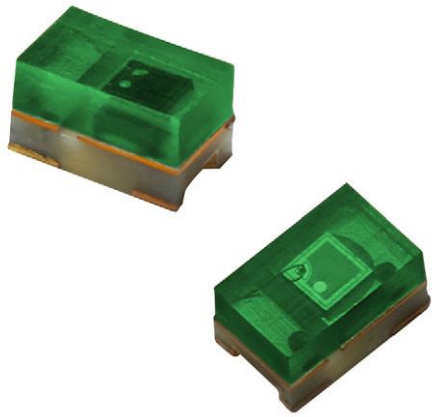
Ambient Light Sensor



FEATURES

- Package type: surface-mount
- Package form: 0805
- Dimensions (L x W x H in mm): 2 x 1.25 x 0.85
- Radiant sensitive area (in mm^2): 0.27
- AEC-Q101 qualified
- Adapted to human eye responsivity
- Angle of half sensitivity: φ = ± 60°
- Floor life: 168 h, MSL 3, according to J-STD-020
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

AUTOMOTIVE GRADE

Pb-free

e4

RoHS COMPLIANT

HALOGEN FREE

GREEN (5-2008)

DESCRIPTION

TEMD6200FITX01 is a high speed and high sensitive PIN photodiode in a miniature flat plastic package. It is spectral sensitivity is closely matched to the human eye.

APPLICATIONS

- Automotive sensors
- Ambient light sensors
- Backlight dimming

PRODUCT SUMMARY			
COMPONENT	**I_{ra} (µA)**	**φ (°)**	**$\lambda_{0.5}$ (nm)**
TEMD6200FITX01	0.04	± 60	430 to 610

Note

- Test condition see table “Basic Characteristics”

ORDERING INFORMATION			
ORDERING CODE	**PACKAGING**	**REMARKS**	**PACKAGE FORM**
TEMD6200FITX01	Tape and reel	MOQ: 3000 pcs, 3000 pcs/reel	0805

Note

- MOQ: Minimum order quantity

ABSOLUTE MAXIMUM RATINGS (T_{amb} = 25 °C, unless otherwise specified)				
PARAMETER	**TEST CONDITION**	**SYMBOL**	**VALUE**	**UNIT**
Reverse voltage		V_R	16	V
Operating temperature range		T_{amb}	-40 to +110	°C
Storage temperature range		T_{stg}	-40 to +110	°C
Soldering temperature	In accordance with Fig. 6	T_{sd}	260	°C

For technical questions, contact: detectortechsupport@vishay.com

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BASIC CHARACTERISTICS (T_{amb} = 25 °C, unless otherwise specified)						
PARAMETER	**TEST CONDITION**	**SYMBOL**	**MIN.**	**TYP.**	**MAX.**	**UNIT**
Breakdown voltage	I_R = 100 µA, E = 0 lx	$V_{(BR)}$	16	-	-	V
Reverse dark current	V_R = 10 V, E = 0 lx	I_{ro}	-	0.1	5	nA
Diode capacitance	V_R = 0 V, f = 1 MHz, E = 0 lx	C_D	-	60	-	pF
	V_R = 5 V, f = 1 MHz, E = 0 lx	C_D	-	24	-	pF
Reverse light current	E_e = 1 mW/cm², λ = 550 nm, V_R = 5 V	I_{ra}	-	1	-	µA
	E_V = 100 lx, CIE illuminant A	I_{ra}	0.03	0.04	0.09	µA
Angle of half sensitivity		φ	-	± 60	-	°
Wavelength of peak sensitivity		λ_p	-	540	-	nm
Range of spectral bandwidth		$\lambda_{0.5}$	-	430 to 610	-	nm

