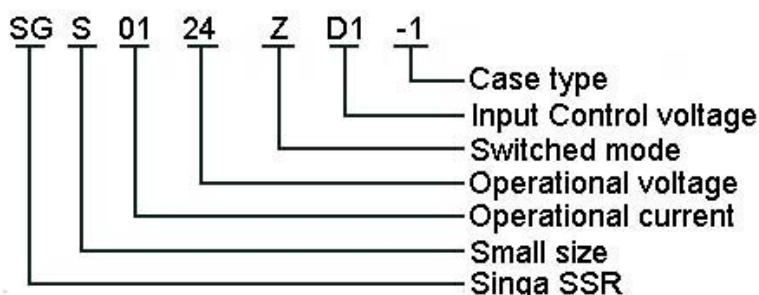


Series SGS Solid State Relays are small size AC relays. Compact package for high density PC board mounting.

- ▲ Operational current 1 to 5 Amps.
- ▲ Operational voltage 240V or 440V
- ▲ Input Control voltage 4 to 16Vdc or 3 to 32Vdc
- ▲ Dielectric strength (Input/Output) 2500Vrms

ORDERING KEY



TYPE SELECTION

Mounting type

S: AC PCB mounting

Operational current

01: 1Amp, 02: 2Amp, 03: 3Amp, 05: 5Amp

Operational voltage

24: 240V_{AC}, 44: 440V_{AC}

Switched mode

Z: Zero Voltage, R: Random Switching.

Input Control voltage

D1: DC 4 to 16V, D3: DC 3 to 32V.

Case type

Blank: Case A, -1 Case B, -2 Case C, -3

SELECTION GUIDE

Operational voltage	Control voltage	Rated operational current			
		1 Amp	2 Amp	3 Amp	5 Amp
240 Vac	4 to 16 Vdc	SGS0124ZD1	SGS0224ZD1	SGS0324ZD1	SGS0524ZD1
	3 to 32 Vdc	SGS0124ZD3	SGS0224ZD3	SGS0324ZD3	SGS0524ZD3
440 Vac	4 to 16 Vdc	SGS0144ZD1	SGS0244ZD1	SGS0344ZD1	SGS0544ZD1
	3 to 32 Vdc	SGS0144ZD3	SGS0244ZD3	SGS0344ZD3	SGS0544ZD3



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SPECIFICATIONS

PARAMETER-LIST	Units	Specification Limits			
Model No. SGS		1A	2A	3A	5A
INPUT PARAMETER ① D1					
Control Voltage Range	Vdc	4 to 16			
Input Current (Max.) @=5V/12V	mAdc	10/20			
Must Turn On Voltage	Vdc	4			
Must Turn Off Voltage	Vdc	1			
Reverse Voltage (Max.)	Vdc	32			
INPUT PARAMETER ② D3					
Control Voltage Range	Vdc	3 to 32			
Input Current (Max.) @=5V/24V	mAdc	13/16			
Must Turn On Voltage	Vdc	3			
Must Turn Off Voltage	Vdc	1			
Reverse Voltage (Max.)	Vdc	32			
OUTPUT PARAMETER ③					
Max. Load Current	Arms	1	2	3	5
Surge Current, 20 mSec(Max.)	Arms	30	46	60	80
Load Voltage Range (240V)	Vrms	24 to 280			
VDRM/VRRM (240V)	Vpk	≥600			
Load Voltage Range (440V)	Vrms	44 to 440			
VDRM/VRRM (440V)	Vpk	≥800			
Frequency Range	Hz	47 to 63			
Min. Off-state dv/dt	V/μsec	50	50	75	75
Max.Off-State Leakage Current	mArms	≤5			
On-State Voltage Drop (Max.)	Vrms	1.2			
Turn On Time (Max.)	Cycle	1/2			
Turn Off Time (Max.)	Cycle	1/2			
COUPLING PARAMETER ④					
Dielectric strength (Input/Output)	Vrms	2500			
Capacitance	pf	8			
GENERAL SPECIFICATIONS ⑤					
Ambient Operating Temperature Range	-30 to +80 ℃				
Ambient Storage Temperature Range	-30 to +80 ℃				
Weight: (typical) Case A: 15g, Case B: 29g, Case C: 37g					



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Singa Series SGS

1 to 5A Small Size Solid State Relay



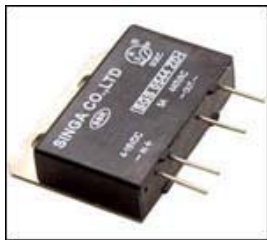
Case A: L×W×H 31×16×15mm

Operational current 1-2A



Case B: L×W×H 43×15×30 mm

Operational current 3A



Case C: L×W×H 43×12×35 mm

Operational current 5A



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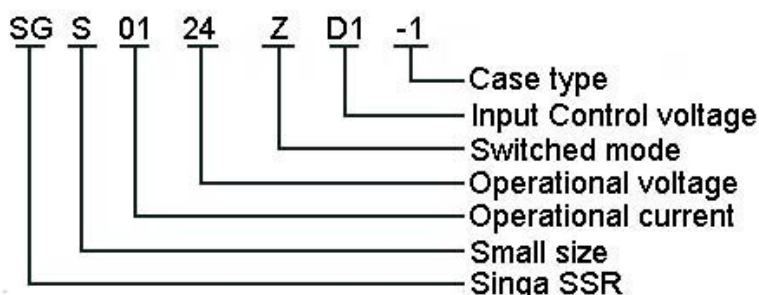
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Series SGS Solid State Relays are small size AC relays. Compact package for high density PC board mounting.

- ▲ Operational current 1 to 5 Amps.
- ▲ Operational voltage 240V or 440V
- ▲ Input Control voltage 4 to 16Vdc or 3 to 32Vdc
- ▲ Dielectric strength (Input/Output) 2500Vrms

ORDERING KEY



TYPE SELECTION

Mounting type

S: AC PCB mounting

Operational current

01: 1Amp, 02: 2Amp, 03: 3Amp, 05: 5Amp

Operational voltage

24: 240V_{AC}, 44: 440V_{AC}.

Switched mode

Z: Zero Voltage, R: Random Switching.

Input Control voltage

D1: DC 4 to 16V, D3: DC 3 to 32V.

Case type

Blank: Case A, -1 Case B, -2 Case C, -3

SELECTION GUIDE

Operational voltage	Control voltage	Rated operational current			
		1 Amp	2 Amp	3 Amp	5 Amp
240 Vac	4 to 16 Vdc	SGS0124ZD1	SGS0224ZD1	SGS0324ZD1	SGS0524ZD1
	3 to 32 Vdc	SGS0124ZD3	SGS0224ZD3	SGS0324ZD3	SGS0524ZD3
440 Vac	4 to 16 Vdc	SGS0144ZD1	SGS0244ZD1	SGS0344ZD1	SGS0544ZD1
	3 to 32 Vdc	SGS0144ZD3	SGS0244ZD3	SGS0344ZD3	SGS0544ZD3



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SPECIFICATIONS

PARAMETER-LIST	Units	Specification Limits			
Model No. SGS		1A	2A	3A	5A

INPUT PARAMETER ① D1

Control Voltage Range	Vdc	4 to 16			
Input Current (Max.) @=5V/12V	mAdc	10/20			
Must Turn On Voltage	Vdc	4			
Must Turn Off Voltage	Vdc	1			
Reverse Voltage (Max.)	Vdc	32			

