

CHARACTERISTICS AND ABSOLUTE MAXIMUM RATING BY MATERIAL

Photo Transistor (Through-Hole Shape)

Ta=25°C (Excl: Topr and Tstg)

Part Number Prefix	Absolute Maximum Ratings						Electro-Optical Characteristics						
	Collector Dissipation	Collector-Emitter Breakdown Voltage	Emitter-Collector Breakdown Voltage	Collector Current	Operating Temp.	Storage Temp.	Dark Current		Response Time			Wavelength of Peak Sensitivity	
	Type	V _{CEO}	V _{ECO}	I _C	T _{opr}	T _{stg}	I _{CEO}		tr • ff			p TYP	
	Pd	V _{CEO}	V _{ECO}	I _C	T _{opr}	T _{stg}	MAX.	I _{CEO}	TYP.	V _{CE}	I _C	R _L	p TYP
PS	100	30	5	30	-30~+85	-30~+100	0.2	10	5	10	2	100	880
502	60	30	5	20	-30~+85	-30~+100	0.2	10	5	10	2	100	880
Unit	mW	V	V	mA	°C	°C	A	V	sec	V	mA		nm

Photo Transistor (SMT Shape)

Ta=25°C (Excl: Topr and Tstg)

Part Number Prefix	Absolute Maximum Ratings						Electro-Optical Characteristics						
	Collector Dissipation	Collector-Emitter Breakdown Voltage	Emitter-Collector Breakdown Voltage	Collector Current	Operating Temp.	Storage Temp.	Dark Current		Response Time			Wavelength of Peak Sensitivity	
	Pd	V _{CEO}	V _{ECO}	I _C	T _{opr}	T _{stg}	I _{CEO}		tr • ff			p TYP	
	Pd	V _{CEO}	V _{ECO}	I _C	T _{opr}	T _{stg}	MAX.	I _{CEO}	TYP.	V _{CE}	I _C	R _L	p TYP
PS	75	30	5	20	-30~+85	-30~+90	0.1	10	9	10	2	100	880
Unit	mW	V	V	mA	°C	°C	A	V	sec	V	mA		nm

Pin Photo Diode (Through-hole Shape)

Part Number Prefix	Absolute Maximum Ratings				Electro-Optical Characteristics												
	Power Dissipation	Reverse Voltage	Operating Temp.	Storage Temp.	Photo Current I _P			Response Time tr • ff			Capacitance C _T		Dark Current I _D		Wavelength of Peak Sensitivity p		
	Pd	V _R	T _{opr}	T _{stg}	TYP.	V _R	E _e	TYP.	V _R	R _L	TYP.	V _R	f	MAX.	V _R	TYP.	V _R
PP	Specifications vary according to a part type																
Unit	mW	V	°C	°C	A	V	mW/cm ²	nsec	V		pF	V	MHz	nA	V	nm	V

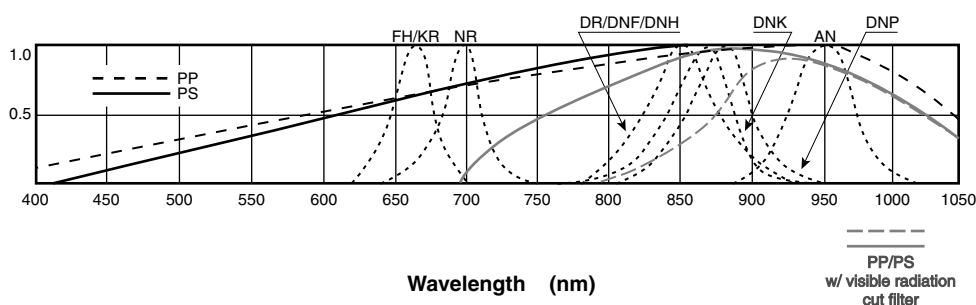
Pin Photo Diode (SMT Shape)

Ta=25°C (Excl: Topr and Tstg)

Part Number Prefix	Absolute Maximum Ratings				Electro-Optical Characteristics												
	Power Dissipation	Reverse Voltage	Operating Temp.	Storage Temp.	Photo Current I _P			Response Time tr • ff			Capacitance C _T		Dark Current I _D		Wavelength of Peak Sensitivity p		
	Pd	V _R	T _{opr}	T _{stg}	TYP.	V _R	E _e *	TYP.	V _R	R _L	TYP.	V _R	f	MAX.	V _R	TYP.	V _R
PP	30	15	-30~+85	-30~+90	4	5	5	50	10	1000	3	10	1	10	10	950	0
Unit	mW	V	°C	°C	A	V	mW/cm ²	nsec	V		pF	V	MHz	nA	V	nm	V

*A standard tungsten filament lamp with color temperature 2856K is used.

