PNZ327 (PN327)

Silicon planar type

For optical control systems

■ Features

- Fast response which is well suited to high speed modulated light detection: t_r , t_f = 50 ns (typ.)
- High sensitivity, high reliability
- Peak emission wavelength matched with infrared light emitting diodes: λ_p = 900 nm (typ.)
- Wide detection area, wide half-power angle: θ = 70° (typ.)

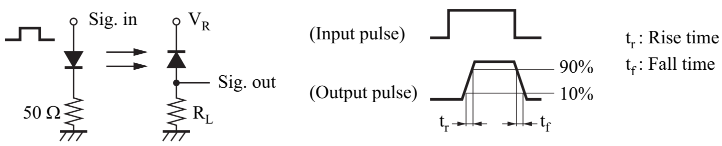
■ Absolute Maximum Ratings T_a = 25°C

Parameter	Symbol	Rating	Unit
Reverse voltage	V_R	30	V
Power dissipation	P_D	100	mW
Operating ambient temperature	T_{opr}	–30 to +85	°C
Storage temperature	T_{stg}	–40 to +100	°C

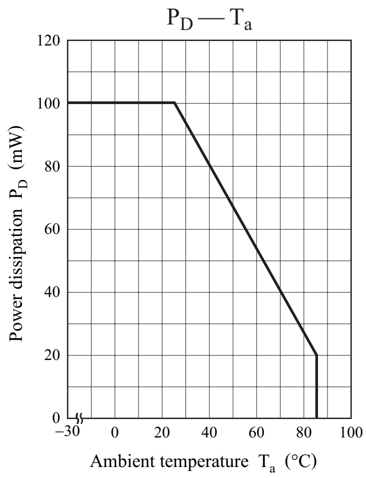
■ Electrical-Optical Characteristics T_a = 25°C±3°C

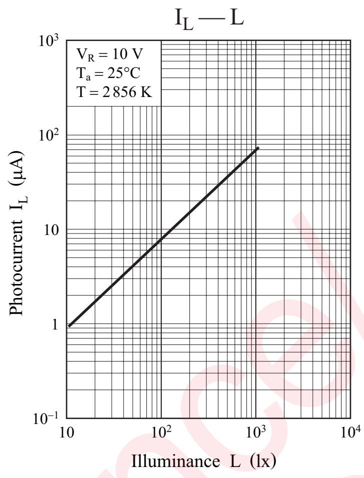
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Sensitivity to infrared radiation *1	S_{IR}	V_R = 5 V, H = 0.1 mW/cm²	4.5			μA
Photocurrent *2	I_L	V_R = 10 V, L = 1 000 lx		70		μA
Drain current	I_D	V_R = 10 V		5	50	nA
Terminal capacitance	C_t	V_R = 0 V, f = 1 MHz		70		pF
Peak sensitivity wavelength	λ_{PD}	V_R = 10 V		900		nm
Half-power angle	θ	The angle when sensitivity to infrared radiation is halved		70		°
Rise time *3	t_r	V_R = 10 V, R_L = 1 kΩ		50		ns
Fall time *3	t_f	V_R = 10 V, R_L = 1 kΩ		50		ns
Rise time *3	t_r	V_R = 10 V, R_L = 100 kΩ		5		μs
Fall time *3	t_f	V_R = 10 V, R_L = 100 kΩ		5		μs

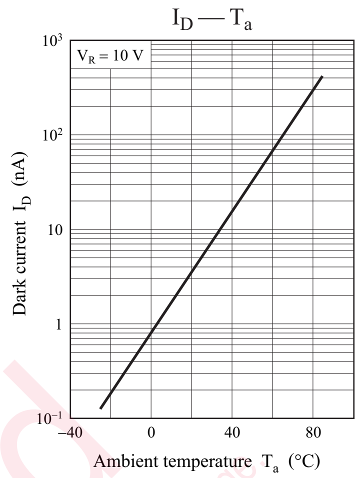
Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7031 measuring methods for diodes.
2. Spectral sensitivity characteristics: Sensitivity for wave length over 400 nm maximum sensitivity ratio is 100%.
3. This device is designed by disregarding radiation.
4. *1:Source: Infrared emitters (λ = 940 nm)
*2:Source: Tungsten lamp (color temperature 2 856K)
*3: Switching time measurement circuit

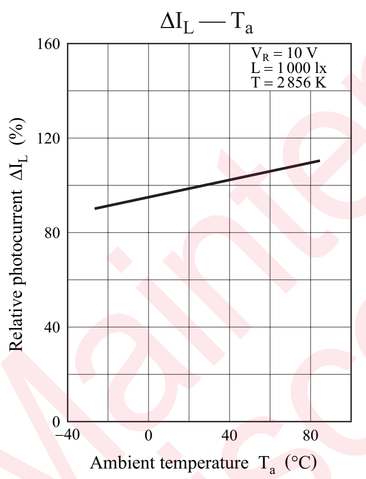


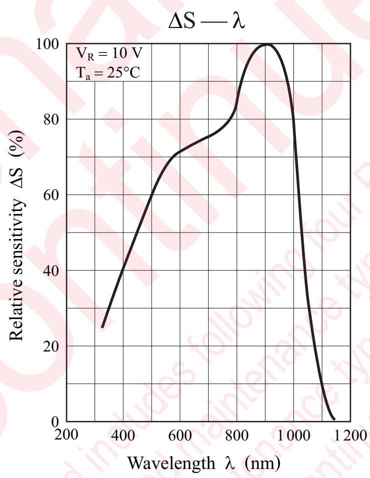
Note) The part number in the parenthesis shows conventional part number.

