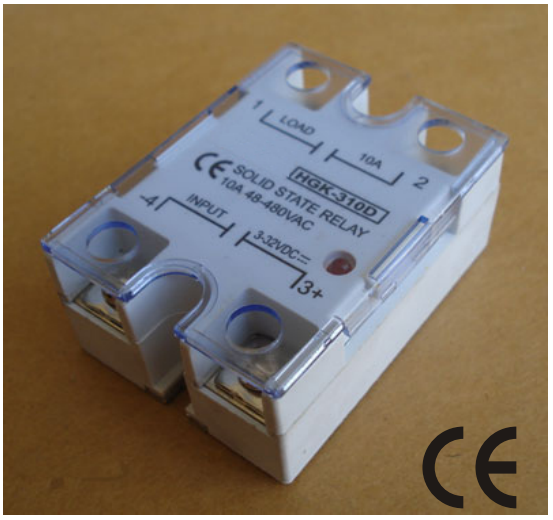
HGK Series AC Solid State Relay

Load current 10,15,25,40,50A，Output voltage range 28-280VAC or 48-480VAC
Control voltage 3-32VDC or 90-280VAC

Electronic

DESCRIPTION

QT/YHL3849-2000
Technical information



FEATURES

- TRIAC output, Zero current turn-off
- Input and output 4000V optically isolated
- LED indicator
- Internal varistor (MOV) and RC snubber dual surge absorb protect
- Zero voltage and random turn-on switching
- 100% tested at rated current, CE compliant
- With safety cover, panel mount

SELECTING CODE

HGK - 2 10 D /1

Series name	Output voltage	Output current	Input voltage range	Function option
	2:28-280VAC 3:48-480VAC	10:0.1-10A 15:0.1-15A 25:0.1-25A 40:0.1-40A 50:0.1-50A	A:90-280VAC D:3-32VDC	No mark : Zero voltage turn-on 1: Random turn-on

INPUT PARAMETERS(Ta=25℃)

Input type	D:DC Control	A:AC Control
Control voltage range	3-32 VDC	90-280 Vrms (50-60Hz)
Turn-on voltage(Max.)	3.0 VDC	90 Vrms
Turn-off voltage(Min.)	1.0 VDC	10 Vrms
Nominal input impedance	1500 Ohms	60k Ohms
Typical Input current	10 mA@5 VDC 22 mA @24 VDC	5 mA@220 VAC 2.2 mA@110 VAC
Max. Reverse voltage	-32 VDC	----

APPLICATION

HGK Series AC Solid State Relays,adapting ignition-proof engineering plastic cover,unique sculpt, original architecture, 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 are widely used in the fields of petrochemical equipment, foodstuff producing mechanism, packaging machines, textile and plastic mechanisms, tool numerical control, gymnasium equip.
Speciality be the same with canker, aquosity request prevent explode scurvines circumstance, and often switch of occasion.

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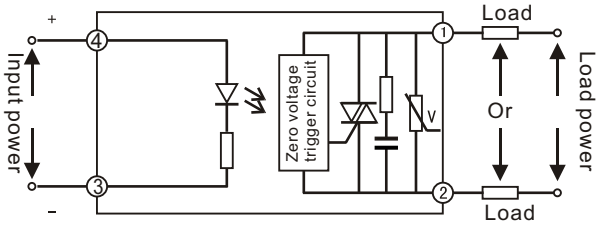
OUTPUT PARAMETERS(Ta=25℃)