Spectral Distribution


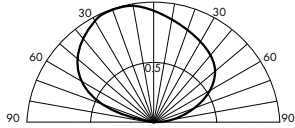

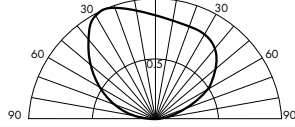

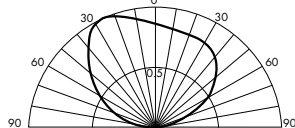

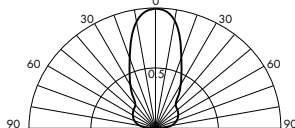

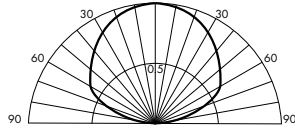

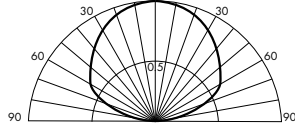


Emitter:
Relative Radiant Intensity
Detector:
Relative Spectral Sensitivity

SMT SHAPE - PHOTO TRANSISTOR AND PIN PHOTO DIODE

Photo Transistor


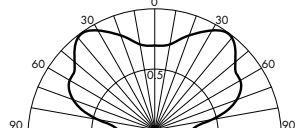
Ta= 25°C

Shape	Part No.	Features	Wavelength of Peak Sensitivity P TYP.	Photo Current I _c				Response Time tr • tf TYP.	Spatial Distribution (The typical distribution example of each shape is shown below)	fig.
				MIN.	TYP.	V _{CE}	E _e			
	PS1101WA	—	880	0.7	3.5	5	5	8/9		1
	PS1101RA	Reverse Mount	880	0.4	2.0	5	5	8/9		2
	PS1191RA	Reverse Mount with visible radiation cut filter under 700nm	900	0.4	2.0	5	5	8/9		2
	PS1192FA	Side view package with visible radiation cut filter under 700nm	900	1.4	7.0	5	5	8/9		3
	PS1102HA	Compact size	880	0.4	2.0	5	5	8/9		4
	PS1192HA	Compact size with visible radiation cut filter under 700nm	900	0.4	2.0	5	5	8/9		4
Unit			nm	mA		V	mW/cm ²	s		

I_c=2mA, V_{CE}=10V, R_L=100
All above products contain no lead

Pin Photo Diode

Ta= 25°C

Shape	Part No.	Features	Wavelength of Peak Sensitivity P TYP.	Photo Current I _c				Response Time tr • tf TYP.	Spatial Distribution (The typical distribution example of each shape is shown below)	fig.
				MIN.	TYP.	V _{CE}	E _e			
	PP1101W	—	950	2.0	4.0	5	5	50		5
Unit			nm	mA		V	mW/cm ²	ns		

