TLM.2200

656-987

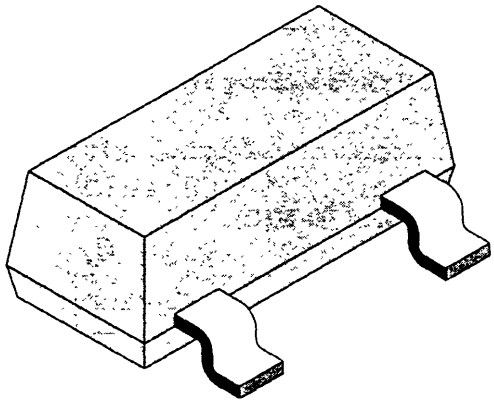
TEMIC
TELEFUNKEN Semiconductors

SMD LED in Tinted Diffused SOT23 Package

Color	Type	Technology	Angle of Half Intensity ±φ
High efficiency red	TLMR2200	GaAsP on GaP	70°
Yellow	TLMY2200	GaAsP on GaP	
Green	TLMG2200	GaP on GaP	

Description

The TLM.2200 series is suitable for very flat backlighting applications like key pad illumination or indicatior displays.
The wide viewing angle allows users to assemble LEDs with uniform appearance.



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Features

- Standard SOT 23 package
- Especially for surface mounting on printed boards
- Luminous intensity categorized
- Yellow and green color categorized
- Small mechanical tolerances
- Suitable for DC and high peak current

Applications

Status lights
OFF / ON indicator
Background illumination
Readout lights
Maintenance lights
Legend light
Backlighting

Absolute Maximum Ratings

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

TLMR2200 .TLMY2200 ,TLMG2200

Parameter	Test Conditions	Type	Symbol	Value	Unit
Reverse voltage			V_R	6	V
DC forward current			I_F	23	mA
Surge forward current	$t_p \leq 10$ µs		I_{FSM}	1	A
Power dissipation	$T_{amb} \leq 30$°C		P_V	70	mW
Junction temperature			T_j	100	°C
Storage temperature range			T_{stg}	–55 to +100	°C
Soldering temperature	t ≤ 5 s		T_{sd}	240	°C
Thermal resistance junction/ambient			R_{thJA}	1000	K/W

Optical and Electrical Characteristics

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

High efficiency red (TLMR2200)

Parameter	Test Conditions	Type	Symbol	Min	Typ	Max	Unit
Luminous intensity	I_F = 10 mA		I_V	1	1.6		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		±70		deg
Forward voltage	I_F = 20 mA		V_F		2	3	V
Reverse voltage	I_R = 10 µA		V_R	6	15		V
Junction capacitance	V_R = 0, f = 1 MHz		C_j		50		pF

Yellow (TLMY2200)

Parameter	Test Conditions	Type	Symbol	Min	Typ	Max	Unit
Luminous intensity	I_F = 10 mA		I_V	0.4	0.63		mcd
Dominant wavelength	I_F = 10 mA		λ_d	581		594	nm
Peak wavelength	I_F = 10 mA		λ_p		585		nm
Angle of half intensity	I_F = 10 mA		φ		±70		deg
Forward voltage	I_F = 20 mA		V_F		2.4	3	V
Reverse voltage	I_R = 10 µA		V_R	6	15		V
Junction capacitance	V_R = 0, f = 1 MHz		C_j		50		pF

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Green (TLMG2200)

Parameter	Test Conditions	Type	Symbol	Min	Typ	Max	Unit
Luminous intensity	I_F = 10 mA		I_V	0.4	0.63		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		±70		deg
Forward voltage	I_F = 20 mA		V_F		2.4	3	V
Reverse voltage	I_R = 10 µA		V_R	6	15		V
Junction capacitance	V_R = 0, f = 1 MHz		C_j		50		pF

