

# OKI electronic components

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## OCS35

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### Optical PNP Switches

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#### GENERAL DESCRIPTION

The OCS35 is an optical PNP switch, combining a GaAs infrared light emitting diode and a silicon PNP photo sensor in a single 6-pin plastic package. The device is capable of withstanding high voltages.

#### FEATURES

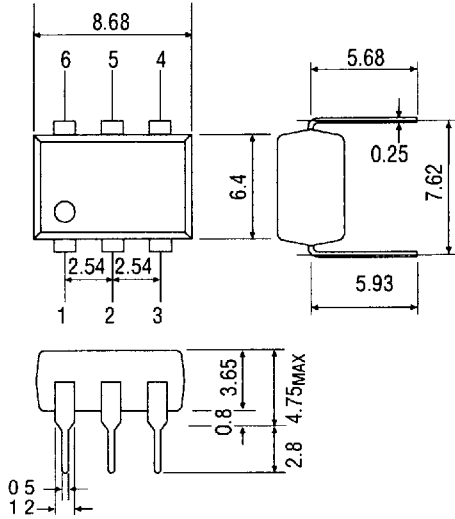
- Forward blocking voltage ( $V_{BO}$ ): 320 V (Min.)
- Trigger input current ( $I_{CO}$ ): 11 mA (Max.)

#### APPLICATIONS

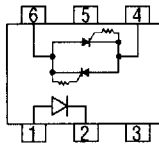
- Electronic automatic exchange
- Key telephone system
- Contactless switch
- Optically coupled transistor circuit

PIN CONFIGURATION

(Unit: mm)



• Pin Connection Diagram



- 1: Anode (LED)
- 2: Cathode (LED)
- 3: NC
- 4: Output PNP
- 5: NC
- 6: Output PNP

## ABSOLUTE MAXIMUM RATINGS

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

	Parameter	Symbol	Rating	Unit
Input (LED)	Forward Current	$I_G$	60	mA
	Reverse Voltage	$V_{RL}$	5	V
Output (PNPN)	Forward Blocking Voltage	$V_{BO}$	350	V
	Continuous ON-State Current	$I_F$	100	mA
	Surge ON-State Current *	$I_{SUG}$	1.4	A
Isolation Voltage		$V_{I-O}$	1500	V
Operating Temperature		$T_{opr}$	-20 to +70	$^\circ\text{C}$
Storage Temperature		$T_{stg}$	-30 to +100	$^\circ\text{C}$