Product contains no lead

SMT SHAPE - PHOTO TRANSISTOR AND PIN PHOTO DIODE

Package Dimensions

unit: mm

fig. 1

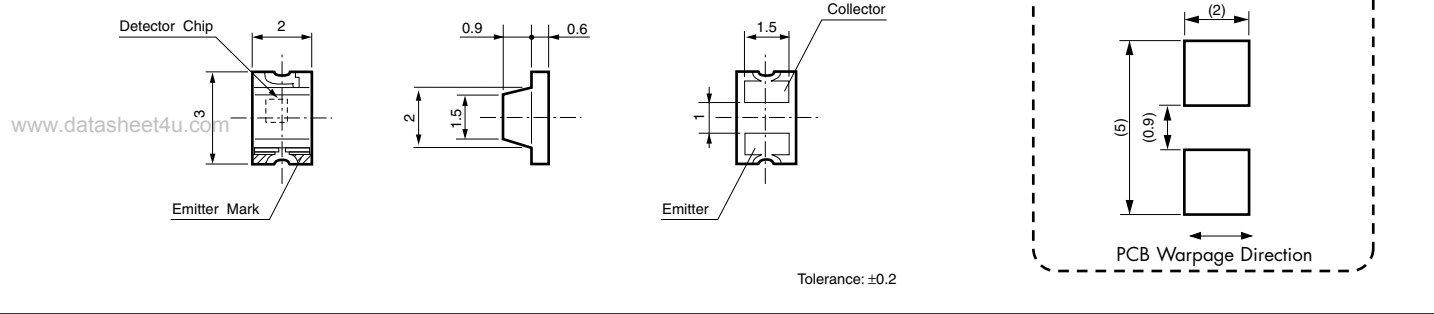


fig. 2

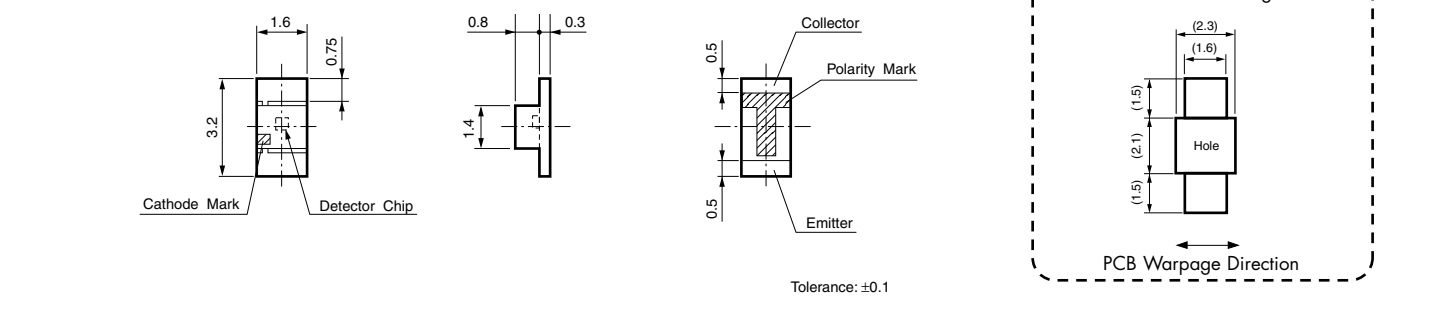


fig. 3

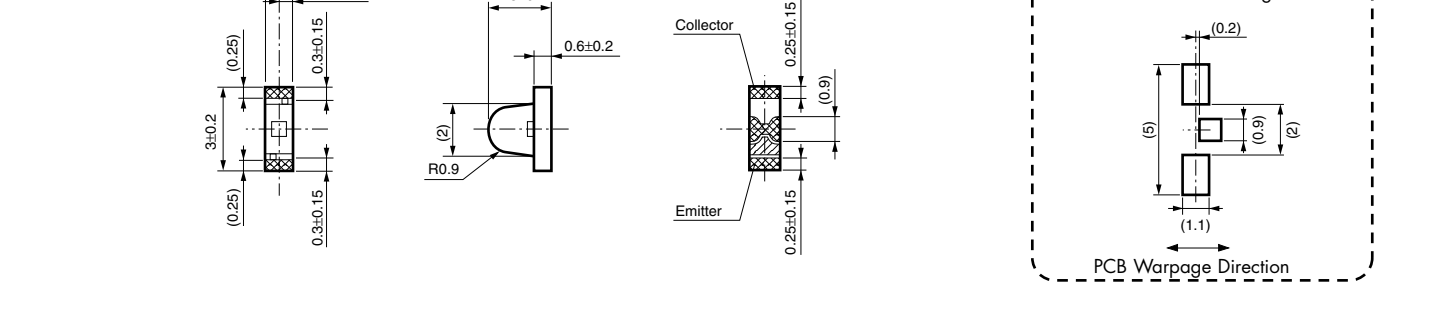
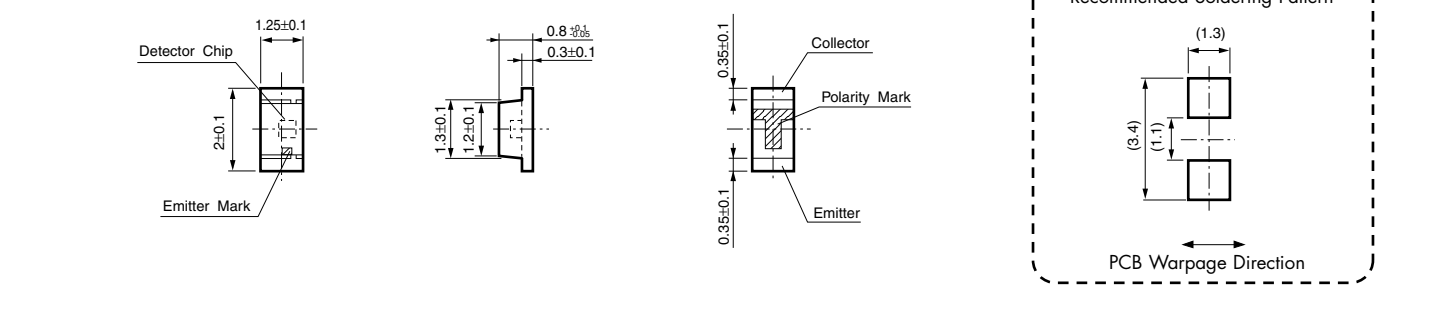


