

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	
								ICEO	TYP.	tr • tf		p TYP		
Type	Pd	VCEO	VECO	IC	Topr	Tstg	MAX.	ICEO		VCE	IC		RL	
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	
							ICEO	MAX.	ICEO	TYP.	tr • tf		
											VCE		IC
Pd	VCEO	VECO	IC	Topr	Tstg								
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 IP			Response Time tr • tf			Capacitance CT			Dark Current ID		Wavelength of Peak Sensitivity p	
	Pd	VR	Topr	Tstg	TYP.	VR	Ee	TYP.	VR	RL	TYP.	VR	f	MAX.	VR	TYP.	VR
PP	Specifications vary according to a part type																
Unit	mW	V	°C		A	V	mW/cm²	nsec	V		pF	V	MHz	nA	V	nm	V

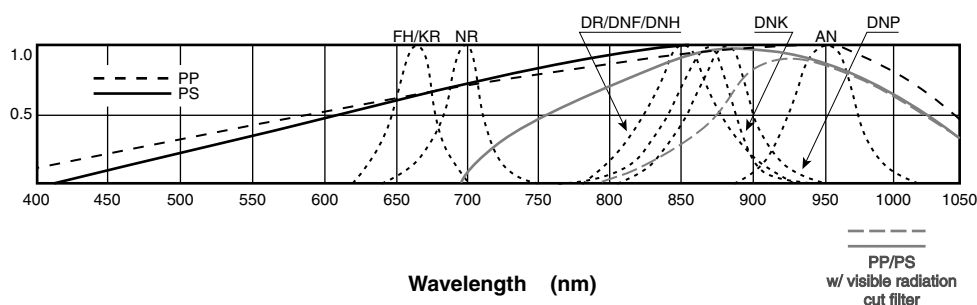
Pin Photo Diode (SMT Shape)

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 IP			Response Time tr • tf			Capacitance CT			Dark Current ID		Wavelength of Peak Sensitivity p	
	Pd	VR	Topr	Tstg	TYP.	VR	Ee*	TYP.	VR	RL	TYP.	VR	f	MAX.	VR	TYP.	VR
PP	30	15	-30~+85	-30~+90	4	5	5	50	10	1000	3	10	1	10	10	950	0
Unit	mW	V	°C		A	V	mW/cm²	nsec	V		pF	V	MHz	nA	V	nm	V

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

Spectral Distribution

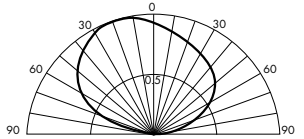
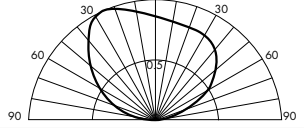
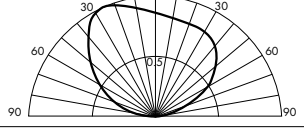
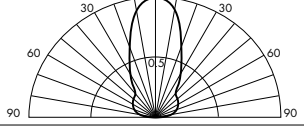
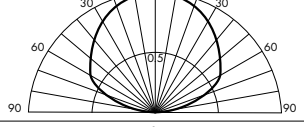
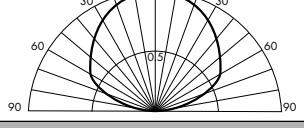


Emitter:
Relative Radiant Intensity
Detector:
Relative Spectral Sensitivity

SMT SHAPE - PHOTO TRANSISTOR AND PIN PHOTO DIODE

Photo Transistor

Ta= 25°C

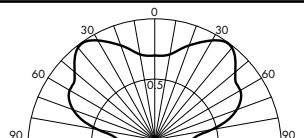
Shape	Part No.	Features	Wavelength of Peak Sensitivity P TYP.	Photo Current I _c				Response Time tr • tf TYP.	Spatial Distribution (The typical distribution example of each shape is shown below)	fig.
				MIN.	TYP.	V _{CE}	E _e			
	PS1101WA	—	880	0.7	3.5	5	5	8/9		1
	PS1101RA	Reverse Mount	880	0.4	2.0	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

