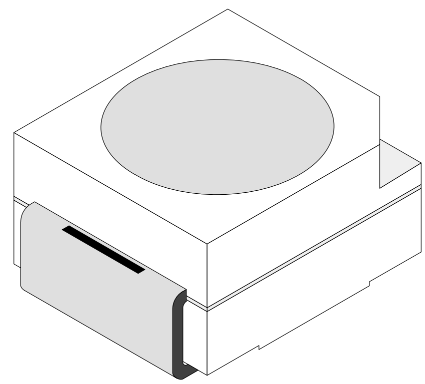
TLMV3100

Multicolor SMT LED

Color	Type	Technology	Angle of half intensity ±φ
High efficiency red	TLMH3100	GaAsP on GaP	60°
Green	TLMG3100	GaP on GaP	

Description

These devices have been designed to meet the increasing demand for surface mounting technology.
The package of the TLMV3100 is the PL–CC–2 (equivalent to a size B tantalum capacitor).
It consists of a lead frame which is surrounded with a white thermoplast. The reflector inside this package is filled up with clear epoxy.
This new SMT device consists of a red and green chip. So it is possible to choose the color in one device.


94 8553

Features

- SMT LEDs with exceptional brightness
- Multicolored
- Luminous intensity categorized
- Compatible with automatic placement equipment
- EIA and ICE standard package
- Compatible with infrared, vapor phase and wave solder processes according to CECC
- Available in 8 mm tape
- Low profile package
- Non diffused lens: excellent for coupling to light pipes and backlighting
- Low power consumption
- Luminous intensity ratio in one packaging unit $I_{Vmax}/I_{Vmin} \leqq 2.0$

Applications

Automotive: backlighting in dashboards and switches
Telecommunication: indicator and backlighting in telephone and fax
Indicator and backlight for audio and video equipment
Indicator and backlight in office equipment
Flat backlight for LCDs, switches and symbols
General use

Absolute Maximum Ratings

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

TLMH3100 , **TLMG3100**

Parameter	Test Conditions	Type	Symbol	Value	Unit
Reverse voltage per periode	I_R = 10 μA		V_R	6	V
DC forward current per periode	T_{amb} ≤ 60˚C		I_F	30	mA
Surge forward current per periode	t_p ≤ 10 μs		I_{FSM}	0.5	A
Power dissipation per periode	T_{amb} ≤ 60˚C		P_V	100	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		T_{sd}	260	˚C
Thermal resistance junction/ambient	mounted on PC board (pad size > 16 mm^2)		R_{thJA}	400	K/W

Optical and Electrical Characteristics

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

High efficiency red (**TLMH3100**)

Parameter	Test Conditions	Type	Symbol	Min	Typ	Max	Unit
Luminous intensity	I_F = 10 mA		I_V	2.5	6		mcd
Dominant wavelength	I_F = 10 mA		λ_d	612		625	nm
Peak wavelength	I_F = 10 mA		λ_p		635		nm
Angle of half intensity	I_F = 10 mA		φ		±60		deg
Forward voltage per periode	I_F = 10 mA		V_F			3	V
Reverse current per periode	V_R = 6 V		I_R			10	μA
Junction capacitance per periode	V_R = 0, f = 1 MHz		C_j		15		pF

Green (**TLMG3100**)

Parameter	Test Conditions	Type	Symbol	Min	Typ	Max	Unit
Luminous intensity	I_F = 10 mA		I_V	2.5	6		mcd
Dominant wavelength	I_F = 10 mA		λ_d	562		575	nm
Peak wavelength	I_F = 10 mA		λ_p		565		nm
Angle of half intensity	I_F = 10 mA		φ		±60		deg
Forward voltage per periode	I_F = 10 mA		V_F			3	V
Reverse current per periode	V_R = 6 V		I_R			10	μA
Junction capacitance per periode	V_R = 0, f = 1 MHz		C_j		15		pF

Typical Characteristics (T_{amb} = 25°C, unless otherwise specified)