INPUT PARAMETER ② D3

Control Voltage Range	Vdc	3 to 32			
Input Current (Max.) @=5V/24V	mAdc	13/16			
Must Turn On Voltage	Vdc	3			
Must Turn Off Voltage	Vdc	1			
Reverse Voltage (Max.)	Vdc	32			

OUTPUT PARAMETER ③

Max. Load Current	Arms	1	2	3	5
Surge Current, 20 mSec(Max.)	Arms	30	46	60	80
Load Voltage Range (240V)	Vrms	24 to 280			
VDRM/VRRM (240V)	Vpk	≥600			
Load Voltage Range (440V)	Vrms	44 to 440			
VDRM/VRRM (440V)	Vpk	≥800			
Frequency Range	Hz	47 to 63			
Min. Off-state dv/dt	V/μsec	50	50	75	75
Max.Off-State Leakage Current	mArms	≤5			
On-State Voltage Drop (Max.)	Vrms	1.2			
Turn On Time (Max.)	Cycle	1/2			
Turn Off Time (Max.)	Cycle	1/2			

COUPLING PARAMETER ④

Dielectric strength (Input/Output)	Vrms	2500			
Capacitance	pf	8			

GENERAL SPECIFICATIONS ⑤

Ambient Operating Temperature Range	−30 to +80 °C
Ambient Storage Temperature Range	−30 to +80 °C
Weight: (typical) Case A: 15g, Case B: 29g, Case C: 37g	



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Singa Series SGS

1 to 5A Small Size Solid State Relay



Case A: L×W×H 31×16×15mm

Operational current 1-2A



Case B: L×W×H 43×15×30 mm

Operational current 3A



Case C: L×W×H 43×12×35 mm

Operational current 5A



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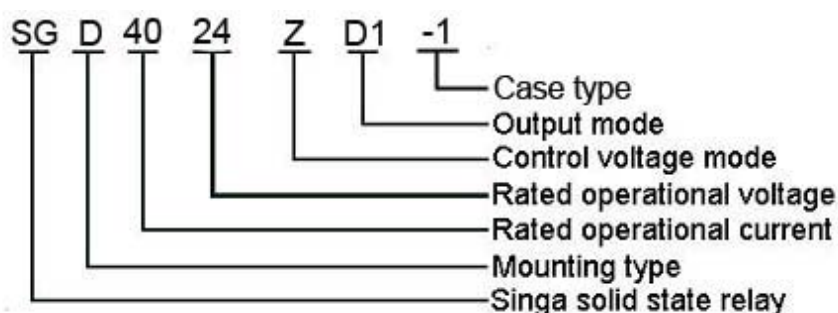
WEB SITE: <http://www.singa.cn>

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Series SGD Solid State Relays are AC relays, Triac Output. The triac version of the zero switching relay is an inexpensive solution for resistive loads. The zero switching relay switches on when the AC sine voltage just crosses zero, and switches off when the current crosses zero.

- ▲ Rated operational current 10 to 40 Amps.
- ▲ Rated operational voltage 240V or 440 V
- ▲ Input Voltage Range 4 to 16 Vdc, 3 to 32 Vdc or 90 to 250 Vac.
- ▲ 4000 Vrms Optical Isolation.(input/output)
- ▲ Both "Zero Voltage" & phase controllable "Random Switching" versions.
- ▲ LED-indication for control input.

ORDERING KEY



TYPE SELECTION

Mounting type	D: AC Single phase Solid State Relay
Rated operational current	10: 10Amp, 15: 15Amp, 25: 25Amp, 40: 40Amp
Rated operational voltage	24: 240V_{AC}, 44: 440V_{AC}.
Switched mode	Z: Zero Voltage,R: Random Switching.
Input Control voltage	D1: DC 4to16V, D3: DC 3to32V, A2: 90to250V.

SELECTION GUIDE

Voltage	Control voltage	Rated operational current			
		10 Amp	15 Amp	25 Amp	40 Amp
240 V _{AC} "Z"	4 to 16 Vdc	SGD1024ZD1	SGD1524ZD1	SG2524ZD1	SGD4024ZD1
240 V _{AC} "R"	4 to 16 Vdc	SGD1024RD1	SGD1524RD1	SG2524RD1	SGD4024RD1
240 V _{AC} "Z"	3 to 32 Vdc	SGD1024ZD3	SGD1524ZD3	SGD2524ZD3	SGD4024ZD3
240 V _{AC} "R"	3 to 32 Vdc	SGD1024RD3	SGD1524RD3	SGD2524RD3	SGD4024RD3
240 V _{AC} "Z"	90 to 250Vac	SGD1024ZA2	SGD4024ZA2	SGD4024ZA2	SGD4024ZA2
240 V _{AC} "R"	90 to 250Vac	SGD1024RA2	SGD4024RA2	SGD4024RA2	SGD4024RA2
440 V _{AC} "Z"	4 to 16 Vdc	SGD1044ZD1	SGD1544ZD1	SGD2544ZD1	SGD4044ZD1
440 V _{AC} "R"	4 to 16 Vdc	SGD1044RD1	SGD1544RD1	SGD2544RD1	SGD4044RD1

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440 V _{AC} "Z"	3 to 32 Vdc	SGD1044ZD3	SGD1544ZD3	SGD2544ZD3	SGD4044ZD3
440 V _{AC} "R"	3 to 32 Vdc	SGD1044RD3	SGD1544RD3	SGD2544RD3	SGD4044RD3
440 V _{AC} "Z"	90 to 250Vdc	SGD1044ZA2	SGD1044ZA2	SGD2544ZA2	SGD4044ZA2
440 V _{AC} "R"	90 to 250Vdc	SGD1044RA2	SGD1044RA2	SGD2544RA2	SGD1044RA2

SPECIFICATIONS

Parameter-list	Units		Specification Limits		
Input Parameter ①	D1		D3		A2
Control Voltage Range	4 to 16Vdc		3 to 32Vdc		90 to 250Vac
Input Current (Max.)	7/20 mAdc @=5V/12V		13/16 mAdc @=5V/12		30 MAac @=220V
Must Turn On Voltage	4Vdc		3Vdc		90Vac
Must Turn Off Voltage	1Vdc		1Vdc		10Vac
Reverse Voltage (Max.)	32 Vdc		32 Vdc		/
LED Display	Optional		Optional		Optional
Output Parameter ②	Units		Specification Limits		
Model No. SGD		10	15	25	40
Load Current Range	Arms	0.05 to 10	0.05 to 15	0.05 to 25	0.05 to 40
Surge Current, 20 mSec (Max.)	Arms	85	115	230	400
Load Voltage Range (240V)	Vrms	24 to 280			
TRIAC Over voltage(240V)	Vpk	≥600			
Load Voltage Range (440V)	Vrms	44 to 440			
TRIAC Over voltage(440V)	Vpk	≥800			
Thermal Resistance, (Rthjc)	°C/W	2.5	2.5	1.3	1.1
Frequency Range	Hz	47 to 63			
Off State dv/dt (Min)	V/μsec	200			
Off State Leakage Current (Max.)	mArms	≤8			
On State Voltage Drop (Max.)	Vrms	1.6			
Turn On Time (Max.) “Z”	Cycle	1/2			
Turn On Time (Max.) “R”	mSec	1			
Turn Off Time (Max.)	Cycle	1/2			
Turn Off Time(Max.)”A2”	mSec	40			
Coupling Specifications					
Dielectric (Input/Output)	Vrms	2500			
Dielectric (Input-Output/Base)	Vrms	2500			
Capacitance	pf	10			

