OKI electronic components

T34L

Silicon NPN Epitaxial Planar Phototransistor

GENERAL DESCRIPTION

The planar structure of the OKI T34L silicon phototransistor makes it a highly sensitive photodetector. High reliability is ensured by a hermetically sealed TO-18 package.

FEATURES

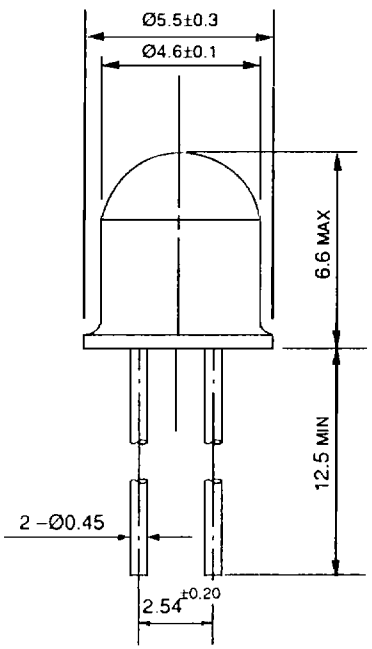
- Silicon planar technology applied in design allows detection of even microscopic amounts of light
- Internal amplification provides high sensitivity
- TO-18 package for ease of handling

APPLICATIONS

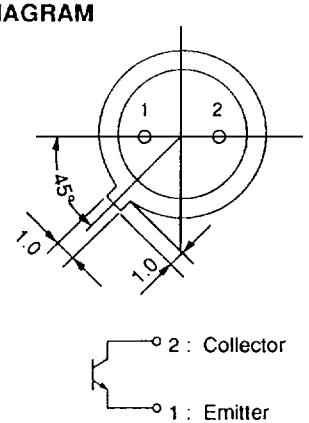
For photoelectric transfer, switching, logic circuits and control

PIN CONFIGURATION

DIMENSION (Unit : mm)



PIN CONNECTION DIAGRAM



ABSOLUTE MAXIMUM RATINGS

(Ambient Temperature Ta = 25°C)

Item	Symbol	Rating	Unit
Collector-emitter voltage	V_{CEO}	20	V
Emitter-collector voltage	V_{ECO}	5	V
Collector current	Ic	20	mA
Power dissipation	Pc	150	mW
Operating temperature	Topr	−40 ~ +100	°C
Storage temperature	Tstg	−55 ~ +125	°C

Note : Permanent device damage may occur if ABSOLUTE MAXIMUM RATINGS are exceeded. Functional operation should be restricted to the conditions as detailed in the operational sections of this data sheet. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

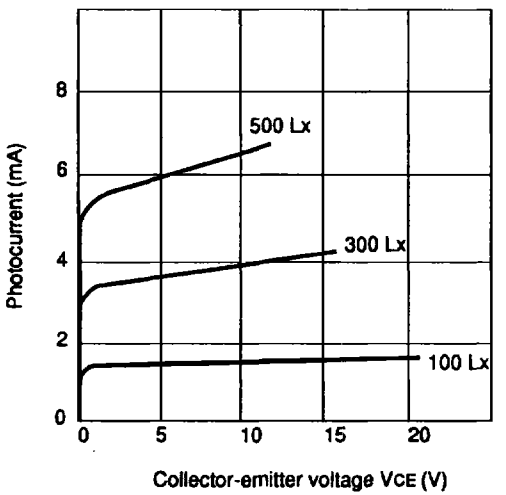
ELECTRICAL CHARACTERISTICS

(Ambient Temperature Ta = 25°C)

