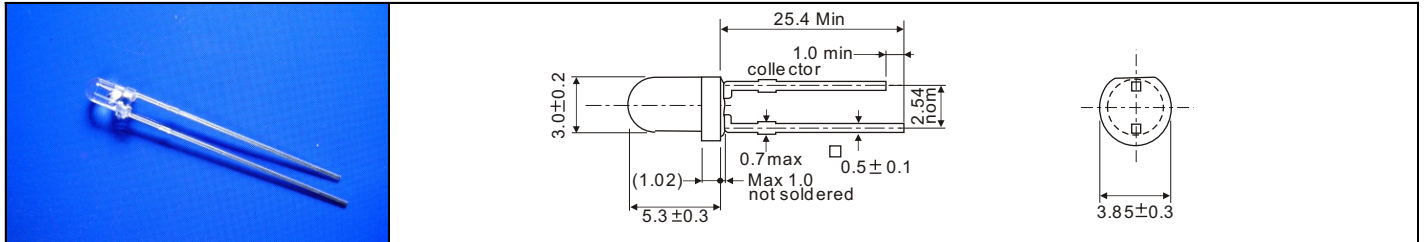


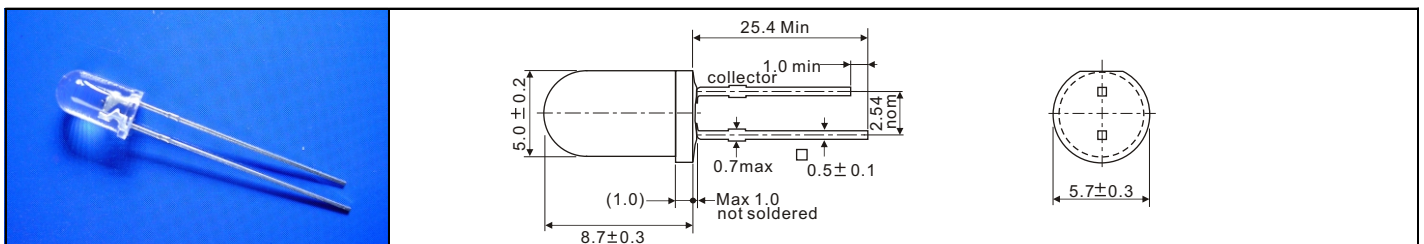
Phototransistors

Ta=25°C

Device No	Lens Color	Sensitive Wavelength		VCEO	VECO	VCES (Ic=0.5mA)	Ic (Ee=0.5mw/cm²)		Radiant Sensitive Area mm²	View Angle 2θ1/2
		λp(nm)	λ(nm)	Max(V)	Max(V)	Max(V)	Typ(mA)	VEC		



HPTB3b-14D	black	940	760~1000	30	5	0.4	1.5	5	0.19	20
HPTB3b-44D	water clear	900	500~1100	30	5	0.4	1.5	5	0.19	20

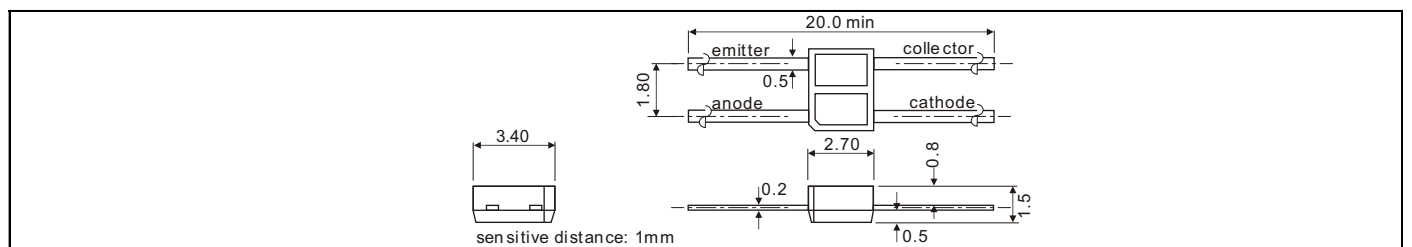


HPTB5-44D	water clear	900	500~1100	30	5	0.4	3.0	5	0.19	30
HPTB5-14D	black	940	760~1000	30	5	0.4	3.0	5	0.19	30

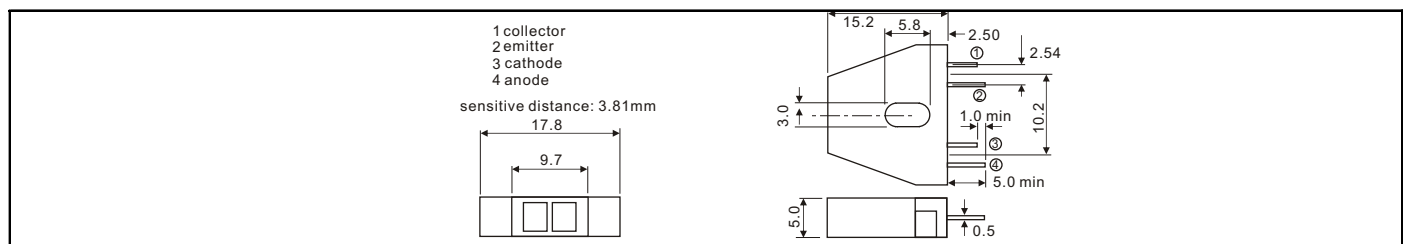
Reflector

Ta=25°C

Device No	Feature	Electro-optical Characteristics						
		Ic Min	IF	VCE	ICEOMax	Tr Typ	Tf Typ	VCE(sat)Max
		mA	mA	V	uA	us	us	V



HRS-CD	reflector distance 1mm	0.23	20	5	1.0	40	60	0.4
--------	------------------------	------	----	---	-----	----	----	-----



HRS-4C2D	reflector distance 3.81mm	3.35	20	5	3.0	40	60	0.4
----------	---------------------------	------	----	---	-----	----	----	-----