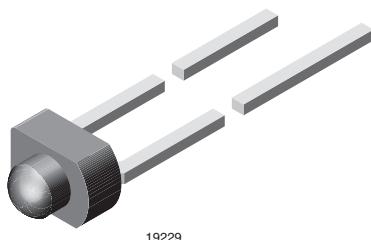


## Universal LED, Ø 1.8 mm Tinted Diffused Miniplast Package



19229

### FEATURES

- For DC and pulse operation
- Luminous intensity categorized
- End-to-end stackable in centre-to-centre spacing of 0.1" (2.54 mm)
- Material categorization:  
For definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)



**RoHS**  
COMPLIANT  
**HALOGEN**  
**FREE**  
**GREEN**  
(5-2008)

### PRODUCT GROUP AND PACKAGE DATA

- Product group: LED
- Package: 1.8 mm (miniplast)
- Product series: standard
- Angle of half intensity:  $\pm 20^\circ$

### APPLICATIONS

- General indicating and lighting purposes

PART	COLOR	LUMINOUS INTENSITY (mcd)			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.		
TLUR2400	Red	4	15	-	10	-	630	-	10	-	2	3	20	GaAsP on GaP
TLUR2400-AS12	Red	4	15	-	10	-	630	-	10	-	2	3	20	GaAsP on GaP
TLUR2401	Red	4	-	32	10	-	630	-	10	-	2	3	20	GaAsP on GaP
TLUR2401-AS12	Red	4	-	32	10	-	630	-	10	-	2	3	20	GaAsP on GaP

ABSOLUTE MAXIMUM RATINGS ( $T_{amb} = 25^\circ\text{C}$ , unless otherwise specified) <b>TLUR2400, TLUR2401</b>				
PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Reverse voltage		$V_R$	6	V
DC forward current		$I_F$	20	mA
Surge forward current	$t_p \leq 10 \mu\text{s}$	$I_{FSM}$	0.5	A
Power dissipation	$T_{amb} \leq 55^\circ\text{C}$	$P_V$	60	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	$t \leq 3 \text{ s}, 2 \text{ mm from body}$	$T_{sd}$	260	°C
	$t \leq 5 \text{ s}, 4 \text{ mm from body}$	$T_{sd}$	260	°C
Thermal resistance junction/ambient		$R_{thJA}$	450	K/W

**OPTICAL AND ELECTRICAL CHARACTERISTICS** ( $T_{amb} = 25^\circ C$ , unless otherwise specified)  
**TLUR2400, TLUR2401, RED**

PARAMETER	TEST CONDITION	PART	SYMBOL	MIN.	TYP.	MAX.	UNIT
Luminous intensity <sup>(1)</sup>	$I_F = 10 \text{ mA}$	TLUR2400	$I_V$	4	15		mcd
		TLUR2401	$I_V$	4		32	mcd
Dominant wavelength	$I_F = 10 \text{ mA}$		$\lambda_d$		630		nm
Peak wavelength	$I_F = 10 \text{ mA}$		$\lambda_p$		640		nm
Angle of half intensity	$I_F = 10 \text{ mA}$		$\phi$		$\pm 20$		deg
Forward voltage	$I_F = 20 \text{ mA}$		$V_F$		2	3	V
Reverse voltage	$I_R = 10 \mu\text{A}$		$V_R$	6	15		V
Junction capacitance	$V_R = 0 \text{ V}$ , $f = 1 \text{ MHz}$		$C_j$		50		pF

**Note**
<sup>(1)</sup> In one packing unit  $I_{Vmin}/I_{Vmax} \leq 0.5$ 
**LUMINOUS INTENSITY CLASSIFICATION**

GROUP	LIGHT INTENSITY (mcd)	
STANDARD	MIN.	MAX.
P	4	8
Q	6.3	12.5
R	10	20
S	16	32
T	25	50

**Note**

- Luminous intensity is tested at a current pulse duration of 25 ms. The above type numbers represent the order groups which include only a few brightness groups. Only one group will be shipped on each bag (there will be no mixing of two groups on each bag). In order to ensure availability, single brightness groups will not be orderable.
- In a similar manner for colors where wavelength groups are measured and binned, single wavelength groups will be shipped on any one bag. In order to ensure availability, single wavelength groups will not be orderable.

