

Infrared Products

Explanation of Part Number:

$\frac{H}{\textcircled{1}} \quad \frac{I}{\textcircled{2}} \quad \frac{R}{\textcircled{3}} \quad \frac{B}{\textcircled{4}} \quad \frac{5}{\textcircled{5}} - \frac{4}{\textcircled{6}} \quad \frac{3}{\textcircled{7}} \quad \frac{D}{\textcircled{8}} - \frac{C}{\textcircled{9}}$

① Infrared products kinds:

HIR: infrared emitter.
HPD: photo diode.
HPT: photo transistor.

② Shape distinguish:

B: bell (round) type.
R: rectangular type.
MIB: miniature bell type.
CL: chip SMD type.

③ Identification No:

④ Lens appearance:

1:black (cut visible light).
2:colored clear.
4:water clear.

⑤ Lead frame type:

2:no reflector cup, short lead, 2.29mm pitch.
3:big reflector cup, long lead, 2.54mm pitch.
4:small reflector cup, long lead, 2.54mm pitch.
5:side look, big dice use, 2.54mm pitch.
8: side look use, 2.54mm pitch.
9:dual dice use, 2.54mm pitch.
MIB,CL type no lead frame.

⑥ Dice kinds:

according to chip characteristic distinguish.
A, B, C.... see below table.

⑦ View angle:

A, B, C... (C>B>A).

Infrared emitter:

Ta=25°C

type	Material	Absolute Maximum Rating				Electro-Optical Characteristics							
		P _D	I _F	I _{FM}	V _R	forward voltage		reverse current		wavelength			
						typ	Max	I _F	Max	V _R	λ _p	Δλ	I _F
A	GaAs/GaAs	75	50	500	5	1.25	1.45	20	10	5	950	50	50
C	GaAlAs/GaAs	135	80	1000	5	1.21	1.40	20	10	5	940	50	50
D	GaAlAs/GaAs	150	100	1500	5	1.18	1.35	20	10	5	940	50	50
E	GaAlAs/GaAs	170	100	1000	5	1.35	1.50	20	10	5	880	70	50
G	GaAlAs/GaAlAs	170	100	1000	4	1.47	1.60	20	10	4	850	45	50
unit		mW	mA	mA	V	V	V	mA	mA	V	nm	nm	mA

I_{FM} condition : 0.1% duty cycle, pulse width=10us.

Photo diode:

Ta=25°C

type	Absolute Maximum Rating					Electro-Optical Characteristics						
	sensitive area	P _D	V _R	V _{oc}	I _{sc}	forward voltage			responsive speed		terminal capacitance	wavelength
						typ	Max	I _F	T _r	T _f	C _t	λ _p
A	7.16	150	33	350	35	1.3	1.6	100	45	45	72	900
C	1.55	100	30	410	16	1.3	1.8	100	10	10	42	900
D	0.19	50	20	390	2	1.0	1.5	40	6	6	50	900
E	0.66	70	30	410	7	1.0	1.5	40	10	10	42	900
unit	mm ²	mW	V	mV	uA	V	V	mA	ns	ns	pf	nm

Photo transistor:

Ta=25°C

type	Absolute Maximum Rating				Electro-Optical Characteristics						
	P _c	V _{CEO}	V _{ECO}	I _c	dark current		responsive speed				Wavelength
					I _{CEO}	V _{CEP}	T _{yp}	V _{CE}	I _c	R _L	λ _p
B	150	30	5	50	100	10	15/20	5	1	1000	900
D	150	30	5	50	100	10	15/20	5	1	1000	900
E	250	15	5	70	100	10	40/60	5	10	1000	900
H	300	30	5	25	100	20	15/18	5	1	1000	900
unit	mW	V	V	mA	nA	V	us	V	mA	Ω	nm