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General Specifications

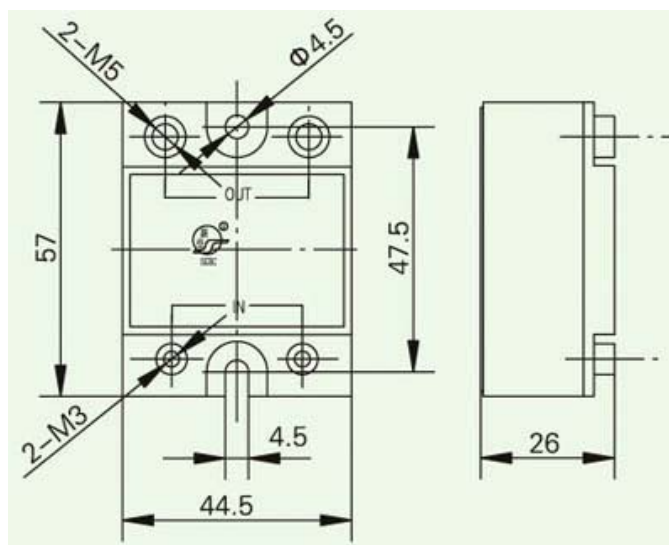
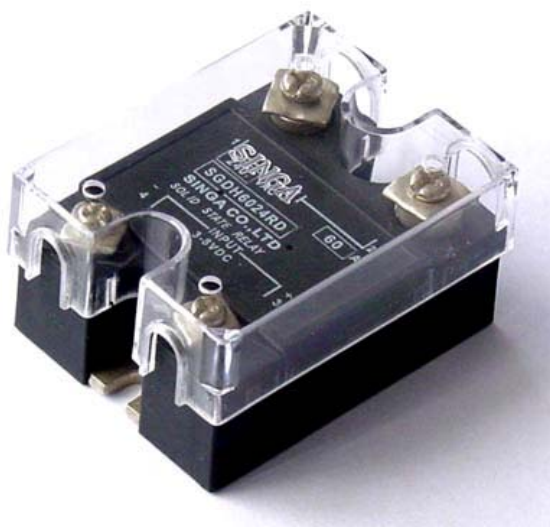
Ambient temperature range: operating or Storage -30 to +80°C

Weight(typical.): **Case A** Aluminum Base plate: 99g; Copper Base plate: 145g
Case B Aluminum Base plate: 81g; Copper Base plate: 120g

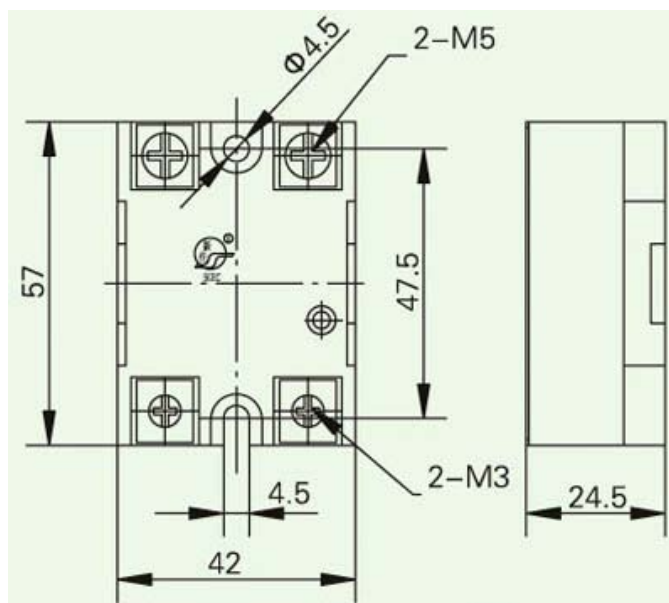
Base plate: Aluminum or Copper, nickel-plated

Case Color: Black

Case A Defense Covering (Optional)



Case B Defense Covering (Optional)



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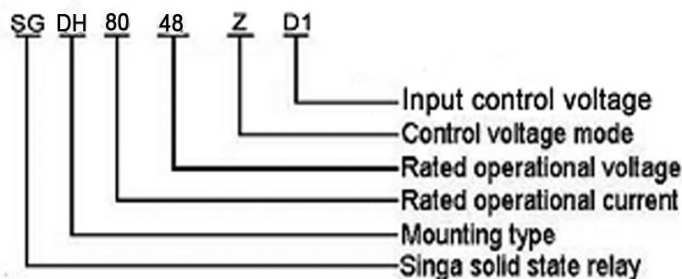
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WEB SITE: <http://www.singa.cn> <http://www.whsinga.com.cn>

Series SGDH are power line relays allowing 10 to 120 Amps. switching power, with Voltage ratings from 280 to 480 Volts A.C. SGDH series is Dual SCR Power Hybrid technology provides highly efficient thermal management for greatly increased cyclic life.

- ▲ High performance/low cost circuit design.
- ▲ Logic compatible current regulated input.
- ▲ 2500 Vrms optical isolation.
- ▲ Both "Zero Voltage" & phase controllable "Random Switching" versions.
- ▲ High voltage (1200 Vpk) versions for 480 Vrms service.
- ▲ LED-indication for control input.
- ▲ Control voltage range: 4~16 Vdc ,3 to 32 Vdc or 90~280Vac.
- ▲ Control voltage range: 4~16 Vdc ,3 to 32 Vdc or 90~280Vac.trol input.

ORDERING KEY



TYPE SELECTION

Mounting type	D: AC Single phase Solid State Relay
Rated operational current	10: 10Amp, 15: 15Amp, 25: 25Amp, 40: 40Amp, 60: 60Amp,
Rated operational voltage	80: 80Amp, 100: 100Amp, 120: 120Amp
Switched mode	28: 280V _{AC} , 48: 480V _{AC} .
Input Control voltage	Z: Zero Voltage, R: Random Switching.
Case typ	D1: DC 4to16V, D3: DC 3to32V, A2: 90to250V. Blank: Case A, 1: Case B, with LED.

MODEL NUMBER

Voltage	Control voltage	Rated operational current			
		10 Amp	15 Amp	25 Amp	40 Amp
280 V _{AC} "Zero Voltage"	4to16 Vdc	SGDH1028ZD1	SGDH1528ZD1	SGDH2528ZD1	SGDH4028ZD1
	3to32 Vdc	SGDH1028ZD3	SGDH1528ZD3	SGDH2528ZD3	SGDH4028ZD3
	90to250Vac	SGDH1028ZA2	SGDH1528ZA2	SGDH2528ZA2	SGDH4028ZA2
480 V _{AC} "Zero Voltage"	4to16 Vdc	SGDH1048ZD1	SGDH1548ZD1	SGDH2548ZD1	SGDH4048ZD1
	3to32 Vdc	SGDH1048ZD3	SGDH1548ZD3	SGDH2548ZD3	SGDH4048ZD3
	90to250Vac	SGDH1048ZA2	SGDH1548ZA2	SGDH2548ZA2	SGDH4048ZA2