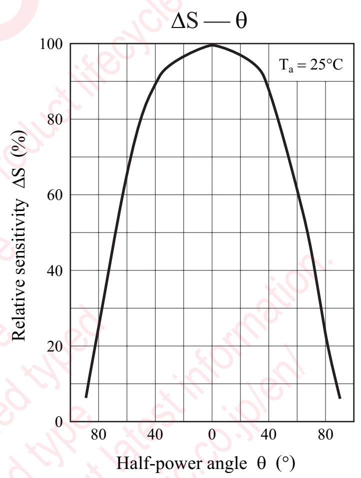


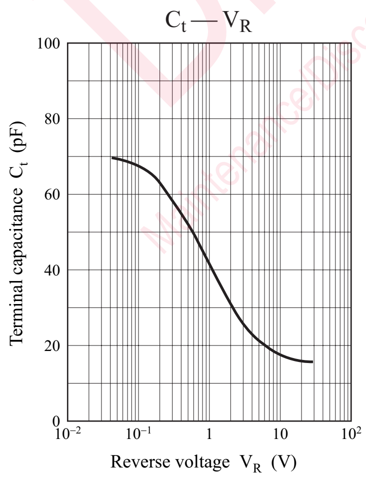


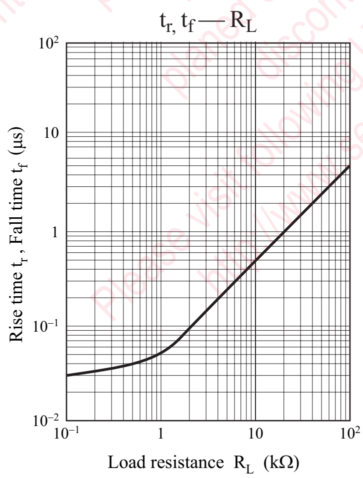


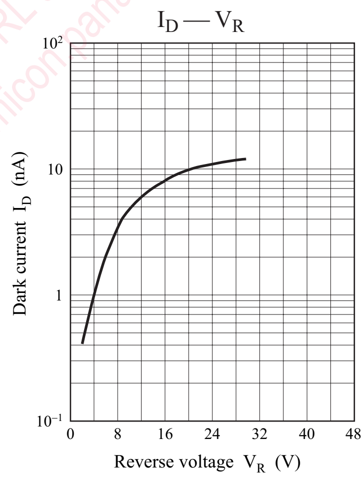






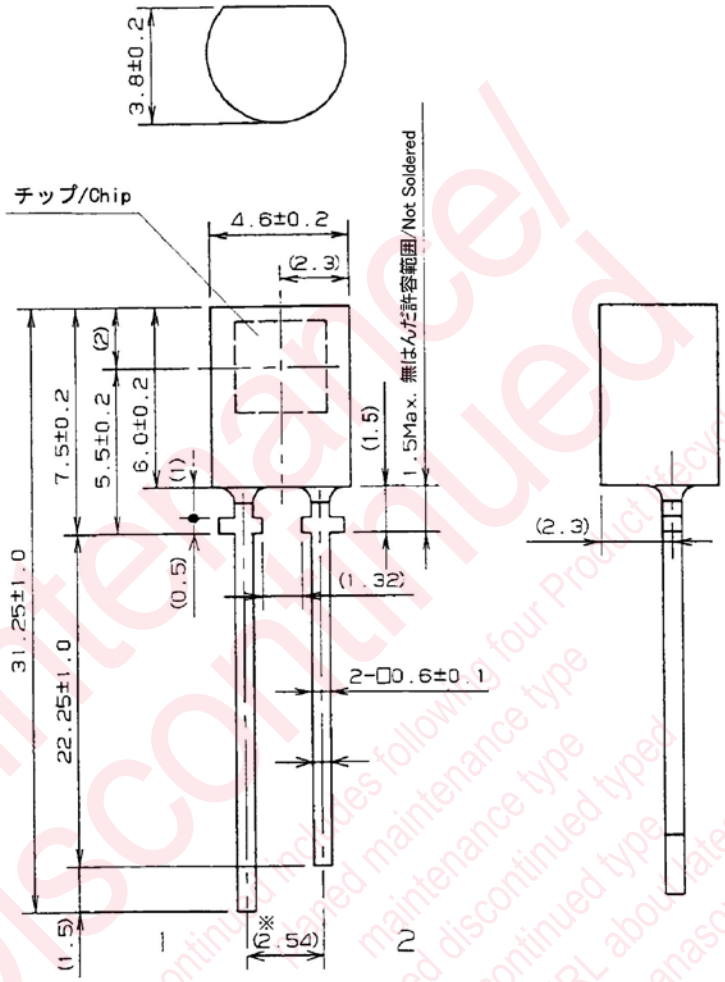






■ Package (Unit: mm)

LPXFSN2S0001



- Pin name
  1: Anode
  2: Cathode

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