

Type No. S14986-05F

**PRELIMINARY**

1. Product outline

- Peak sensitivity wavelength : 900nm
- Photosensitive area size :  $\phi 0.5\text{mm}$
- 2.0×1.8×0.95mm COB package

2. Ratings and characteristics

2.1 Absolute maximum ratings

Parameter	Symbol	Value	Unit	Remark
Operating temperature	T <sub>opr</sub>	-30 to +100	°C	No dew condensation *1
Storage temperature	T <sub>stg</sub>	-40 to +100	°C	No dew condensation *1
Reverse current	I <sub>R</sub>	200	μA	DC current
Soldering condition	--	260 °C, 3times	--	MSL2a

\*1 When there is a temperature difference between a product and the ambient in high humidity environment, dew condensation may occur on the product surface. Dew condensation on the product may cause a deterioration of characteristics and reliability.

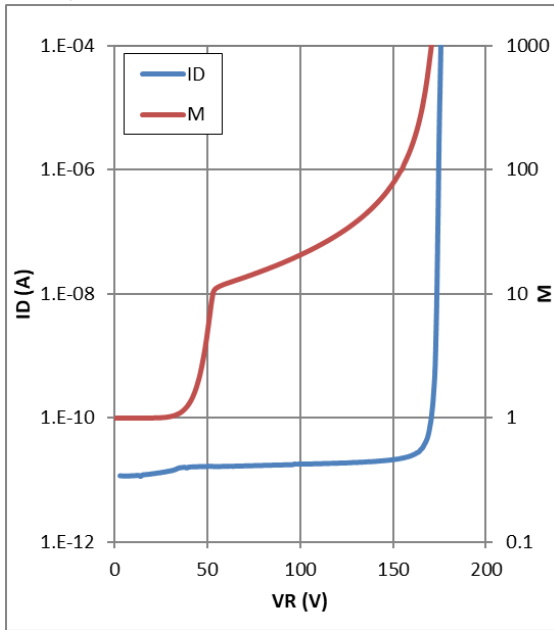
2.2 Electrical and optical characteristics (Ta=25 °C)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Spectral response range	$\lambda$		--	850~950	--	nm
Peak sensitivity wavelength	$\lambda_p$	M=100	--	900	--	nm
Photo sensitivity	S	M=1, $\lambda=900\text{nm}$	--	0.5	--	A/W
Quantum efficiency	QE	M=1, $\lambda=900\text{nm}$	--	70	--	%
Breakdown voltage	V <sub>BR</sub>	I <sub>R</sub> =10μA	155	175	195	V
Temperature coefficient of V <sub>BR</sub>	$\gamma$		--	1.1	--	V/°C
Dark current	I <sub>D</sub>	M=100	--	0.08	0.8	nA
Cut-off frequency	f <sub>c</sub>	M=100, $\lambda=900\text{nm}$ R <sub>L</sub> =50Ω, -3dB	--	600	--	MHz
Terminal capacitance	C <sub>t</sub>	M=100, f=1MHz	--	1.0	--	pF
Excess noise figure	x	M=100, $\lambda=900\text{nm}$	--	0.3	--	

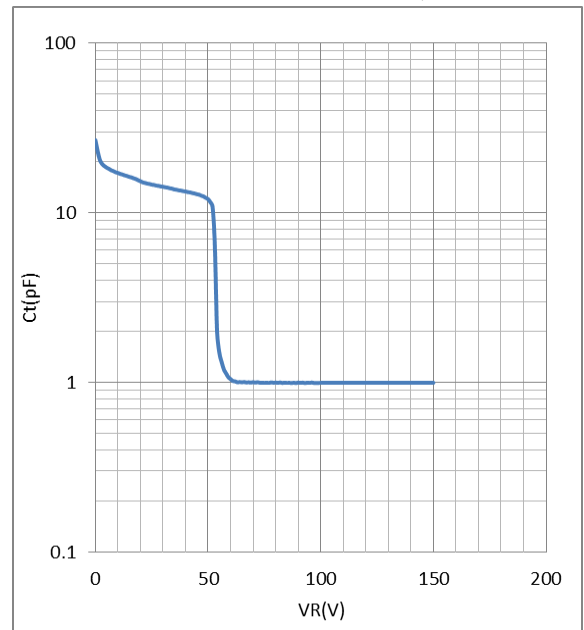
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2.3 Characteristic example

