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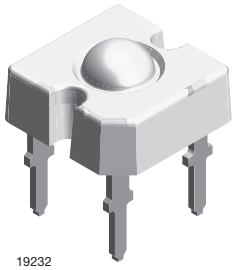
TELUX LED



19232

FEATURES

- High luminous flux
- Supreme heat dissipation: R_{thJP} is 90 K/W
- High operating temperature: T_{amb} = - 40 °C to + 110 °C
- Meets SAE and ECE color requirements for the automobile industry for color red
- Packed in tubes for automatic insertion
- Luminous flux, forward voltage, and color categorized for each tube
- Small mechanical tolerances allow precise usage of external reflectors or lightguides
- Compatible with wave solder processes according to CECC 00802
- ESD-withstand voltage: Up to 2 kV according to JESD 22-A114-B
- AEC-Q101 qualified
- Material categorization: For definitions of compliance please see www.vishay.com/doc?99912

Pb-free

e3

RoHS COMPLIANT

HALOGEN FREE

GREEN (5-2008)

DESCRIPTION

The TELUX series is a clear, non diffused LED for applications where supreme luminous flux is required.

It is designed in an industry standard 7.62 mm square package utilizing highly developed with super bright, AlInGaP technology.

The supreme heat dissipation of TELUX allows applications at high ambient temperatures.

All packing units are binned for luminous flux, forward voltage, and color to achieve the most homogenous light appearance in application.

PRODUCT GROUP AND PACKAGE DATA

- Product group: LED
- Package: TELUX
- Product series: power
- Angle of half intensity: ± 55°

APPLICATIONS

- Exterior lighting
- Dashboard illumination
- Tail-, stop-, and turn signals of motor vehicles
- Replaces small incandescent lamps
- Traffic signals and signs

PARTS TABLE

PART	COLOR	LUMINOUS FLUX (mlm)			at I_F (mA)	WAVELENGTH (nm)			at I_F (mA)	FORWARD VOLTAGE (V)			at I_F (mA)	TECHNOLOGY
		MIN.	TYP.	MAX.		MIN.	TYP.	MAX.		MIN.	TYP.	MAX.		
TLWR9000	Red	2500	3200	-	70	611	615	634	70	1.83	2.2	2.67	70	AlInGaP on GaAs

ABSOLUTE MAXIMUM RATINGS (T_{amb} = 25 °C, unless otherwise specified)
TLWR9000

PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Reverse voltage	I_R = 100 µA	V_R	10	V
DC forward current	$T_{amb} \leq 85$ °C	I_F	70	mA
Surge forward current	$t_p \leq 10$ µs	I_{FSM}	0.1	A
Power dissipation	$T_{amb} \leq 85$ °C	P_V	187	mW
Junction temperature		T_j	125	°C
Operating temperature range		T_{amb}	- 40 to + 110	°C
Storage temperature range		T_{stg}	- 55 to + 110	°C
Soldering temperature	t ≤ 5 s, 1.5 mm from body preheat temperature 100 °C/30 s	T_{sd}	260	°C
Thermal resistance junction/ambient	With anode heatsink of 70 mm^2	R_{thJA}	200	K/W

OPTICAL AND ELECTRICAL CHARACTERISTICS (T_{amb} = 25 °C, unless otherwise specified) TLWR9000, RED						
PARAMETER	**TEST CONDITION**	**SYMBOL**	**MIN.**	**TYP.**	**MAX.**	**UNIT**
Total flux	I_F = 70 mA, R_{thJA} = 200 K/W	ϕ_V	2500	3200	-	mlm
Luminous intensity/total flux	I_F = 70 mA, R_{thJA} = 200 K/W	I_V/ϕ_V	-	0.5	-	mcd/mlm
Dominant wavelength	I_F = 70 mA, R_{thJA} = 200 K/W	λ_d	611	615	634	nm
Peak wavelength	I_F = 70 mA, R_{thJA} = 200 K/W	λ_p	-	624	-	nm
Angle of half intensity	I_F = 70 mA, R_{thJA} = 200 K/W	φ	-	± 55	-	deg
Forward voltage	I_F = 70 mA, R_{thJA} = 200 K/W	V_F	1.83	2.2	2.67	V
Reverse voltage		V_R	10	20	-	V
Temperature coefficient of < λ_{dom}	I_F = 70 mA	$T_C\lambda_{dom}$	-	17	-	nm/K
Temperature coefficient of V_F	I_F = 70 mA, T > - 25 °C	T_{CVF}	-	- 2.9	-	mV/K

