

OKI electronic components

OC800

Reflector-Type Photo Interrupter

GENERAL DESCRIPTION

The OC800 is a reflector-type photo interrupter that contains a high-output infrared light-emitting diode and high-sensitivity phototransistor.

FEATURES

- High output current
- High resolution (capable of reading 0.25 mm bar codes)
- Outstanding durability and high reliability

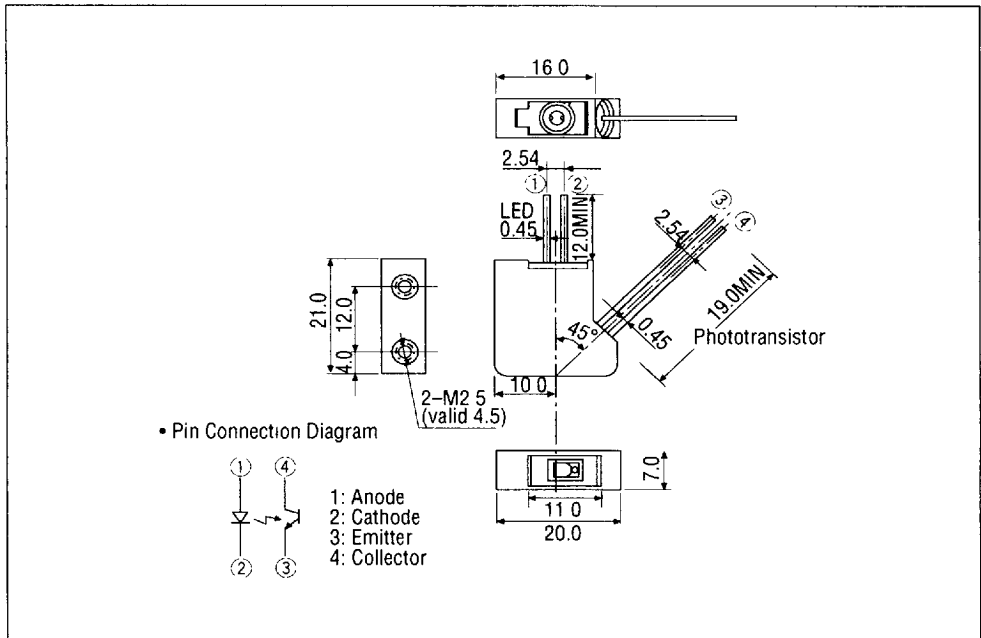
APPLICATIONS

- Bar code reader
- Photoswitch
- Position detector
- Paper edge sensor

■ 6724240 0019108 088 ■

PIN CONFIGURATION

(Unit: mm)



ABSOLUTE MAXIMUM RATINGS

(Ambient Temperature $T_a=25^{\circ}\text{C}$)

	Parameter	Symbol	Rating	Unit
Input	Forward Current	I_F	100	mA
	Pulse Forward Current *1	I_{FM}	1	A
	Reverse Voltage	V_R	6	V
	Power Dissipation	P_D	200	mW
Output	Collector-emitter Voltage	V_{CEO}	20	V
	Emitter-collector Voltage	V_{ECO}	5	V
	Power Dissipation	P_C	150	mW
Operating Temperature		T_{opr}	-20 to +65	$^{\circ}\text{C}$
Storage Temperature		T_{stg}	-20 to +85	$^{\circ}\text{C}$

*1 Pulse width $t_w=100\ \mu\text{s}$, cycle $T=10\ \text{ms}$

- Wavelength at Peak Emission

Light source : 910 nm

Photodetector: 800 nm

ELECTRICAL CHARACTERISTICS

(Ambient Temperature $T_a=25^{\circ}\text{C}$)

	Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Input	Forward Voltage	V_F	—	1.55	2.0	V	$I_F=100\ \text{mA}$
	Reverse Current	I_R	—	—	10	μA	$V_R=6\ \text{V}$
Output	Dark Current	I_D	—	—	100	nA	$V_{CE}=9\ \text{V}$
Coupled	Photo Current	I_P	4.0	—	100	μA	*1
	S/N	—	2.5	—	—	—	
	Photo Current	I_P	5.5	—	120	μA	*2