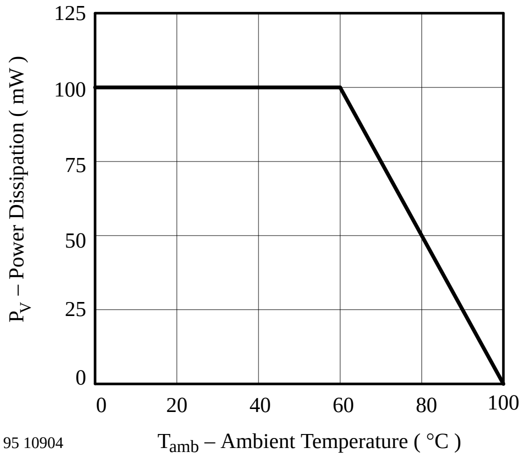


Figure 1. Power Dissipation vs. Ambient Temperature

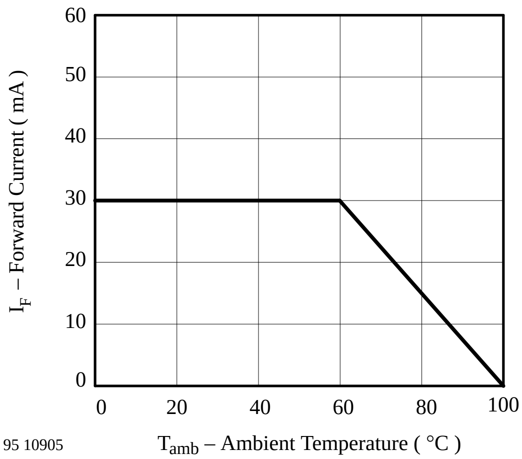


Figure 2. Forward Current vs. Ambient Temperature

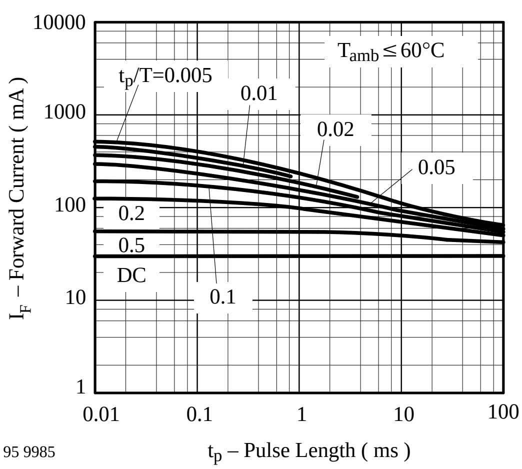


Figure 3. Forward Current vs. Pulse Length

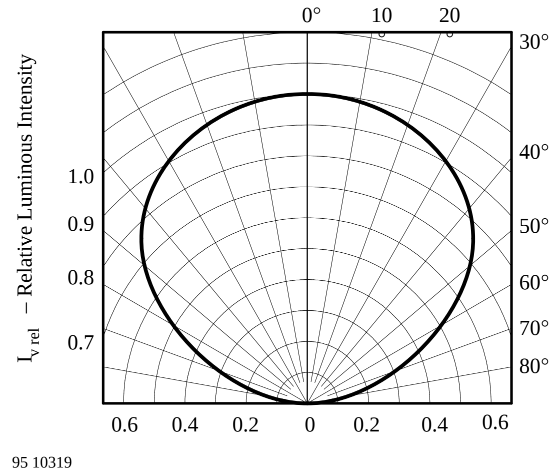


Figure 4. Rel. Luminous Intensity vs. Angular Displacement

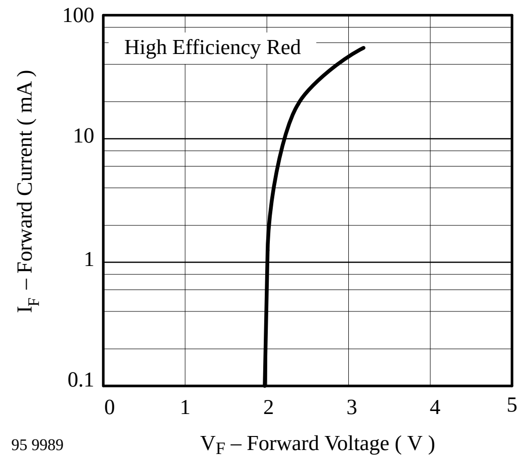


Figure 5. Forward Current vs. Forward Voltage

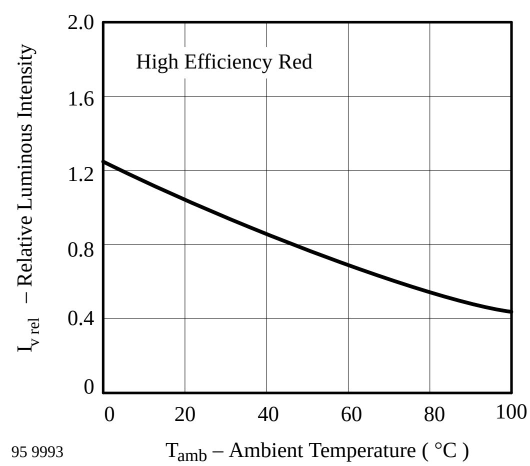


Figure 6. Rel. Luminous Intensity vs. Ambient Temperature

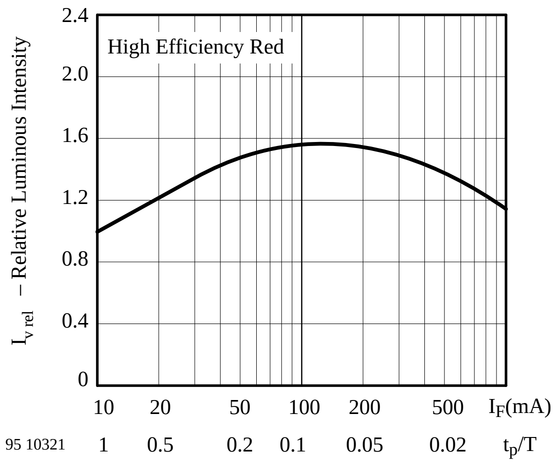


Figure 7. Rel. Lumin. Intensity vs. Forw. Current/Duty Cycle

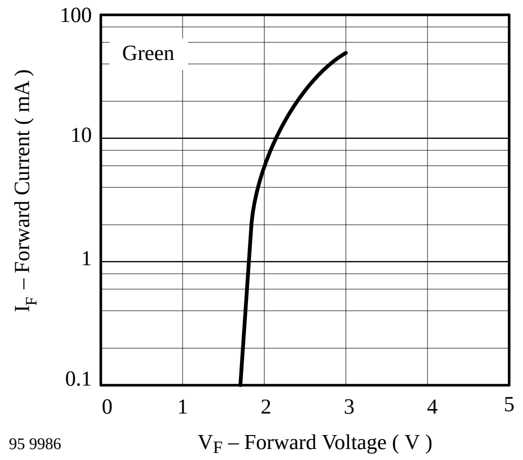


Figure 10. Forward Current vs. Forward Voltage

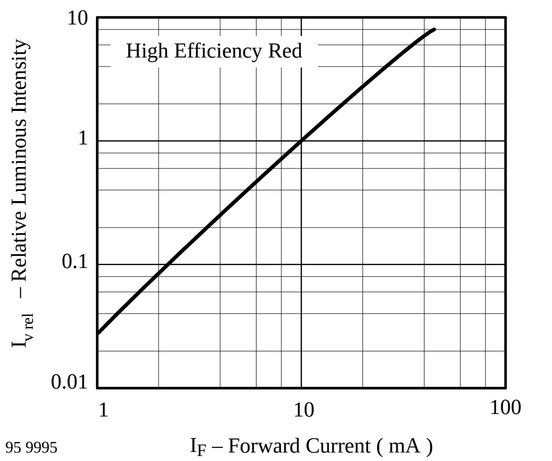


