

SIEMENS

H11C4/H11C5/H11C6 PHOTO SCR OPTOCOUPLER

FEATURES

- Turn On Current (IFT), 5.0 mA Typical
- Gate Trigger Current (IGT), 20 mA Typical
- Surge Anode Current, 5.0 A
- Blocking Voltage, 400 V Gate Trigger Voltage (VGT), 0.6 V Typical
- Isolation Voltage, 5300 VACRMS
- Solid State Reliability
- Standard DIP Package
- Underwriters Lab File #E52744

DESCRIPTION

The H11C4/H11C5/H11C6 are optically coupled SCRs with a Gallium Arsenide infrared emitter and a silicon photo SCR sensor. Switching can be achieved while maintaining a high degree of isolation between triggering and load circuits. These optocouplers can be used in SCR triac and solid state relay applications where high blocking voltages and low input current sensitivity are required.

The H11C4 and H11C5 has a maximum turn-on-current of 11 mA. The H11C6 has a maximum of 14 mA.

Maximum Ratings

Emitter

Peak Reverse Voltage 6.0 V
 Continuous Forward Current..... 60 mA
 Peak Forward Current
 (1 ms, 1% Duty Cycle) 3.0 A
 Power Dissipation at 25°C 100 mW
 Derate Linearly from 25°C 1.33 mW/°C

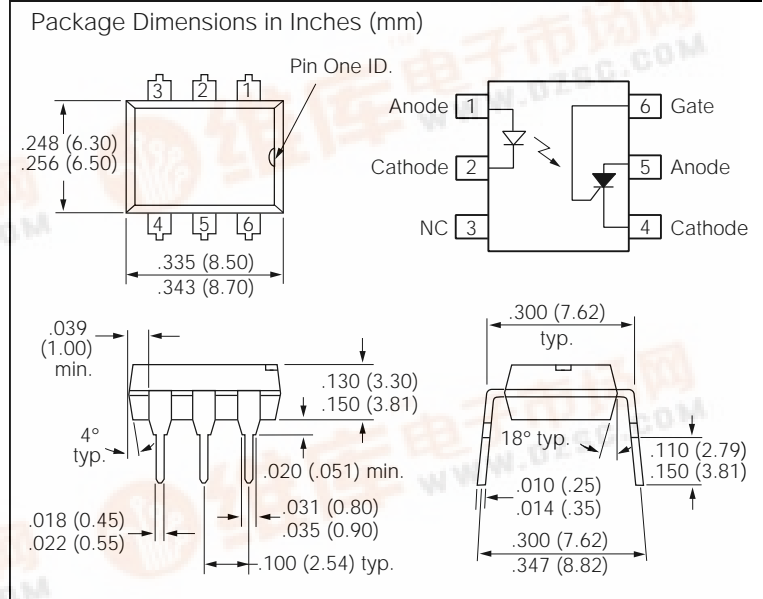
Detector

Reverse Gate Voltage..... 6.0 V
 Anode Voltage (DC or AC Peak) 400 V
 RMS Forward Current 300 mA
 Surge Anode Current (10 ms duration) 5.0 A
 Peak Forward Current
 (100 μs, 1% Duty Cycle) 10 A
 Surge Gate Current (5 ms duration) 200 mA
 Power Dissipation, 25°C case 1000 mW
 Derate Linearly from 25°C 13.3 mW/°C

Package

Isolation Test Voltage 5300 VACRMS
 Between Emitter and Detector
 Referred to Standard Climate
 23°C/50%RH, DIN 50014
 Creepage.....min.7 mm
 Clearance.....min. 7 mm
 Comparative Tracking Index per
 DIN IEC 112/VDE 0303, part 1 175

Isolation Resistance
 VIO=500 V, TA=25°C.....≥1012 Ω
 VIO=500 V, TA=100°C.....≥1011 Ω
 Total Package Dissipation 400 mW
 Derate Linearly from 25°C 5.3 mW/°C
 Operating Temperature Range..... -55°C to +100°C
 Storage Temperature Range..... -55°C to +150°C



Characteristics (TA=25°C)

	Sym	Min.	Typ.	Max.	Unit	Condition
Emitter						
Forward Voltage	V _F		1.2	1.5	V	I _F =10 mA
Reverse Current	I _R			10	μA	V _R =3 V
Capacitance	C _O		50		pF	V _R =0, f=1 MHz
Detector						
Forward Blocking Voltage	V _{DM}	400			V	R _{GK} =10 KΩ T _A =100°C
Reverse Blocking Voltage	V _{DM}	400			V	I _d =150 μA
On-state Voltage	V _t		1.1	1.3	V	I _T =300 mA
Holding Current	I _H			500	μA	R _{GK} =27 KΩ V _{FX} =50 V
Gate Trigger Voltage	V _{GT}		0.6	1.0	V	V _{FX} =100 V R _{GK} =27 KΩ R _L =10 KΩ
Forward Leakage Current	I _R		150		μA	R _{GK} =10 KΩ V _{RM} =400 V I _F =0, T _A =100°C
Reverse Leakage Current	I _R		150		μA	R _{GK} =10 KΩ V _{RX} =400 V I _F =0, T _A =100°C
Gate Trigger Current	I _{GT}		20	50	μA	V _{FX} =100 V R _{GK} =27 KΩ, R _L =10 KΩ
Capacitance Anode to Gate			20		pF	V=0, f=1 MHz
Gate to Cathode			350		pF	
Package						
Turn-On Current H11C4/H11C5	I _{FT}			20	mA	V _{DM} =50 V R _{GK} =10 KΩ
H11C6				30	mA	
Turn-On Current H11C4/H11C5	I _{FT}		5	11	mA	V _{DM} =100 V R _{GK} =27 KΩ
H11C6			7	14	mA	