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

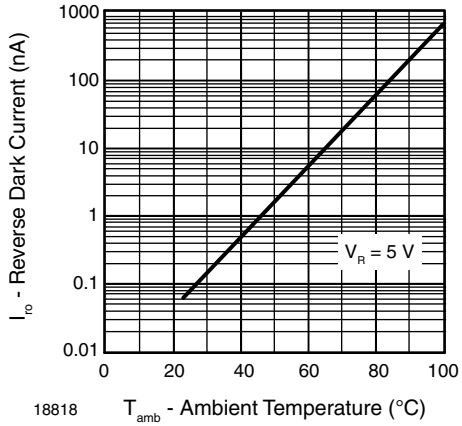


Fig. 1 - Reverse Dark Current vs. Ambient Temperature

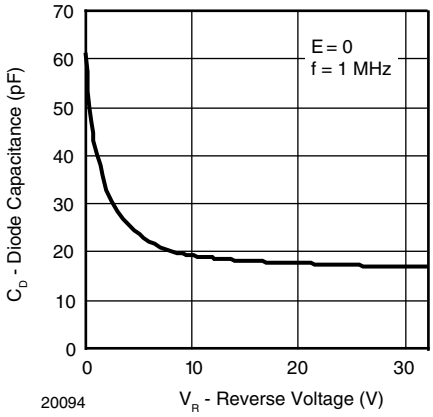


Fig. 3 - Diode Capacitance vs. Reverse Voltage

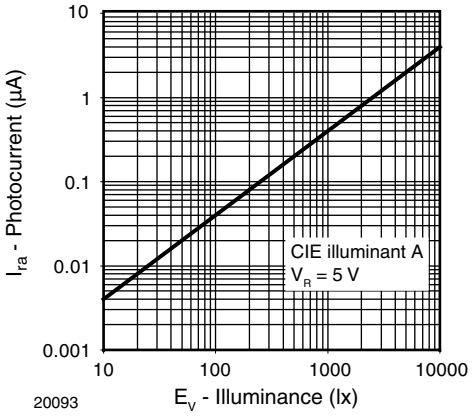


Fig. 2 - Reverse Light Current vs. Illuminance

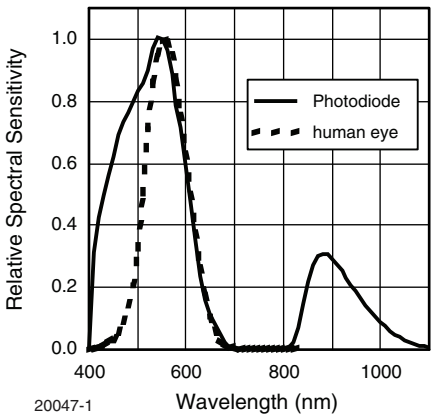


Fig. 4 - Relative Spectral Sensitivity vs. Wavelength

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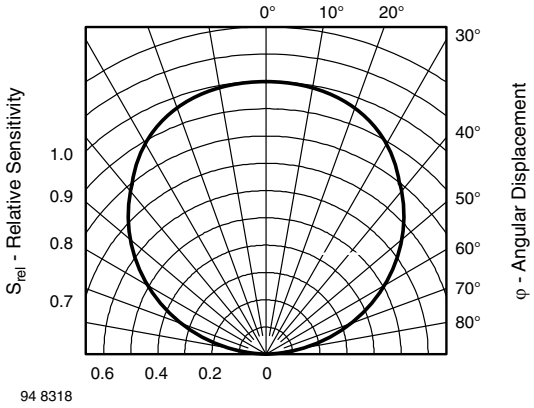


Fig. 5 - Relative Radiant Sensitivity vs. Angular Displacement

SOLDER PROFILE

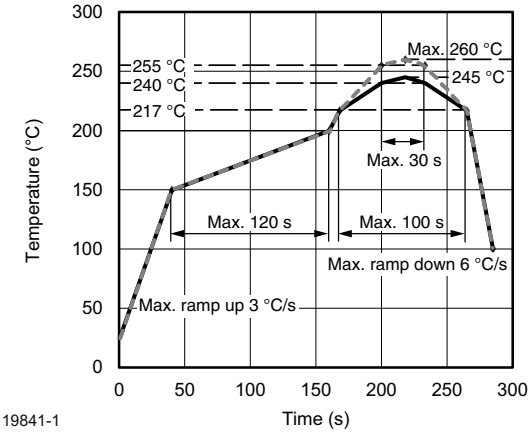


Fig. 6 - Lead (Pb)-free Reflow Solder Profile acc. J-STD-020

DRYPACK

Devices are packed in moisture barrier bags (MBB) to prevent the products from moisture absorption during transportation and storage. Each bag contains a desiccant.