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

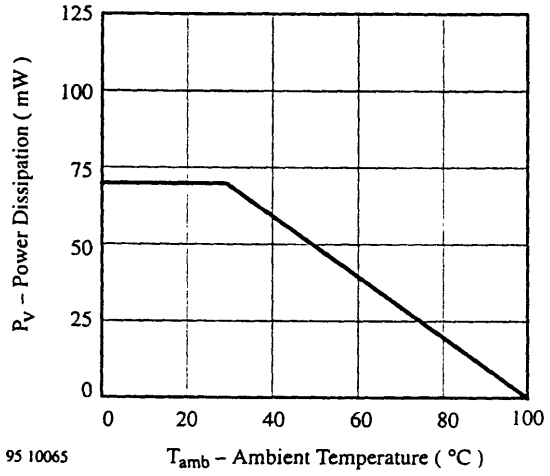

Figure 1. Power Dissipation vs. Ambient Temperature

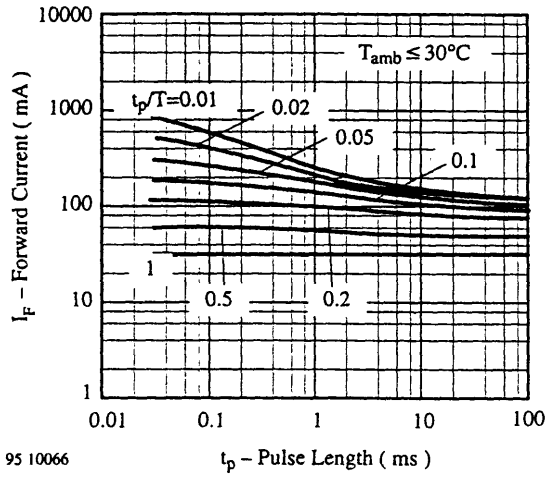

Figure 3. Forward Current vs. Pulse Length

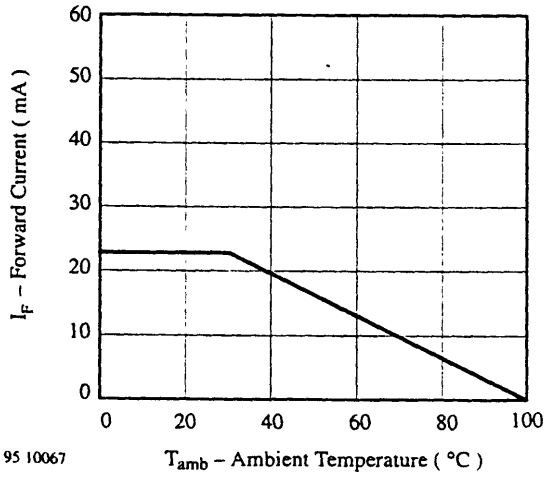

Figure 2. Forward Current vs. Ambient Temperature

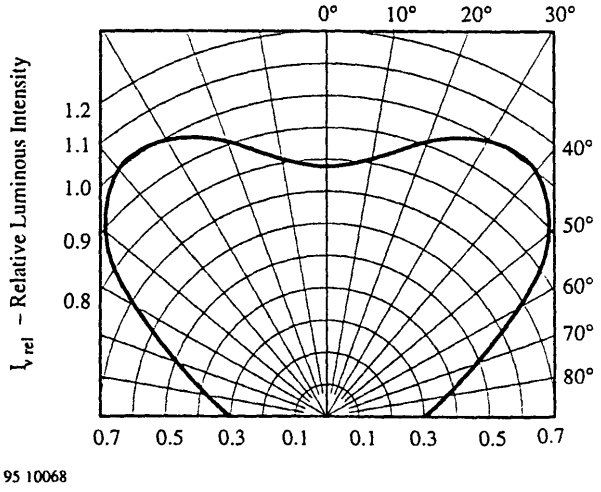

Figure 4. Rel. Luminous Intensity vs. Angular Displacement