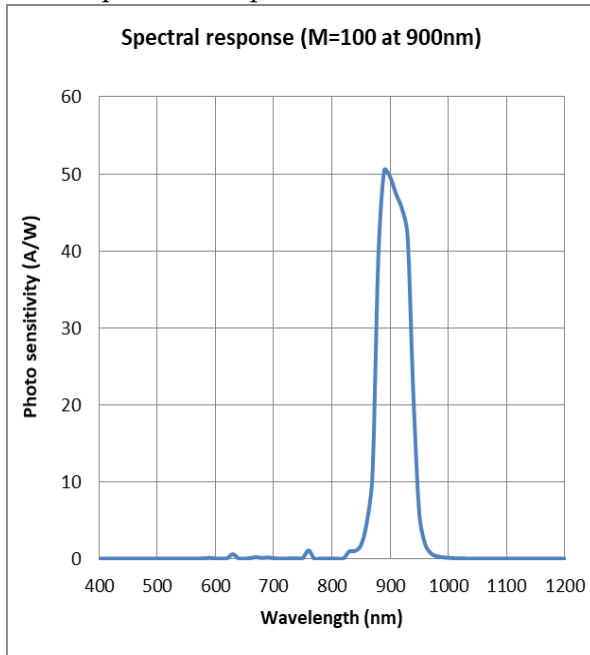
ID, Gain characteristics (Ta=25°C)



Ct characteristics (Ta=25°C, f=1MHz)

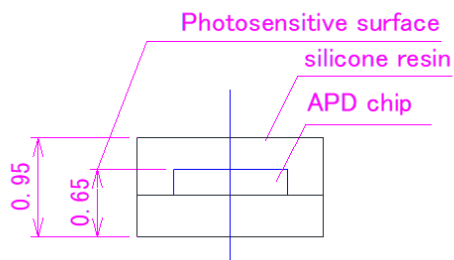
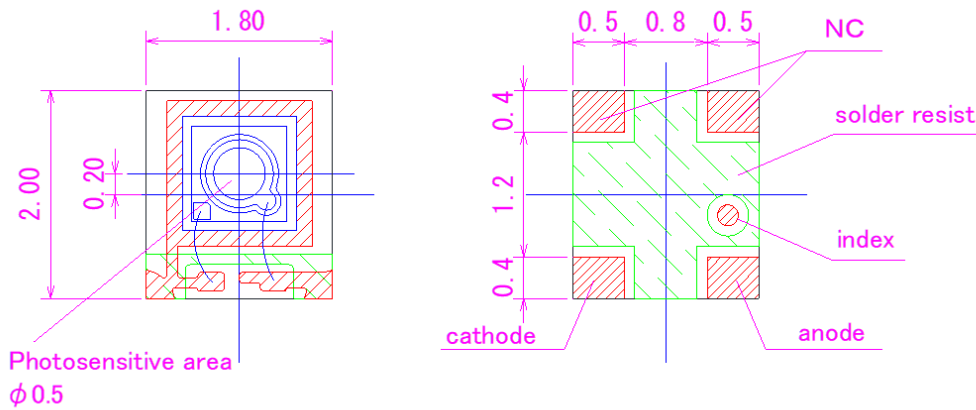


Spectral response characteristic (Ta=25°C)



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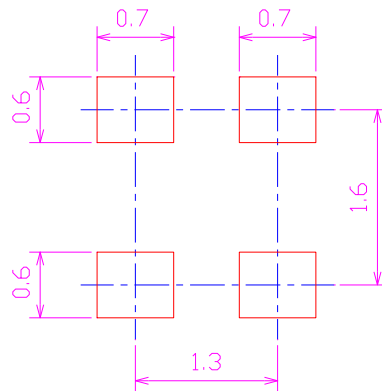
3. Dimensional outline ( Unit : mm )



1. Tolerance unless otherwise noted:  $\pm 0.1$
2. Position tolerance for active area is less than  $\pm 0.15$  with respect to the backside electrode pad.



