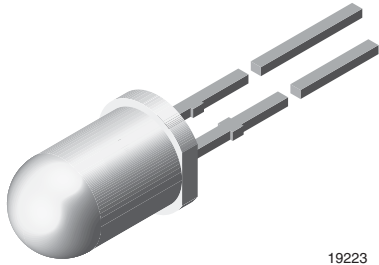




# Universal LED in Ø 5 mm Tinted Diffused Package



19223

### FEATURES

- For DC and pulse operation
- Luminous intensity categorized
- Standard T-1¼ package
- TLUR540. with stand-offs
- Material categorization:  
for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)



### PRODUCT GROUP AND PACKAGE DATA

- Product group: LED
- Package: 5 mm
- Product series: standard
- Angle of half intensity: ± 30°

### APPLICATIONS

- General indicating and lighting purposes

PARTS TABLE														
PART	COLOR	LUMINOUS INTENSITY (mcd)			at I <sub>F</sub> (mA)	WAVELENGTH (nm)			at I <sub>F</sub> (mA)	FORWARD VOLTAGE (V)			at I <sub>F</sub> (mA)	TECHNOLOGY
		MIN.	TYP.	MAX.		MIN.	TYP.	MAX.		MIN.	TYP.	MAX.		
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

ABSOLUTE MAXIMUM RATINGS (T <sub>amb</sub> = 25 °C unless otherwise specified)					
TLUR540.					
PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT	
Reverse voltage		V <sub>R</sub>	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	A	
Power dissipation	T <sub>amb</sub> ≤ 65 °C	P <sub>V</sub>	60	mW	
Junction temperature		T <sub>j</sub>	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 ≤ 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 <sub>amb</sub> = 25 °C, unless otherwise specified)							
TLUR540., RED							
PARAMETER	TEST CONDITION	PART	SYMBOL	MIN.	TYP.	MAX.	UNIT
Luminous intensity (1)	I <sub>F</sub> = 10 mA	TLUR5400	I <sub>v</sub>	4	15		mcd
		TLUR5401	I <sub>v</sub>	4	15	32	mcd
Dominant wavelength	I <sub>F</sub> = 10 mA		λ <sub>d</sub>	-	630	-	nm
Peak wavelength	I <sub>F</sub> = 10 mA		λ <sub>p</sub>	-	640	-	nm
Angle of half intensity	I <sub>F</sub> = 10 mA		φ	-	± 30	-	deg
Forward voltage	I <sub>F</sub> = 20 mA		V <sub>F</sub>	-	2	3	V
Reverse voltage	I <sub>R</sub> = 10 μA		V <sub>R</sub>	6	15	-	V
Junction capacitance	V <sub>R</sub> = 0 V, f = 1 MHz		C <sub>j</sub>	-	50	-	pF