Figure 8. Relative Luminous Intensity vs. Forward Current

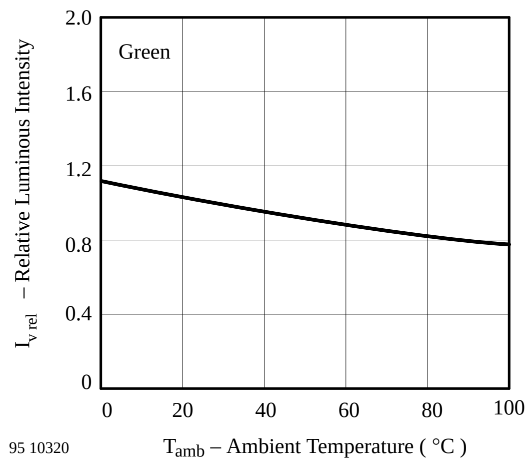


Figure 11. Rel. Luminous Intensity vs. Ambient Temperature

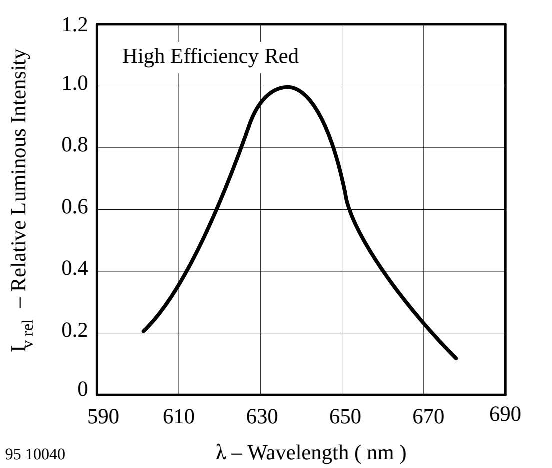


Figure 9. Relative Luminous Intensity vs. Wavelength

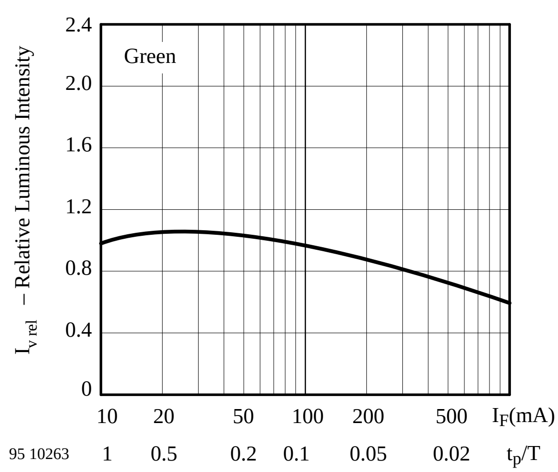


Figure 12. Rel. Lumin. Intensity vs. Forw. Current/Duty Cycle

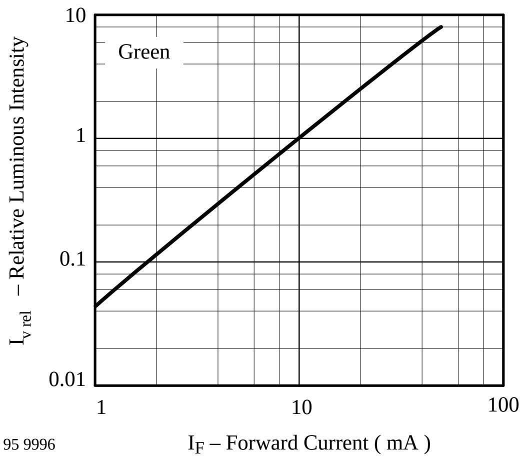


Figure 13. Relative Luminous Intensity vs. Forward Current

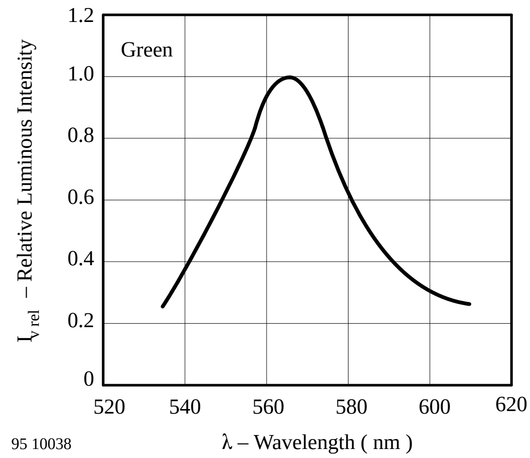
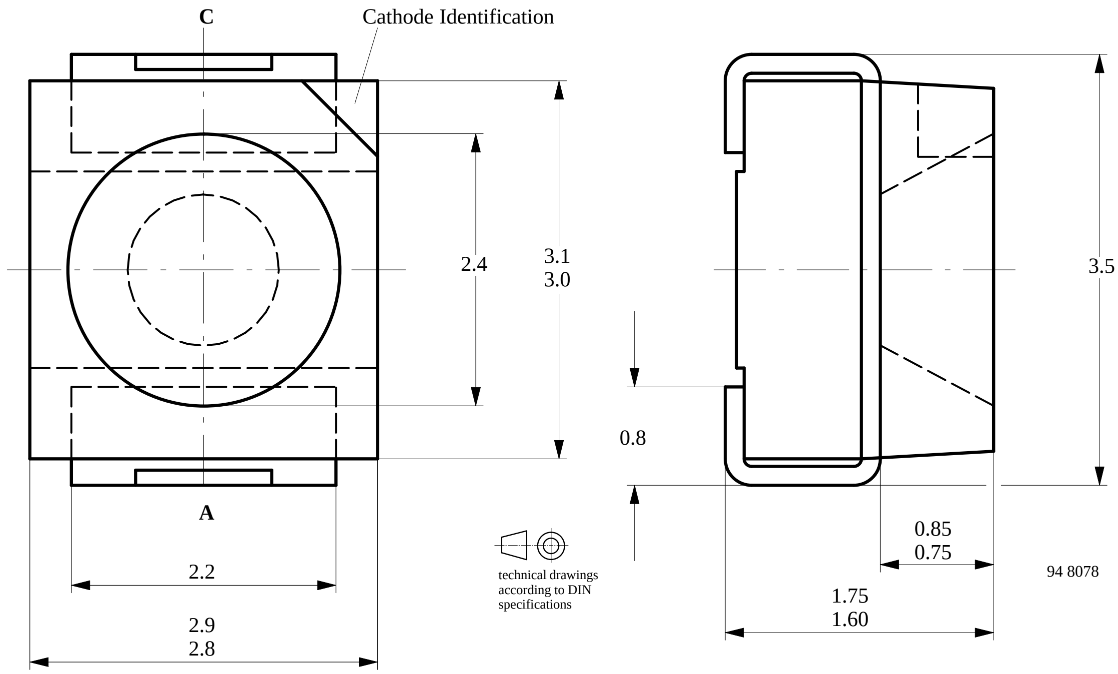
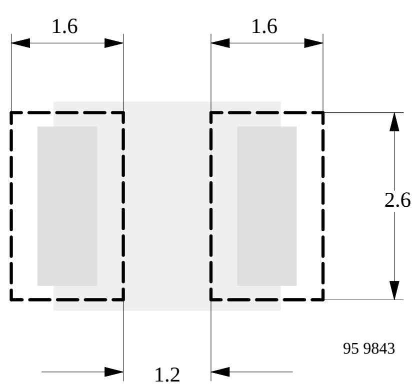


Figure 14. Relative Luminous Intensity vs. Wavelength

Dimensions in mm



PCB Layout in mm



Ozone Depleting Substances Policy Statement

It is the policy of **TEMIC TELEFUNKEN microelectronic GmbH** to