*1 $I_F=50\ \text{mA}$, $V_{CC}=10\ \text{V}$, $R_L=10\ \text{k}\Omega$; distance between paper surface and sensor $g=1.0\ \text{mm}$

Facsimile chart 0.25mm bar code

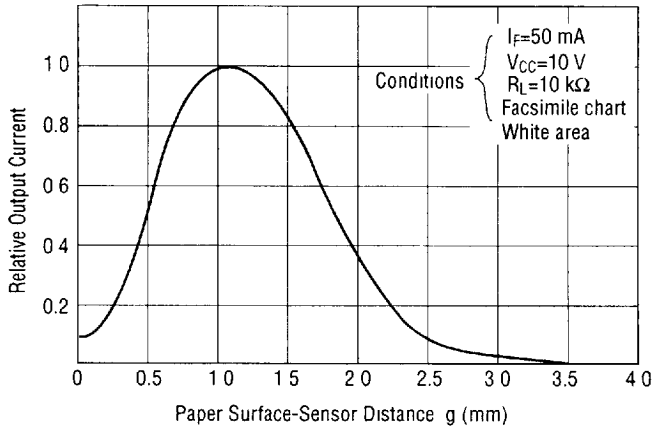
*2 $I_F=50\ \text{mA}$, $V_{CC}=10\ \text{V}$, $R_L=10\ \text{k}\Omega$; distance between paper surface and sensor $g=1.0\ \text{mm}$

White area of facsimile chart

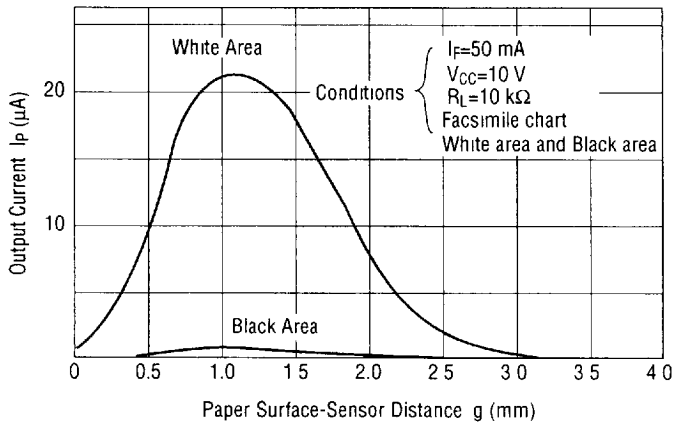


TYPICAL CHARACTERISTICS

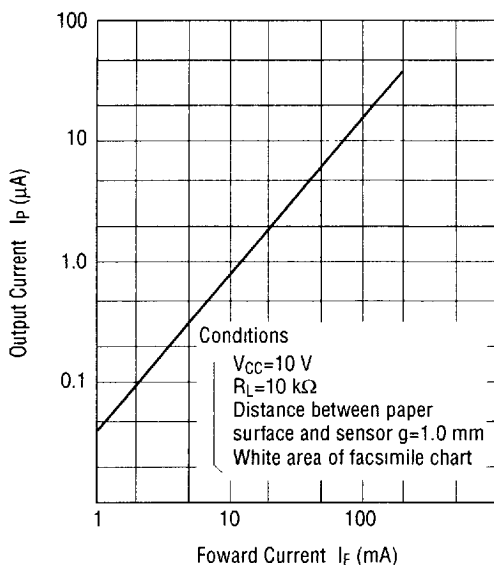
- Output Current vs. Paper Surface-Sensor Spacing ($T_a=25^\circ\text{C}$)



