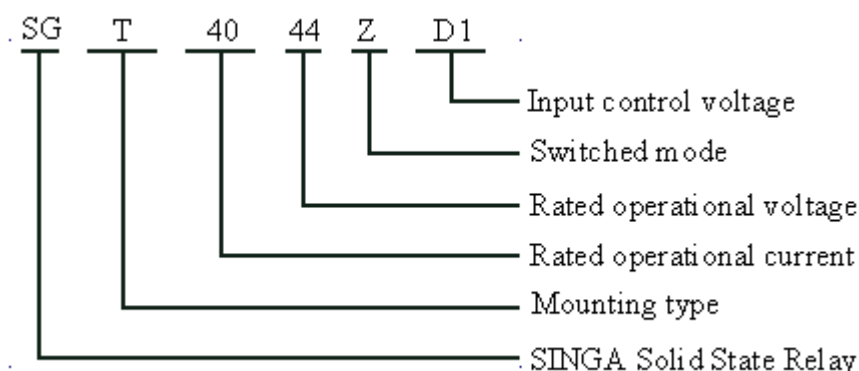


The series SGT three phase Solid State Relays is used three phase loads. Triac Output. The triac version of the zero switching relay is an inexpensive solution for resistive loads. The zero switching relay switches on when the AC sine voltage just crosses zero, and switches off when the current crosses zero.

- Three phase Solid State Relays
- Rated operational current 3×10, 3×15, 3×25 and 40 Amps.
- Rated operational voltage 440 V.
- Zero switching for resistive loads.
- Input Voltage Range 4 to 16 Vdc, 3 to 32 Vdc.
- 2500 Vrms Optical Isolation.(input/output)
- LED-indication for control input.

ORDERING KEY



TYPE SELECTION

Mounting type	T: AC Three phase Solid State Relay
Operational current	10: 3×10Amp, 15: 3×15Amp, 25: 3×25Amp, 40: 3×40Amp
Operational voltage	44: 440V_{AC}
Switched mode	Z: Zero Voltage
Input Control voltage	D1: DC 4~16V, D3: DC 3~32V

SELECTION GUIDE

Voltage	Control voltage	Rated operational current			
		10 Amp	15 Amp	25 Amp	40 Amp
440 V _{AC}	4~16 Vdc	SGT1044ZD1	SGT1544ZD1	SGT2544ZD1	SGT4044ZD1
	3~32 Vdc	SGT1044ZD3	SGT1544ZD3	SDT2544ZD3	SDT4044ZD3
440 V _{AC}	4~16 Vdc	SGT1044RD1	SGT1544RD1	SGT2544RD1	SGT4044RD1
	3~32 Vdc	SGT1044RD3	SGT1544RD3	SDT2544RD3	SDT4044RD3

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SPECIFICATIONS

INPUT PARAMETER ①	D1	D3
Control Voltage Range	4 to 16Vdc	3 to 32Vdc
Input Current (Max.)	26/86 mAdc @=5V/12V	25/28 mAdc @=5V/12V
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. SGTH		10A	15A	25A	40A
Load Current Range	Arms	3×10	3×15	3×25	3×40
Surge Current, 20 mSec (Max.)	Arms	85	115	230	400
Load Voltage Range	Vrms	44 to 440			
TRIAC Over voltage	Vpk	≥1000			
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	1.3	1.3
Turn On Time (Max.) "Z"	Cycle	1/2			
Turn On Time (Max.) "R"	mSec	1			
Turn Off Time (Max.)	Cycle	1/2			

GENERAL SPECIFICATIONS ③

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: (max.) Aluminum Base plate 310g, Copper Base plate 430g.					
Case Color: Black					
Mounting Dimensions: L×W×H		105×74×32.5 mm			