#### Note

(1) In one packing unit I<sub>vmin</sub>/I<sub>vmax</sub> ≤ 0.5

**TYPICAL CHARACTERISTICS** ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified)

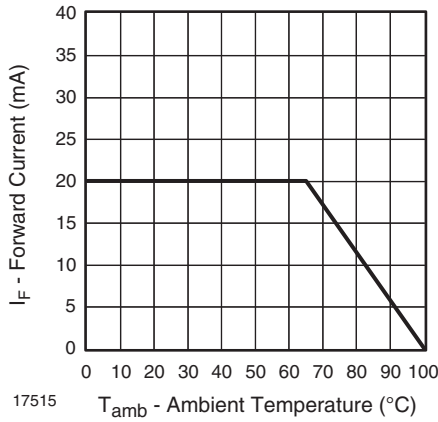


Fig. 1 - Forward Current vs. Ambient Temperature

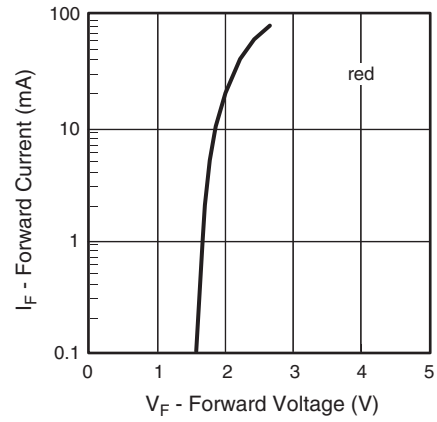


Fig. 4 - Forward Current vs. Forward Voltage

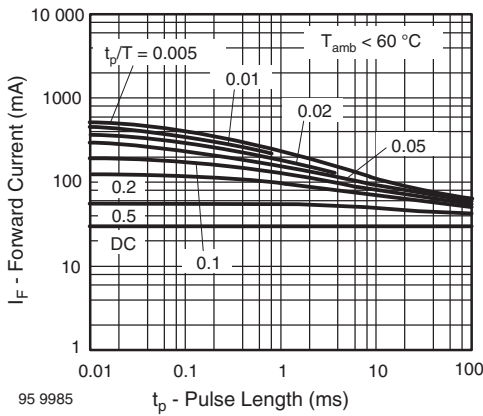


Fig. 2 - Pulse Forward Current vs. Pulse Duration

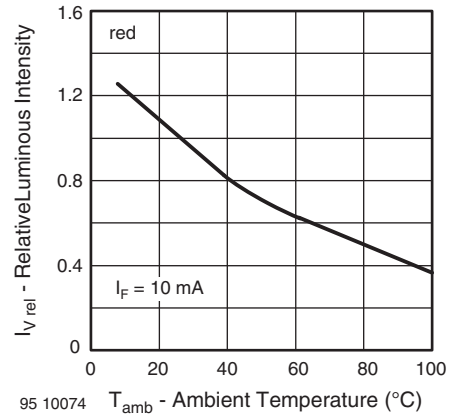


Fig. 5 - Relative Luminous Intensity vs. Ambient Temperature

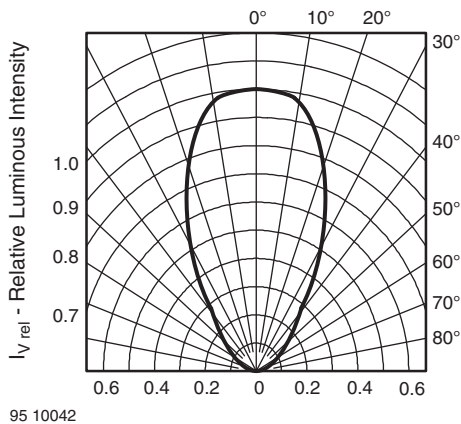


Fig. 3 - Relative Luminous Intensity vs. Angular Displacement

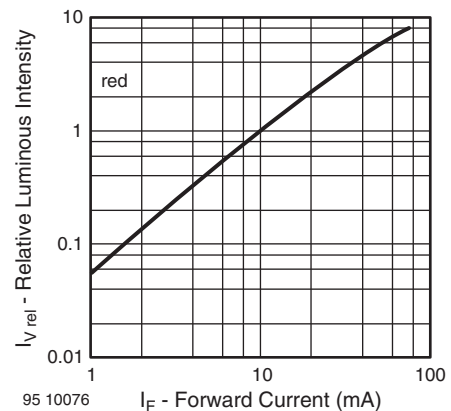


Fig. 6 - Relative Luminous Intensity vs. Forward Current

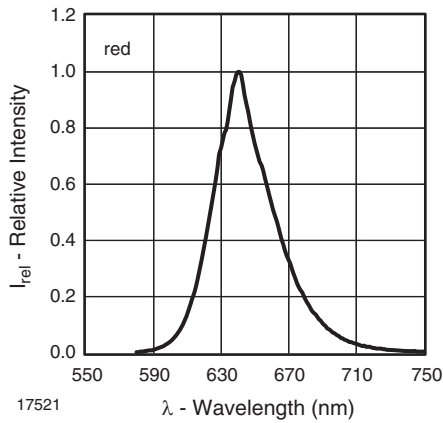
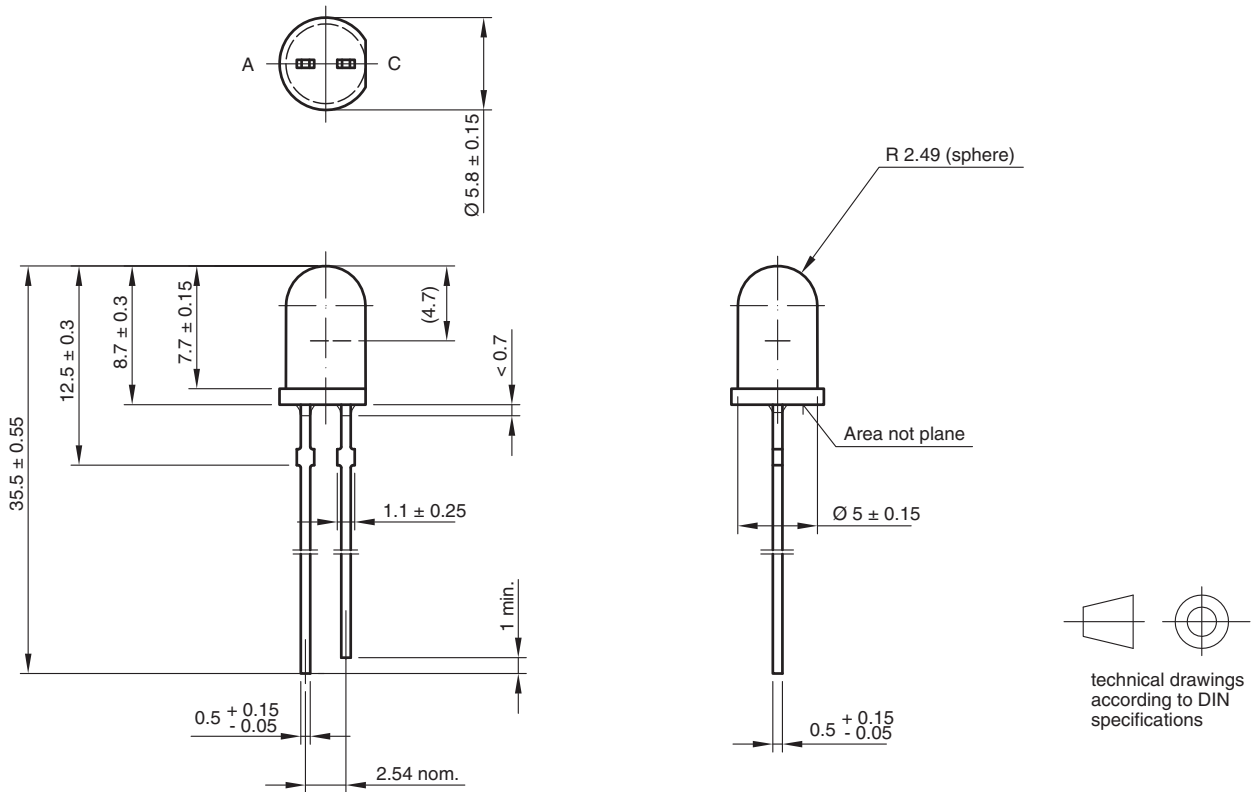


