
Characteristics List

■ Photodetector

Photodetector

PIN Photodiode

Part No.	Absolute Maximum Ratings		Electro • Optical Characteristics $T_a = 25^\circ\text{C}$										Package	No.	Outline view
	V_R (V)	P_D (mW)	V_R (V)	I_D max. (nA)	V_R (V)	L (lx)	I_L min. (μA)	λ_p typ. (nm)	V_R (V)	R_L (Ω)	t_r, t_f typ. (ns)	θ typ. (deg)			
PNA3W01L (PN307)	30	10		50			5		10	1000	50	24	Double end	O 36	
PNZ300 (PN300)	50			10	10	1000	30	800	20	50	1	10	TO-18 (Lens can)	O 01	
PNZ300F (PN300F)							5					40	TO-18 (Flat can)	O 03	
PNZ313 (PN313)	30	100	10	50	5	$H = 0.1 \text{ mW/cm}^2$	$S_{IR} = 4.5$	900	10	1000	50	65	Side view (Flat package, Visible light cut)	O 33	
PNZ313B (PN313B)							$S_{IR} = 3.2$	970					Side view (Visible light cut, equal to IR88)		
PNZ323 (PN323)							$S_{IR} = 4.5$	900				70	TO-92 (Visible light cut)	O 37	
PNZ323B (PN323B)							$S_{IR} = 3.2$	970					TO-92 (Visible light cut, equal to IR88)		
PNZ327 (PN327)							$S_{IR} = 4.5$	900							
PNZ330CL (PN330CL)							7						TO-18 (Resin mold)	O 05	
PNZ334 (PN334)			10	10	1000		5	850	50	2			5 ϕ plastic (Flat package)	O 17	
PNZ335 (PN335)													Side view (Flat package)	O 32	

Photo IC

• for CD Pick up

Part No.	Absolute Maximum Ratings		Electro • Optical Characteristics $T_a = 25^\circ\text{C}$							Package	No.	Outline view
	V_{CC} (V)	P_C (mW)	I_{CC} typ. (mA)	$V_{O(\text{offset})}$ (mV)	V_O (mV) AD EF	λ (nm)	f_C (MHz)	λ (nm)	λ_p (nm)			
PNC4271F (PN7611)	6	115	1.3	-15 ~ +15	300/660	780	2.5	780	900	Flat clear 6-division type Quadruple speed	O 77	

Note) Part numbers show the Matsushita unified part numbers. And the part numbers in parentheses show the conventional ones.

■ Photo IC (continued)

• for Remote Control Receiver

Part No.	Absolute Maximum Ratings		Electro • Optical Characteristics T _a = 25°C			Package	No.	Outline view
	V _{CC} (V)	P _D (mW)	I _{CC} typ. (mA)	L typ. (m)	f _O typ. (kHz)			
PNA4601M	5	200	2.4	10	36.7	Side view (standard sensitivity)	O 27	
PNA4602M					38.0			
PNA4611M				16	36.7	Side view (High sensitivity) Metal holder (option)		
PNA4612M					38.0			
PNA4613M					40.0			
PNA4614M					56.9			
PNA4701M	3.3	200	0.8	9	36.7	Side view (standard sensitivity)		
PNA4702M					38.0			
PNA4711M				15	36.7	Side view (High sensitivity) Metal holder (option)		
PNA4712M					38.0			
PNA4713M					40.0			
PNA4714M					56.9			

• for Light Control

Part No.	Absolute Maximum Ratings		Electro • Optical Characteristics T _a = 25°C					Package	No.	Outline view
	V _{CC} (V)	P _D (mW)	I _{CC} typ. (mA)	V _O (V _{CC} = 5.0 V 時)			λ _P (nm)			
				L = 0 lx (V)	L = 10 lx (V)	L = 800 lx (V)				
PNA4603H	7	200	1.0	0.5	2.7	4.1	540	Side view	O 35	

• for APC Amplifier with Integrated Photodetector (× 48)

Part No.	V_{CC} typ. (V)	I_{CC} max. (mA)	V_O typ. (mV)	V_{off} (mV)	t_r, t_f typ. (μs)	V_{OM} typ. (V)	Package	No.	Outline view
PNA4S51F	5.0	20	-190	± 8	5	-2.2	Small size (3.5 × 3.0 × 1.16 mm)	O 76	
PNA4S87F							Medium size (4.9 × 4.0 × 1.16 mm)	O 75	

Note) Part numbers show the Matsushita unified part numbers. And the part numbers in parentheses show the conventional ones.

