

S4404-01

High sensitivity phototransistor

S4404-01 is a high sensitivity phototransistor molded into a visible-cut plastic package.

Features

- Miniature plastic package with lens
- Visible-cut package
- High sensitivity: 2.5 mA (1000 lx)

Applications

- Tape start/end mark sensor for VTRs, etc.
- Rotary encoders
- Touch screen

Absolute maximum ratings (Ta=25 °C)

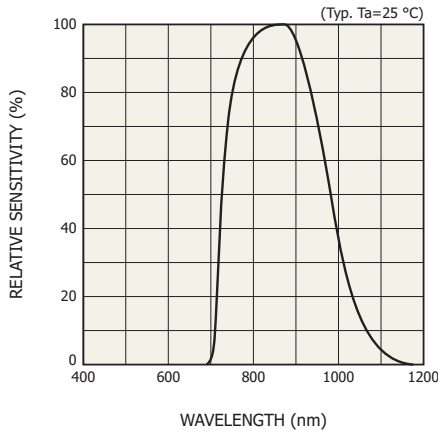
Parameter	Symbol	Value	Unit
Collector-emitter voltage	V _{CEO}	15	V
Emitter-collector voltage	V _{ECO}	4	V
Collector current	I _c	20	mA
Collector dissipation	P _c	80	mW
Operating temperature	T _{opr}	-30 to +85	°C
Storage temperature	T _{stg}	-40 to +100	°C
Soldering	-	260 °C, 3 s, at least 2.5 mm away from package surface	-

Electrical and optical characteristics (Ta=25 °C)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Peak sensitivity wavelength	λ _p		-	870	-	nm
Photocurrent *	I _c	V _{CE} =5 V, 1000 lx	1.5	2.5	-	mA
Dark current	I _{CEO}	V _{CE} =15 V, 0 lx	-	-	100	nA
Collector-emitter saturation voltage	V _{CE(sat)}	I _c =0.5 mA, 1000 lx	-	-	0.4	V
Rise time	t _r	V _{CE} =5 V, I _c =1 mA	-	6	30	μs
Fall time	t _f	R _L =100 Ω	-	8	30	μs

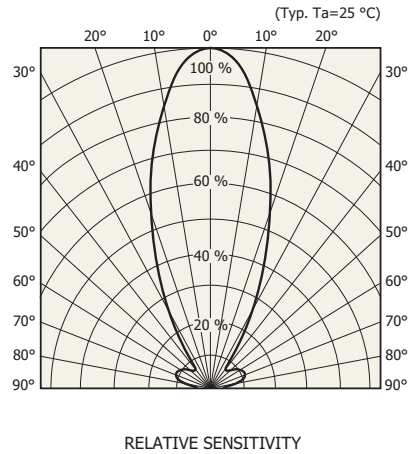
* Measured with a CIE standard "A" light source at 2856 K

Spectral response



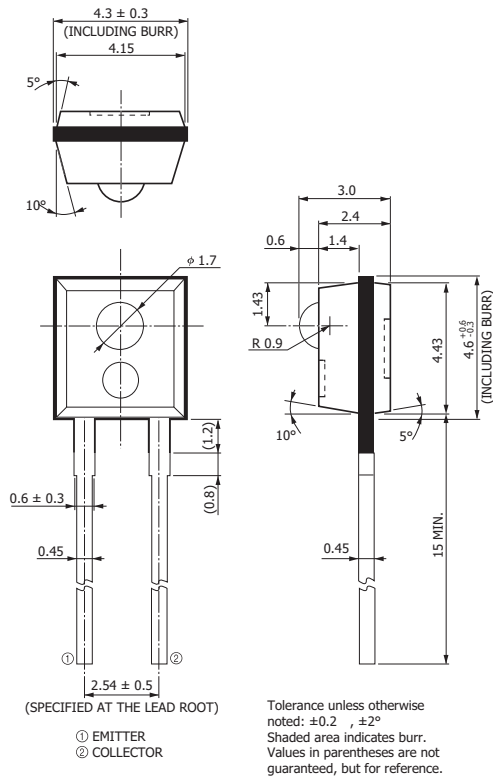
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Directivity



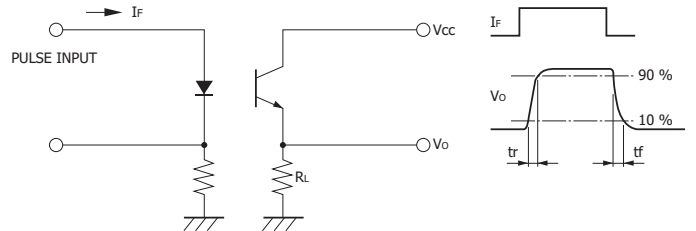
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Dimensional outline (unit: mm)



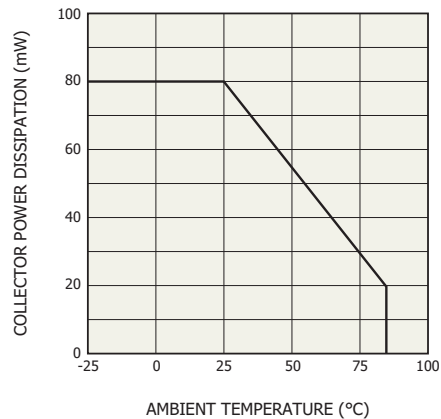
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Response time measurement circuit



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Collector power dissipation vs. ambient temperature



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