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Voltage	Control voltage	Rated operational current			
		60 Amp	80 Amp	100 Amp	120 Amp
280 V _{AC}	4to16 Vdc	SGDH6028RD1	SGDH8028RD1	SGDH10028RD1	SGDH12028RD1
“Random Switching”	3to32 Vdc	SGDH6028RD3	SGDH8028RD3	SDDH10028RD3	SDDH12028RD3
	90to250Vac	SGDH6028RA2	SGDH8028RA2	SGDH10028RA2	SGDH12028RA2
480 V _{AC}	4to16 Vdc	SGDH6048RD1	SGDH8048RD1	SGDH10048RD1	SGDH12048RD1
“Random Switching”	3to32 Vdc	SGDH6048RD3	SGDH8048RD3	SDDH10048RD3	SDDH12048RD3
	90to250Vac	SGDH6048RA2	SGDH8048RA2	SGDH10048RA2	SGDH12048RA2

SPECIFICATIONS

Electrical Specification

Input Parameter ①	D1	D3	A2
Control Voltage Range	4 to 16Vdc	3 to 32Vdc	90 to 250Vac
Input Current (Max.)	7/20 mAdc @=5V/12V	13/16 mAdc @=5V/24V	29 mAac @=220V
Must Turn On Voltage	4Vdc	3Vdc	90Vac
Must Turn Off Voltage	1Vdc	1Vdc	10Vdc
Reverse Voltage (Max.)	32Vdc	32Vdc	/
Display LED	Yes	Yes	Yes

Output Parameter	Units	Specification Limits			
Model No. SGDH		10A	15A	25A	40A
Load Current Range	Arms	0.05 to 10	0.05 to 15	0.05 to 25	0.05 to 40
Surge Current, 20 mSec (Max.)	Arms	200		300	400
Load Voltage Range (280V)	Vrms		24 to 280		
TRIAC Over voltage (280V)	Vpk				
Load Voltage Range (480V)	Vrms		44 to 480		
TRIAC Over voltage (480V)	Vpk		≥1200		
Frequency Range	Hz		47 to 63		
Min. Off-state dv/dt	V/μsec		200		
Off State Leakage Current (Max.)	mArms		≤8		
On-State Voltage Drop (Max.)	Vrms		1.6		
Thermal Resistance, (Rthjc)	°C/W	2.5	2.5	2.5	1.3
Turn On Time (Max.) “Z”	Cycle		1/2		
Turn On Time (Max.) “R”	mSec		1		
Turn Off Time (Max.)	Cycle		1/2		

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Model No. SGD _H		60A	80A	100A	120A
Load Current Range	Arms	0.05 to 60	0.05 to 80	0.05 to 100	0.05 to 120
Surge Current, 20 mSec (Max.)	Arms	200		300	400
Thermal Resistance, (R _{thjc})	°C/W	0.65	0.5	0.3	0.3
Load Voltage Range (280V)	V _{rms}		24 to 280		
TRIAC Over voltage (280V)	V _{pk}				
Load Voltage Range (480V)	V _{rms}		44 to 480		
TRIAC Over voltage (480V)	V _{pk}		≥1200		
Frequency Range	Hz		47 to 63		
Min. Off-state dv/dt	V/μsec		200		
Off State Leakage Current (Max.)	mArms		≤8		
On-State Voltage Drop (Max.)	V _{rms}		1.6		
Turn On Time (Max.) "Z"	Cycle		1/2		
Turn On Time (Max.) "R"	mSec		1		
Turn Off Time (Max.)	Cycle		1/2		

General Specifications

Dielectric (Input/Output)	Vrms	2500	2500	2500	2500
Dielectric (Input-Output/Base)	Vrms	2500	2500	2500	2500
Capacitance(Max.)	pf	10	10	10	10
Ambient Operating Temperature Range			−30 to +80 °C		
Ambient Storage Temperature Range			−30 to +80 °C		
Weight: (typical)	Case A: Aluminum Base plate 99g, Copper Base plate 145g. Case B: Aluminum Base plate 81g, Copper Base plate 120g.				
Base plate: Aluminum or Copper, nickel-plated					
Case Color: Black					

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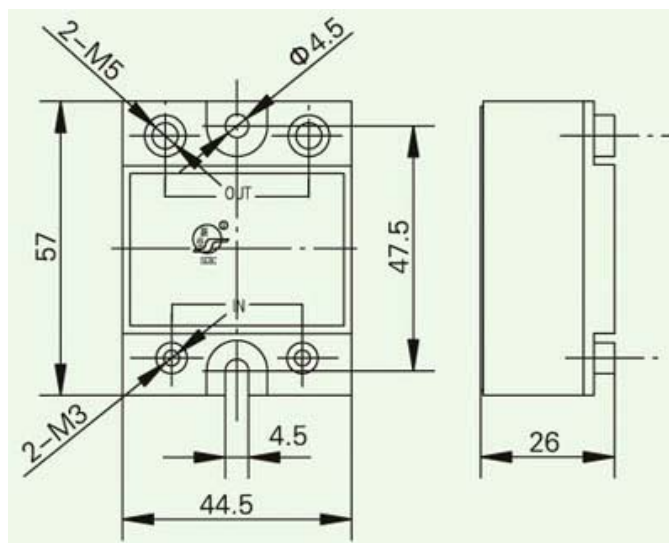
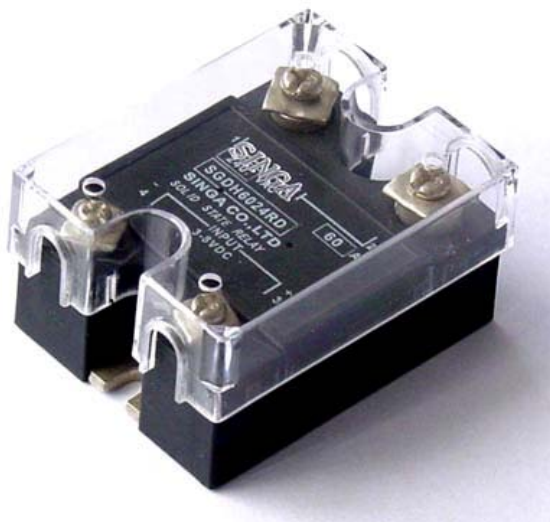
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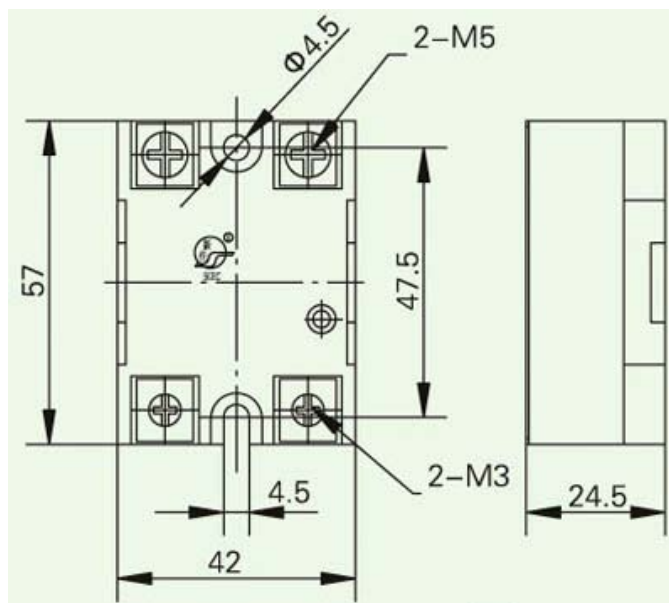
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Case A Defense Covering (Optional)



Case B Defense Covering (Optional)



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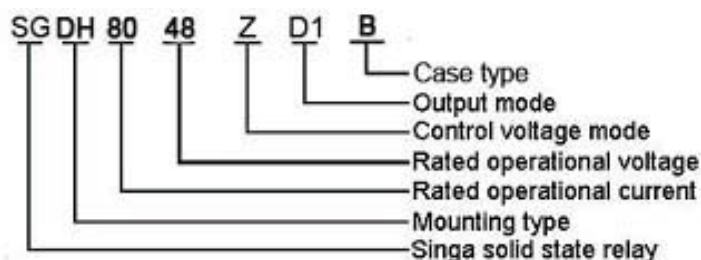
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SOLID STATE RELAYS is series SGDH are power line relays allowing 10 to 150 Amps. switching power, with Voltage ratings from 28 to 480 Volts A.C.