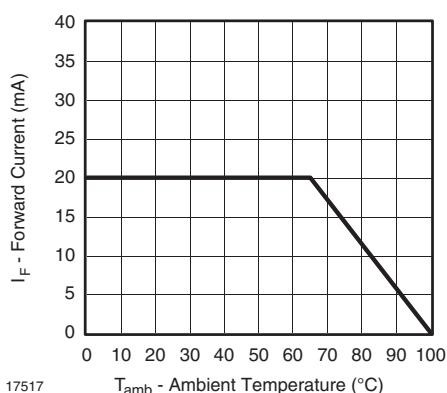
**TYPICAL CHARACTERISTICS** ( $T_{amb} = 25^\circ C$ , unless otherwise specified)


Fig. 1 - Forward Current vs. Ambient Temperature

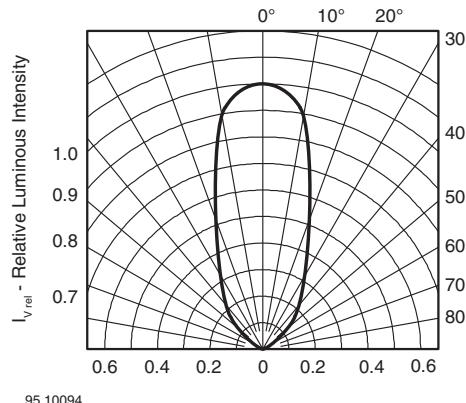


Fig. 2 - Relative Luminous Intensity vs. Angular Displacement

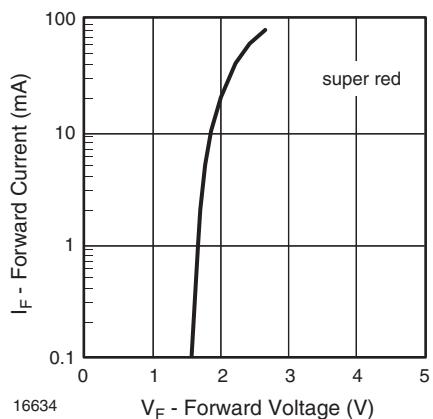


Fig. 3 - Forward Current vs. Forward Voltage

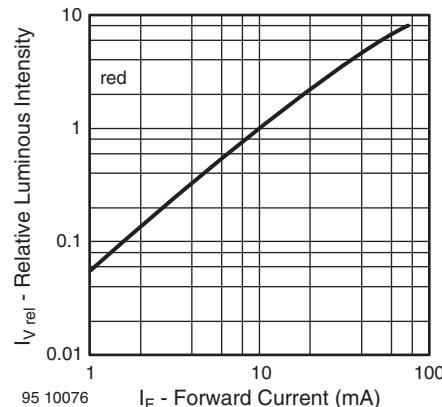


Fig. 5 - Relative Luminous Intensity vs. Forward Current

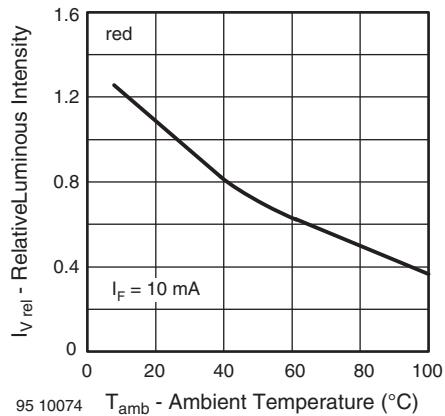


Fig. 4 - Relative Luminous Intensity vs. Ambient Temperature

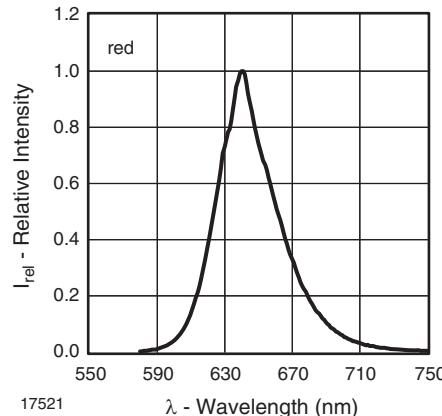
