产品介绍/Product Introduction

NIR1753是一种高性能反射式光电传感器，由LED和高灵敏度光电三极管组成。
NIR1753 is a high-performance reflective photoelectric sensor composed of a LED and a high sensitivity photoelectric transistor.

特点/Features

- 感应速度快、感光度高
  Fast response time、High photo sensitivity
- 低电压驱动
  Low forward voltage

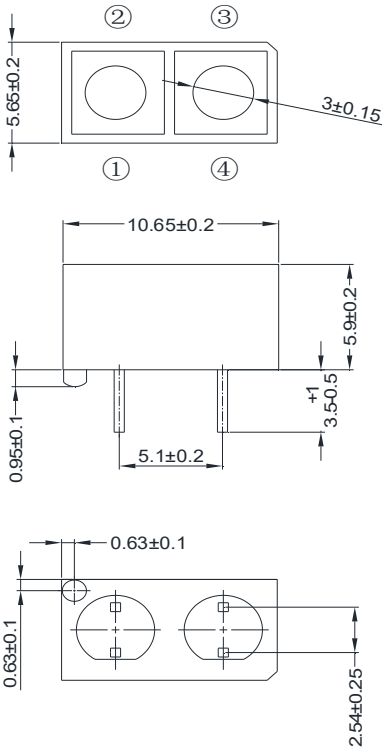


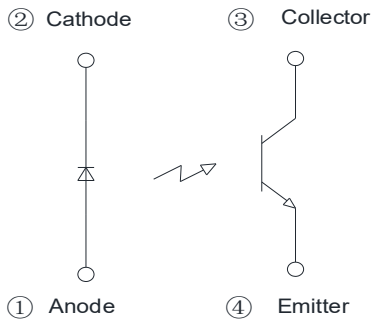
用途/Application

- 打印机、 非接触开关
  Printer、 Non-contact Switching
- 位置检测
  Position detection
- 工业设备
  Industrial machines

尺寸图/Device Dimensions（mm）

General Tolerance:±0.3mm





极限值/Maximum Ratings

(Ta= 25°C)

项目 Item		符号 Symbol	额定值 Rating	单位 Unit
Emitter	功耗 Power Dissipation	P_C	75	mW
	反向电压 Reverse Voltage	V_R	5	V
	正向电流 Forward Current	I_F	50	mA
Detector	功耗 Collector Power Dissipation	P_C	75	mW
	集电极电流 Collector Current	I_C	50	mA
	集电极-发射极电压 Collector-Emitter Voltage	V_{CEO}	30	V
	发射极-集电极电压 Emitter-Collector Voltage	V_{ECO}	5	V
工作温度 Operating Temp.		Topr.	-25～+85	°C
存储温度 Storage Temp.		Tstg.	-40～+85	°C
焊接温度*1 Soldering Temp.		Tsol.	260	°C

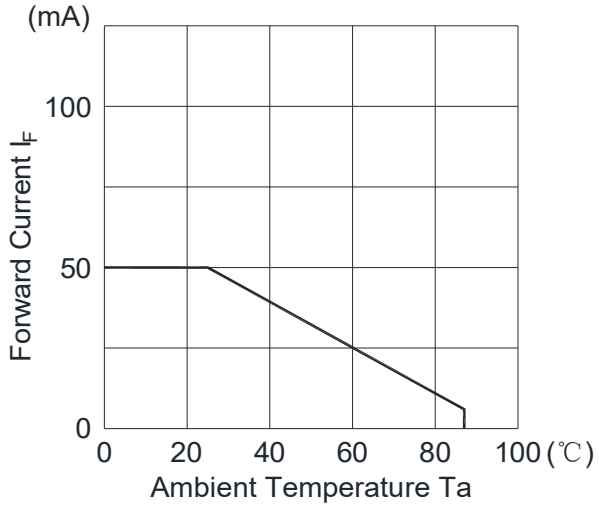
Note：*1、距离封装边缘2mm，不超过5秒
2mm from the package for Max 5 sceonds

