characteristics (T_A=25°C)

Parameter	Symbol	Super-Red	Green	Unit
Wavelength at Peak Emission (I_F=2 mA)	λ_{PEAK}	635	565	nm
Dominant Wavelength (I_F=2 mA)	λ_{DOM}	628	567	nm
Spectral Bandwidth @ 50% I_V (I_F=2 mA)	Δ_λ	45	25	nm
Forward Voltage (I_F=2 mA)	V_F	1.8 (≤2.6)	1.9 (≤2.6)	V
Reverse Current per Segment (V_R=5 V)	I_R	0.01 (≤10)	0.01 (≤10)	µA
Capacitance per Segment (V_R=0 V, f=1 MHz)	C_0	3	15	pF
Switching Times (I_F=25 mA, t_p=1 µs)				
Rise Time from 10% to 90%	t_R	200	450	ns
Fall Time from 90% to 10%	t_F	150	200	ns
Luminous Intensity per Segment [2] (I_F=2 mA)	I_V	600	600	µcd

Notes:
1 This value applies to an ambient temperature of T_A ≤ 80°C
2 Deviation of the absolute values within one digit $\frac{I_{V\,MAX}}{I_{V\,MIN}} \leq 2$.

See graph numbers 1, 2, 3D, 4B, 5B, 6D, 9, 11C on pages 25 – 27