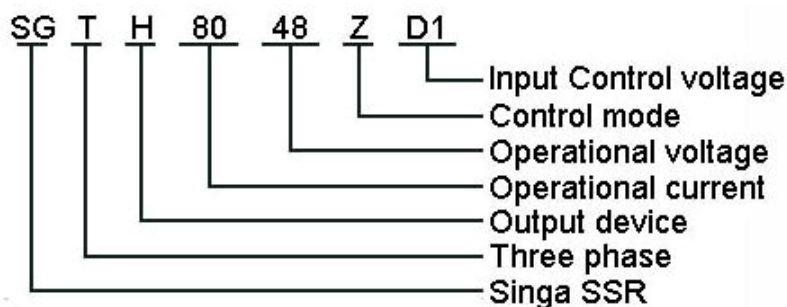


SGTH series three phase Solid State Relays is used three phase loads. SCR Output. SGTH series is Dual SCR Power Hybrid technology provides highly efficient thermal management for greatly increased cyclic life.

- Three phase Solid State Relays
- Rated operational current 3x10, 3x15, 3x25, 3x40, 3x60, 3x80, 3x100 and 3x120 Amps.
- High voltage (1400 Vpk) versions for 530 Vrms service.
- Both “Zero Voltage” & phase controllable “Random Switching” versions.
- Input Voltage Range 4 to 16 Vdc, 3 to 32 Vdc, 90 to 250vVac.
- 2500 Vrms Optical Isolation.(input/output)
- LED-indication for control input.

### ORDERING KEY



### TYPE SELECTION

Output device	<b>H: SCR</b>
Operational current	<b>10: 3x10A, 15: 3x15A, 25: 3x25A, 40: 3x40A, 60: 3x60A, 80: 3x80A, 100: 3x100A, 120: 3x120 Amps</b>
Operational voltage	<b>48: 480/53 V<sub>AC</sub> 53: 530V<sub>AC</sub>.</b>
Control mode	<b>Z: Zero Voltage. R: Random Switching.</b>
Input Control voltage	<b>D1: DC 4~16V, D3: DC 3~32V, A2: 90~250V.</b>

### SELECTION GUIDE

Voltage	Control voltage	Operational current			
		10 Amp	15 Amp	25 Amp	40 Amp
480 V <sub>AC</sub>	4~16 Vdc	SGTH1048ZD1	SGTH1548ZD1	SGTH2548ZD1	SGTH4048ZD1
	Zero	SGTH1048ZD3	SGTH1548ZD3	SGTH2548ZD3	SGTH4048ZD3
	Voltage	SGTH1048ZA2	SGTH1548ZA2	SGTH2548ZA2	SGTH4048ZA2
530 V <sub>AC</sub>	4~16 Vdc	SGTH1053ZD1	SGTH1553ZD1	SGTH2553ZD1	SGTH4053ZD1
	Zero	SGTH1053ZD3	SGTH1553ZD3	SGTH2553ZD3	SGTH4053ZD3
	Voltage	SGTH1053ZA2	SGTH1553ZA2	SGTH2553ZA2	SGTH4053ZA2

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480 V <sub>AC</sub> Random	4~16 Vdc	SGTH1048RD1	SGTH1548RD1	SGTH2548RD1	SGTH4048RD1
	3~32 Vdc	SGTH1048RD3	SGTH1548RD3	SGTH2548RD3	SGTH4048RD3
	90~250Vac	SGTH1048RA2	SGTH1548RA2	SGTH2548RA2	SGTH4048RA2
530 V <sub>AC</sub> Random	4~16 Vdc	SGTH1053RD1	SGTH1553RD1	SGTH2553RD1	SGTH4053RD1
	3~32 Vdc	SGTH1053RD3	SGTH1553RD3	SGTH2553RD3	SGTH4053RD3
	90~250Vac	SGTH1053RA2	SGTH1553RA2	SGTH2553RA2	SGTH4053RA2
Voltage	Control voltage	Operational current			
		60 Amp	80 Amp	100 Amp	120 Amp
480 V <sub>AC</sub> Zero Voltage	4~16 Vdc	SGTH6048ZD1	SGTH8048ZD1	SGTH10048ZD1	SGTH12048ZD1
	3~32 Vdc	SGTH6048ZD3	SGTH8048ZD3	SGTH10048ZD3	SGTH12048ZD3
	90~250Vac	SGTH6048ZA2	SGTH8048ZA2	SGTH10048ZA2	SGTH12048ZA2
530 V <sub>AC</sub> Zero Voltage	4~16 Vdc	SGTH6053ZD1	SGTH8053ZD1	SGTH10053ZD1	SGTH12053ZD1
	3~32 Vdc	SGTH6053ZD3	SGTH8053ZD3	SGTH10053ZD3	SGTH12053ZD3
	90~250Vac	SGTH6053ZA2	SGTH8053ZA2	SGTH10053ZA2	SGTH12053ZA2
480 V <sub>AC</sub> Random	4~16 Vdc	SGTH6048RD1	SGTH8048RD1	SGTH10048RD1	SGTH12048RD1
	3~32 Vdc	SGTH6048RD3	SGTH8048RD3	SGTH10048RD3	SGTH12048RD3
	90~250Vac	SGTH6048RA2	SGTH8048RA2	SGTH10048RA2	SGTH12048RA2
530 V <sub>AC</sub> Random	4~16 Vdc	SGTH6053RD1	SGTH8053RD1	SGTH10053RD1	SGTH12053RD1
	3~32 Vdc	SGTH6053RD3	SGTH8053RD3	SGTH10053RD3	SGTH12053RD3
	90~250Vac	SGTH6053RA2	SGTH8053RA2	SGTH10053RA2	SGTH12053RA2