SGDH series is Dual SCR Power Hybrid technology provides highly efficient thermal management for greatly increased cyclic life.

- ▲ High power and high current.
- ▲ High performance/low cost circuit design.
- ▲ Logic compatible current regulated input.
- ▲ 4000 Vrms optical isolation.
- ▲ Both "Zero Voltage" & phase controllable "Random Switching" versions.
- ▲ High voltage (1200 Vpk) versions for 480 Vrms service.
- ▲ LED-indication for control input.
- ▲ Control voltage range: 4~16 Vdc or 3 to 32 Vdc
- ▲ Industry standard "SCR Modules" package.

Ordering Key



Type Selection

Mounting type	DH: AC Single phase, SCR Output.
Rated operational current	10: 10Amp, 25: 25Amp, 40: 40Amp, 60: 60Amp, 80: 80Amp, 100: 100Amp, 120: 120Amp, 150: 150Amp.
Rated operational voltage	28: 280V _{AC} , 48: 480V _{AC} .
Switched mode	Z: Zero Voltage, R: Random Switching.
Input Control voltage	D1: DC 4~16V, D3: DC 3~32V.
Case type	B: bar, Industry standard "SCles" package.

Selection Guide

Voltage	Control voltage	Rated operational current			
		10 Amp	25 Amp	40 Amp	60 Amp
280 V _{AC}	4to16 Vdc	SGDH1028ZD1B	SGDH2528ZD1B	SGDH4028ZD1B	SGDH6028ZD1B
"Zero Voltage"	3to32 Vdc	SGDH1028ZD3B	SDDH2528ZD3B	SGDH4028ZD3B	SDDH6028ZD3B
280 V _{AC}	4to16 Vdc	SGDH1028RD1B	SGDH2528RD1B	SGDH4028RD1B	SGDH6028RD1B
"Random Switching"	3to32 Vdc	SGDH1028RD3B	SDDH2528RD3B	SGDH4028RD3B	SDDH6028RD3B

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480 V _{AC}	4to16 Vdc	SGDH1048ZD1B	SGDH2548ZD1B	SGDH4048ZD1B	SGDH6048ZD1B
"Zero Voltage"	3to32 Vdc	SGDH1048ZD3B	SDDH2548ZD3B	SGDH4048ZD3B	SDDH6048ZD3B
480 V _{AC}	4to16 Vdc	SGDH1048RD1B	SGDH2548RD1B	SGDH4048RD1B	SGDH6048RD1B
"Random Switching"	3to32 Vdc	SGDH1048RD3B	SDDH2548RD3B	SGDH4048RD3B	SDDH6048RD3B

Voltage	Control voltage	Rated operational current			
		80 Amp	100 Amp	120 Amp	150Amp
280 V _{AC}	4to16 Vdc	SGDH8028ZD1B	SGDH10028ZD1B	SGDH12028ZD1B	SGDH15028ZD1
"Zero Voltage"	3to32 Vdc	SGDH8028ZD3B	SGDH10028ZD3B	SDDH12028ZD3B	SDDH15028ZD3
280 V _{AC}	4to16 Vdc	SGDH8028RD1B	SGDH10028RD1B	SGDH12028RD1B	SGDH15028RD1
"Random Switching"	3to32 Vdc	SGDH8028RD3B	SGDH10028RD3B	SDDH12028RD3B	SDDH15028RD3
480 V _{AC}	4to16 Vdc	SGDH8048ZD1B	SGDH10048ZD1B	SGDH12048ZD1B	SGDH15048ZD1
"Zero Voltage"	3to32 Vdc	SGDH8048ZD3B	SGDH10048ZD3B	SDDH12048ZD3B	SDDH15048ZD3
480 V _{AC}	4to16 Vdc	SGDH8048RD1B	SGDH10048RD1B	SGDH12048RD1B	SGDH15048RD1
"Random Switching"	3to32 Vdc	SGDH8048RD3B	SGDH10048RD3B	SDDH12048RD3B	SDDH15048RD3

SPECIFICATION

Input Parameter ①	D1	D3
Control Voltage Range	4 to 16Vdc	3 to 32Vdc
Input Current (Max.)	13/42 mAdc @=5V/12V	13/16 mAdc @=5V/24V
Must Turn On Voltage	4Vdc	3Vdc
Must Turn Off Voltage	1Vdc	1Vdc
Reverse Voltage (Max.)	32Vdc	32Vdc
Display LED	Yes	Yes

Output Parameter ②	Units	Specification Limits				
Model No. SGDH		10A	15A	25A	40A	60
Load Current Range	Arms	0.05 to 10	0.05 to 15	0.05 to 25	0.05 to 40	0.05 to 60
Surge Current, 20 mSec (Max.)	Arms		200		300	400
Load Voltage Range (280V)	Vrms			24 to 280		
TRIAC Over voltage (280V)	Vpk					
Load Voltage Range (480V)	Vrms			44 to 480		
TRIAC Over voltage (480V)	Vpk			≥1200		
Frequency Range	Hz			47 to 63		
Min. Off-state dv/dt	V/μsec			500		
Off State Leakage Current (Max.)	mArms			≤8		
On-State Voltage Drop (Max.)	Vrms			1.6		

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Series **SGDH** 10 to 150 Amps AC SSR

Thermal Resistance, (Rthjc)	°C/W	2.5	2.5	2.5	1.3
Turn On Time (Max.) "Z"	Cycle		1/2		
Turn On Time (Max.) "R"	mSec		1		
Turn Off Time (Max.)	Cycle		1/2		
Model No. SGDH		80A	100A	120A	150A
Load Current Range	Arms	0.05 to 80	0.05 to 100	0.05 to 200	0.05 to 150
Surge Current, 20 mSec (Max.)	Arms	200		300	400
Load Voltage Range (280V)	Vrms		24 to 280		
TRIAC Over voltage (280V)	Vpk				
Load Voltage Range (480V)	Vrms		44 to 480		
TRIAC Over voltage (480V)	Vpk		≥1200		
Frequency Range	Hz		47 to 63		
Min. Off-state dv/dt	V/μsec		500		
Off State Leakage Current (Max.)	mArms		≤8		
On-State Voltage Drop (Max.)	Vrms		1.6		
Thermal Resistance, (Rthjc)	°C/W	0.65	0.3	0.3	0.3
Turn On Time (Max.) "Z"	Cycle		1/2		
Turn On Time (Max.) "R"	mSec		1		
Turn Off Time (Max.)	Cycle		1/2		

