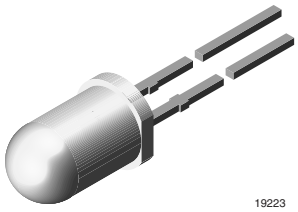
Low Current LED in Ø 5 mm Tinted Diffused Package



FEATURES

- Low power consumption
- High brightness
- CMOS/MOS compatible
- Specified at I_F = 2 mA
- Luminous intensity categorized
- Yellow and green color categorized
- Compliant to RoHS directive 2002/95/EC and in accordance to WEEE 2002/96/EC

Pb-free

e3

RoHS COMPLIANT

PRODUCT GROUP AND PACKAGE DATA

- Product group: LED
- Package: 5 mm
- Product series: low current
- Angle of half intensity: ± 25°

APPLICATIONS

- Low power DC circuits

PARTS TABLE		
PART	**COLOR, LUMINOUS INTENSITY**	**TECHNOLOGY**
TLLR5400	Red, I_V > 0.63 mcd	GaAsP on GaP
TLLR5401	Red, I_V > 1 mcd	GaAsP on GaP
TLLY5400	Yellow, I_V > 0.63 mcd	GaAsP on GaP
TLLY5401	Yellow, I_V > 1 mcd	GaAsP on GaP
TLLG5400	Green, I_V > 0.63 mcd	GaP on GaP
TLLG5400-AS12	Green, I_V > 0.63 mcd	GaP on GaP
TLLG5401	Green, I_V > 1 mcd	GaP on GaP

ABSOLUTE MAXIMUM RATINGS [1] TLL.540.				
PARAMETER	**TEST CONDITION**	**SYMBOL**	**VALUE**	**UNIT**
Reverse voltage		V_R	6	V
DC forward current	$T_{amb} \leq 90$ °C	I_F	7	mA
Surge forward current	$t_p \leq 10$ µs	I_{FSM}	0.15	A
Power dissipation	$T_{amb} \leq 90$ °C	P_V	20	mW
Junction temperature		T_j	100	°C
Operating temperature range		T_{amb}	- 40 to + 100	°C
Storage temperature range		T_{stg}	- 55 to + 100	°C
Soldering temperature	t ≤ 5 s, 2 mm from body	T_{sd}	260	°C
Thermal resistance junction/ ambient		R_{thJA}	500	K/W

Note:
[1] T_{amb} = 25 °C, unless otherwise specified

OPTICAL AND ELECTRICAL CHARACTERISTICS [1] TLLR540., RED							
PARAMETER	**TEST CONDITION**	**PART**	**SYMBOL**	**MIN.**	**TYP.**	**MAX.**	**UNIT**
Luminous intensity [2]	I_F = 2 mA	TLLR5400	I_V	0.63	1.2		mcd
		TLLR5401	I_V	1	2		mcd
Dominant wavelength	I_F = 2 mA		λ_d	612		625	nm
Peak wavelength	I_F = 2 mA		λ_p		635		nm
Angle of half intensity	I_F = 2 mA		φ		± 25		deg
Forward voltage	I_F = 2 mA		V_F		1.9	2.4	V
Reverse voltage	I_R = 10 µA		V_R	6	20		V
Junction capacitance	V_R = 0, f = 1 MHz		C_j		50		pF

Notes:
[1] T_{amb} = 25 °C, unless otherwise specified
[2] In one packing unit $I_{Vmin.}/I_{Vmax.} \leq 0.5$

OPTICAL AND ELECTRICAL CHARACTERISTICS [1] TLLY540., YELLOW							
PARAMETER	**TEST CONDITION**	**PART**	**SYMBOL**	**MIN.**	**TYP.**	**MAX.**	**UNIT**
Luminous intensity [2]	I_F = 2 mA	TLLY5400	I_V	0.63	1.2		mcd
		TLLY5401	I_V	1	2		mcd
Dominant wavelength	I_F = 2 mA		λ_d	581		594	nm
Peak wavelength	I_F = 2 mA		λ_p		585		nm
Angle of half intensity	I_F = 2 mA		φ		± 25		deg
Forward voltage	I_F = 2 mA		V_F		2.4	2.9	V
Reverse voltage	I_R = 10 µA		V_R	6	20		V
Junction capacitance	V_R = 0, f = 1 MHz		C_j		50		pF