TYPICAL CHARACTERISTICS (T_{amb} = 25 °C, unless otherwise specified)

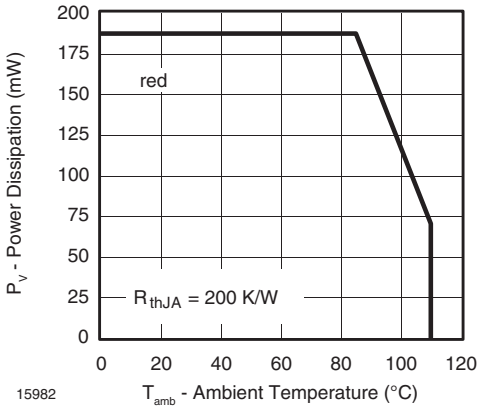


Fig. 1 - Forward Current vs. Ambient Temperature

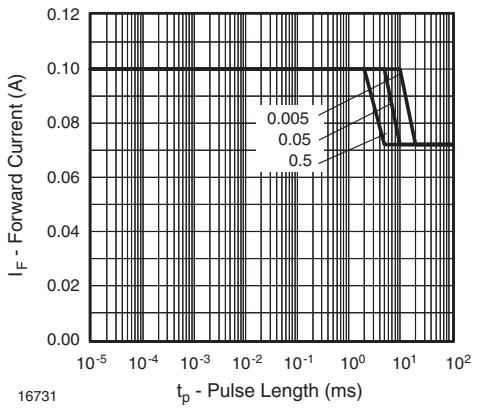


Fig. 3 - Forward Current vs. Pulse Length

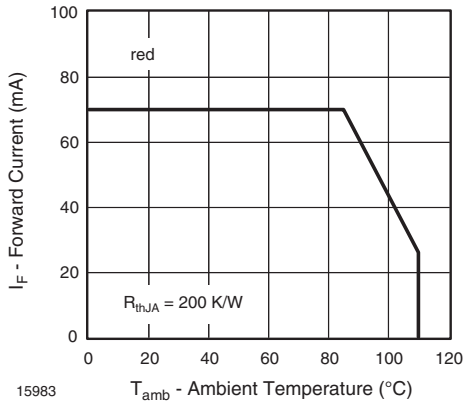


Fig. 2 - Forward Current vs. Ambient Temperature

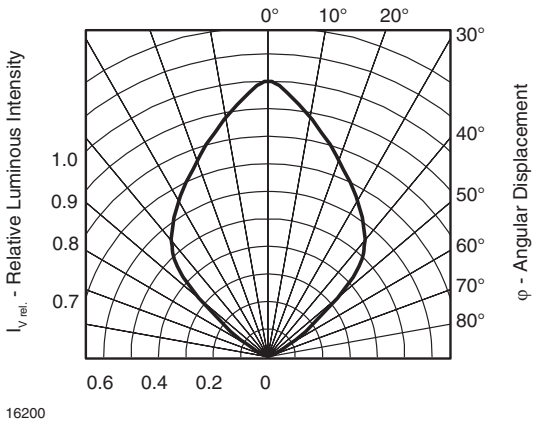