光电特性/Electro-Optical Characteristics

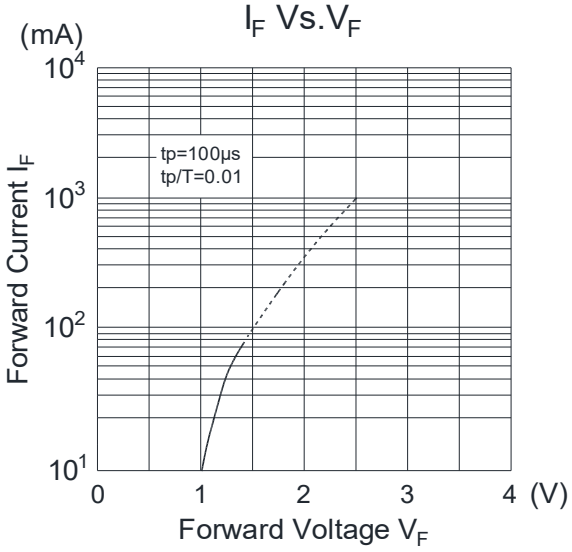
(Ta= 25°C)

项目 Item		符号 Symbol	条件 Condition	最小 Min.	典型 Typ.	最大 Max.	单位 Unit
Emitter	反向电流 Reverse Current	I_R	V_R=5V	-	-	10	μA
	正向压降 Forward Voltage	V_F	I_F=20mA	-	1.2	-	V
	峰值波长 Peak Wavelength	λ_p	I_F=20mA	-	940	-	nm
Detector	暗电流 Collector DarkCurrent	I_{CEO}	V_{CE}=5V Ee=0lx	-	-	100	nA
	饱和压降 Collector-Emitter Voltage	$V_{CE（SAT）}$	I_C=2mA Ee=1mW/cm^2	-	-	0.4	V
Coupled	光电流 Collector Current	I_C	I_F=40mA V_{CE}=3V	0.5	-	20	mA
	响应时间 Response Time	tr	V_{CE}=5V I_C=1mA R_L=1kΩ	-	15	-	μs
		tf		-	15	-	μs