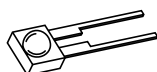
Photodetector

■ Phototransistor without Base Pin

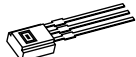
Part No.	Absolute Maximum Ratings	Electro • Optical Characteristics T _a = 25°C								Package	No.	Outline view			
	V _{CEO} (V)	L (lx)	I _{CE(L)} min. (mA)typ. (mA)		I _{CEO} max. (μA)	V _{CE(sat)} max. (V)	λ _p typ. (nm)	t _r , t _f typ. (μs)	θ typ. (deg)						
LNA1101L (PN126S)	20	1000	1.05	2.56 max.	0.1	—	800	2.5/3.5	30	3φ ceramic	O 07				
LNA1401L (PN101)	30	100	1.5	3.5	0.3	0.4		3	10	TO-18 (Lens can)	O 01				
PNA1401LF (PN101F)			0.1	0.3						40	TO-18 (Flat can)	O 03			
PNA1601M (PN166)	20	H = 15 μW /cm ²	S _{IR} = 3 μA	—	0.2	0.5	850	4	35	Side view (Thin type visible light cut)	O 24				
PNA1606L		500	1.0				27		Side view	O 18					
PNA1608L (PN150L)		H = 15 μW /cm ²	S _{IR} = 16 μA				35		Side view (Long lead)	O 29					
PNA1801L (PN168)	30	500	0.8	3	0.5				3φ plastic	O 09					
PNZ107 (PN107)	20	100	5	15 max.	2	0.6	900	5/6	10	TO-18 (Lens can) High sensitivity	O 01				
PNZ107F (PN107F)			0.4	4 max.				8/9	40	TO-18 (Flat can) High sensitivity	O 03				
PNZ120S (PN120S)	30	2	3 μA	0.2	0.5	0.5	800	8	50	3φ ceramic	O 07				
	500	—	6												
PNZ121S (PN121S)	20	1000	0.12	0.28 max.	0.1	—		1/1.3	30				Double end	O 36	
PNZ123S (PN123S)			0.4	0.7 max.				3.5/5							
PNZ127 (PN127)			0.8	19.2 max.				2.5/3.5	14						
PNZ147 (PN147)		2	3 μA	12 μA	0.5	3		24							
		500	—	3.5											
PNZ150 (PN150)		500	1	3	1	0.5		4	35	Side view	O 20				
PNZ154 (PN154)				4	0.2				27	Side view (Thin type, Narrow beam angle)	O 18				
PNZ155 (PN155)				100	0.05				0.2	1	70	Side view (Flat package)	O 32		

Note) Part numbers show the Matsushita unified part numbers. And the part numbers in parentheses show the conventional ones.

■ Phototransistor without Base Pin (continued)

Part No.	Absolute Maximum Ratings	Electro • Optical Characteristics T _a = 25°C								Package	No.	Outline view
	V _{CEO} (V)	L (lx)	I _{CE(L)} min. (mA)typ. (mA)		I _{CEO} max. (μA)	V _{CE(sat)} max. (V)	λ _p typ. (nm)	t _r , t _f typ. (μs)	θ typ. (deg)			
PNZ158 (PN158)	20	500	1	4	1	0.5	800	4	40	Side view (Thin type)	O 19	
PNZ163NC (PN163-(NC))		H = 15 μW /cm ²	S _{IR} = 6 μA	S _{IR} = 15 μA	0.2		850		25	Side view (Small size visible light cut)	O 25	

■ Phototransistor with Base Pin

Part No.	Absolute Maximum Ratings		Electro • Optical Characteristics T _a = 25°C									Package		Outline view		
	V _{CEO} (V)	V _{CBO} (V)	L (lx)	I _{CE(L)} min. (mA) typ. (mA)		I _{CEO} max. (μA)	V _{CE(sat)} max. (V)	λ _p typ. (nm)	t _r , t _f typ. (μs)	θ typ. (deg)	No.					
PNA1605F (PN116)	20	30	100	0.2	0.8	2	0.6	900	8/9	70	Side view (Flat Package)	O 34				
PNZ102 (PN102)	30	40		1.5	3.5	0.3	0.4	800	3	10	TO-18 (Lens can)	O 02				
PNZ102F (PN102F)				0.1	0.3					40	TO-18 (Flat can)	O 04				
PNZ106 (PN106)				0.3	0.6	0.1			3.5/5	10	TO-18 (Lens can)	O 02				
PNZ108 (PN108)				5	15 max.	TO-18 (Lens can) High sensitivity										
PNZ108CL (PN108CL)	20	30	500	3.5	6	2	0.6	900	5/6	80	TO-18 (Resin mold) High sensitivity	O 06				
PNZ108F (PN108F)			100	0.4	4 max.				8/9	40	TO-18 (Flat can) High sensitivity	O 04				
PNZ109CL (PN109CL)			500	2.5	4				5/6	80	TO-18 (Resin mold, Visible light cut)	O 06				
PNZ109F (PN109F)			100	0.3	—				8/9	40	TO-18 (Flat can, Visible light cut)	O 04				
PNZ109L (PN109L)				3.5					5/6	10	TO-18 (Lens can, Visible light cut)	O 02				
PNZ115 (PN115)				2	4.5					35	Side view	O 26				

Note) Part numbers show the Matsushita unified part numbers. And the part numbers in parentheses show the conventional ones.

Photodetector

■ Darlington Phototransistor

Part No.	Absolute Maximum Ratings	Electro • Optical Characteristics $T_a = 25^\circ\text{C}$								Package	No.	Outline view
	V_{CEO} (V)	L (lx)	$I_{\text{CE(L)}}$ min. (mA)	$I_{\text{CE(L)}}$ typ. (mA)	I_{CEO} max. (μA)	$V_{\text{CE(sat)}}$ max. (V)	λ_p typ. (nm)	t_r, t_f typ. (μs)	θ typ. (deg)			
PNA2602M (PN205-(NC))	20	$H = 3.75 \mu\text{W}/\text{cm}^2$	$S_{\text{IR}} = 0.1$	$S_{\text{IR}} = 1.5$	0.5	1.5	850	150	35	Side view (Long lead, Small visible light cut)	O 30	
PNA2803M (PN268-(NC))			0.05	1.5 max.					30	3 ϕ visible light cut	O 10	
PNA2W01M (PN207)		2	0.5	3			800	200	18	Double end	O 36	
PNZ202S (PN202S)			0.2	1.5 max.				150	30	3 ϕ ceramic	O 07	
PNZ263L (PN263L-(NC))		$H = 3.75 \mu\text{W}/\text{cm}^2$	$S_{\text{IR}} = 60 \mu\text{A}$	$S_{\text{IR}} = 200 \mu\text{A}$			850		25	Side view (Long lead, Visible light cut)	O 31	

Note) Part numbers show the Matsushita unified part numbers. And the part numbers in parentheses show the conventional ones.