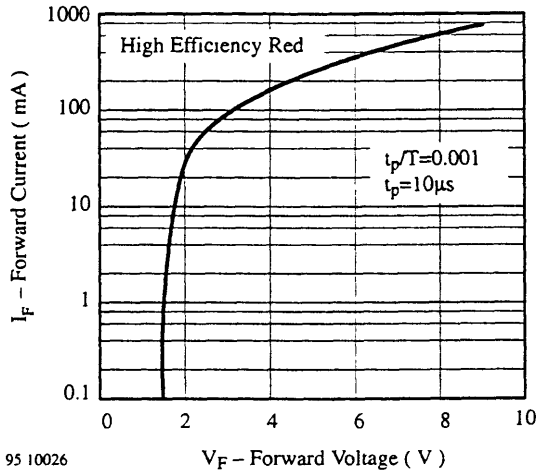

Figure 5. Forward Current vs. Forward Voltage

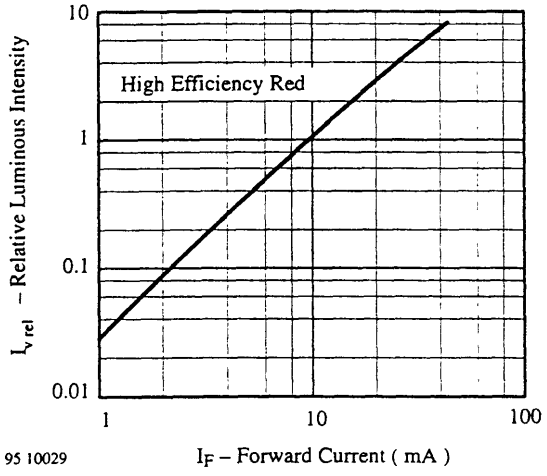

Figure 8. Relative Luminous Intensity vs. Forward Current

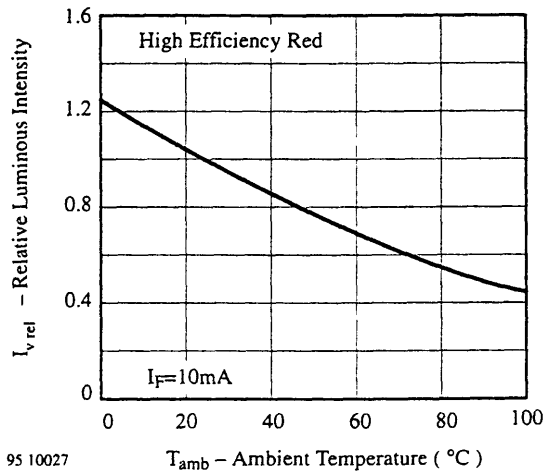

Figure 6. Rel. Luminous Intensity vs. Ambient Temperature

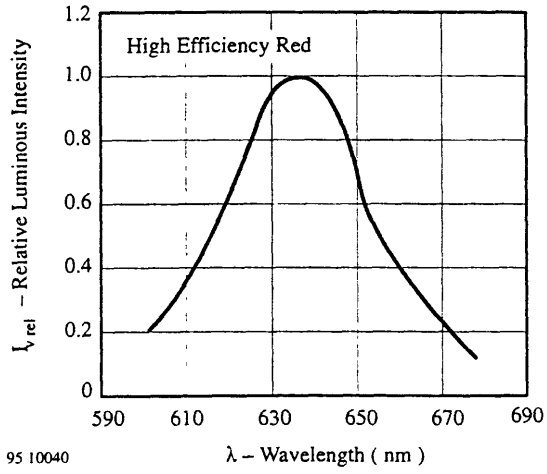

Figure 9. Relative Luminous Intensity vs. Wavelength