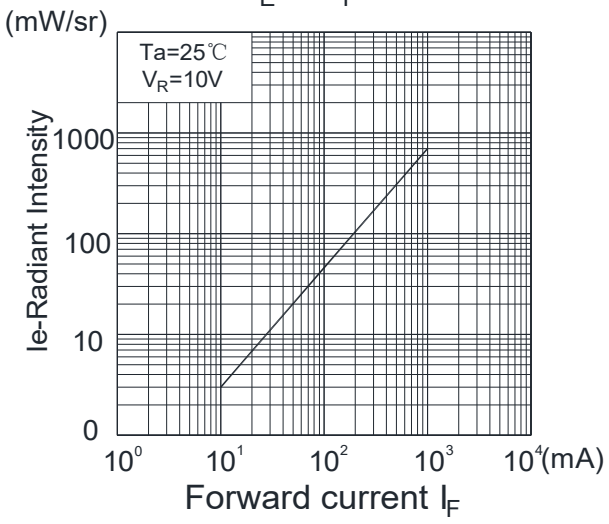
I_F Vs. Ta



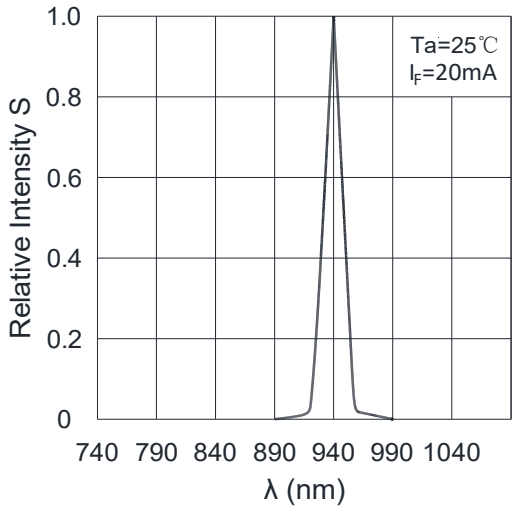
I_F Vs.V_F



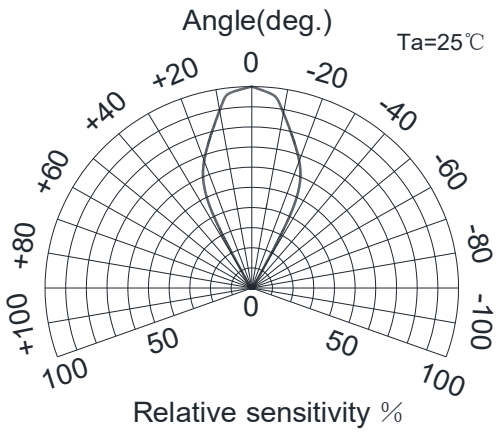
I_EVs. I_F



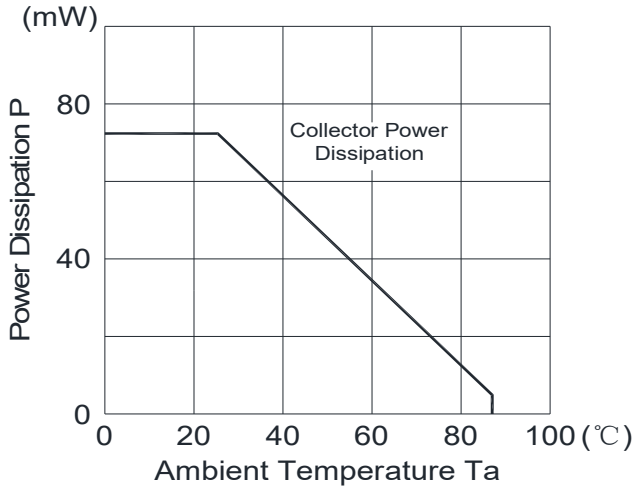
S_{LED} Vs. λ



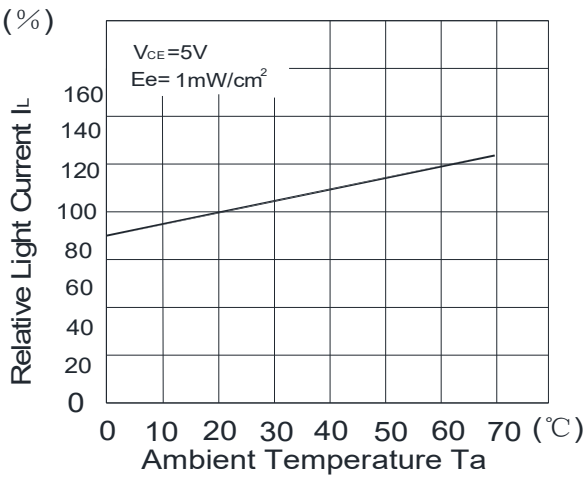
Divergence Angle



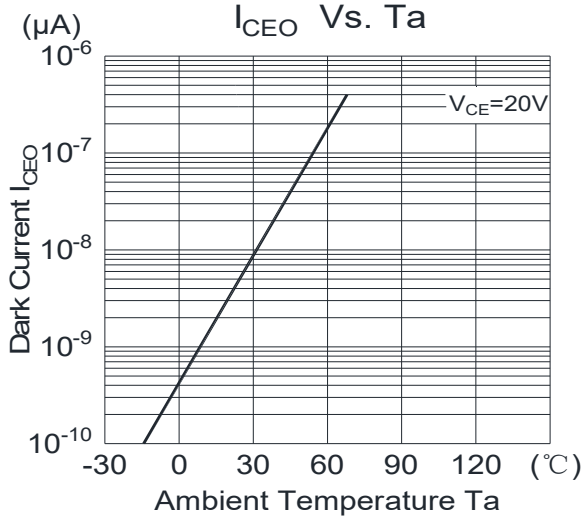
P Vs. Ta



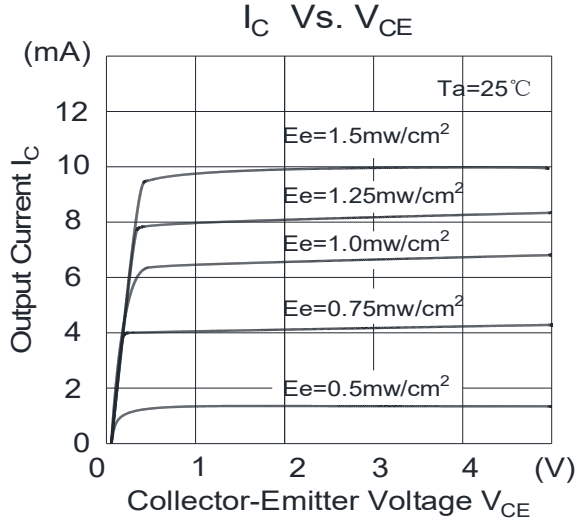
I_C Vs. Ta