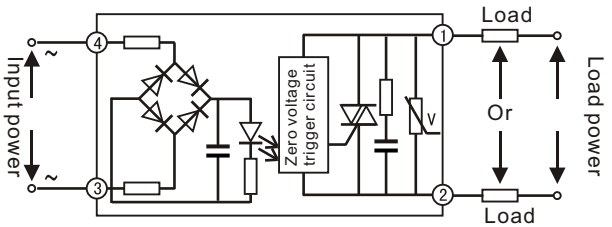
Output current type		10	15	25	40
Operating voltage range		2:28～280VAC 3:48～480VAC			
Max. Load current		10A	15A	25A	40A
Max. Surge current-Non repetitive (10ms)		120Apk	160Apk	250Apk	300Apk
Max. I^2t for fusing(10ms)		72A^2s	128A^2s	312. 5A^2s	450A^2s
Thermal resistance junction to case(Rjc)		2.5℃/W	2.3℃/W	1.1℃/W	0.9℃/W
Min. Off-state dv/dt		250V/usec	500V/usec	250V/usec	250V/usec
Max. Over-zero voltage		±35VAC			
Min. Load current		100 mA			
Max. On-state voltage drop		1.5VAC@rated current			
Max. Off-state leakage current		5mA@rated voltage			
Transient over voltage		2:800Vpk 3:1000Vpk			
Operating frequency range		47～63Hz			
Dielectric strength(50Hz 1Min)		4000VAC input-output 2500VAC input/output-base			
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)			
	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)			
Ambient operating temperature		-30℃ to 80℃			
Ambient storage temperature		-30℃ to 120℃			
Ambient humidity relative		45% to 85%			
Weight typical		≤85g			

CONNECTION/WIRING

HGK-210D/240D
HGK-310D/340D



HGK-210A/240A
HGK-310A/340A



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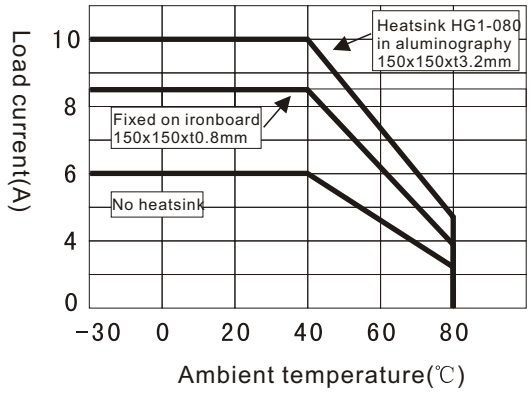
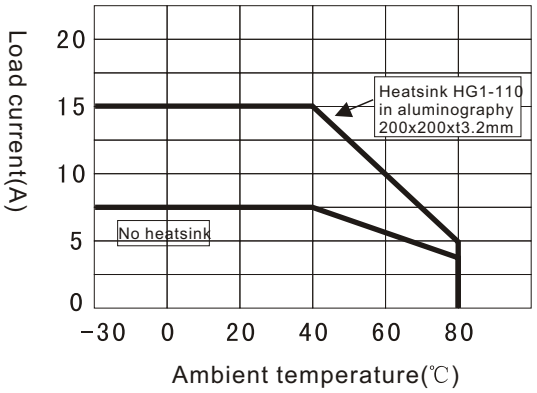
CURRENT DERATING CURVES