\* At pulse width 1 ms once

- **Wavelength at Peak Emission**

Light source : 940 nm

Photodetector: 940 nm

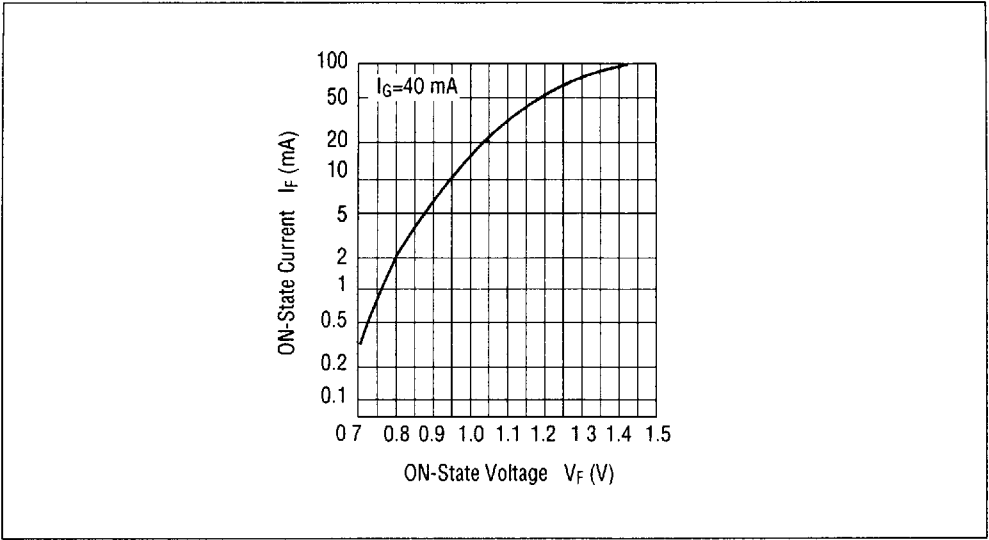
## ELECTRICAL CHARACTERISTICS

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

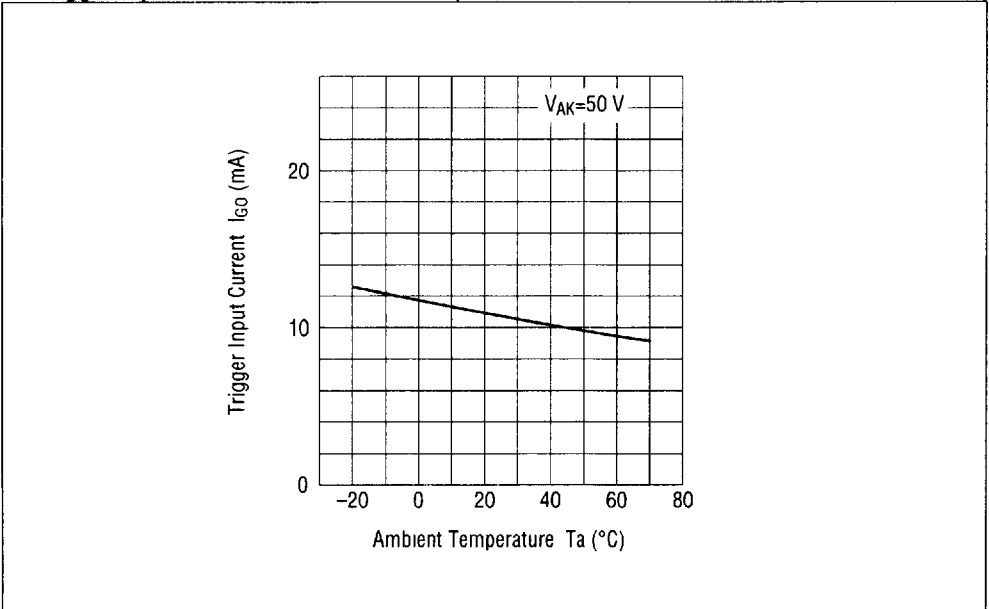
	Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Input Characteristics	Forward Voltage	$V_{FL}$	$I_G=40\text{ mA}$	—	—	1.4	V
	Reverse Current	$I_{RL}$	$V_{RL}=5\text{ V}$	—	—	5	$\mu\text{A}$
Output Characteristics	OFF-State Current	$I_{BO}$	$V_{AK}=320\text{ V}$	—	—	5	$\mu\text{A}$
	ON-State Voltage	$V_F$	$I_F=20\text{ mA}, I_G=40\text{ mA}$	—	—	1.3	V
	dV/dt Capability	dV/dt	dt=0.1 $\mu\text{s}$	120	—	—	V/0.1 $\mu\text{s}$
Coupled Characteristics	Holding Current	$I_H$	ON to OFF	—	—	1.3	mA
	Trigger Input Current	$I_{GO}$	$V_{AK}=50\text{ VDC}$	—	—	15	mA

### TYPICAL CHARACTERISTICS

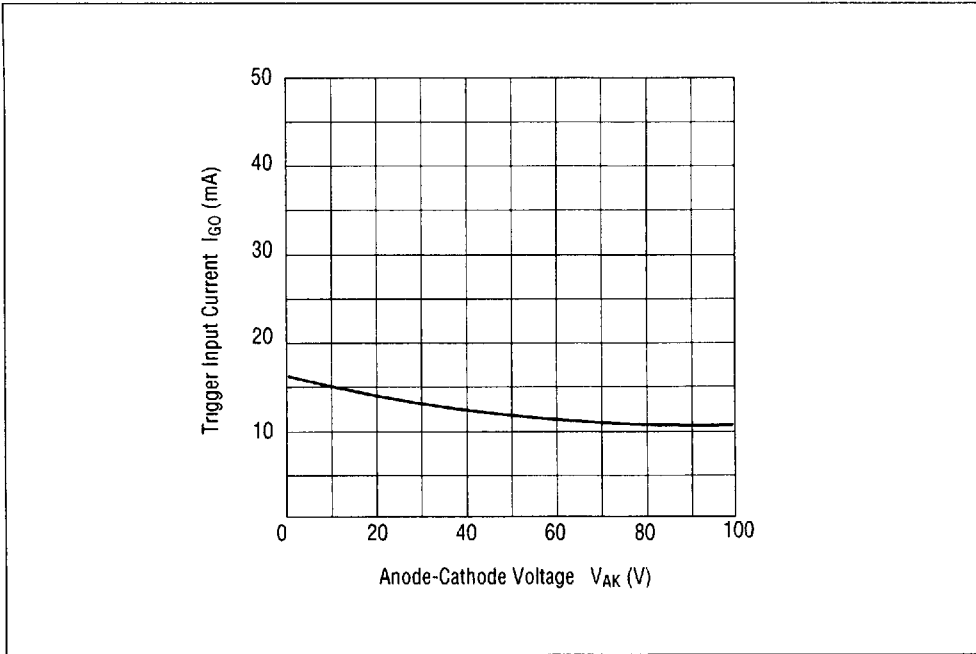
- ON-State Current vs. ON-State Voltage ( $T_a=25^\circ\text{C}$ )