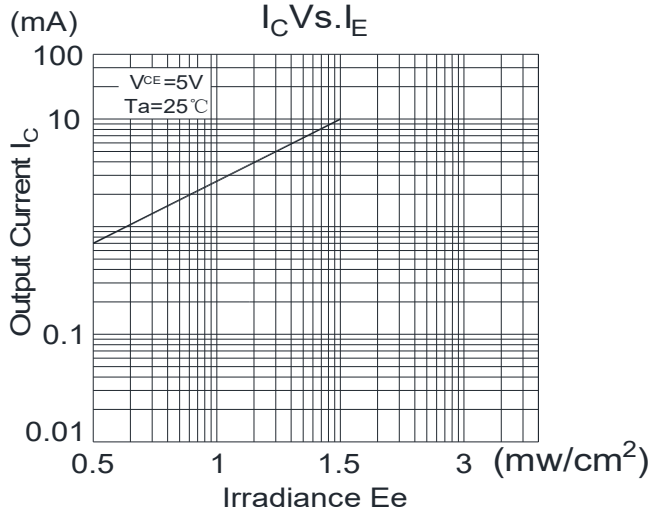
I_{CEO} Vs. Ta



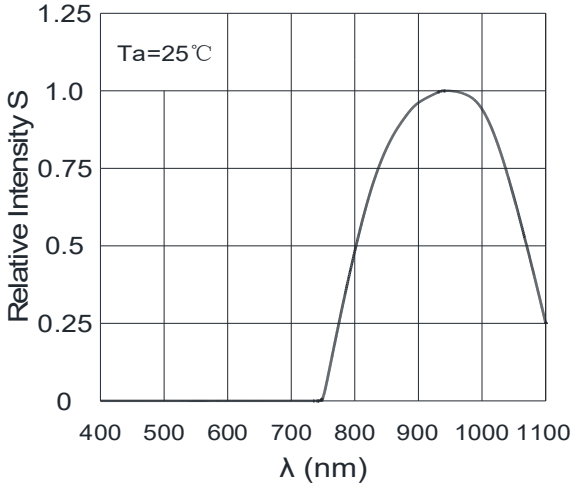
I_C Vs. V_{CE}

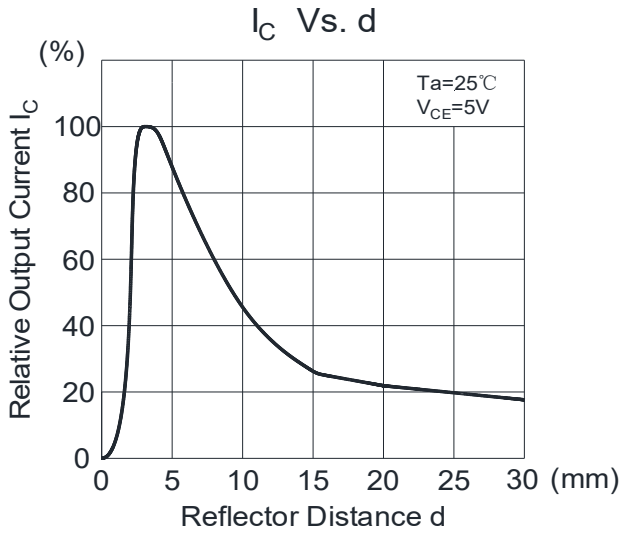


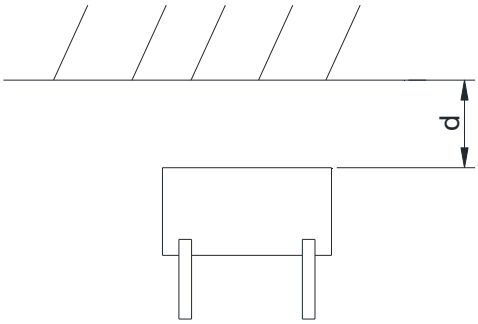
I_CVs.I_E



Detector Spectral Response




I_C Vs. d
(%)
Ta=25℃
V_{CE}=5V
Relative Output Current I_C
100
80
60
40
20
0
0
5
10
15
20
25
30
(mm)
Reflector Distance d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