General Specifications

Dielectric (Input/Output)	Vrms	2500
Dielectric (Input-Output/Base)	Vrms	2500
Capacitance(Max.)	pf	10
Ambient Operating Temperature Range		-30 to +80 °C
Ambient Storage Temperature Range		-30 to +80 °C
Weight: (typical)		125 g.
Base plate: Aluminum or Copper, nickel-plated		
Case Color: Black		
Mounting Dimensions:	L×W×H	94×25×38 mm, with LED

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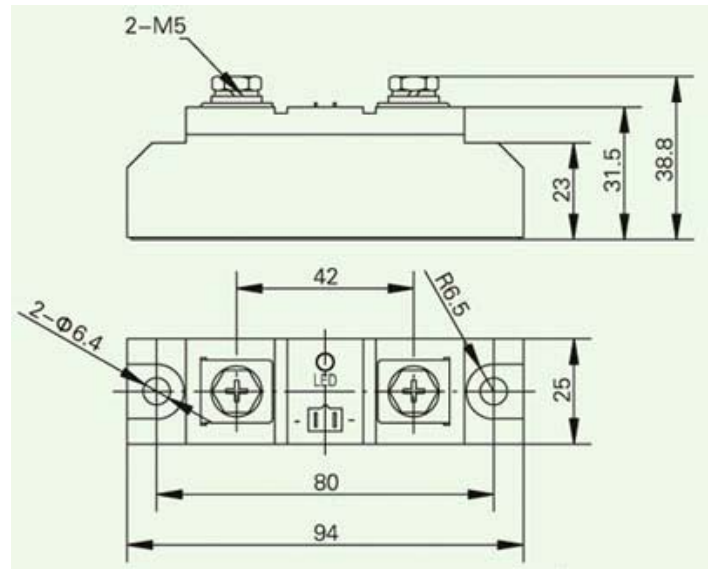
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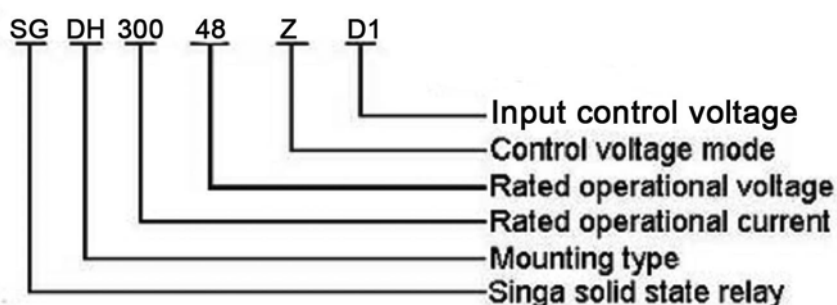
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Series SGD Solid State Relays are AC relays, Triac Output. The triac version of the zero switching relay is an inexpensive solution for resistive loads. The zero switching relay switches on when the AC sine voltage just crosses zero, and switches off when the current crosses zero.

- ▲ Rated operational current 200A to 350Amps.
- ▲ Rated operational voltage 280V or 480 V
- ▲ Input Voltage Range 4 to 16 Vdc, 3 to 32 Vdc or 90 to 250 Vac.
- ▲ 4000 Vrms Optical Isolation.(input/output)
- ▲ Both “Zero Voltage” & phase controllable “Random Switching” versions.
- ▲ LED-indication for control input.

ORDERING KEY



TYPE SELECTION

Mounting type	D: AC Single phase Solid State Relay
Rated operational current	200: 200Amp, 250: 250Amp, 300: 300Amp, 350:350Amp
Rated operational voltage	28: 280V _{AC} , 48: 480V _{AC} .
Switched mode	Z: Zero Voltage,R: Random Switching.
Input Control voltage	D1: DC 4to16V, D3: DC 3to32V, A2:AC 90to250V.
Case type	Blank: Case A, 1: Case B, with LED.

SELECTION GUIDE

Voltage	Control voltage	Rated operational current			
		200 Amp	250 Amp	300 Amp	350 Amp
280 V _{AC}	4to16 Vdc	SGDH20028ZD1	SGDH25028ZD1	SGDH30028ZD1	SGDH35028ZD1
“Zero Voltage”	3to32 Vdc	SGDH20028ZD3	SGDH25028ZD3	SGDH30028ZD3	SDDH35028ZD3
	90to250Vac	SGDH20028ZA2	SGDH25028ZA2	SGDH30028ZA2	SGDH35028ZA2
280 V _{AC}	4to16 Vdc	SGDH20028ZD1	SGDH25028ZD1	SGDH30028ZD1	SGDH35028ZD1
“Zero Voltage”	3to32 Vdc	SGDH20028ZD3	SGDH25028ZD3	SDDH30028ZD3	SDDH35028ZD3
	90to250Vac	SGDH20028ZA2	SGDH25028ZA2	SGDH30028ZA2	SGDH35028ZA2

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480 V _{AC}	4to16 Vdc	SGDH20048ZD1	SGDH25048ZD1	SGDH30048ZD1	SGDH35048ZD1
“Zero	3to32 Vdc	SGDH20048ZD3	SGDH25048ZD3	SGDH30048ZD3	SGDH35048ZD3
Voltage”	90to250Vac	SGDH20048ZA2	SGDH25048ZA2	SGDH30048ZA2	SGDH35048ZA2
480 V _{AC}	4to16 Vdc	SGDH20048RD1	SGDH25048RD1	SGDH30048RD1	SGDH35048RD1
“Random	3to32 Vdc	SGDH20048RD3	SGDH25048RD3	SGDH30048RD3	SGDH35048RD3
Switching”	90to250Vac	SGDH20048RA2	SGDH25048RA2	SGDH30048RA2	SGDH35048RA2

SPECIFICATIONS

Parameter-list	Units		Specification Limits		
Input Parameter ① D1	D1		D3	A2	
Control Voltage Range	4 to 16Vdc		3 to 32 Vdc	90 to250Vac	
Input Current (Max.) @=5V/12V	13/42 @=5x/12v		13/16 @=5V/24V		
Must Turn On Voltage	4 Vdc		3 Vdc	90Vac	
Must Turn Off Voltage	1 Vdc		1 Vdc	1Vav	
Reverse Voltage (Max.)	32 Vdc		32 Vdc		
Display LED	yes		yes	yes	
Output Parameter ②	Units		Specification Limits		
Model No. SGDH			200	250	300 350
Load Current Range	Arms	0.05 to 200	0.05 to250	0.05 to300	0.05 to 350
Surge Current, 20 mSec (Max.)	Arms	2500	3400	4500	5000
Load Voltage Range (280V)	Vrms		24 to 280		
TRIAC Over voltage (240V)	Vpk		≥800		
Load Voltage Range (440V)	Vrms		44 to 480		
TRIAC Over voltage (440V)	Vpk		≥1200		
Frequency Range	Hz		47 to 63		
Off State dv/dt (Min)	V/μsec		500		
Off State Leakage Current (Max.)	mArms		≤10		
On State Voltage Drop (Max.)	Vrms		1.8		
Thermal Resistance, (Rthjc)	℃/W	0.22	0.15	0.14	0.13
Turn On Time (Max.) “Z”	Cycle		1/2		
Turn On Time (Max.) “R”	mSec		1		
Turn Off Time (Max.)	Cycle		1/2		
Turn Off Time (Max.) “A2”	mSec		40		

