RPI-124

Photointerrupter, Ultraminiature type

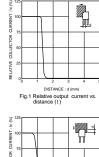
Absolute maximum ratings (Ta=25°C)

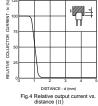
Parameter		Symbol	Limits	Unit
Input(LED)	Forward current	lF	50	mA
	Reverse voltage	VR	5	V
	Power dissipation	Po	80	mW
Output (photo- (transistor)	Collector-emitter voltage	Vceo	30	V
	Emitter-collector voltage	Veco	4.5	٧
	Collector current	lc	30	mA
	Collector power dissipation	Pc	80	mW
Operating temperature		Topr	-25 to +85	°C
Storage temperature		Tstg	-30 to +100	°C

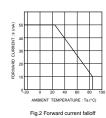
■ Electrical and optical characteristics (Ta=25°C)

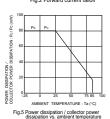
Parameter		Symbol	Min.	Typ.	Max.	Unit	Conditions	
Input charac- teristics	Forward voltage	Vr	-	1.3	1.6	٧	I=50mA	
	Reverse current	le.	-	-	10	μА	VR=5V	
Output charac- teristics	Dark current	Iceo	-	-	0.5	μА	VcE=10V	
	Peak sensitivity wavelength	λe	-	800	-	nm	-	
Transfer charac- teristics	Collector current	lc	0.3	-	1.5	mA	VcE=5V, Ir=20mA	
	Collector-emitter saturation voltage	VCE(see)	-	-	0.3	٧	Ir=20mA, Ic=0.15mA	
	Response time	tr-tf	-	10	-	μs	Vcc=5V, Ir=20mA, R∟=100Ω	
Infrared light emitter dode	Cut-off frequency	fc	-	1	-	MHz	Ir=50mA • Non-coherent Infrared light emitting diode used.	
	Peak light emitting wavelength	λρ	-	950	-	nm		
Photo transistor	Response time	trtf	-	10	-	μѕ	$V_{CC}=5V$, $I_{C}=1mA$, $R_{L}=100\Omega$ * This product is not designed to be protected against electromagnetic wave.	
	Maximum sensitivity wavelength	λο	-	800	-	nm	-	

Electrical and optical characteristics curves









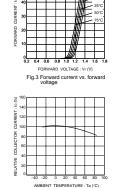
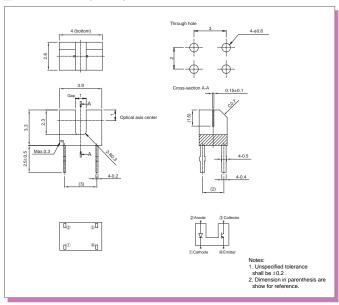
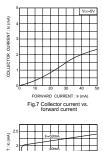


Fig.6 Relative output vs. ambient temperature

External dimensions (Unit : mm)





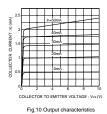






Fig.9 Dark current vs. ambient temperature

- Fig.11 Response time measurement circuit

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