

Infrared Products

Explanation of Part Number:

H I R
B 5
-
4 3
D
-
C

①
②
③
④
⑤
⑥
⑦

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							
		Pd	IF	IFM	VR	forward voltage			reverse current		wavelength		
						typ	Max	IF	Max	VR	λp	Δλ	IF
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

IFM condition : 0.1% duty cycle, pulse width=10us.

Photo diode:

Ta=25°C

type	Absolute Maximum Rating			Electro-Optical Characteristics								
	sensitive area	Pd	VR	Voc	Isc	forward voltage			responsive speed		terminal capacitance	wavelength
						typ	Max	IF	Tr	Tf		
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						
	Pc	VCEO	VECO	Ic	dark current		responsive speed				Wavelength
					ICEO	VCEP	Typ	VCE	Ic	RL	
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