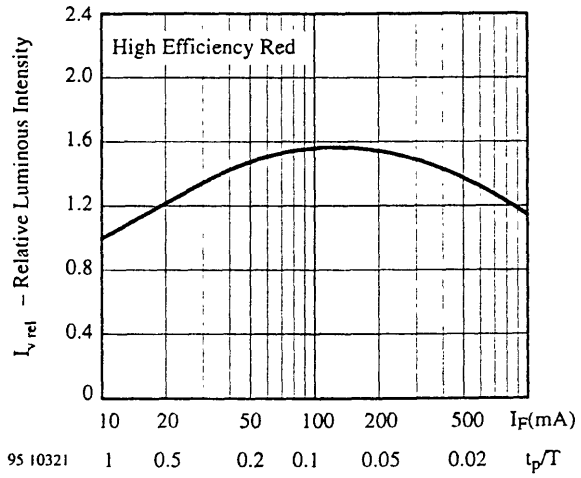

Figure 7. Rel. Lumin. Intensity vs. Forw. Current/Duty Cycle

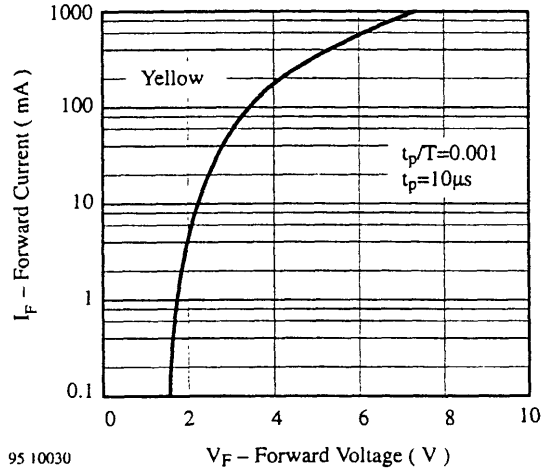

Figure 10. Forward Current vs. Forward Voltage

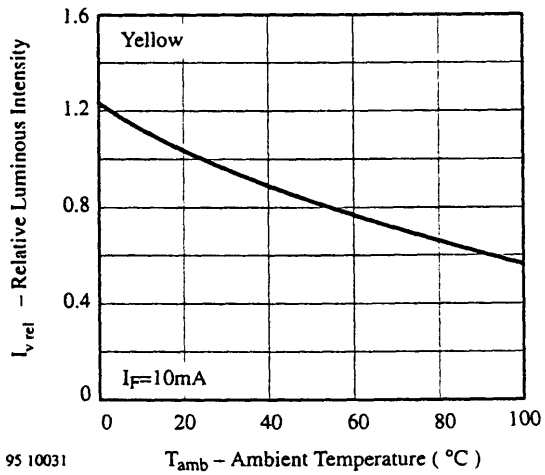

Figure 11. Rel. Luminous Intensity vs. Ambient Temperature

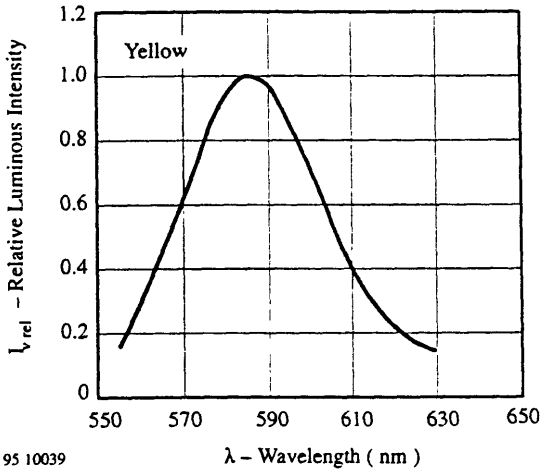

Figure 14. Relative Luminous Intensity vs. Wavelength

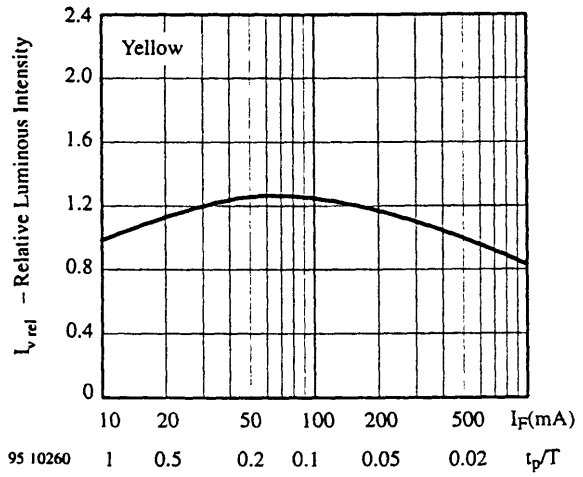