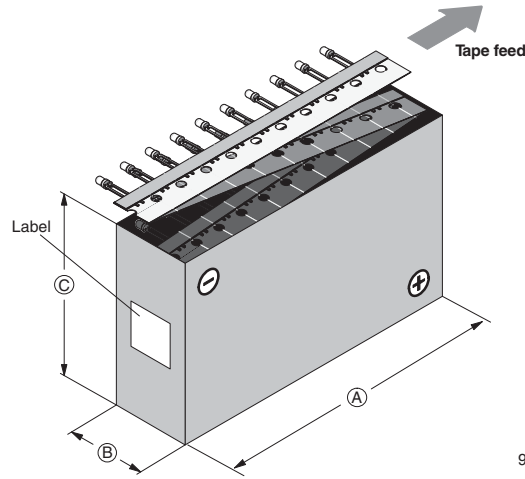
Fig. 7 - Relative Intensity vs. Wavelength

### PACKAGE DIMENSIONS in millimeters



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Issue: 7; 23.07.10  
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**AMMOPACK**



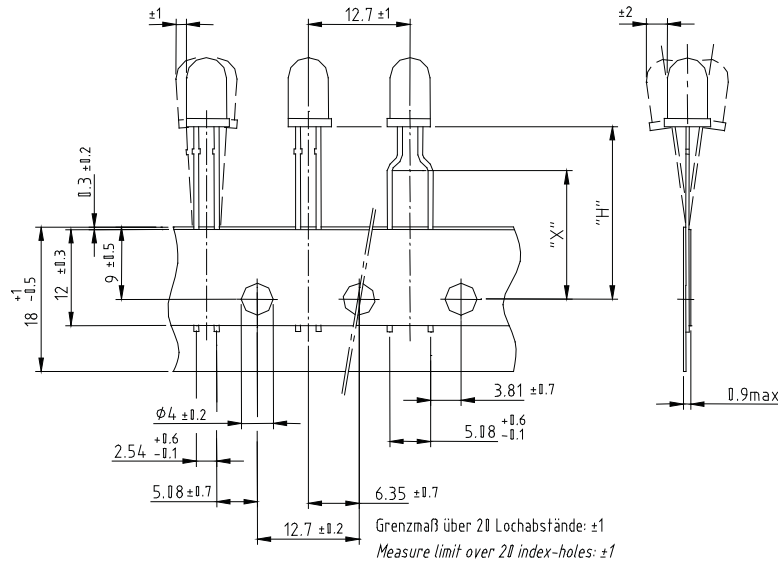
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Fig. 8 - Tape Direction

**Note**

- The new nomenclature for ammpack 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



Quantity per:	Ampmpack/reel (Mat.-No. 1764)
	1000

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



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