fig. 4



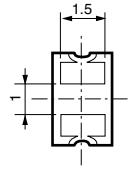
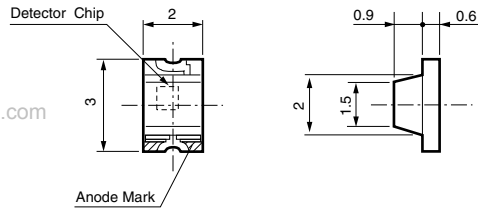
SMT SHAPE - PHOTO TRANSISTOR AND PIN PHOTO DIODE

Package Dimensions

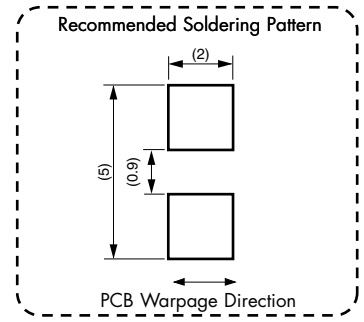
unit: mm

fig. 5

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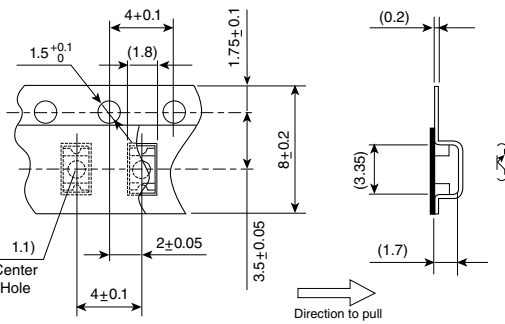
Tolerance: ± 0.2