Notes:
[1] T_{amb} = 25 °C, unless otherwise specified
[2] In one packing unit $I_{Vmin.}/I_{Vmax.} \leq 0.5$

OPTICAL AND ELECTRICAL CHARACTERISTICS [1] TLLG540., GREEN							
PARAMETER	**TEST CONDITION**	**PART**	**SYMBOL**	**MIN.**	**TYP.**	**MAX.**	**UNIT**
Luminous intensity [2]	I_F = 2 mA	TLLG5400	I_V	0.63	1.2		mcd
		TLLG5401	I_V	1	2		mcd
Dominant wavelength	I_F = 2 mA		λ_d	562		575	nm
Peak wavelength	I_F = 2 mA		λ_p		565		nm
Angle of half intensity	I_F = 2 mA		φ		± 25		deg
Forward voltage	I_F = 2 mA		V_F		1.9	2.4	V
Reverse voltage	I_R = 10 µA		V_R	6	20		V
Junction capacitance	V_R = 0, f = 1 MHz		C_j		50		pF

Notes:
[1] T_{amb} = 25 °C, unless otherwise specified
[2] In one packing unit $I_{Vmin.}/I_{Vmax.} \leq 0.5$

TYPICAL CHARACTERISTICS

T_{amb} = 25 °C, unless otherwise specified

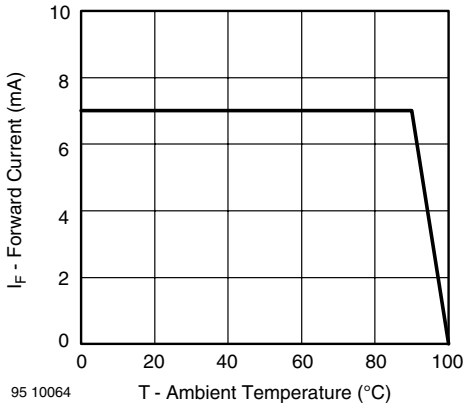


Figure 1. Forward Current vs. Ambient Temperature

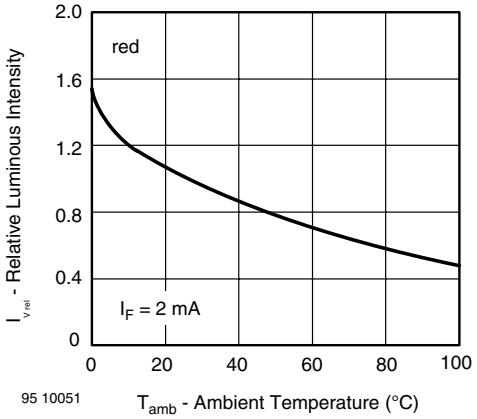


Figure 4. Rel. Luminous Intensity vs. Ambient Temperature

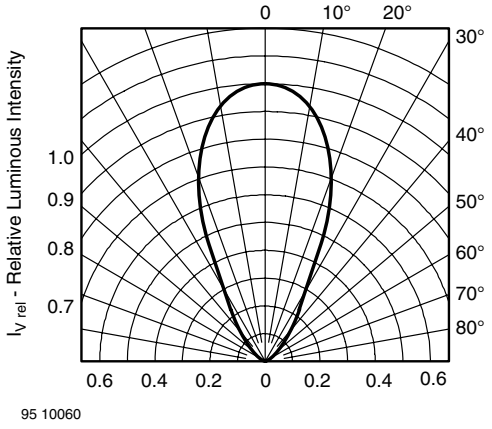


Figure 2. Rel. Luminous Intensity vs. Angular Displacement

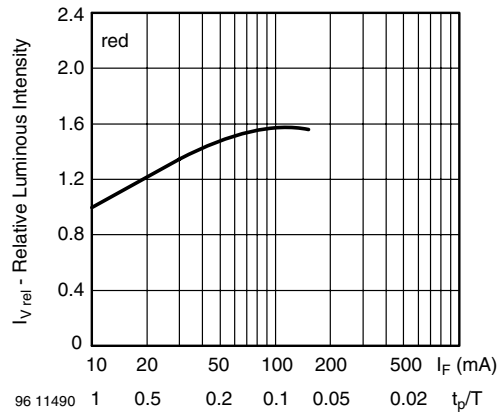


Figure 5. Rel. Lumin. Intensity vs. Forw. Current/Duty Cycle