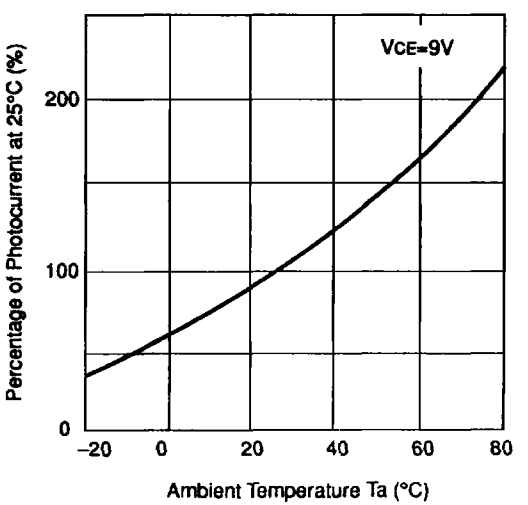
Item	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Collector-emitter breakdown voltage	BV_{CEO}	Ic = 100μA	20	—	—	V
Collector-emitter saturation voltage	V_{CE} (sat)	Ic = 5mA Standard Illuminant Type A = 1000Lx	—	0.2	0.5	V
Dark current	I_D	V_{CE} = 9V	—	–	100	nA
Photocurrent	I_L	V_{CE} = 9V Standard Illuminant Type A = 100Lx	1.0	—	—	mA

TYPICAL CHARACTERISTIC CURVES

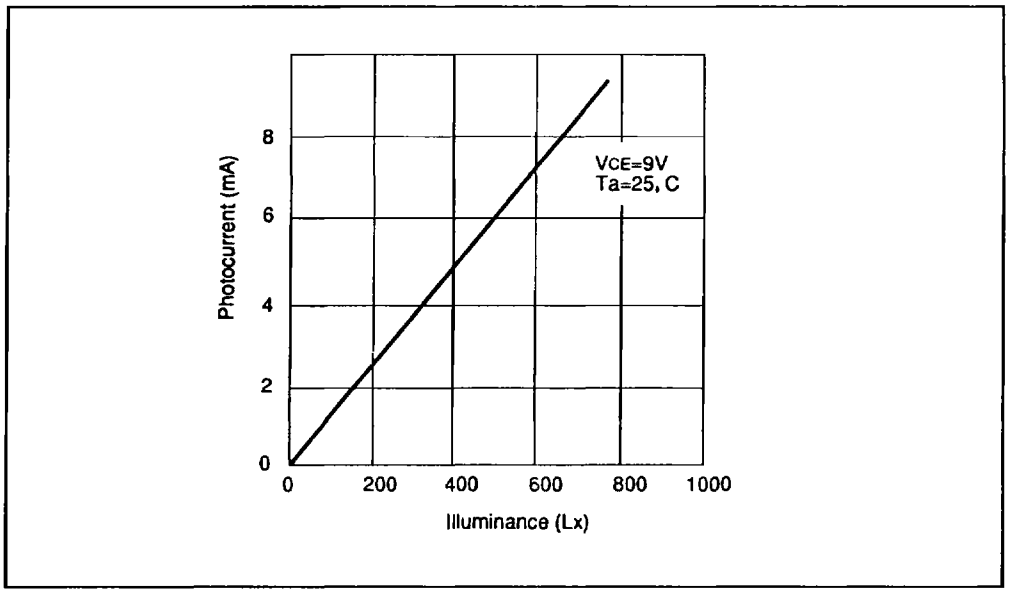
• **Photocurrent vs. Voltage (Ta = 25°C)**