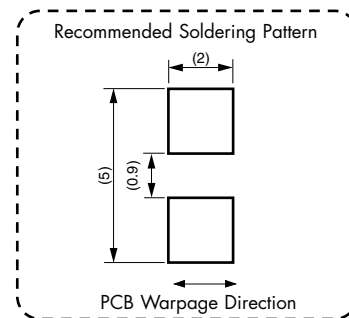
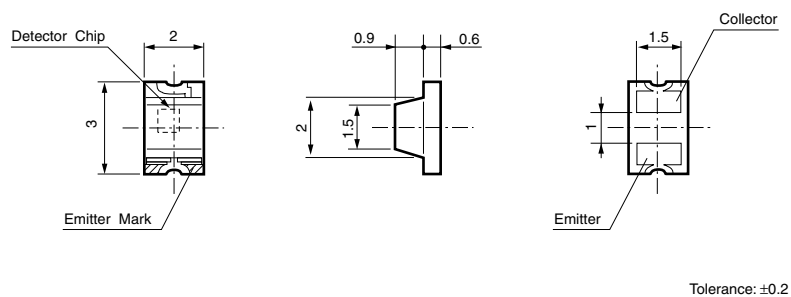


fig. 2

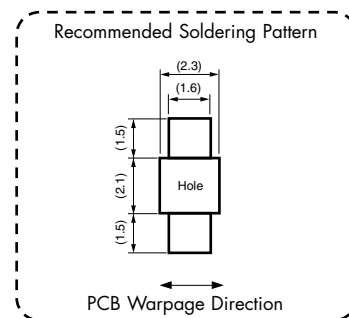
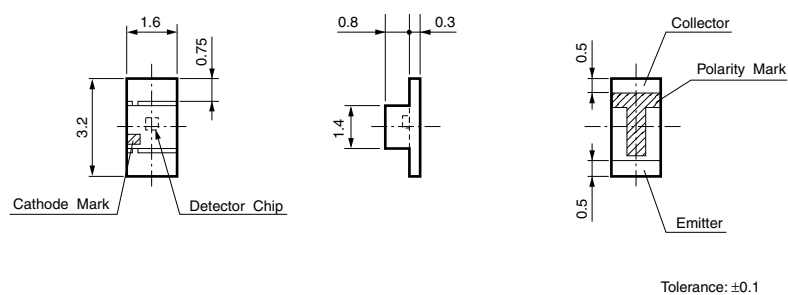


fig. 3

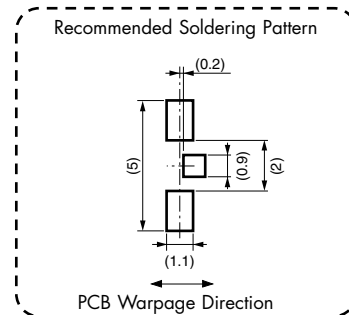
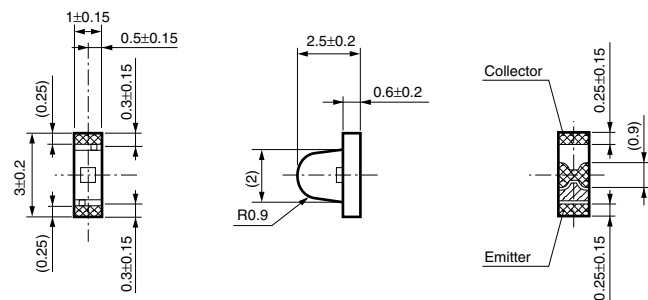
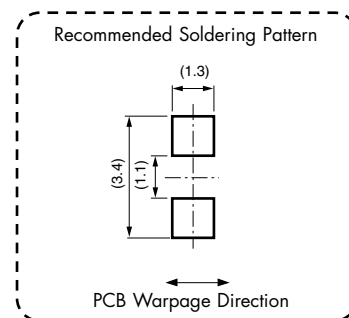
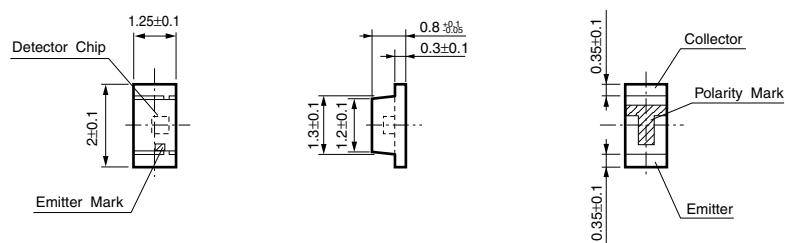


fig. 4

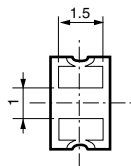
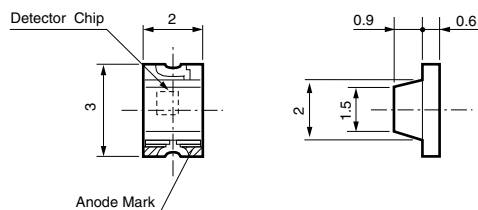


