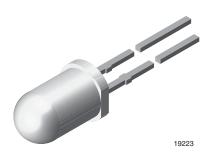


Vishay Semiconductors

# Universal LED in Ø 5 mm Tinted Diffused Package



### PRODUCT GROUP AND PACKAGE DATA

Product group: LEDPackage: 5 mm

Product series: standard
Angle of half intensity: ± 30°

### **FEATURES**

- For DC and pulse operation
- · Luminous intensity categorized
- Standard T-1¾ package
- TLUR540. with stand-offs
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912





ROHS
COMPLIANT
HALOGEN
FREE
GREEN

(5-2008)

### **APPLICATIONS**

· General indicating and lighting purposes

PARTS TABLE															
PART	COLOR	LUMINOUS INTENSITY (mcd)		at I <sub>F</sub>		VAVELENGTH (nm)		at I <sub>F</sub>	FORWARD VOLTAGE (V)		at I <sub>F</sub>	TECHNOLOGY			
		MIN.	TYP.	MAX.	(mA)	MIN.	TYP.	MAX.	(mA)	MIN.	TYP.	MAX.	(mA)		
TLUR5400	Red	4	15	-	10	-	630	-	10	-	2	3	20	GaAsP on GaAs	
TLUR5400-AS12Z	Red	4	15	-	10	-	630	-	10	-	2	3	20	GaAsP on GaAs	
TLUR5401	Red	4	15	32	10	-	630	-	10	-	2	3	20	GaAsP on GaAs	

<b>ABSOLUTE MAXIMUM RATINGS</b> (T <sub>amb</sub> = 25 °C unless otherwise specified) <b>TLUR540.</b>							
PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT			
Reverse voltage		$V_R$	6	V			
DC forward current		I <sub>F</sub>	20	mA			
Surge forward current	t <sub>p</sub> ≤ 10 μs	I <sub>FSM</sub>	1	Α			
Power dissipation	T <sub>amb</sub> ≤ 65 °C	P <sub>V</sub>	60	mW			
Junction temperature		Tj	100	°C			
Operating temperature range		T <sub>amb</sub>	-40 to +100	°C			
Storage temperature range		T <sub>stg</sub>	-55 to +100	°C			
Soldering temperature	$t \le 5$ s, 2 mm from body	T <sub>sd</sub>	260	°C			
Thermal resistance junction/ambient		R <sub>thJA</sub>	500	K/W			

OPTICAL AND ELECTRICAL CHARACTERISTICS ( $T_{amb} = 25  ^{\circ}C$ , unless otherwise specified) TLUR540., RED							
PARAMETER	TEST CONDITION	PART	SYMBOL	MIN.	TYP.	MAX.	UNIT
Luminous intensity	I <sub>E</sub> = 10 mA	TLUR5400	Ι <sub>V</sub>	4	15		mcd
Luminous intensity (1)	IF = 10 MA	TLUR5401	I <sub>V</sub>	4	15	32	mcd
Dominant wavelength	I <sub>F</sub> = 10 mA		$\lambda_{d}$	-	630	-	nm
Peak wavelength	I <sub>F</sub> = 10 mA		$\lambda_{p}$	-	640	-	nm
Angle of half intensity	I <sub>F</sub> = 10 mA		φ	-	± 30	-	deg
Forward voltage	I <sub>F</sub> = 20 mA		$V_{F}$	-	2	3	V
Reverse voltage	I <sub>R</sub> = 10 μA		$V_R$	6	15	-	V
Junction capacitance	$V_R = 0 V, f = 1 MHz$		C <sub>j</sub>	-	50	-	pF

### Note

 $^{(1)}~$  In one packing unit  $I_{Vmin.}/I_{Vmax.} \leq 0.5$ 

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### **TYPICAL CHARACTERISTICS** (T<sub>amb</sub> = 25 °C, unless otherwise specified)