## SPECIFICATIONS

PARAMETER	Units	Specification Limits			
Model No. SGTH		10A	15A	25A	40A
<b>INPUT SPECIFICATIONS ① D1</b>					
Control Voltage Range	Vdc	4 to 16	4 to 16	4 to 16	4 to 16
Input Current(Max) @=5V/12V	mAdc	26/86	26/86	26/86	26/86
Must Turn On Voltage	Vdc	4	4	4	4
Must Turn Off Voltage	Vdc	1	1	1	1
Reverse Voltage (Max.)	Vdc	32	32	32	32
Display LED		yes	yes	yes	yes
<b>INPUT SPECIFICATIONS ② D3</b>					
Control Voltage Range	Vdc	3 to 32	3 to 32	3 to 32	3 to 32
Input Current (Max.) @=5V/12V	mAdc	33/56	33/56	33/56	33/56
Must Turn On Voltage	Vdc	3	3	3	3
Must Turn Off Voltage	Vdc	1	1	1	1

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Reverse Voltage (Max.)	Vdc	32	32	32	32
Display LED		yes	yes	yes	yes

### INPUT SPECIFICATIONS ③ A2

Control Voltage Range	Vac	90 to 250	90 to 250	90 to 250	90 to 250
Input Current (Max.) @=220V	mAac	13	13	13	13
Must Turn On Voltage	Vac	90	90	90	90
Must Turn Off Voltage	Vac	10	10	10	10
Display LED		yes	yes	yes	yes

### OUTPUT SPECIFICATIONS ④

Load Current Range	Arms	3x10	3x15	3x25	3x40
Surge Current, 20 mSec (Max.)	Arms	200	250	300	400
Load Voltage Range (480V)	Vrms	44 to 480	44 to 480	44 to 480	44 to 480
SCR Over voltage (480V)	Vpk	≥1200	≥1200	≥1200	≥1200
Load Voltage Range (530V)	Vrms	53 to 530	53 to 530	53 to 530	53 to 530
SCR Over voltage (530V)	Vpk	≥1400	≥1400	≥1400	≥1400
Frequency Range	Hz	47 to 63	47 to 63	47 to 63	47 to 63
Off-State dv/dt (Min)	V/μsec	500	500	500	500
Max.Off-State Leakage Current	mArms	≤8	≤8	≤8	≤8
On State Voltage Drop (Max.)	Vrms	1.6	1.6	1.6	1.6
Thermal Resistance, (Rthjc)	°C/W	0.75	0.65	0.55	0.46
Turn On Time (Max.) "Z"	Cycle	1/2	1/2	1/2	1/2
Turn Off Time (Max.)	Cycle	1/2	1/2	1/2	1/2
Turn On Time (Max.) "R"	mSec	1	1	1	1
Turn Off Time (Max.) "A2"	mSec	40	40	40	40

Model No. <b>SGTH</b>	60A	80A	100A	120A
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### INPUT SPECIFICATIONS ① D1

Control Voltage Range	Vdc	4 to 16	4 to 16	4 to 16	4 to 16
Input Current(Max) @=5V/12V	mAdc	26/86	26/86	26/86	26/86
Must Turn On Voltage	Vdc	4	4	4	4
Must Turn Off Voltage	Vdc	1	1	1	1
Reverse Voltage (Max.)	Vdc	32	32	32	32
Display LED		yes	yes	yes	yes

### INPUT SPECIFICATIONS ② D3

Control Voltage Range	Vdc	3 to 32	3 to 32	3 to 32	3 to 32
Input Current (Max.) @=5V/12V	mAdc	33/56	33/56	33/56	33/56