SMT SHAPE - PHOTO TRANSISTOR AND PIN PHOTO DIODE

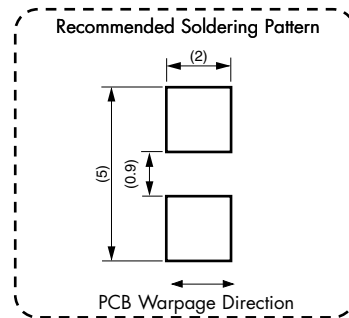
Package Dimensions

unit: mm

fig. 5



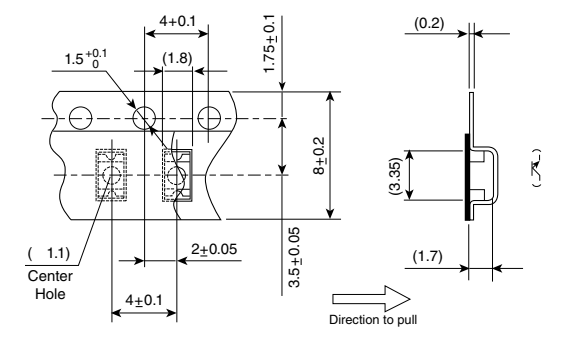
Tolerance: ± 0.2



Taping Specifications

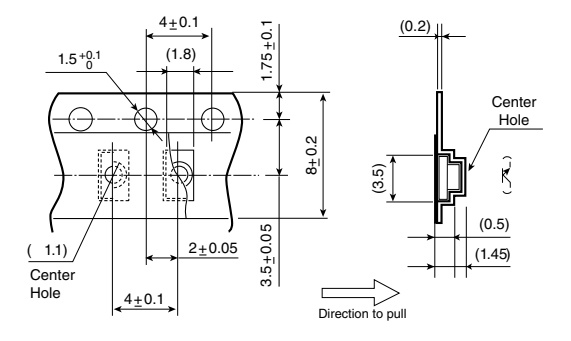
unit: mm

1101WA



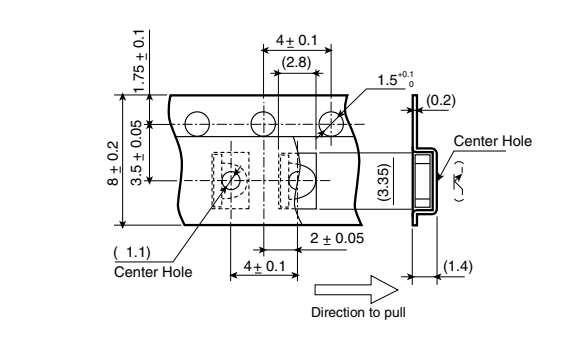
Quantity per Reel: 2,500

1101RA-1191RA



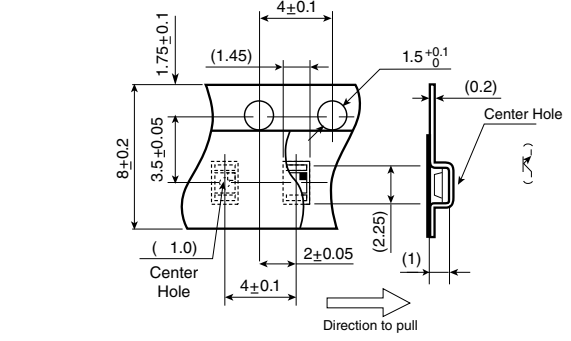
Quantity per Reel: 3,000

1192FA



Quantity per Reel: 3,000

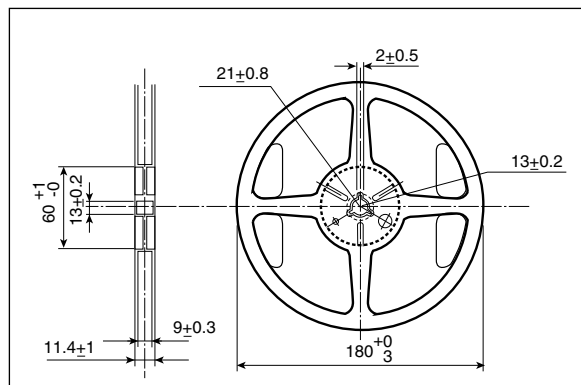
1102HA-1192HA



Quantity per Reel: 4,000

Reel Specifications

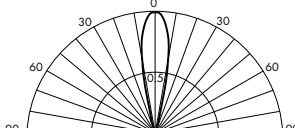
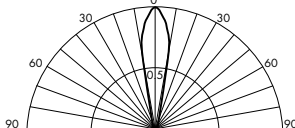
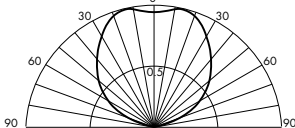
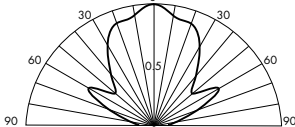
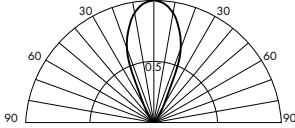
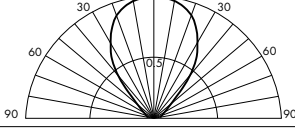
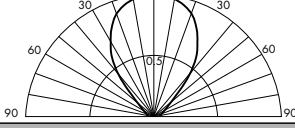
unit: mm