Figure 12. Rel. Lumin. Intensity vs. Forw. Current/Duty Cycle

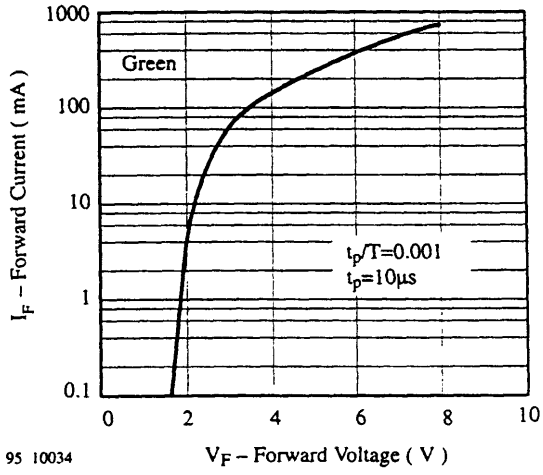

Figure 15. Forward Current vs. Forward Voltage

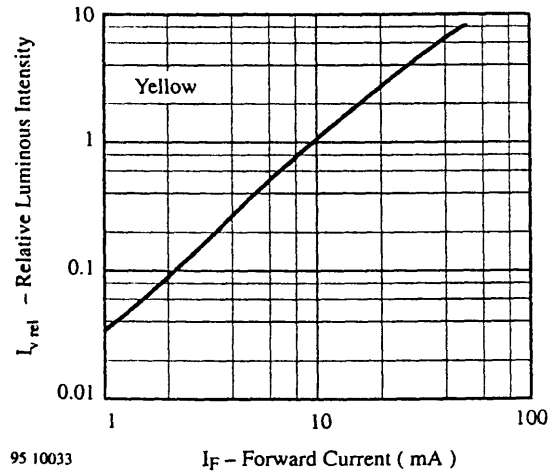

Figure 13. Relative Luminous Intensity vs. Forward Current

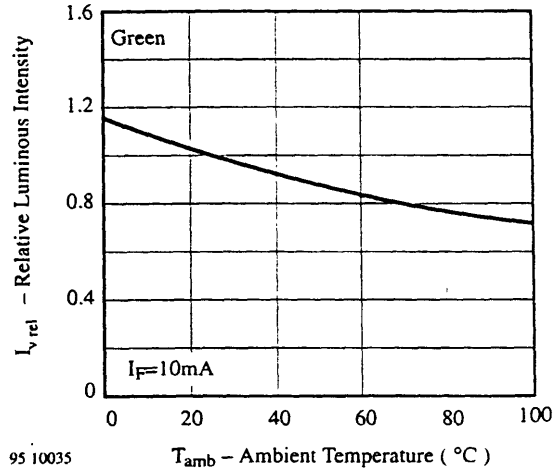

Figure 16. Rel. Luminous Intensity vs. Ambient Temperature

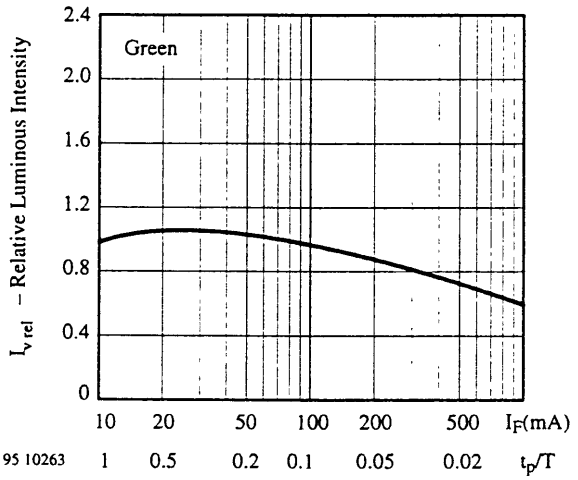