Taping Specifications

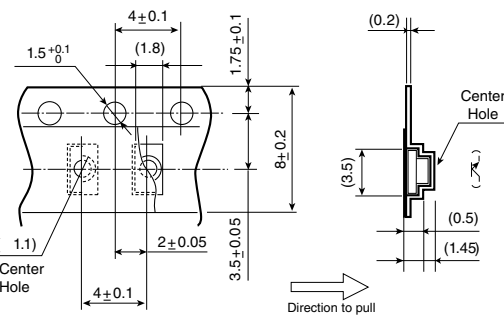
unit: mm

1101WA



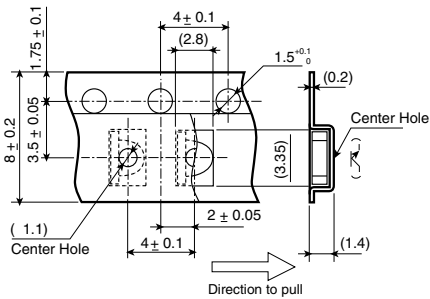
Quantity per Reel: 2,500

1101RA-1191RA



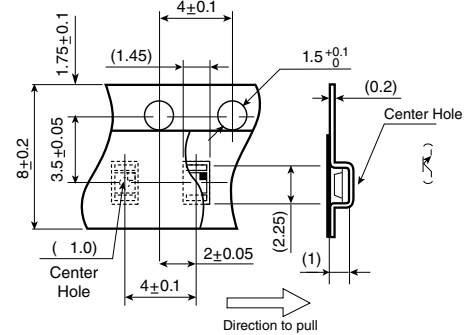
Quantity per Reel: 3,000

1192FA



Quantity per Reel: 3,000

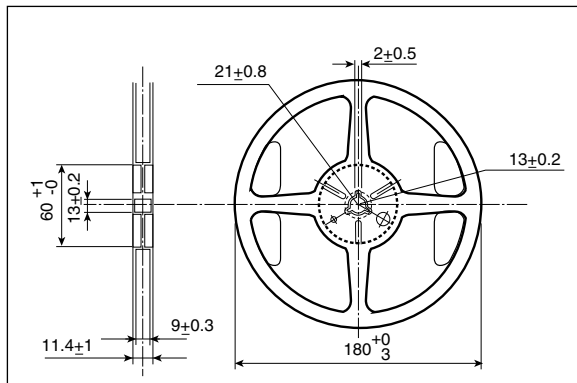
1102HA-1192HA



Quantity per Reel: 4,000

Reel Specifications


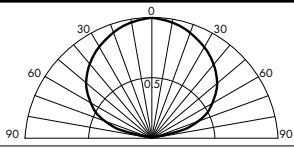

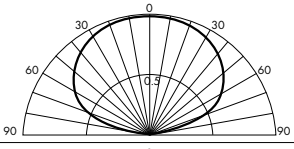

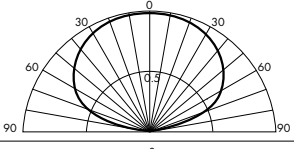

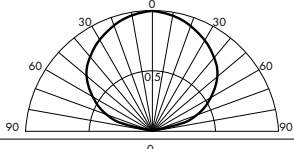

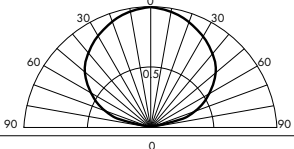

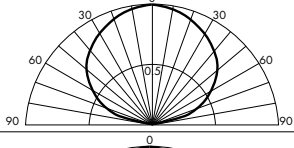

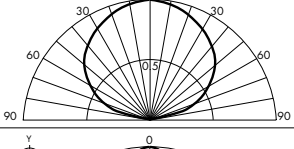

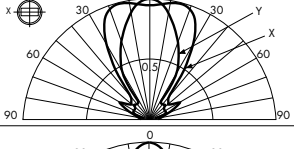

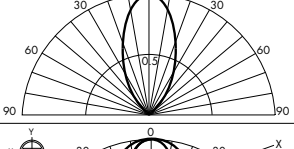

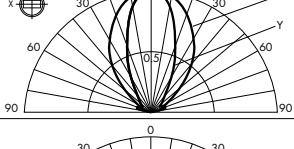

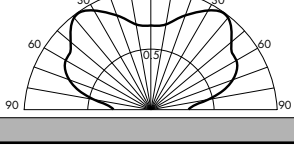
unit: mm



THROUGH-HOLE SHAPE - PIN PHOTO DIODE

PIN Photo Diode

Ta= 25°C

Shape	Part No.	Features	Electro-Optical Characteristics														Spatial Distribution (The typical distribution example of each shape is shown below)	fig.	
			Absolute Max. Rating		Photo Current IP			Response Time tr · tf			Capacitance CT		Dark Current ID		Wavelength of Peak Sensitivity λp & Sensitivity Sp				
			Operating temp. Topr.	Storage temp. Tstg.	TYP.	Vr	Ee	TYP.	Vr	RL	TYP.	Vr	MAX.	Vr	nm	μA/W			
	PP403	Flat lens/ 3 package	-30 ~ +85	-30 ~ +100	1.5	5	0.5	20	10	1000	7	10	10	10	10	950	0.64		1
	PP508	Side view package	-30 ~ +85	-30 ~ +100	7.5	5	0.5	50	10	1000	11	10	20	10	950	0.64		2	
	PP508-1	Side view package with visible radiation cut filter under 700nm	-30 ~ +85	-30 ~ +100	5.5	5	0.5	50	10	1000	11	10	20	10	950	0.64		2	
	PP601	Double-end package	-30 ~ +85	-30 ~ +100	6.0	5	0.5	100	10	1000	13	10	30	10	950	0.64		3	
	PP601-1	Double-end package with visible radiation cut filter under 700nm	-30 ~ +85	-30 ~ +100	4.8	5	0.5	100	10	1000	13	10	30	10	950	0.64		3	
	PP601-2	Double-end package with visible radiation cut filter under 800nm	-30 ~ +85	-30 ~ +100	3.0	5	0.5	100	10	1000	13	10	30	10	950	0.64		3	
	PP602	Flat lens High photo current	-30 ~ +85	-30 ~ +100	440	12	5	200	12	1000	60	12	100	12	950	0.64		4	
	PP701	Big lens High photo current	-20 ~ +60	-20 ~ +60	1100	12	5	200	12	1000	60	12	20	12	950	0.64		5	
	PP703	Big lens High photo current Narrow distribution	-20 ~ +70	-20 ~ +70	1100	12	5	150	12	1000	35	12	10	12	950	0.64		6	
	PP704	Big lens High photo current	-20 ~ +70	-20 ~ +70	700	12	5	150	12	1000	35	12	10	12	950	0.64		7	
	PP801	Wide distribution with convex type lens	-20 ~ +70	-20 ~ +70	190	12	5	150	12	1000	35	12	20	12	950	0.64		8	

All above products contain no lead

* Lead-free soldering compatible product

f=1MHz 2 Vr=0V 3 Vr=5V

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