

## Classification of Components Light Intensity / Luminous Flux / Color

LEDs and Displays are classified in light intensity / luminous flux and wavelength groups, describing Min./Max. limits by an alphanumeric code. These groups are not order codes. The group limits include all measurement tolerances and every packing unit includes one group only, unless specified otherwise.

### Classification of LEDs

(except SMD LEDs, TLM. –series,  
TELUX™, TLW. –series,  
7–Segment–Displays, TD.. –series)

Group	Light Intensity [mcd] / Luminous Flux [mlm]	
	Min	Max
F	0.1	0.2
G	0.16	0.32
H	0.25	0.5
I	0.4	0.8
K	0.63	1.25
L	1.0	2.0
M	1.6	3.2
N	2.5	5.0
P	4.0	8.0
Q	6.3	12.5
R	10	20
S	16	32
T	25	50
U	40	80
V	63	125
W	100	200
X	130	260
Y	180	360
Z	240	480
AA	320	640
BB	430	860
CC	575	1150
DD	750	1500
EE	1000	2000
FF	1350	2700
GG	1800	3600
HH	2400	4800
II	3200	6400
KK	4300	8600

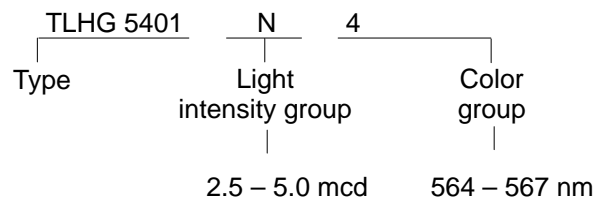
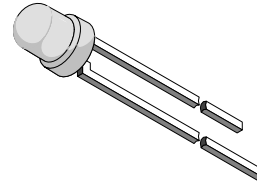
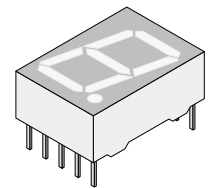


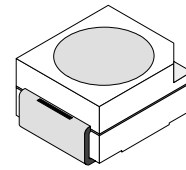
Figure 1. Example for labelling of components and packing materials

### Classification of 7–Segment–Display



Group	Light Intensity [μcd]	
	Min.	Max.
C	70	140
D	110	220
E	180	360
F	280	560
G	450	900
H	700	1400
I	1100	2200
K	1800	3600
L	2800	5600
M	4500	9000
N	7000	14000

## Classification of SMD LEDs TLM.31..-series



Group		Light Intensity [mcd]	
Standard	Optional	Min	Max
L	a	1	1.6
	b	1.25	2
M	a	1.6	2.5
	b	2	3.2
N	a	2.5	4
	b	3.2	5
P	a	4	6.3
	b	5	8
Q	a	6.3	10
	b	8	12.5
R	a	10	16
	b	12.5	20
S	a	16	25
	b	20	32
T	a	25	40
	b	32	50
U	a	40	63
	b	50	80
V	a	63	100
	b	80	125
W	a	100	160
	b	125	200
X	a	160	250
	b	200	320
Y	a	250	400
	b	320	500
Z	a	400	630
	b	500	800
0	a	630	1000
	b	800	1250
1	a	1000	1600
	b	1250	2000
2	a	1600	2500
	b	2000	3200

**Standard:** matching factor  
 $I_{VMin.} / I_{VMax.} = 1 : 2$

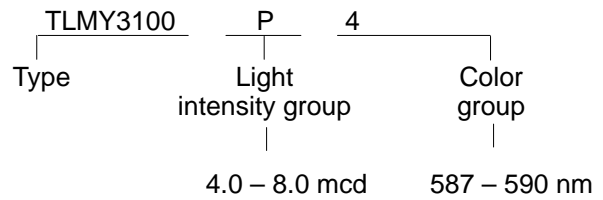


Figure 2. Example for labelling of components and packing materials

**Optional:** matching factor  
 $I_{VMin.} / I_{VMax.} = 1 : 1.6$  (Halfgroups)  
 available on request

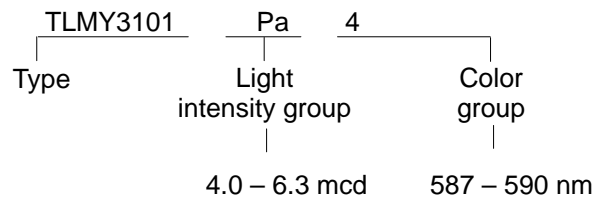
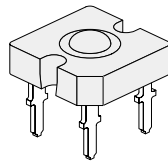


Figure 3. Example for labelling of components and packing materials

### Classification of TELUX™



#### Luminous Flux Classification

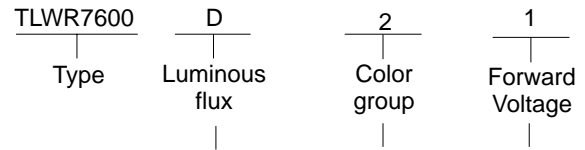
Group	Luminous Flux [lm]	
	Min.	Max.
9	80	125
8	100	160
7	125	200
6	160	250
5	200	320
4	250	400
3	320	500
2	400	630
1	500	800
0	630	1000
A	800	1250
B	1000	1800
C	1500	2400
D	2000	3000
E	2500	3600
F	3000	4200
G	3500	4800
H	4000	6100
I	5000	7300
K	6000	9700
L	7000	12200
M	8000	15000

#### Color Classification

Group	Dom. Wavelength [nm]			
	Min.	Max.	Min.	Max.
	TLWR		TLWY	
0			585	588
1	611	618	587	591
2	614	622	589	594
3	616	634	592	597

#### Forward Voltage Classification

Group	Forward Voltage [V]	
	Min.	Max.
Y	1.83	2.07
Z	1.95	2.19
0	2.07	2.31
1	2.19	2.43
2	2.31	2.55
3	2.43	2.67
4	2.55	2.79



2.0 – 3.0 lm    614 – 622 nm    2.19 – 2.43 V

Figure 4. Example for labelling of components and packing materials