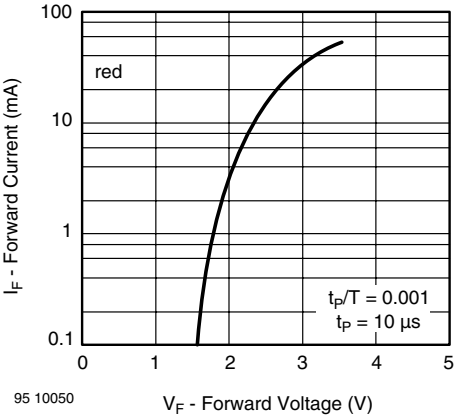


Figure 3. Forward Current vs. Forward Voltage

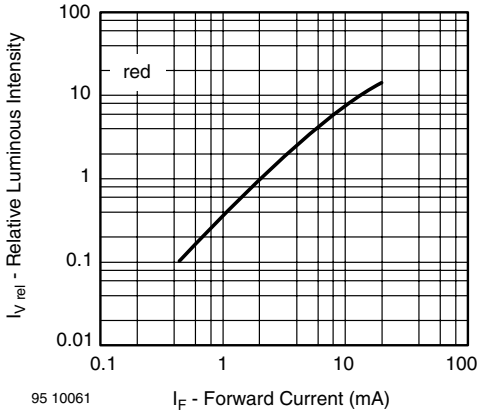


Figure 6. Relative Luminous Intensity vs. Forward Current

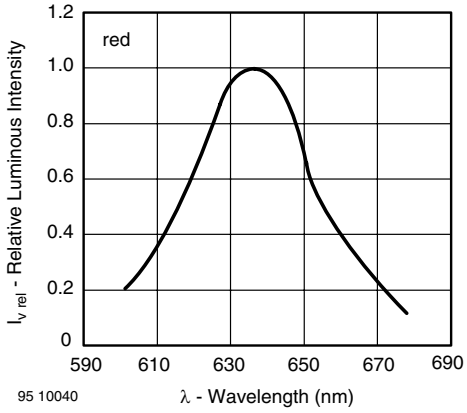


Figure 7. Relative Intensity vs. Wavelength

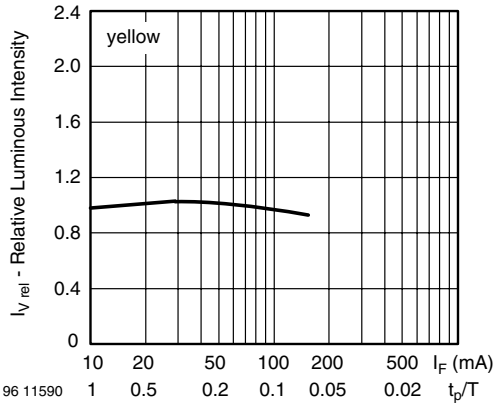


Figure 10. Rel. Lumin. Intensity vs. Forw. Current/Duty Cycle

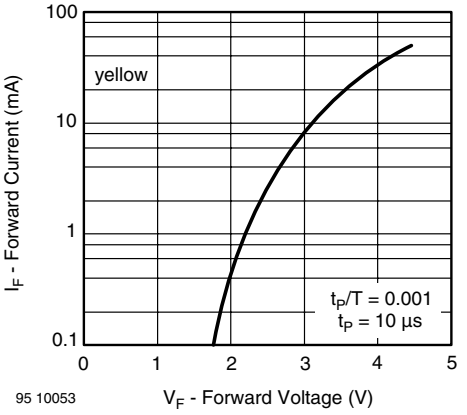


Figure 8. Forward Current vs. Forward Voltage

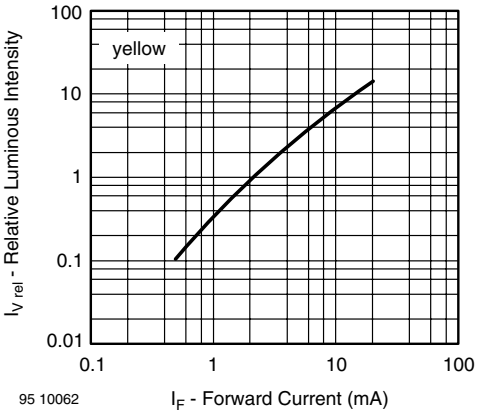


Figure 11. Relative Luminous Intensity vs. Forward Current

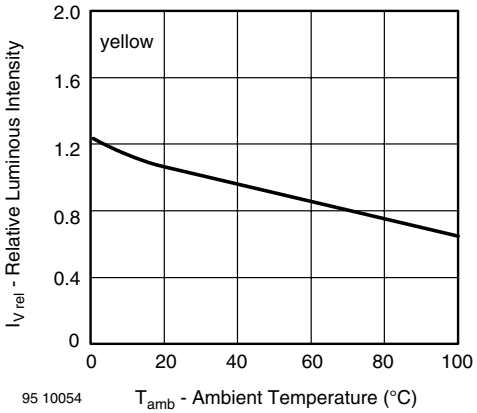