Figure 17. Rel. Lumin. Intensity vs. Forw. Current/Duty Cycle

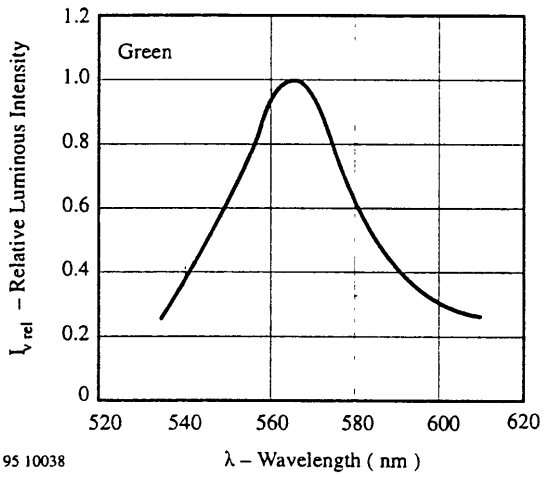

Figure 19. Relative Luminous Intensity vs. Wavelength

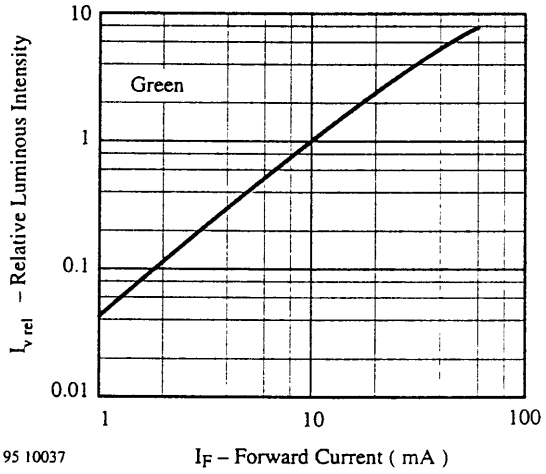

Figure 18. Relative Luminous Intensity vs. Forward Current

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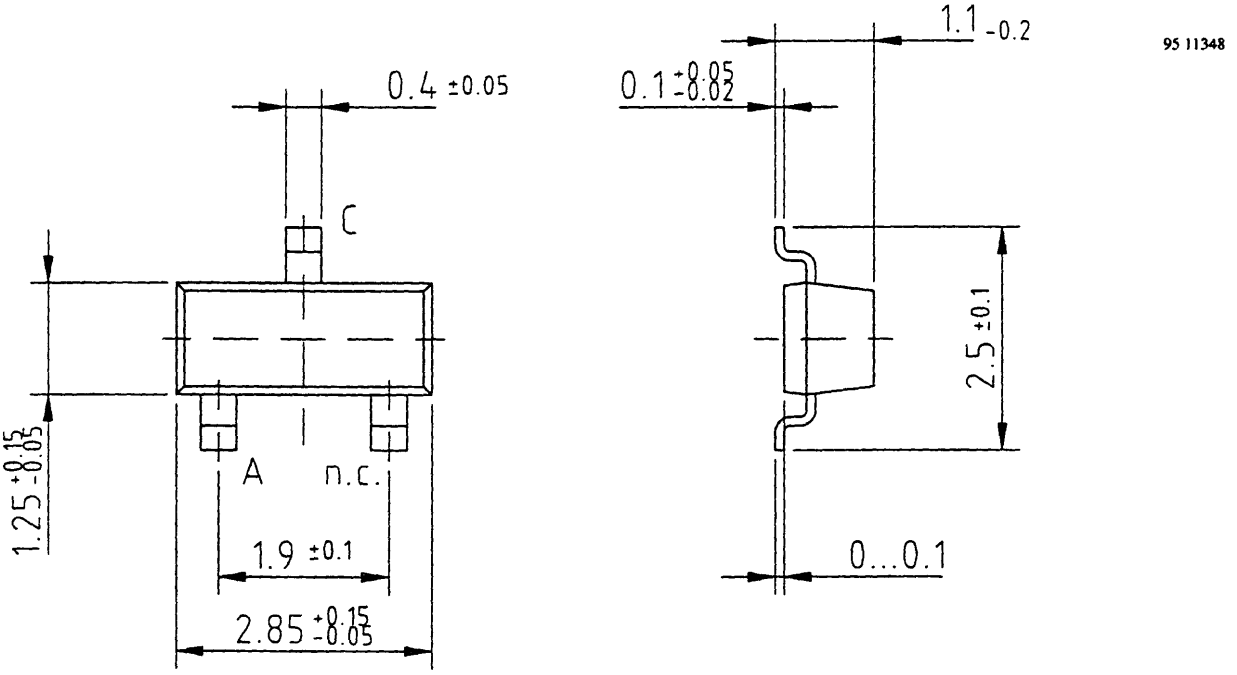
Dimensions in mm



technical drawings according to DIN specifications