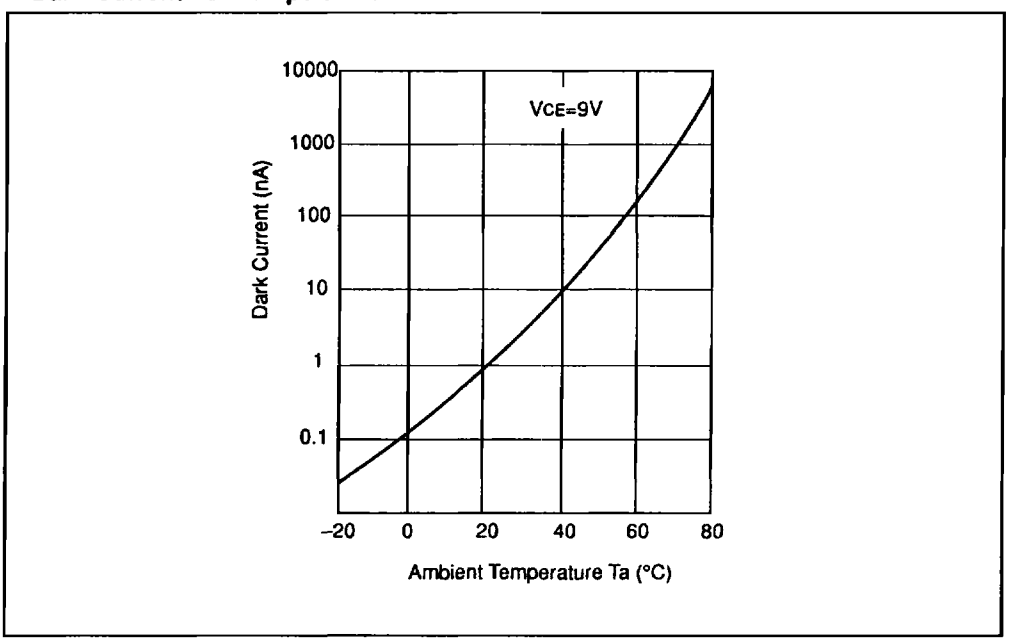
• **Photocurrent vs. Temperature**



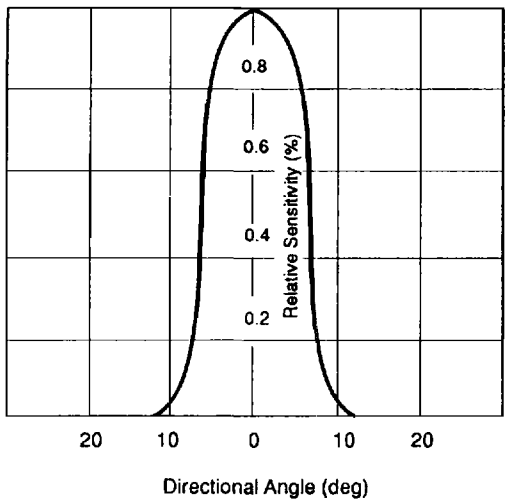
• **Photocurrent vs. Illuminance**



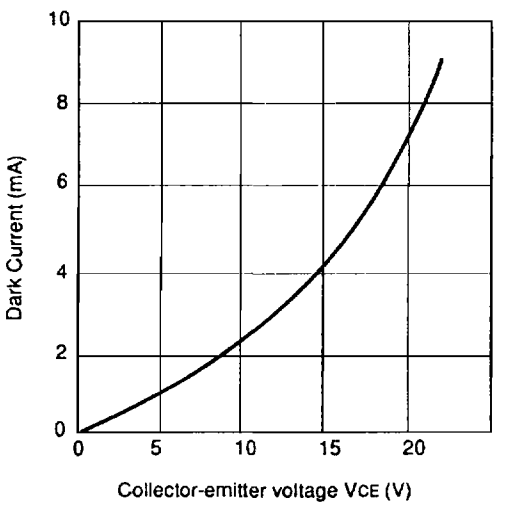
• **Dark Current vs. Temperature**



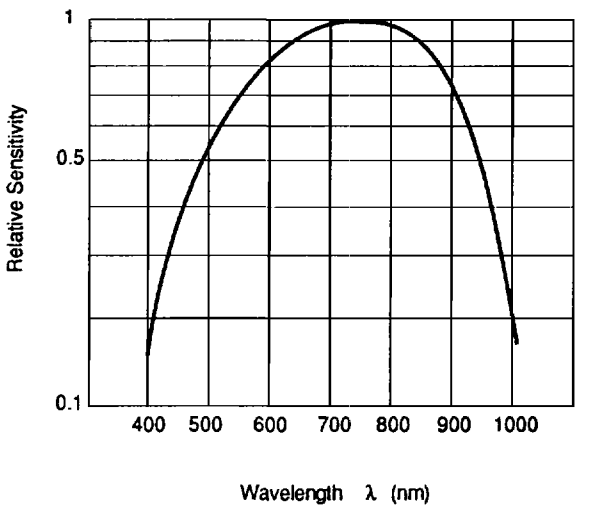
• **Relative Sensitivity vs. Directional Angle**



• **Dark Current vs. Voltage (Ta = 25°C)**



• **Spectral Sensitivity (Ta=25°C)**



• **Switching Time vs. Load Resistance (Ta = 25°C, Vcc = 9V)**