1. Meet all present and future national and international statutory requirements.

2. Regularly and continuously improve the performance of our products, processes, distribution and operating systems with respect to their impact on the health and safety of our employees and the public, as well as their impact on the environment.

It is particular concern to control or eliminate releases of those substances into the atmosphere which are known as ozone depleting substances (ODSs).

The Montreal Protocol (1987) and its London Amendments (1990) intend to severely restrict the use of ODSs and forbid their use within the next ten years. Various national and international initiatives are pressing for an earlier ban on these substances.

TEMIC TELEFUNKEN microelectronic GmbH semiconductor division has been able to use its policy of continuous improvements to eliminate the use of ODSs listed in the following documents.

1. Annex A, B and list of transitional substances of the Montreal Protocol and the London Amendments respectively

2. Class I and II ozone depleting substances in the Clean Air Act Amendments of 1990 by the Environmental Protection Agency (EPA) in the USA

3. Council Decision 88/540/EEC and 91/690/EEC Annex A, B and C (transitional substances) respectively.

TEMIC can certify that our semiconductors are not manufactured with ozone depleting substances and do not contain such substances.

TEMIC TELEFUNKEN microelectronic GmbH, P.O.B. 3535, D-74025 Heilbronn, Germany
Telephone: 49 (0)7131 67 2831, Fax number: 49 (0)7131 67 2423