Figure 9. Rel. Luminous Intensity vs. Ambient Temperature

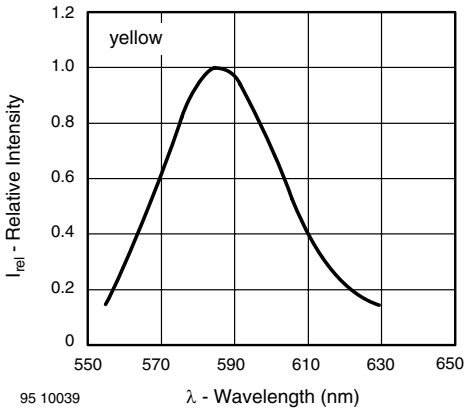


Figure 12. Relative Intensity vs. Wavelength

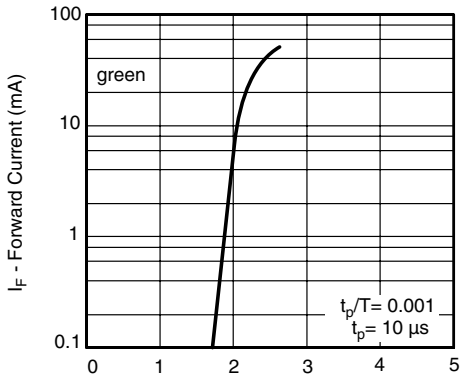


Figure 13. Forward Current vs. Forward Voltage

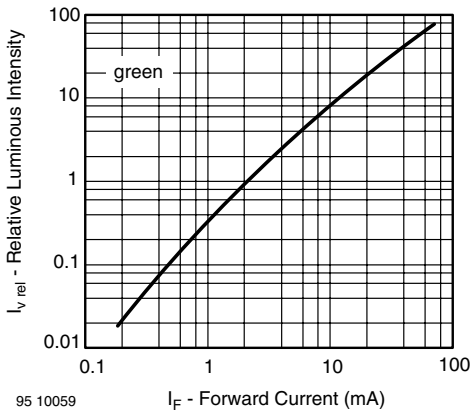


Figure 16. Relative Luminous Intensity vs. Forward Current

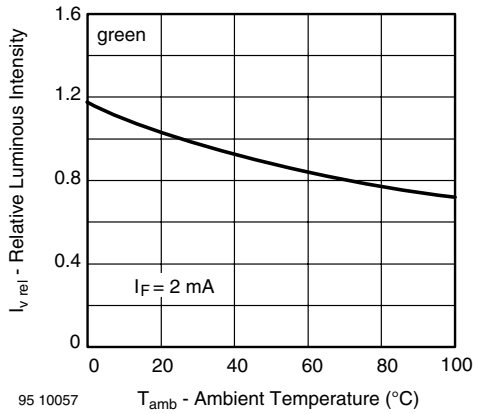


Figure 14. Rel. Luminous Intensity vs. Ambient Temperature

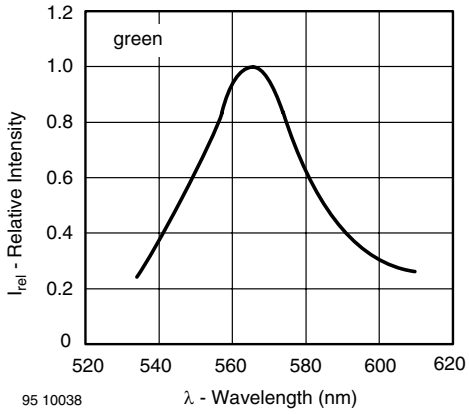


Figure 17. Relative Intensity vs. Wavelength

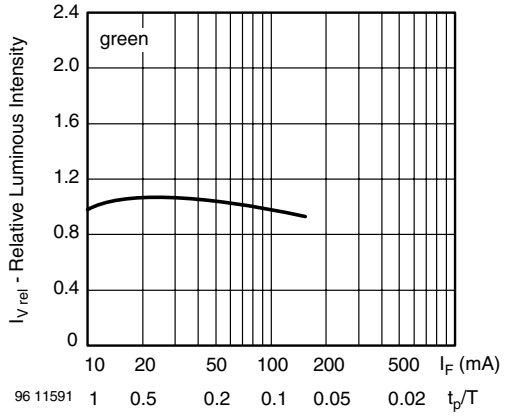
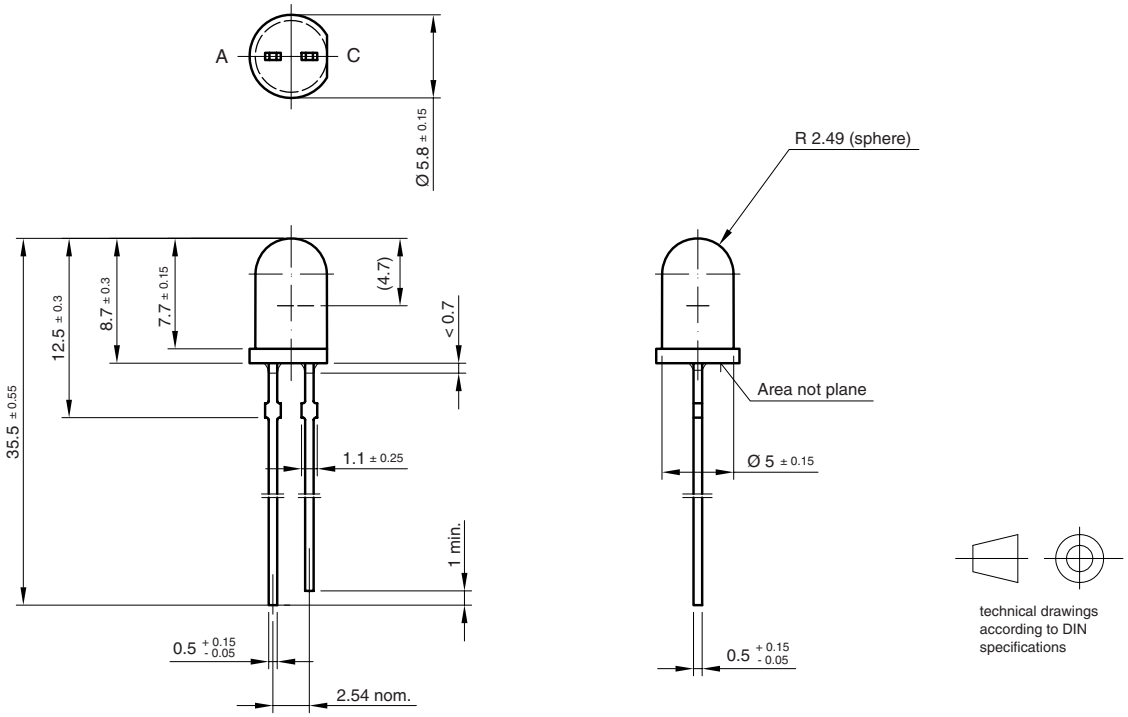