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Must Turn On Voltage	Vdc	3	3	3	3
Must Turn Off Voltage	Vdc	1	1	1	1
Reverse Voltage (Max.)	Vdc	32	32	32	32
Display LED		yes	yes	yes	yes

### INPUT SPECIFICATIONS ③ A2

Control Voltage Range	Vac	90 to 250	90 to 250	90 to 250	90 to 250
Input Current (Max.) @=220V	mAac	13	13	13	13
Must Turn On Voltage	Vac	90	90	90	90
Must Turn Off Voltage	Vac	10	10	10	10
Display LED		yes	yes	yes	yes

### OUTPUT SPECIFICATIONS ④

Load Current Range	Arms	3×60	3×80	3×100	3×120
Surge Current, 20 mSec (Max.)	Arms	600	1000	1200	1500
Load Voltage Range (480V)	Vrms	44 to 480	44 to 480	44 to 480	44 to 480
SCR Over voltage (480V)	Vpk	≥1200	≥1200	≥1200	≥1200
Load Voltage Range (530V)	Vrms	53 to 530	53 to 530	53 to 530	53 to 530
SCR Over voltage (530V)	Vpk	≥1400	≥1400	≥1400	≥1400
Frequency Range	Hz	47 to 63	47 to 63	47 to 63	47 to 63
Off State dv/dt (Min)	V/μsec	500	500	500	500
Max.Off-StateLeakage Current	mArms	≤8	≤8	≤8	≤8
On State Voltage Drop (Max.)	Vrms	1.8	1.8	1.8	1.8
Thermal Resistance, (Rthjc)	°C/W	0.38	0.34	0.23	0.23
Turn On Time (Max.) "Z"	Cycle	1/2	1/2	1/2	1/2
Turn Off Time (Max.)	Cycle	1/2	1/2	1/2	1/2
Turn On Time (Max.) "R"	mSec	1	1	1	1
Turn Off Time (Max.) "A2"	mSec	40	40	40	40

### COUPLING PARAMETER

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

### GENERAL SPECIFICATIONS

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

Weight: (typical) 430g

Base plate: Copper, nickel-plated

Case Color: Black

Mounting Dimensions: LxWxH 105×74×32.5 mm

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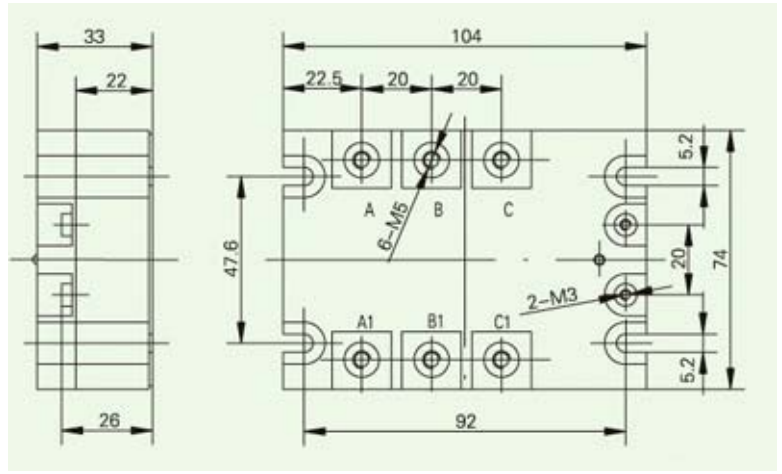
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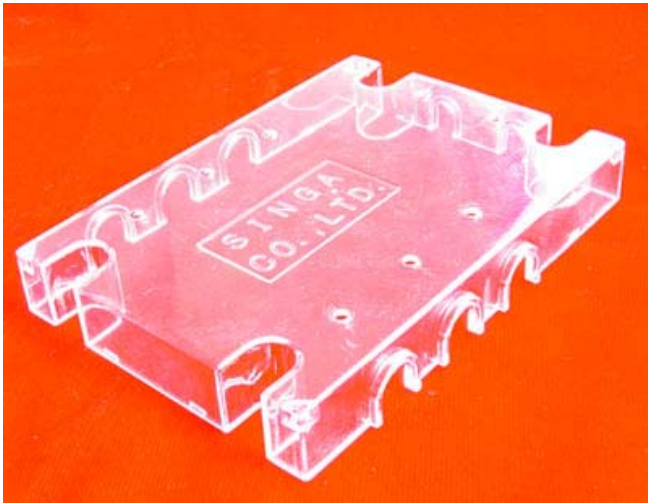
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**Defense Covering (Optional)**



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