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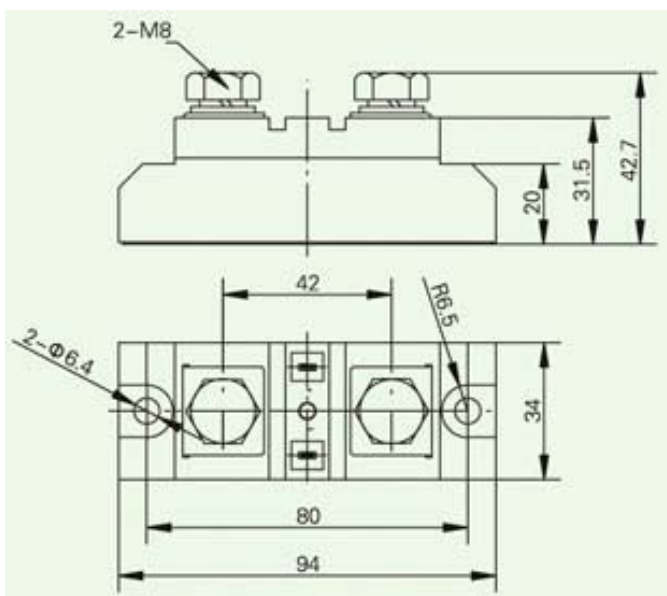
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Coupling Specifications

Dielectric (Input/Output)	Vrms	2500
Dielectric (Input-Output/Base)	Vrms	2500
Capacitance	pf	10

General Specifications

Ambient temperature range:	operating or Storage	-30 to +80°C
Weight: (typicro)	g	280
Base plate: Aluminum or Copper, nickel-plated		
Case Color: Black		
Mounting Dimensions: L×W×H : Case: 94×34×42.7 mm		



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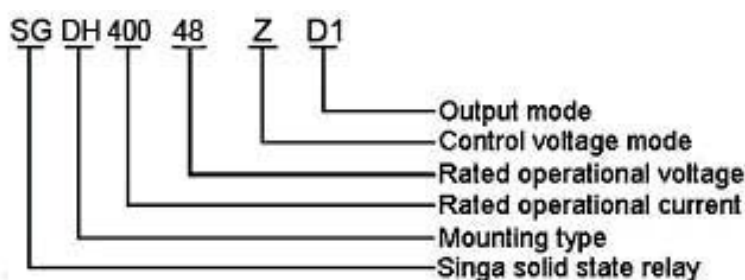
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Series SGD_H are power line relays allowing 400 to 550 Amps. switching power, with Voltage ratings from 28 to 480 Volts A.C.

Series SGD_H is Dual SCR Power Hybrid technology provides highly efficient thermal management for greatly increased cyclic life.

- High power and high current.
- High performance/low cost circuit design.
- Logic compatible current regulated input.
- 4000 Vrms optical isolation.
- Both "Zero Voltage" & phase controllable "Random Switching" versions.
- High voltage (1200 Vpk) versions for 480 Vrms service.
- LED-indication for control input.
- Control voltage range: 4 to 16 Vdc, 3 to 32 Vdc or 90 to 250Vac.
- Industry standard "SCR Modules" package.

ORDERING KEY



TYPE SELECTION

Mounting type	DH: AC Single phase, SCR Output.
Rated operational current	400: 400Amp, 450: 450Amp, 500: 500Amp, 550: 550Amp.
Rated operational voltage	28: 280V _{AC} , 48: 480V _{AC} .
Switched mode	Z: Zero Voltage, R: Random Switching.
Input Control voltage	D1: DC 4 to 16V, D3: DC 3 to 32V, A2: AC 90 to 250V.

SELECTION GUIDE

Voltage	Control voltage	Rated operational current			
		400 Amp	450 Amp	500 Amp	550 Amp
280 V _{AC}	4~16 Vdc	SGDH40028ZD1	SGDH45028ZD1	SGDH50028ZD1	SGDH55028ZD1
"Zero Voltage"	3~32 Vdc	SGDH40028ZD3	SGDH45028ZD3	SGDH50028ZD3	SSDH55028ZD3
	90~250Vac	SGDH40028ZA2	SGDH45028ZA2	SGDH50028ZA2	SGDH55028ZA2
280 V _{AC}	4~16 Vdc	SGDH40028RD1	SGDH45028RD1	SGDH50028RD1	SGDH55028RD1
"Random Switching"	3~32 Vdc	SGDH40028RD3	SGDH45028RD3	SGDH50028RD3	SGDH55028RD3
	90~250Vac	SGDH40028RA2	SGDH45028RA2	SGDH50028RA2	SGDH55028RA2

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480 V _{AC}	4~16 Vdc	SGDH40048ZD1	SGDH45048ZD1	SGDH50048ZD1	SGDH55048ZD1
“Zero Voltage”	3~32 Vdc	SGDH40048ZD3	SGDH45048ZD3	SGDH50048ZD3	SGDH55048ZD3
	90~250Vac	SGDH40048ZA2	SGDH45048ZA2	SGDH50048ZA2	SGDH55048ZA2
480 V _{AC}	4~16 Vdc	SGDH40048RD1	SGDH45048RD1	SGDH50048RD1	SGDH55048RD1
“Random Switching”	3~32 Vdc	SGDH40048RD3	SGDH45048RD3	SGDH50048RD3	SGDH55048RD3
	90~250Vac	SGDH40048RA2	SGDH45048RA2	SGDH50048RA2	SGDH55048RA2

SPECIFICATIONS

Input Parameter ①	D3		A2		
Control Voltage Range	3 to 32Vdc		90 to 250Vac		
Input Current (Max.)	13/16 mAdc @=5V/24V		29 mAac @=220V		
Must Turn On Voltage	3Vdc		90Vac		
Must Turn Off Voltage	1Vdc		10Vdc		
Reverse Voltage (Max.)	32Vdc		/		
Display LED	Yes		Yes		
Output Parameter ②	Units	Specification Limits			
Model No. SGDH		400A	450A	500A	550A
Load Current Range	Arms	0.05 to 400	0.05 to 450	0.05 to 500	0.05 to 550
Surge Current, 20 mSec (Max.)	Arms	6000	6800	7200	8000
Load Voltage Range (280V)	Vrms	24 to 280			
TRIAC Over voltage (280V)	Vpk	≥800			
Load Voltage Range (480V)	Vrms	44 to 480			
TRIAC Over voltage (480V)	Vpk	≥1200			
Frequency Range	Hz	47 to 63			
Min. Off-state dv/dt	V/μsec	500			
Off State Leakage Current (Max.)	mArms	≤10			
On-State Voltage Drop (Max.)	Vrms	1/2			
Thermal Resistance, (Rthjc)	°C/W	0.12	0.12	0.1	0.1
Turn On Time (Max.) “Z”	Cycle	1/2			
Turn On Time (Max.) “R”	mSec	1			
Turn Off Time (Max.)	Cycle	1/2			
Turn Off Time (Max.) “A2”	mSec	40			
General Specifications					
Dielectric (Input/Output)	Vrms	2500	2500	2500	2500
Dielectric (Input-Output/Base)	Vrms	2500	2500	2500	2500