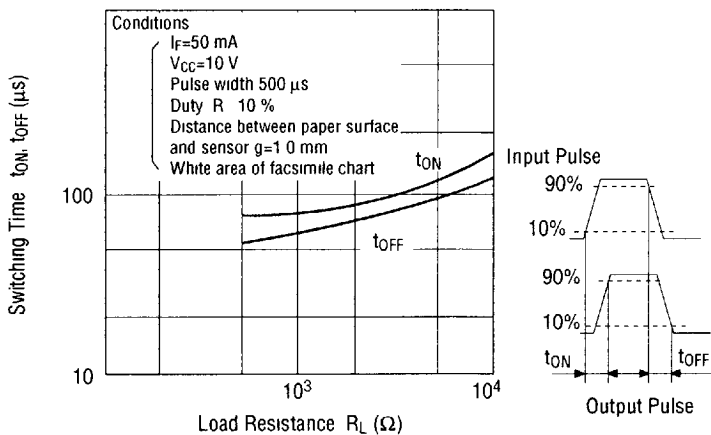
- Output Current vs. Paper Surface-Sensor Spacing ($T_a=25^\circ\text{C}$)



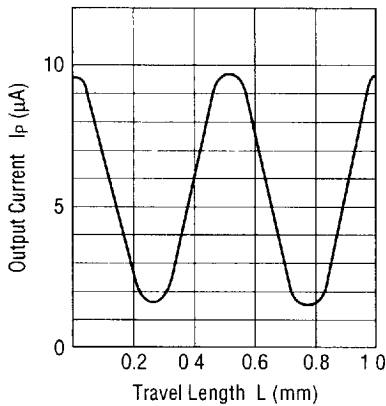
• **Output Current vs. Forward Current ($T_a=25^\circ\text{C}$)**



• **Switching Time vs. Load Resistance ($T_a=25^\circ\text{C}$)**



• **Bar Code (0.25 mm) Output Current vs. Travel Length ($T_a=25^\circ\text{C}$)**



Conditions

$I_F=50\text{ mA}$

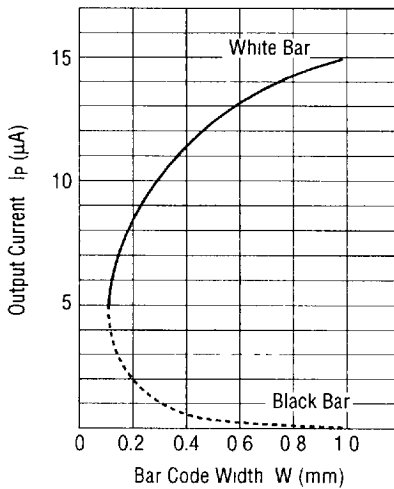
$V_{CC}=10\text{ V}$

$R_L=10\text{ k}\Omega$

Distance between paper surface
and sensor $g=1.0\text{ mm}$

Facsimile chart bar code 0.25 mm

• **Output Current vs. Bar Code Width ($T_a=25^\circ\text{C}$)**



Conditions

$I_F=50\text{ mA}$

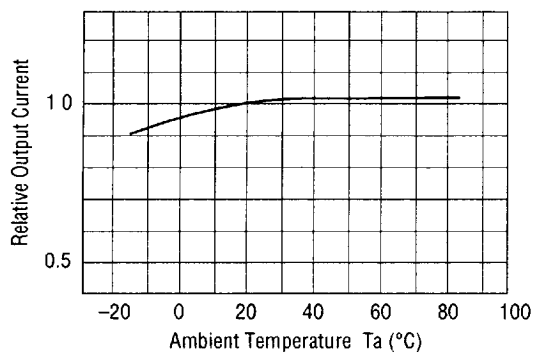
$V_{CC}=10\text{ V}$

$R_L=10\text{ k}\Omega$

Distance between paper surface
and sensor $g=1.0\text{ mm}$

Facsimile chart bar code

- Output Current vs. Ambient Temperature



Conditions

$I_f = 50 \text{ mA}$

$V_{CC} = 10 \text{ V}$

$R_L = 10 \text{ k}\Omega$

Distance between paper surface
and sensor $g = 1.0 \text{ mm}$

White area of facsimile chart

- Test Circuit

