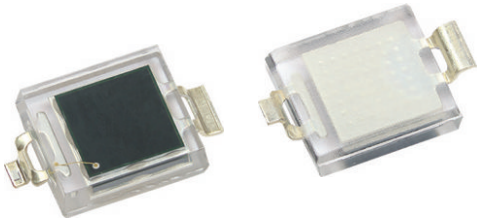
Silicon PIN Photodiode



VBPW34SC

VBPW34SCR

FEATURES

- Package type: surface-mount
- Package form: GW, RGW
- Dimensions (L x W x H in mm): 6.4 x 3.9 x 1.2
- Radiant sensitive area (in mm^2): 7.5
- Suitable for visible and near infrared radiation
- Fast response times
- Angle of half sensitivity: $\varphi = \pm 65°$
- Floor life: 168 h, MSL 3, according to J-STD-020
- Lead (Pb)-free reflow soldering
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

Pb-free

e4

RoHS COMPLIANT

HALOGEN FREE

APPLICATIONS

- High speed photo detector
- Copier
- Elevator

DESCRIPTION

VBPW34SC and VBPW34SCR are high speed and high sensitive PIN photodiodes. It is a surface mount device (SMD) including the chip with a 7.5 mm^2 sensitive area detecting visible and near infrared radiation.

PRODUCT SUMMARY			
COMPONENT	I_{ra} (µA)	φ (°)	$\lambda_{0.1}$ (nm)
VBPW34SC	50	± 65	400 to 1100
VBPW34SCR	50	± 65	400 to 1100

Note

- Test conditions see table “Basic Characteristics”

ORDERING INFORMATION			
ORDERING CODE	PACKAGING	REMARKS	PACKAGE FORM
VBPW34SC	Tape and reel	MOQ: 1000 pcs, 1000 pcs/reel	Gullwing
VBPW34SCR	Tape and reel	MOQ: 1000 pcs, 1000 pcs/reel	Reverse gullwing

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	32	V
Power Dissipation at (or below) 25 °C free air temperature	$T_{amb} \leq 25$ °C	P_V	150	mW
Operating temperature range		T_{amb}	-25 to +85	°C
Storage temperature range		T_{stg}	-40 to +85	°C
Soldering temperature	According to reflow solder profile Fig. 3	T_{sd}	260	°C

BASIC CHARACTERISTICS (T_{amb} = 25 °C, unless otherwise specified)						
PARAMETER	**TEST CONDITION**	**SYMBOL**	**MIN.**	**TYP.**	**MAX.**	**UNIT**
Reverse breakdown voltage	I_R = 100 µA, E = 0	$V_{(BR)}$	32	170	-	V
Reverse dark current	V_R = 10 V, E = 0	I_{ro}	-	5	30	nA
Reverse light current	E_e = 1 mW/cm², λ = 940 nm, V_R = 5 V	I_{ra}	17	50	-	µA
Angle of half sensitivity		φ	-	± 65	-	°
Wavelength of peak sensitivity		λ_p	-	940	-	nm
Range of spectral bandwidth		$\lambda_{0.1}$	-	400 to 1100	-	nm

