

OCS35

Optical PNP Switches

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

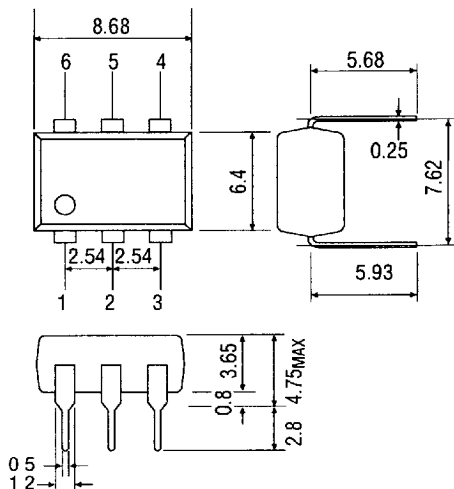
- Forward blocking voltage (V_{BO}): 320 V (Min.)
- Trigger input current (I_{CO}): 11 mA (Max.)

APPLICATIONS

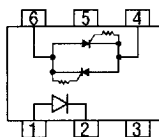
- Electronic automatic exchange
- Key telephone system
- Contactless switch
- Optically coupled transistor circuit

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 Ta=25°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	°C
Storage Temperature		T_{stg}	-30 to +100	°C

* At pulse width 1 ms once

• Wavelength at Peak Emission

Light source : 940 nm

Photodetector: 940 nm

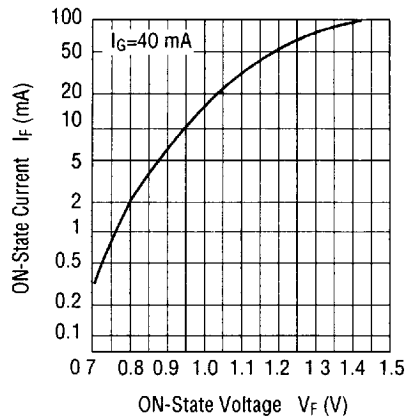
ELECTRICAL CHARACTERISTICS

(Ambient Temperature Ta=25°C)

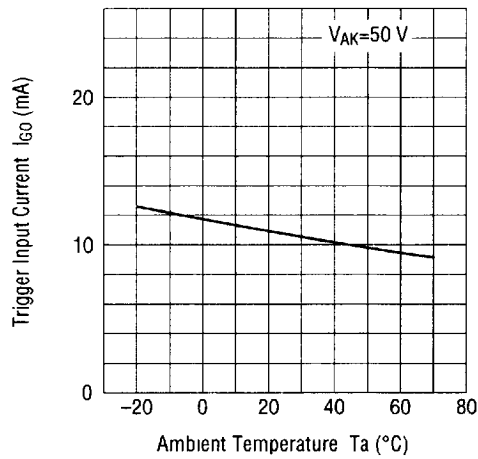
Parameter		Symbol	Test Condition	Min.	Typ.	Max.	Unit
Input Characteristics	Forward Voltage	V_{FL}	$I_G=40\text{ mA}$	—	—	1.4	V
	Reverse Current	I_{RL}	$V_{RL}=5\text{ V}$	—	—	5	μA
Output Characteristics	OFF-State Current	I_{BO}	$V_{AK}=320\text{ V}$	—	—	5	μA
	ON-State Voltage	V_F	$I_F=20\text{ mA}, I_G=40\text{ mA}$	—	—	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}	$V_{AK}=50\text{ VDC}$	—	—	15	mA

TYPICAL CHARACTERISTICS

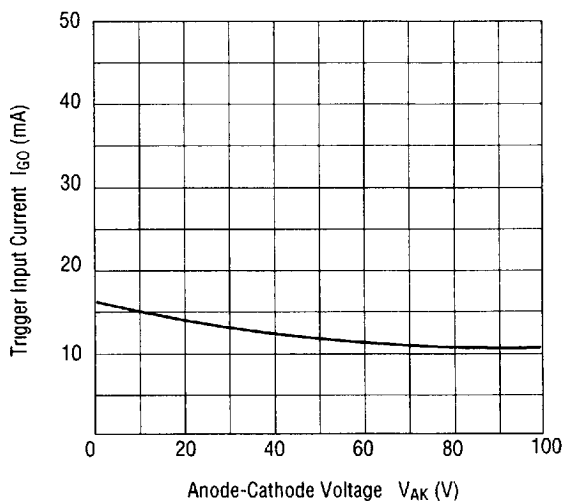
- ON-State Current vs. ON-State Voltage (Ta=25°C)



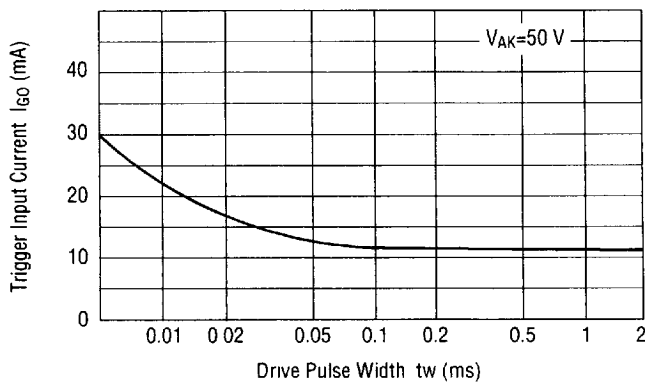
- Trigger Input Current vs. Ambient Temperature



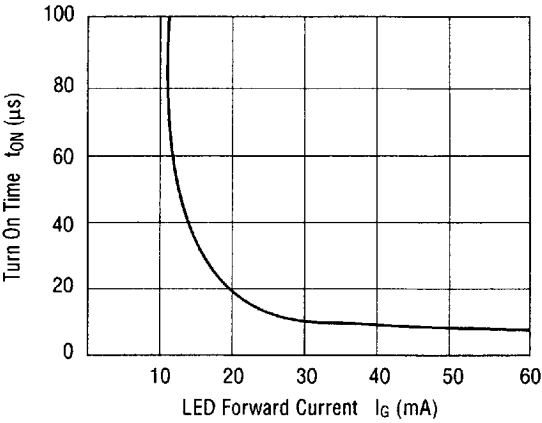
- Trigger Input Current vs. Anode-Cathode Voltage ($T_a=25^\circ\text{C}$)



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



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



• dV/dt Capability vs. Ambient Temperature

