

OKI electronic components

OCS35

Optical PNPN Switches

GENERAL DESCRIPTION

The OCS35 is an optical PNPN switch, combining an infrared light emitting diode and a PNPN element (photothyristor) in a single 6-pin plastic package. The device is capable of withstanding high voltages. The OCS35 uses a connection method that makes bidirectional control possible.

FEATURES

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

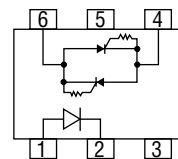
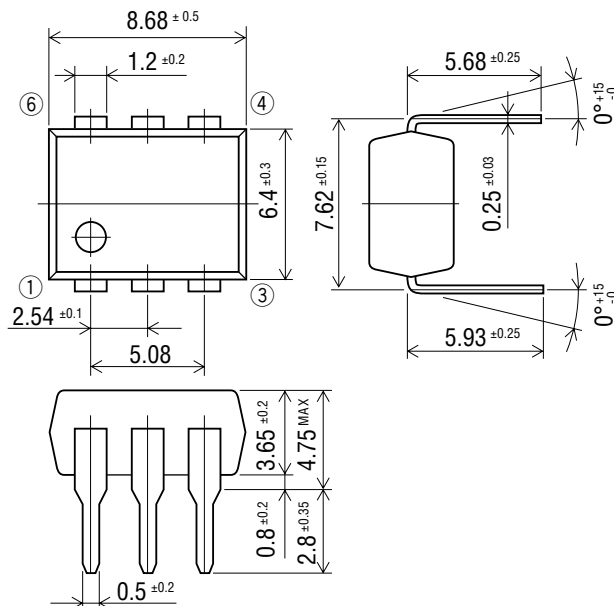
APPLICATIONS

- Electronic automatic exchange
- Key telephone system
- Contactless switch
- Optically coupled circuits

PIN CONFIGURATION

(Unit: mm)

• Pin Connection Diagram



- 1: Anode (LED)
- 2: Cathode (LED)
- 3: NC (No connection)
- 4: Output (PNPN)
- 5: NC (No connection)
- 6: Output (PNPN)

ABSOLUTE MAXIMUM RATINGS

Parameter		Symbol	Test Condition	Rating	Unit
Input (LED)	Forward Current	I_G	$T_a=25^\circ\text{C}$	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	$^\circ\text{C}$

* A single 1 ms pulse

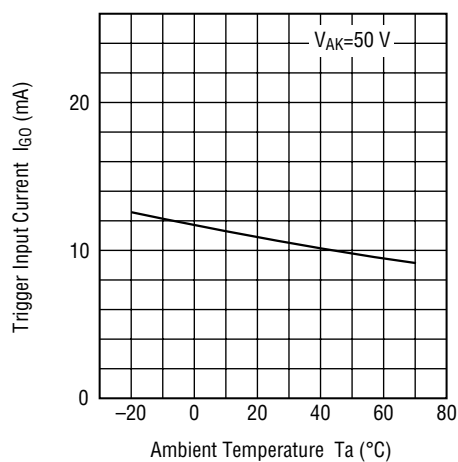
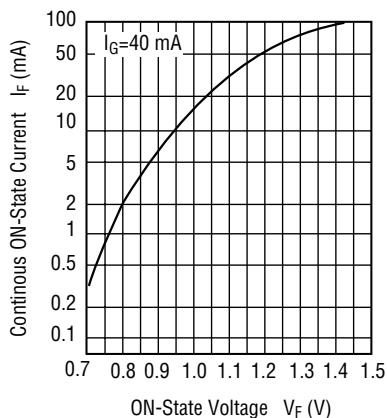
ELECTRICAL CHARACTERISTICS

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

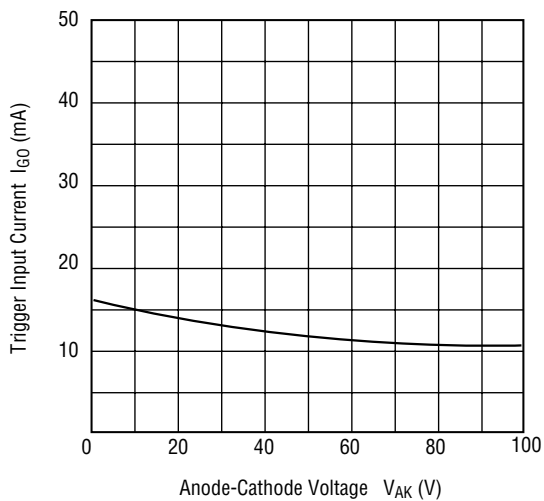
Parameter		Symbol	Test Condition	Min.	Typ.	Max.	Unit
Input Characteristics	Forward Voltage	V_{FL}	$I_G=40\text{ mA}$	—	—	1.4	V
	Reverse Current	I_{RL}	$V_{RL}=5\text{ V}$	—	—	5	μA
Output Characteristics	OFF-State Current	I_{BO}	$V_{AK}=320\text{ V}$	—	—	5	μA
	ON-State Voltage	V_F	$I_F=20\text{ mA}$, $I_G=40\text{ mA}$	—	—	1.3	V
	dV/dt Capability	dV/dt	dt=0.1 μs	120	—	—	V/0.1 μs
	Holding Current	I_H	ON to OFF	—	—	1.3	mA
Coupled Characteristics	Trigger Input Current	I_{GO}	$V_{AK}=50\text{ VDC}$	—	—	11	mA

TYPICAL CHARACTERISTICS

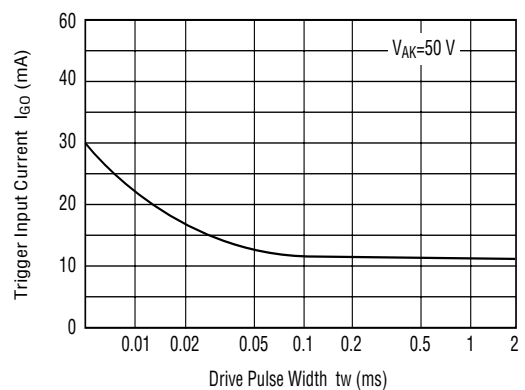
- Continuous ON-State Current vs. ON-State Voltage ($T_a=25^\circ\text{C}$)
- Trigger Input Current vs. Ambient Temperature



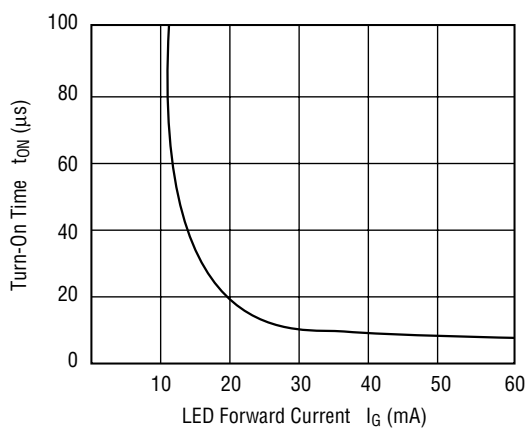
- **Trigger Input Current vs. Anode-Cathode Voltage ($T_a=25^\circ\text{C}$)**



- **Trigger Input Current vs. Drive Pulse Width ($T_a=25^\circ\text{C}$)**



- **Turn-On Time vs. LED Forward Current ($T_a=25^\circ\text{C}$)**



- **dV/dt Capability vs. Ambient Temperature**