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

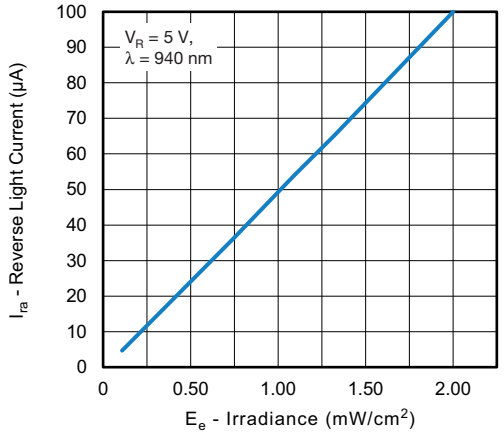


Fig. 1 - Reverse Light Current vs. Irradiance

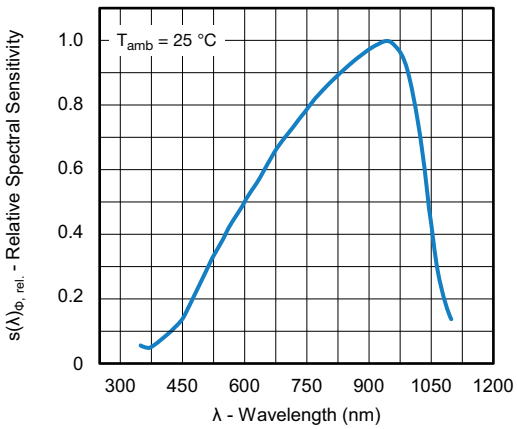
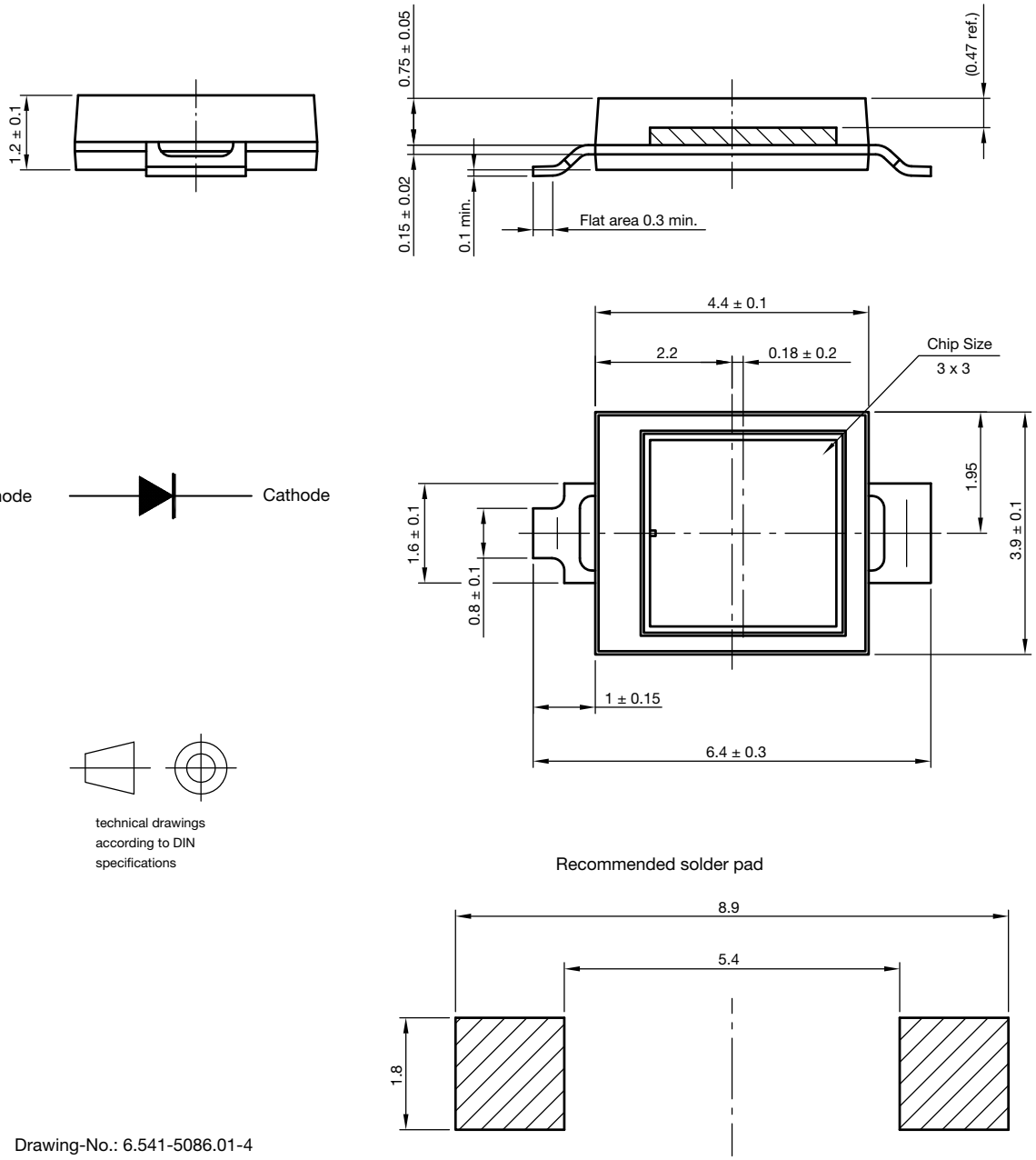


