Electronic

HGP Series Solid State Relay

Load current 0.1-3,4,5A, Output voltage range 28-280VAC or 48-480VAC,5-60VDC or 5-110VDC/5-220VDC
Control voltage range 3-32VDC

QT/YHL3853-2000
Technical information

DESCRIPTION

FEATURES

- TRIAC output(AC),zero voltage turn-on, zero current turn-off, (minimizes EMI/RFI) ; Bipolar transistor output(DC),on-state voltage drop low, switching speedily
- Internal RC snubber
- High dv/dt and high blocking voltage
- Low Input power Consumption, TTL and CMOS Compatible
- Input and output 4000V optically isolated
- LED indicator
- High Surge Rating Allows Lamp and Motor Load Switching
- 100% tested at rated current , CE compliant
- PCB Mount, Single in Line Package

SELECTING CODE

CE

HGP - 2 08 D /0L

Series name	Output voltage	Output current	Input voltage range	Function option
	2:28-280VAC 3:48-480VAC	3:0.1-3A 4:0.1-4A 5:0.1-5A 8:1.1-8A	D:3-32VDC	No mark: Zero voltage turn-on Internal snubber 0: Zero voltage turn-on No snubber 1L:Random turn-on Internal snubber 1: Random turn-on No snubber

INPUT PARAMETERS(Ta=25℃)

Input type	D:DC Control
Control voltage range	3-32 VDC
Turn-on voltage(Max.)	3.0 VDC
Turn-off voltage(Min.)	1.0 VDC
Nominal input impedance	1500 Ohms
Typical Input current	10 mA@5 VDC 22 mA @24 VDC
Max. Reverse voltage	-32 VDC

APPLICATION

HGN Series AC Solid State Relays, adapting ignition-proof engineering plastic cover, filled with EPOXY, screw thread connection, have the features of hard structure, vibration-proof capability high, input current small convenient to interface with terminals of computer and various digital tele-control circuit. This series products are widely used in the fields of petrochemical equipment, foodstuff producing mechanism, textile and plastic mechanisms, packaging machines, tool numerical control, gymnasium equip.
Speciality be the same with canker, aquosity request prevent explode scurvines circumstance, and often switch of occasion.

Electronic

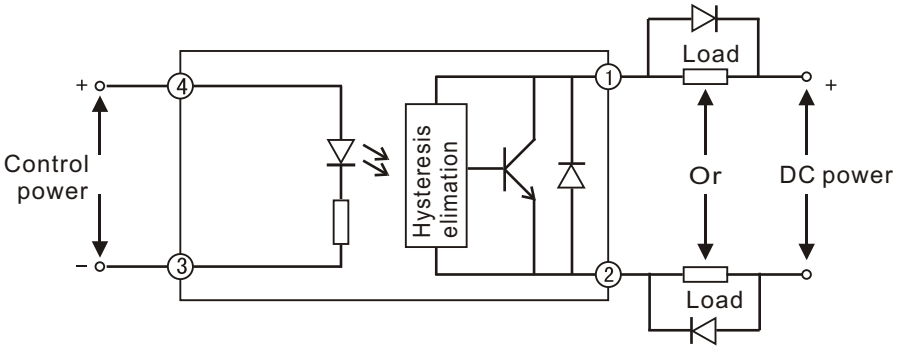
HGP Series Solid State Relay

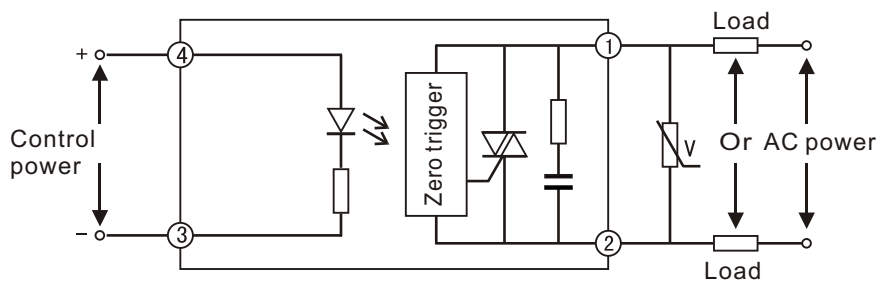
Load current 0.1-3,4,5A, Output voltage range 28-280VAC or 48-480VAC,5-60VDC or 5-110VDC/5-220VDC
Control voltage range 3-32VDC

OUTPUT PARAMETERS(Ta=25℃)

Output current type		3	4	5	5
Operating voltage range		2:28～280VAC 3:48～480VAC			
Max. Load current		3A	4A	5A	5A
Max. Surge current-Non repetitive (10ms)		80Apk	120Apk	160Apk	20Apk
Max. I^2t for fusing(10ms)		$32A^2s$	$72A^2s$	$128A^2s$	
Min. Off-state dv/dt		250V/usec	250V/usec	500V/usec	
Max. Over-zero voltage		±35VAC			
Min. Load current		100mA			1mA
Max. On-state voltage drop		1.5VAC@rated current			1.5VDC
Max. Off-state leakage current		5mA,1mA /no RC @rated voltage			0.1mA
Transient over voltage		2:800Vpk 3:1000Vpk			All high 20V
Operating frequency range		47～63Hz			0-500Hz
Dielectric strength(50Hz 1Min)		4000VAC input-output			
Insulation resistance		1000MΩ 500VDC Voltage Test			
Vibration resistance	Destructive Functional	117.6mm/s2(12G),10-55 Hz double Amplitude of 2 mm 117.6mm/s2(12G),10-55 Hz double Amplitude of 2 mm			
Shock resistance	Destructive Functional	Min.980m/s2(100G)(5 times each for X,Y,Z axis) Min.980m/s2(100G)(4 times each for X,Y,Z axis)			
Max. Capacitance		8pF（input-output）			
Max. Turn-on time	Zero voltage turn-on	(1/2 cycle of load power)+1msec(DC input) (3/2 cycle of load power)+1msec(AC input)			50usec
	Random turn-on	1msec			
Max. Turn-off time		(1/2 cycle of load power)+1msec(DC input) (3/2 cycle of load power)+1msec(AC input)			50usec
Ambient operating temperature		-30℃ to 80℃			
Ambient storage temperature		-30℃ to 120℃			
Ambient humidity relative		45% to 85%			
Weight typical		≤55g			