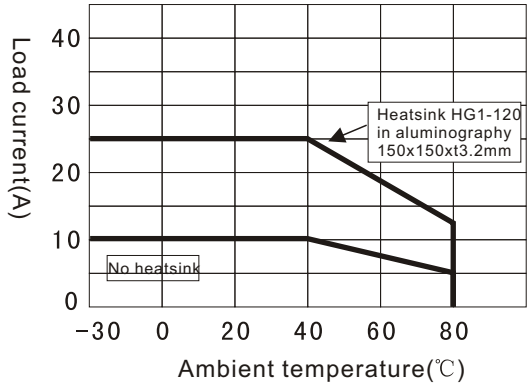
HGK-210X/310X



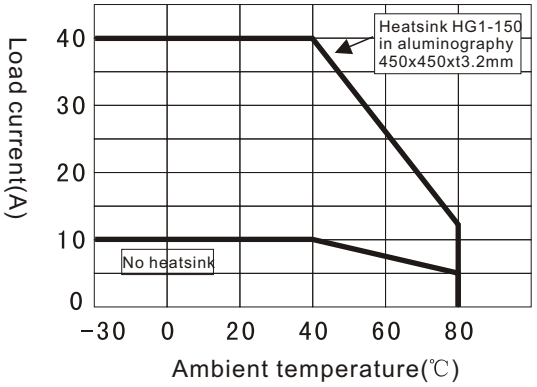
HGK-215X/315X



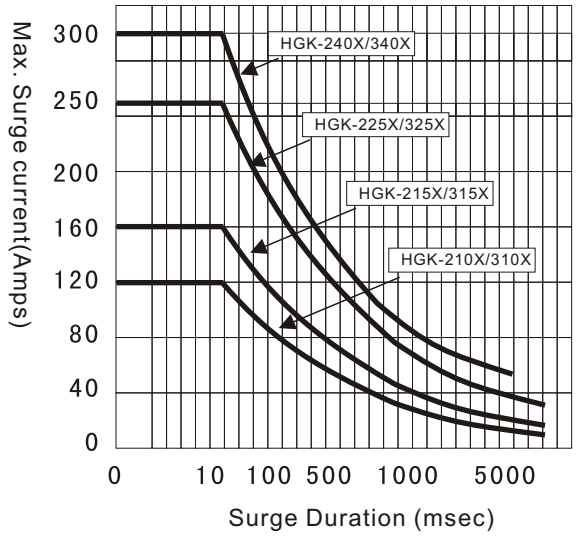
HGK-225X/325X



HGK-240X/340X



MAXIMUM SURGE vs. DURATION



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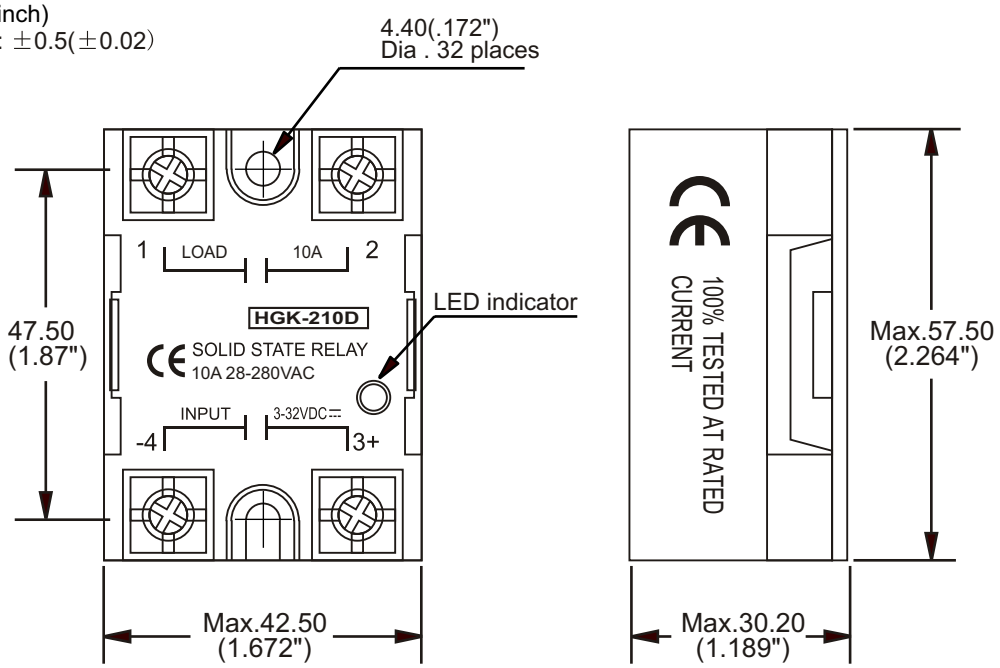
DIMENSIONS

Unit: mm(inch)
Tolerance: ±0.5(±0.02)



PRECAUTIONS

- Heatsink should be used when the current is up to 5 Amperes, and heat-conductive silicate should be spreaded between the heatsink and the base.
- When controlling 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(MOV).
- When controlling a small current(close to Min. Load current), a dummy load resistance should be parallelled to reduce the rest higher voltage produced by the leakage current on the output.
- 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.
- The output end must not be used in parallel to enlarge the current, however can be used in series for higher suitable operating voltage.
- The input end can be used either mean when sharing a control power supply.
- Please contact HALON application engineering department for additional information and specific application questions.