Fig. 2 - Relative Spectral Sensitivity vs. Wavelength

PACKAGE DIMENSIONS FOR VBPW34SC in millimeters



Drawing-No.: 6.541-5086.01-4
Issue: 1; 15.04.10

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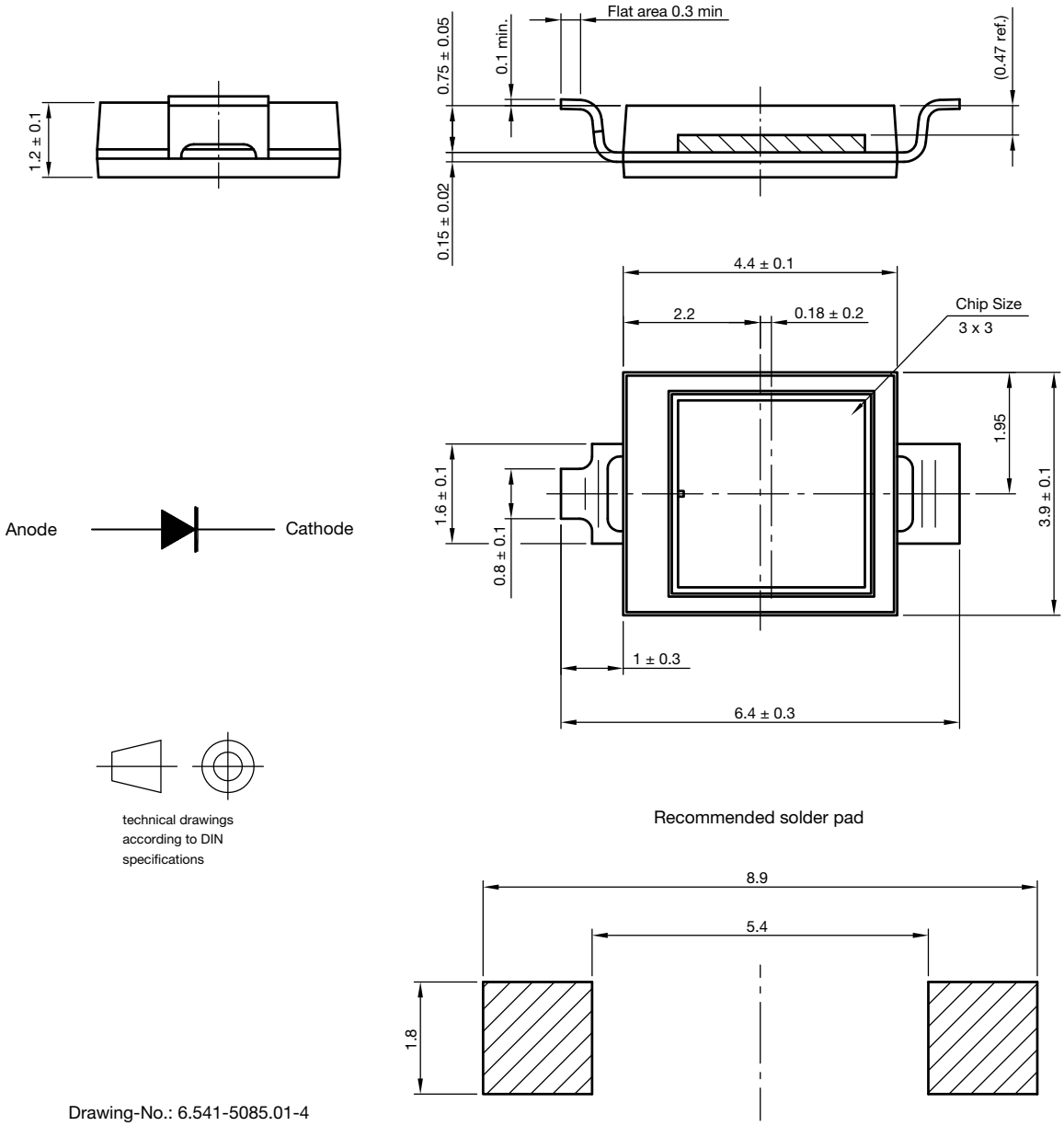
PACKAGE DIMENSIONS FOR VBPW34SCR in millimeters