FLOOR LIFE

Time between soldering and removing from MBB must not exceed the time indicated in J-STD-020:
Moisture sensitivity: Level 3
Floor life: 168 h
Conditions: T_{amb} < 30 °C, RH < 60 %

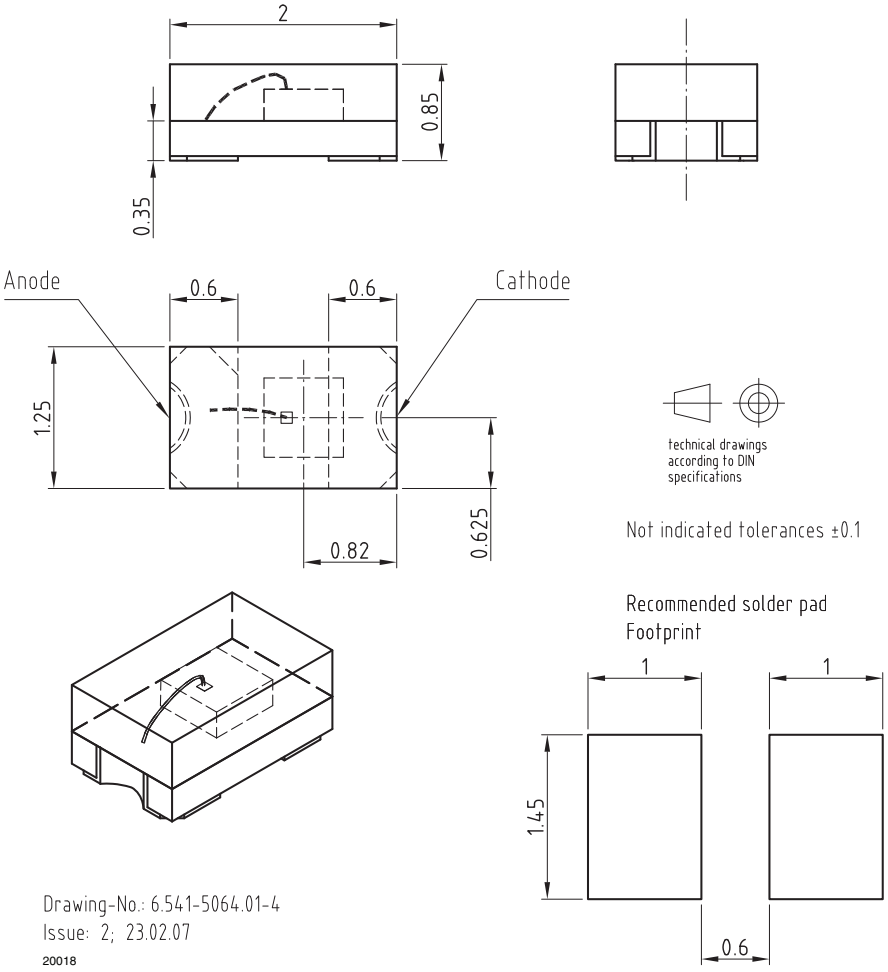
DRYING

In case of moisture absorption devices should be baked before soldering. Conditions see J-STD-033D or label. Devices taped on reel dry using recommended conditions:

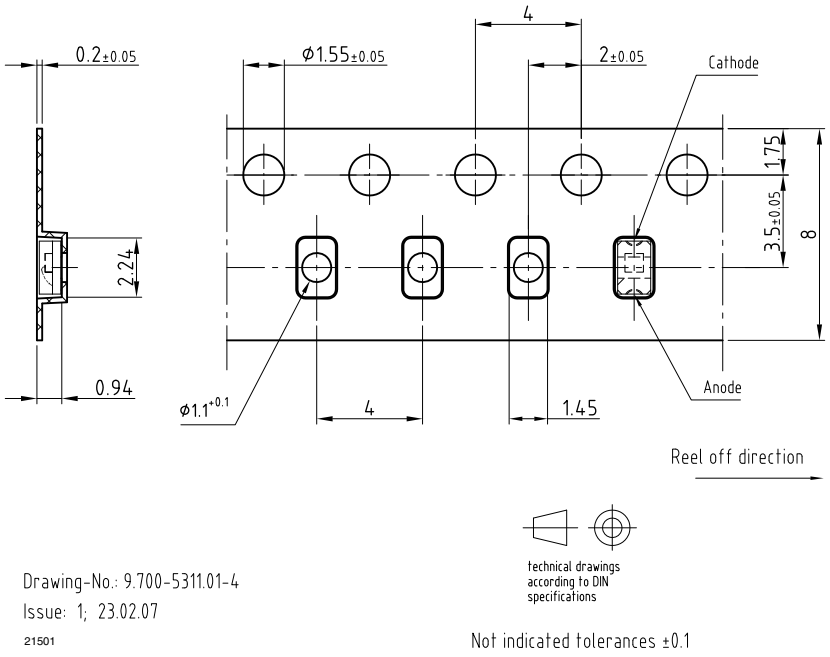
192 h at 40 °C (+ 5 °C), RH < 5 %
or
96 h at 60 °C (+ 5 °C), RH < 5 %.