Figure 15. Rel. Lumin. Intensity vs. Forw. Current/Duty Cycle

PACKAGE DIMENSIONS in millimeters



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REEL

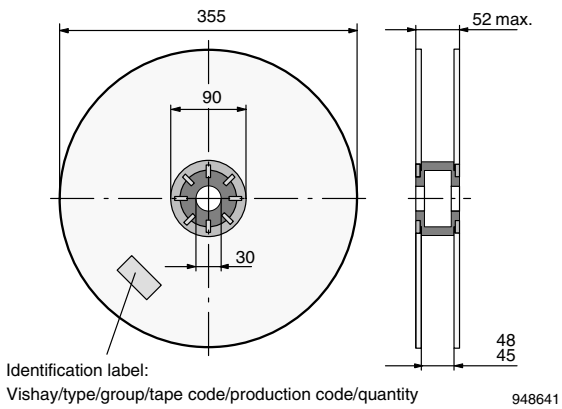


Figure 18. Reel Dimensions

TAPE

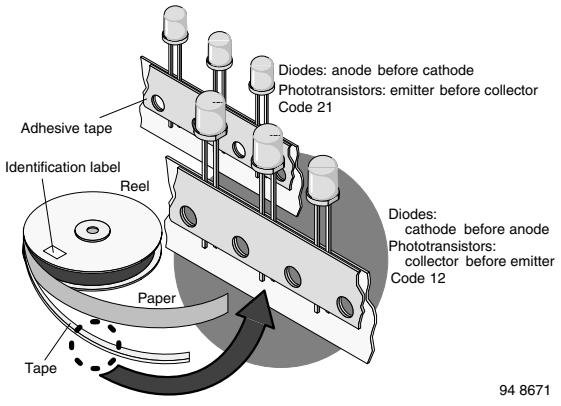
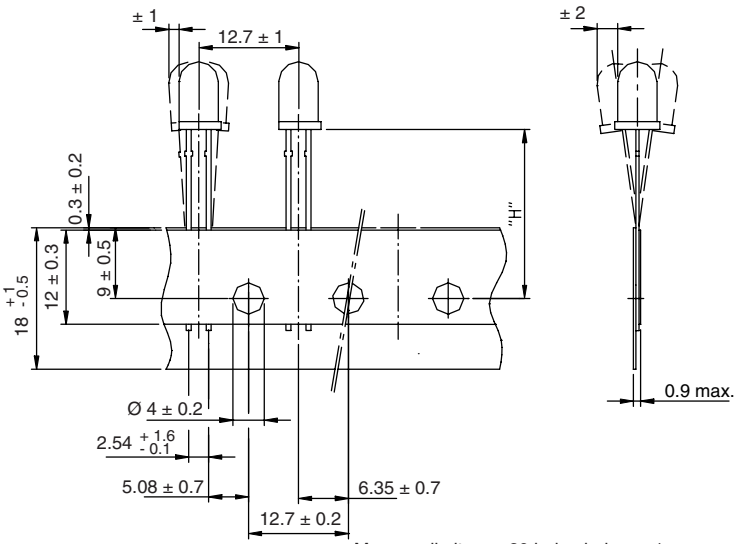


Figure 19. LED in Tape

AS12 = cathode leaves tape first

TAPE DIMENSIONS



Measure limit over 20 index-holes: ± 1

Quantity per:	Reel (Mat.-no. 1764)
	1000

94 8172

Option	Dim. "H" ± 0.5 mm
AS	17.3

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