Drawing-No.: 6.541-5085.01-4

Issue: 1; 15.04.10

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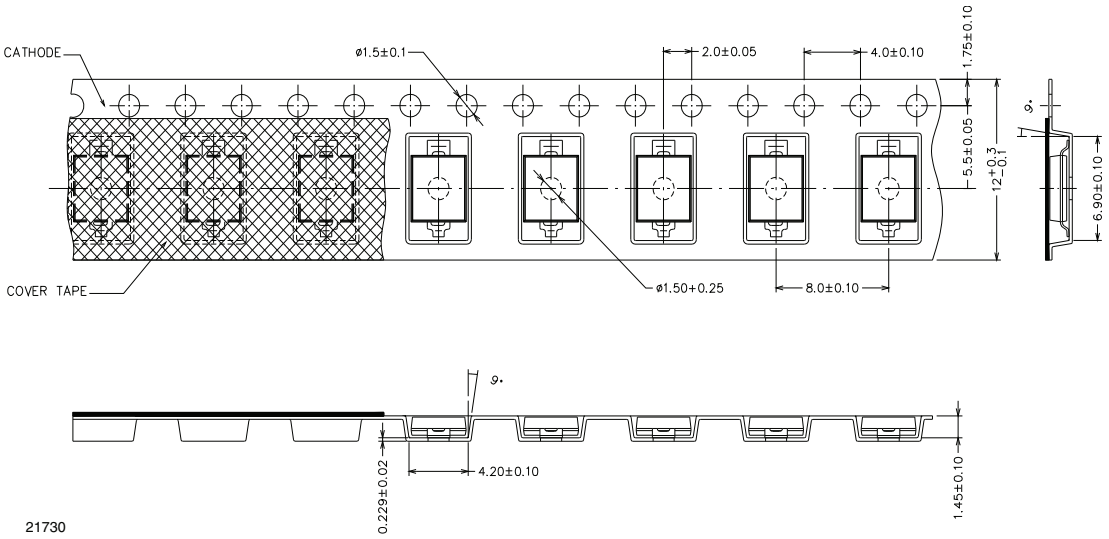
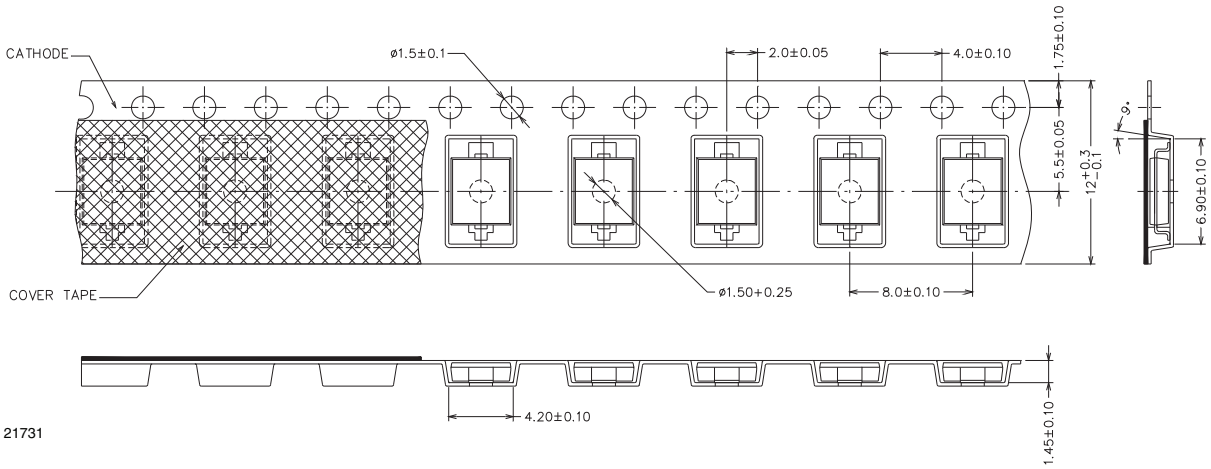
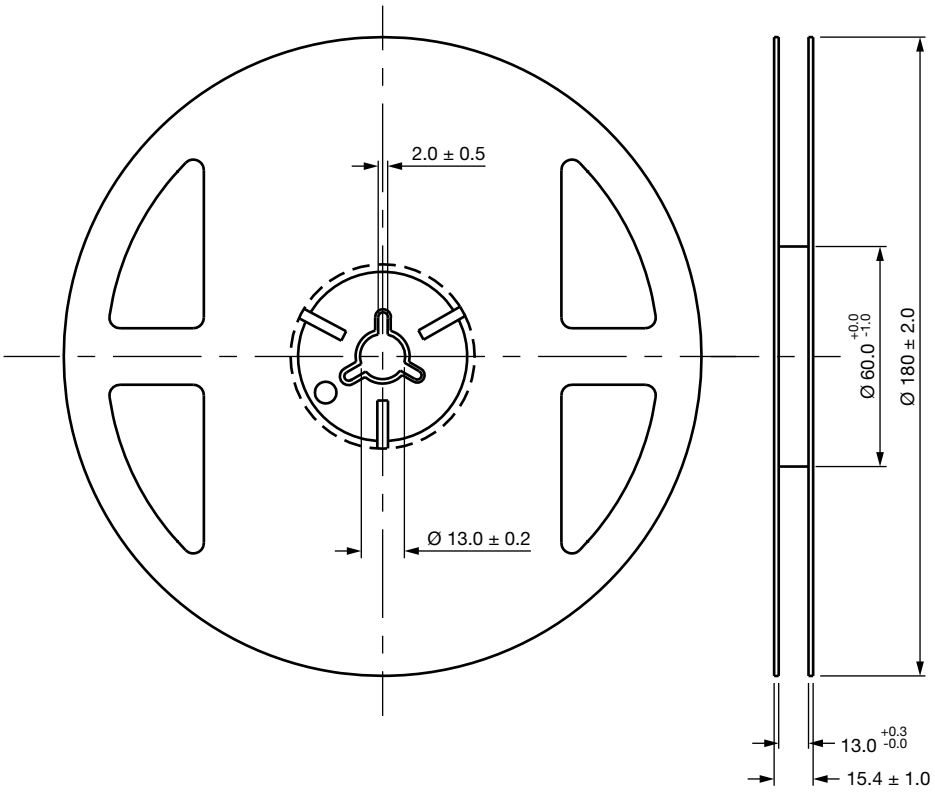
TAPING DIMENSIONS FOR VBPW34SC in millimeters



TAPING DIMENSIONS FOR VBPW34SCR in millimeters



REEL DIMENSIONS FOR VBPW34SC AND VBPW34SCR in millimeters



SOLDER PROFILE

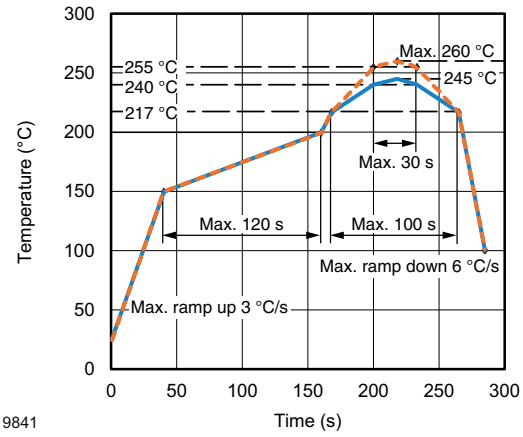


Fig. 3 - Lead (Pb)-free Reflow Solder Profile
According to J-STD-020

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-020 or 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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