CONNECTION/WIRING





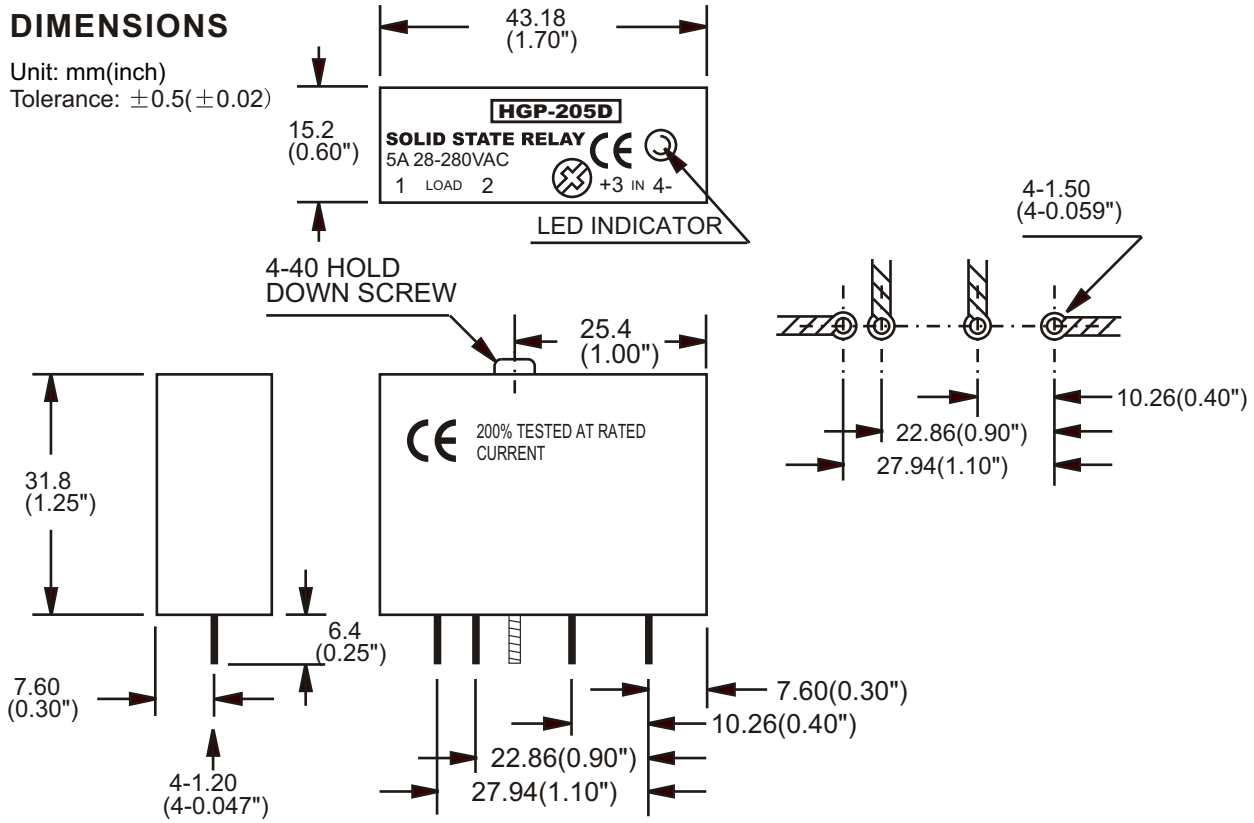
Electronic

HGP Series Solid State Relay

Load current 0.1-3,4,5A, Output voltage range 28-280VAC
or 48-480VAC,5-60VDC or 5-110VDC/5-220VDC
Control voltage range 3-32VDC

DIMENSIONS

Unit: mm(inch)
Tolerance: ±0.5(±0.02)



PRECAUTIONS

- When controlling AC inductive load, the SSR may be damaged by the high transient voltage and surge current added on the output, so some special clamping devices to control voltage, such as zener diode, varistor.
- When controlling DC inductive load, such as solenoid, motor starter, etc, a continuous current circuit should be used to control the reverse electric motor force. Generally speaking, a simple way is to parallel the load with a diode inversely, but thus will affect the release time of inductive load.
  A better way is to series a diode with a zener diode inversely or to series a diode with a resistance, then parallel the load inversely.
- When controlling a small current(close to Min. load current),a dummy resistance should be paralleled to reduce the rest voltage produced by the surge current on the output.
- When a jointing type relay is mounted, the temperature should be controlled under 260 centigrade degrees and the time will be limited within 5second.
  To avoid the temperature exceeding the allowance, heatsink efficiency and the mounting position should be regarded, suitable space will be left when two or more SSR are mounted