Fig. 4 - Relative Luminous Intensity vs. Angular Displacement

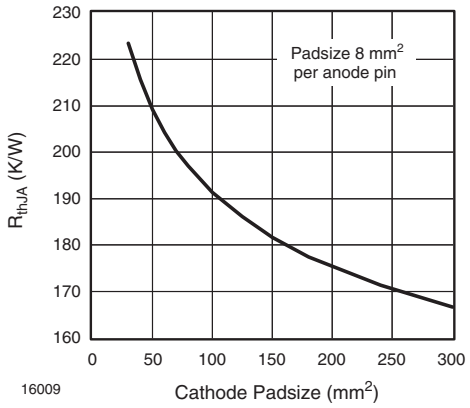
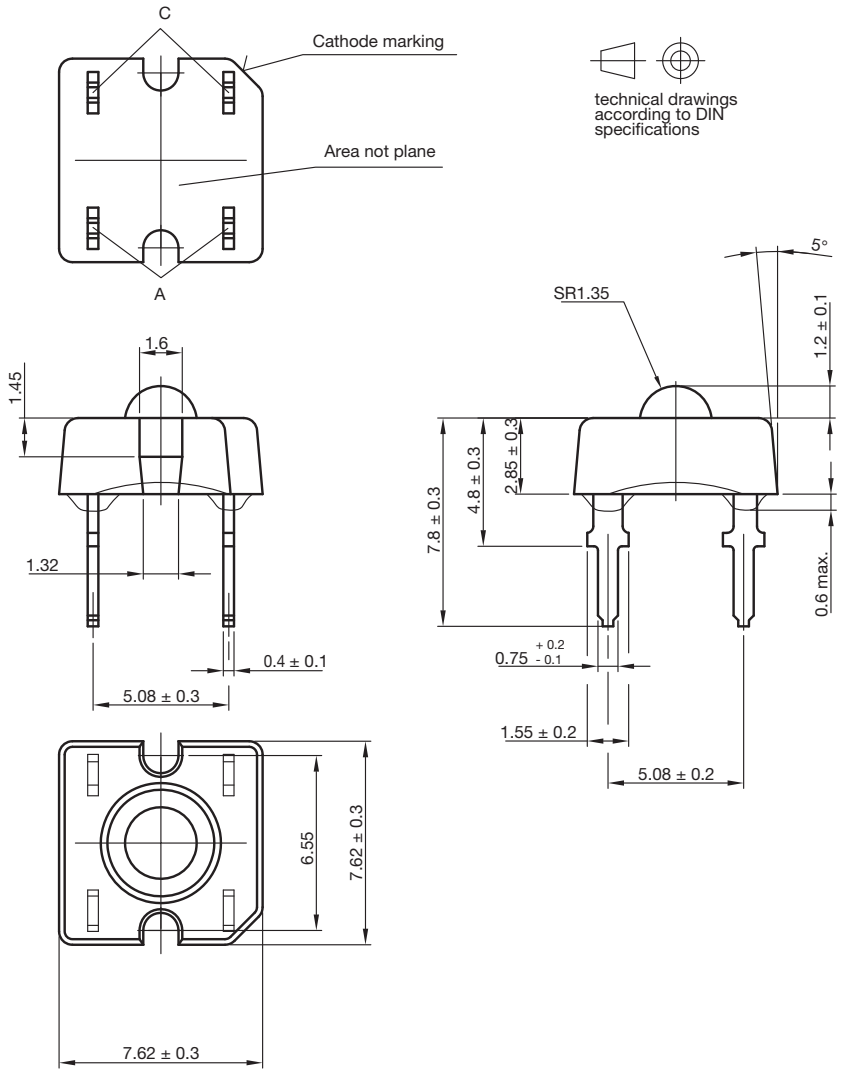


Fig. 5 - Thermal Resistance Junction Ambient vs. Cathode Padsize

PACKAGE DIMENSIONS in millimeters



Drawing-No.: 6.544-5321.02-4
Issue: 3; 26.06.06

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