4. Recommended land pattern (Unit:mm)



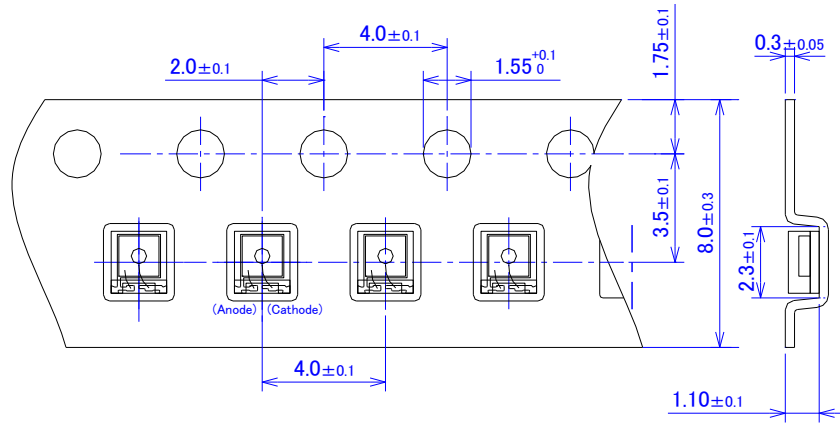
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5. Packing

5.1 Tape & Reel packing

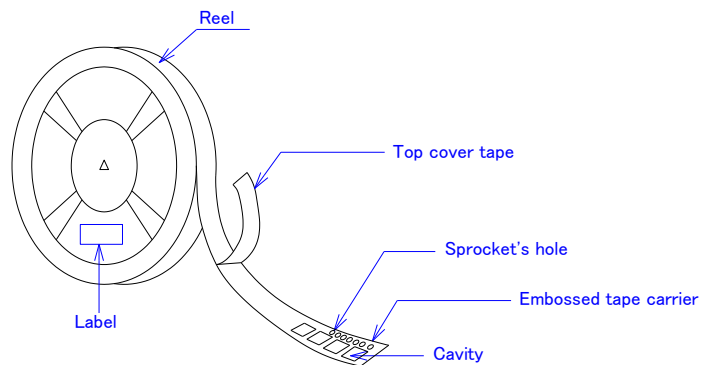
Embossed tape carrier : Width : 8mm, Pitch : 4mm ( Ref. Figure.1)

[Figure. 1]



5.2 Taping to reel

[Figure. 2]



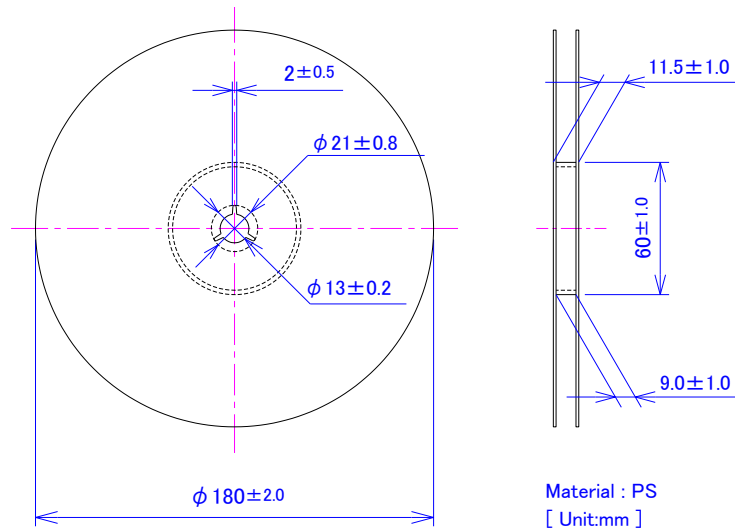
The following parameters & bar-code are indicated on the label.

TypeNo., Quantity (QTY), Date Code

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**5.3 Reel**

Standard packing quantity. 1000pcs / reel  
[Figure.3]

**5.4 Moisture-proof pack**

1reel/pack : enclosed silica gel.

The following parameters & bar-code are indicated on the label.

TypeNo., Quantity (QTY), Date Code

The precaution label for moisture proof storage is stuck on the pack.

**5.5 Outside packing**

Corrugated paper box with an appropriate size for quantity shipment.

The following parameters are indicated on the label.

TypeNo., Quantity (QTY)