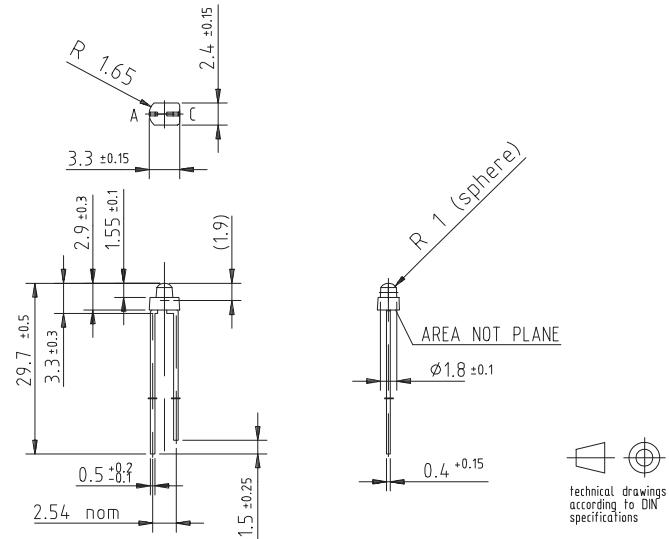
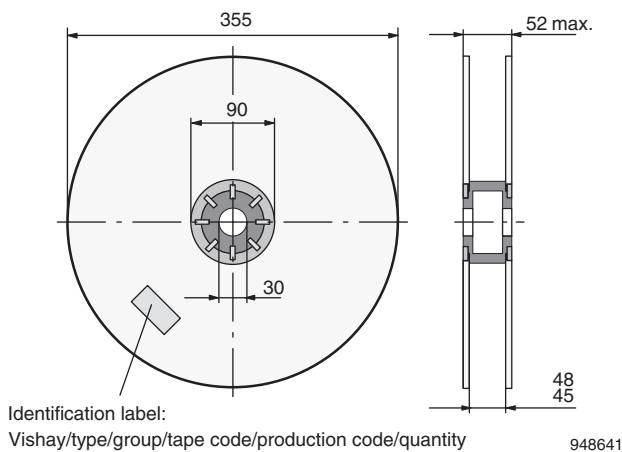
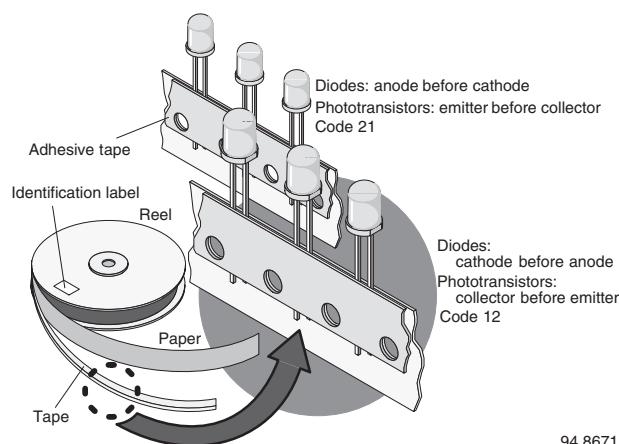
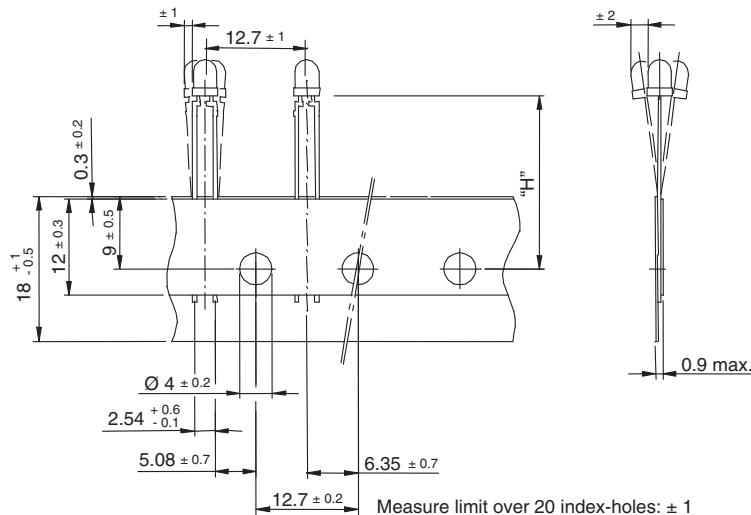


Fig. 6 - Relative Intensity vs. Wavelength

**PACKAGE DIMENSIONS** in millimeters



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Issue: 1; 12.10.95  
95 11262

**REEL DIMENSIONS** in millimeters

**Fig. 7 - Reel**
**TAPE**

**Fig. 8 - LED in Tape**
**TAPE DIMENSIONS** in millimeters


Quantity per:	Reel
	(Mat. - No. 1764)
2000	

Option	Dim. "H" $\pm 0.5$ mm
AS	17.3

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