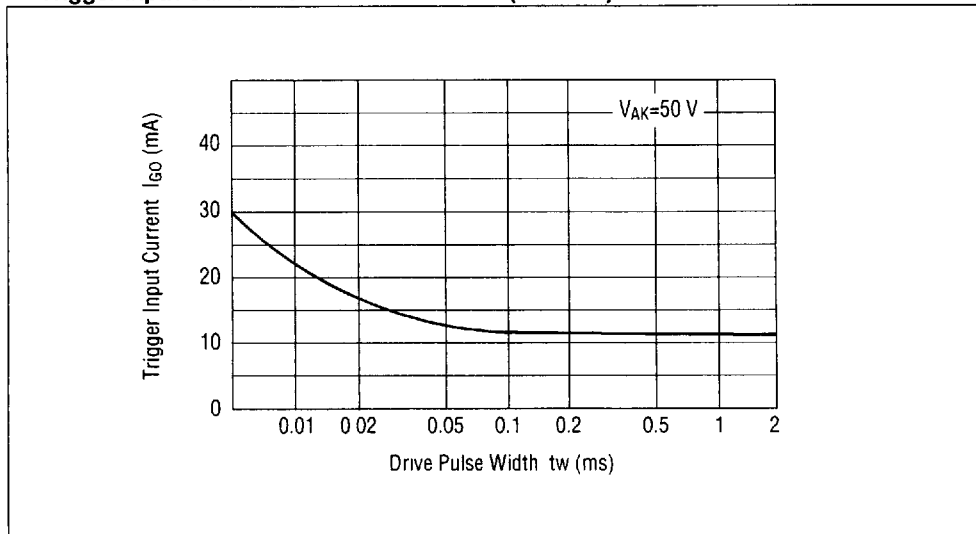
- Trigger Input Current vs. Ambient Temperature



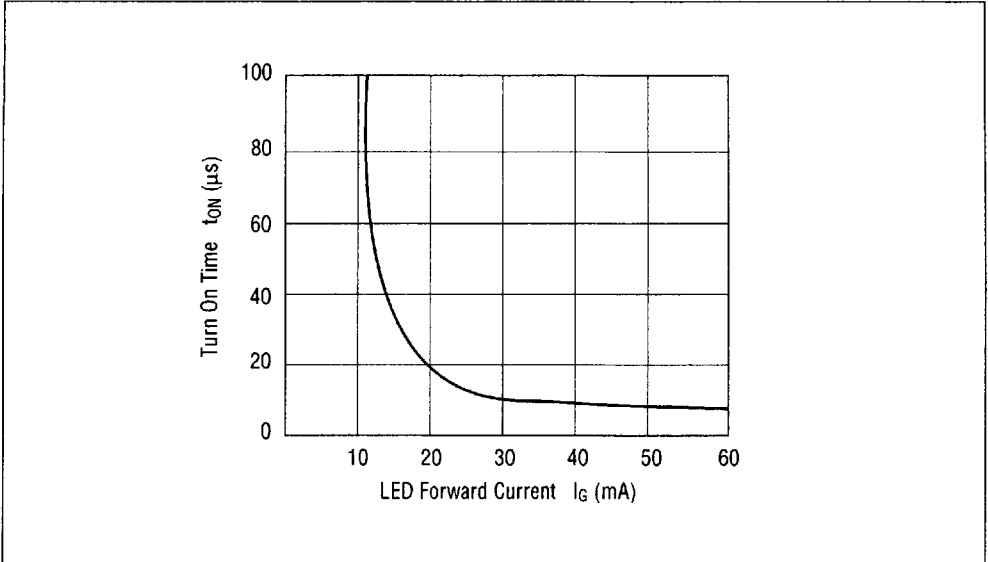
• Trigger Input Current vs. Anode-Cathode Voltage (Ta=25°C)



• Trigger Input Current vs. Drive Pulse Width (Ta=25°C)



• Turn On Time vs. LED Forward Current (Ta=25°C)



• dV/dt Capability vs. Ambient Temperature