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PACKAGE DIMENSIONS in millimeters

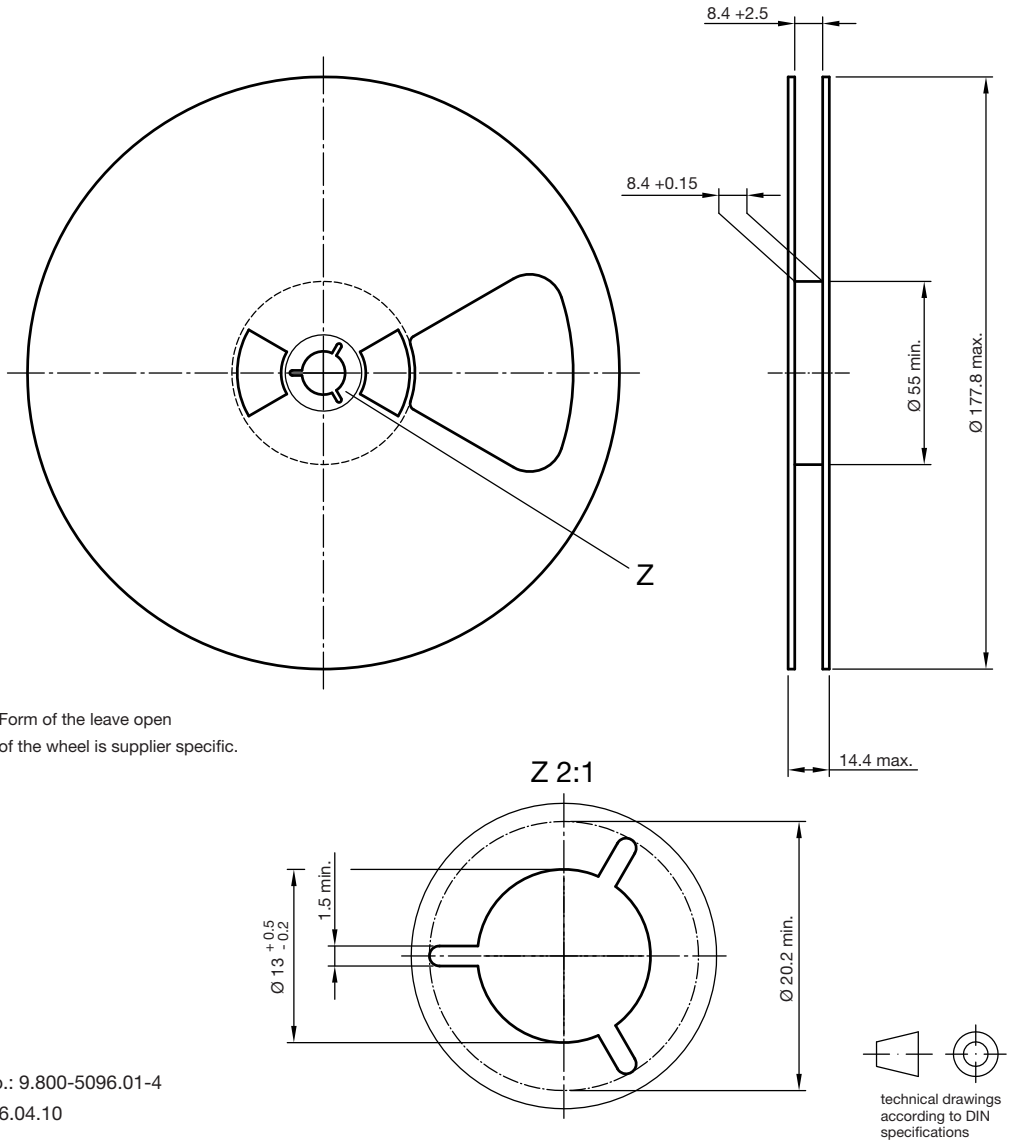


BLISTER TAPE DIMENSIONS in millimeters



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REEL DIMENSIONS in millimeters



Form of the leave open
of the wheel is supplier specific.

technical drawings
according to DIN
specifications

Drawing-No.: 9.800-5096.01-4
Issue: 2; 26.04.10
20875

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