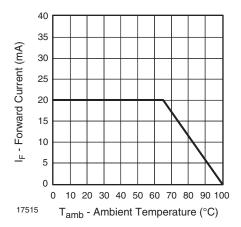


Fig. 1 - Forward Current vs. Ambient Temperature

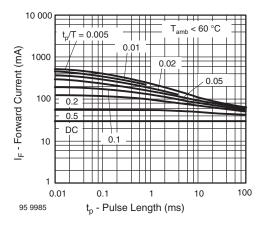


Fig. 2 - Pulse Forward Current vs. Pulse Duration

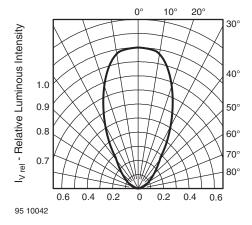


Fig. 3 - Relative Luminous Intensity vs. Angular Displacement

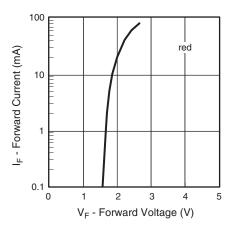


Fig. 4 - Forward Current vs. Forward Voltage

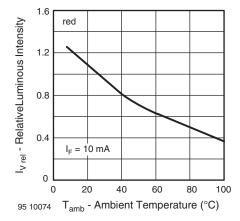


Fig. 5 - Relative Luminous Intensity vs. Ambient Temperature

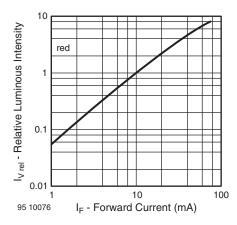


Fig. 6 - Relative Luminous Intensity vs. Forward Current



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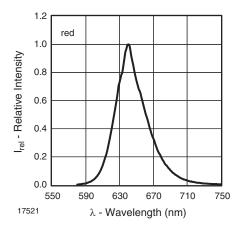
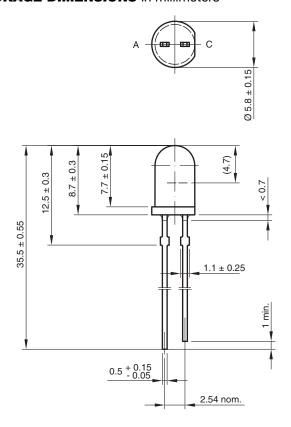
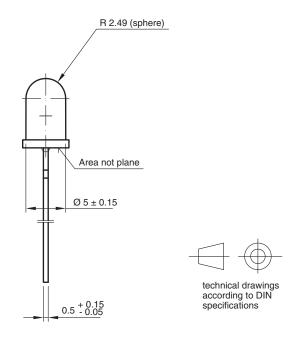


Fig. 7 - Relative Intensity vs. Wavelength

### **PACKAGE DIMENSIONS** in millimeters





6.544-5258.02-4 Issue: 7; 23.07.10 **AMMOPACK** 

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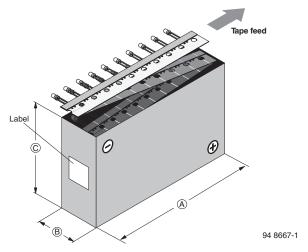
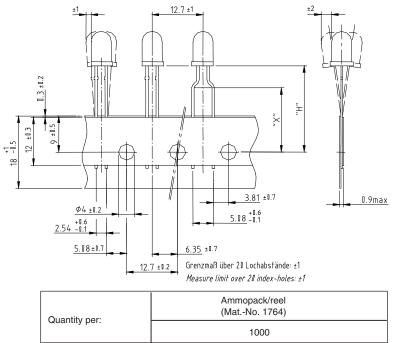


Fig. 8 - Tape Direction

### Note

• The new nomenclature for ammopack is e.g. ASZ only, without suffix for the LED orientation. The carton box has to be turned to the desired position: "+" for anode first, or "-" for cathode first. AS12Z and AS21Z are still valid for already existing types, BUT NOT FOR NEW DESIGN.

### TAPE DIMENSIONS in millimeters



948172\_1

Option	Dim. "H" ± 0.5 mm	Dim. "X" ± 0.5 mm
AS	17.3	
MS	25.5	
CS	22.0	
LS	21.0	
ВТ	20.0	16.0



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Vishay

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