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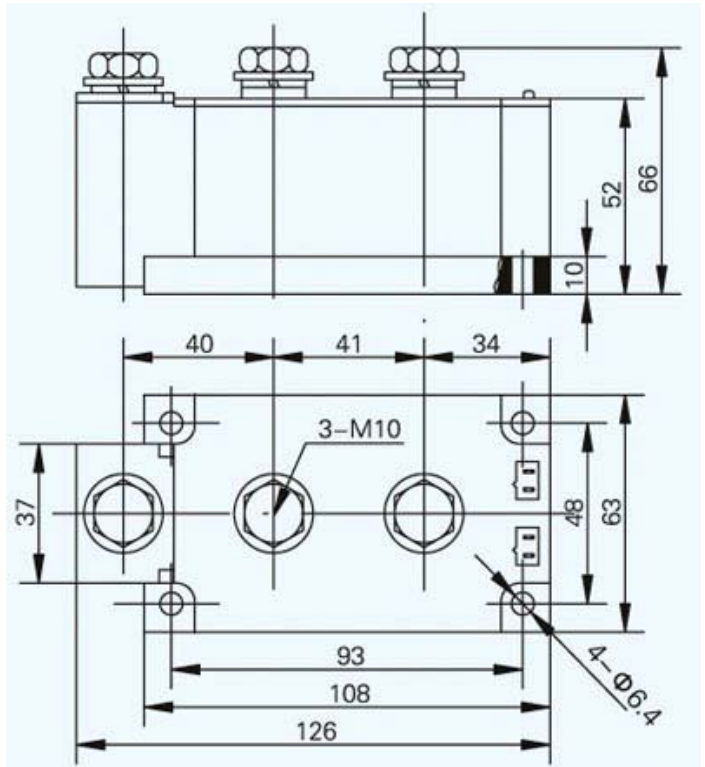
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Capacitance(Max.)	pf	10	10	10	10
Ambient Operating Temperature Range		-30 to +80 °C			
Ambient Storage Temperature Range		-30 to +80 °C			
Weight: (typical)		1509g			
Base plate: Copper, nickel-plated					
Case Color: Black					
Mounting Dimensions:	L×W×H	126×63×66 mm			



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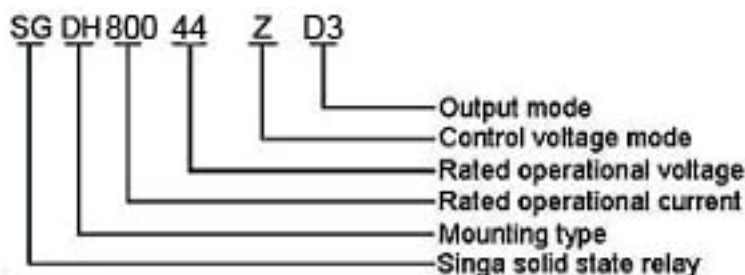
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Series SGDH are power line relays allowing 600 to 1000 Amps. switching power, with Voltage ratings 440 Volts A.C.

SGDH series is Dual SCR Power Hybrid technology provides highly efficient thermal management for greatly increased cyclic life.

- High power and high current.
- High performance/low cost circuit design.
- Logic compatible current regulated input.
- 4000 Vrms optical isolation.
- Both "Zero Voltage" & phase controllable "Random Switching" versions.
- High voltage (1200 Vpk) versions for 440 Vrms service.
- LED-indication for control input.
- Control voltage range: 4~16 Vdc, 3~32 Vdc.
- Industry standard "SCR Modules" package.

ORDERING KEY



TYPE SELECTION

Mounting type	DH: AC Single phase, SCR Output.
Rated operational current	600: 600Amp, 800: 800Amp, 1000: 1000Amp.
Rated operational voltage	44: 440V _{AC} .
Switched mode	Z: Zero Voltage, R: Random Switching.
Input Control voltage	D3: DC 4~32V

SELECTION GUIDE

Voltage	Control voltage	Rated operational current		
		600 Amp	800 Amp	1000 Amp
440 V _{AC} "Zero Voltage"	4~32 Vdc	SGDH60044ZD3	SGDH80044ZD3	SGDH100044ZD3
440 V _{AC} "Random Switching"	4~32 Vdc	SGDH60044ZD3	SGDH80044ZD3	SGDH100044ZD3

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SPECIFICATIONS

Input Parameter ①	D3
Control Voltage Range	3 to 32Vdc
Input Current (Max.)	13/16 mAdc @=5V/24V
Must Turn On Voltage	3Vdc
Must Turn Off Voltage	1Vdc
Reverse Voltage (Max.)	32Vdc
Display LED	Yes

Output Parameter ②	Units	Specification Limits		
Model No. SGD _H		600A	800A	1000A
Load Current Range	Arms	0.05 to 600	0.05 to 800	0.05 to 1000
Surge Current, 20 mSec (Max.)	Arms			
Load Voltage Range	Vrms		44 to 440	
SCR Over Voltage	Vpk		≥1000	
Frequency Range	Hz		47 to 63	
Min. Off-state dv/dt	V/μsec		500	
Off State Leakage Current (Max.)	mArms	20	30	35
On-State Voltage Drop (Max.)	Vrms		1.8	
Thermal Resistance, (Rthjc)	°C/W	0.1	0.08	0.07
Turn On Time (Max.)	Cycle		1/2	
Turn Off Time (Max.)	Cycle		1/2	

General Specifications				
Dielectric (Input/Output)	Vrms	2500	2500	2500
Dielectric (Input-Output/Base)	Vrms	2500	2500	2500
Capacitance(Max.)	pf		Exterior link	
Ambient Operating Temperature Range			-30 to +80 °C	
Ambient Storage Temperature Range			-30 to +80 °C	
Weight: (typical)			1600 g	
Base plate: Copper, nickel-plated				
Case Color: Black				
Mounting Dimensions:	L×W×H		126×63×66 mm	

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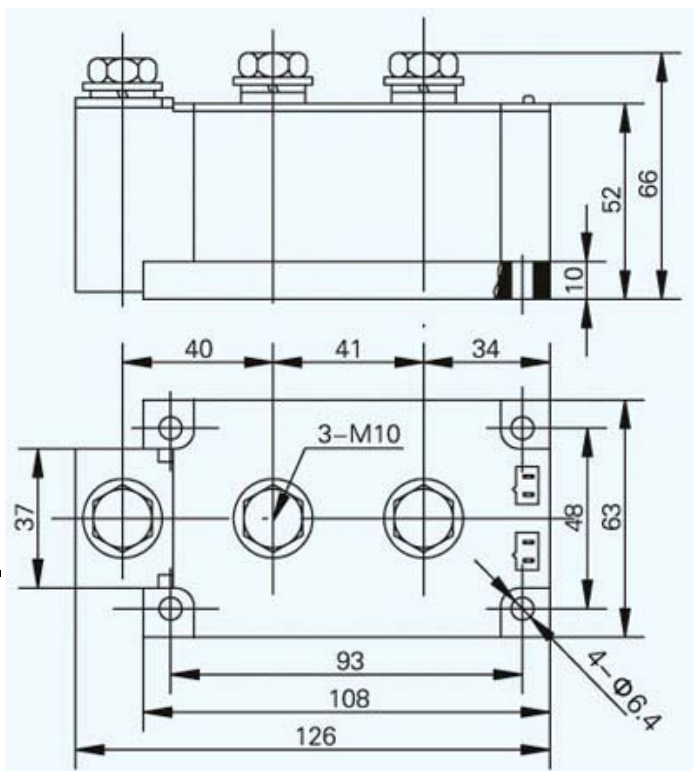
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