THROUGH-HOLE SHAPE - PHOTO TRANSISTOR

Photo Transistor

Ta= 25°C

Shape	Part No.	Features	Wavelength of Peak Sensitivity P TYP.	Photo Current Ic				Response Time tr • tf	Spatial Distribution (The typical distribution example of each shape is shown below)	fig.
				MIN.	TYP.	VCE	Ee			
	PS3022	5 package High photo current	880	1.5	7.0	5	1	5		1
	PS3322	3 package Narrow distribution	880	1.2	3.6	5	1	5		2
	PS3072	3 package Wide distribution	880	0.2	0.7	5	1	5		3
	PS4032	3 package Flat lens	880	1.5	5.0	5	10	5		4
	PS5022	Double-end	880	0.4	2.0	5	1	5		5
	PS5042	Side-view	880	0.4	1.4	5	1	5		6
	PS5042-2	Side view package with visible radiation cut filter under 800nm	930	0.13	0.4	5	1	5		6
Unit			nm	mA		V	mW/cm ²	s		

All above products contain no lead

* Lead-free soldering compatible product

Ic=2mA, VCE=10V, RL=100

THROUGH-HOLE SHAPE - PHOTO TRANSISTOR

Package Dimensions

unit: mm

fig. 1

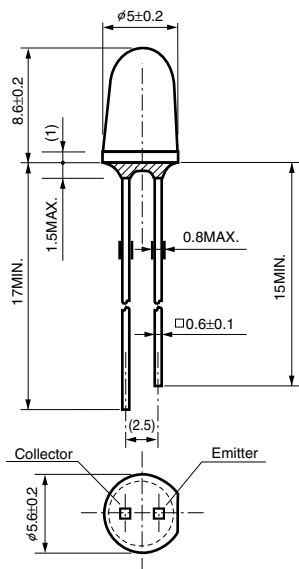


fig. 2

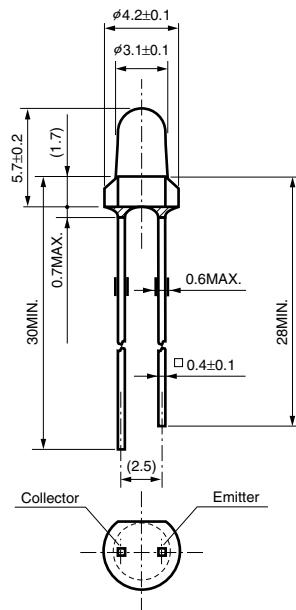


fig. 3

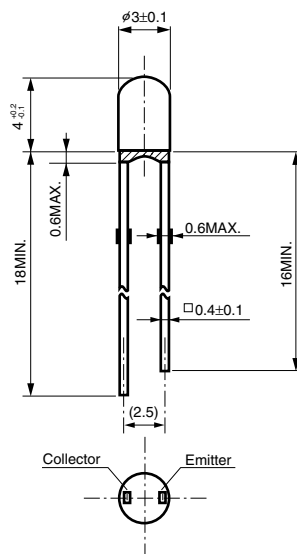


fig. 4

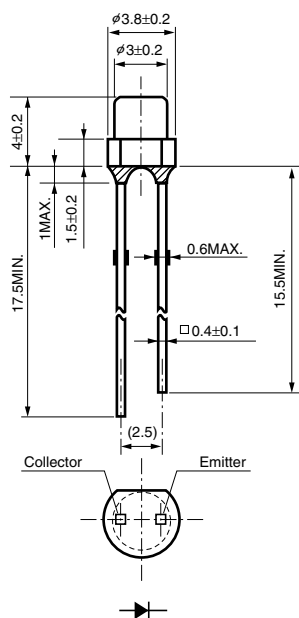


fig. 5

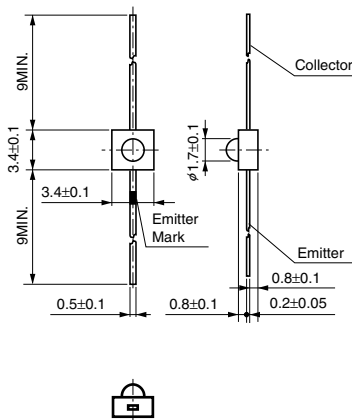


fig. 6