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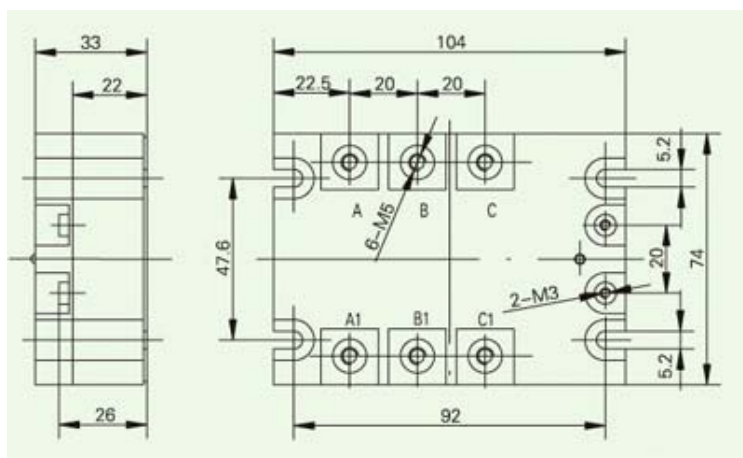
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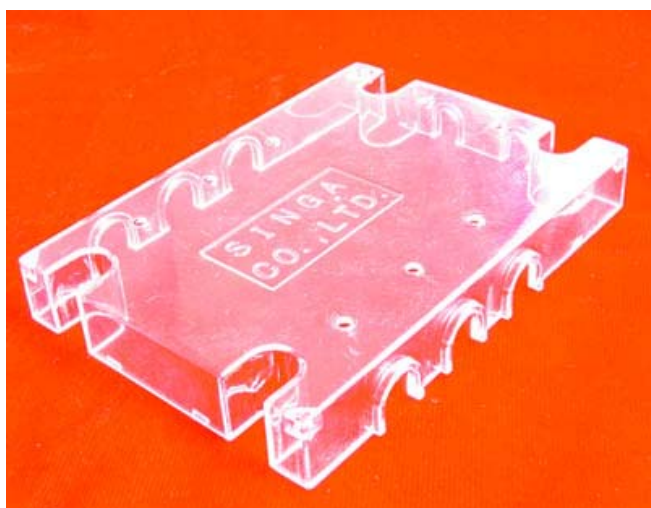
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Defense Covering (Optional)



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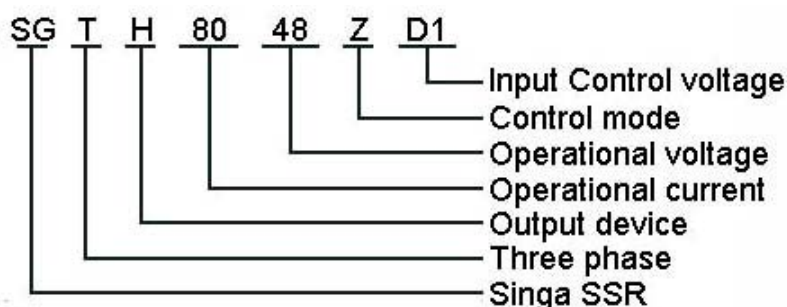
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SGTH series three phase Solid State Relays is used three phase loads. SCR Output. SGTH series is Dual SCR Power Hybrid technology provides highly efficient thermal management for greatly increased cyclic life.

- Three phase Solid State Relays
- Rated operational current 3×10, 3×15, 3×25, 3×40, 3×60, 3×80, 3×100 and 3×120 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	H: SCR
Operational current	10: 3×10A, 15: 3×15A, 25: 3×25A, 40: 3×40A, 60: 3×60A, 80: 3×80A, 100: 3×100A, 120: 3×120 Amps
Operational voltage	48: 480/53 V_{AC} 53: 530V_{AC}.
Control mode	Z: Zero Voltage. R: Random Switching.
Input Control voltage	D1: DC 4~16V, D3: DC 3~32V, A2: 90~250V.

SELECTION GUIDE

Voltage	Control voltage	Operational current			
		10 Amp	15 Amp	25 Amp	40 Amp
480 V _{AC}	4~16 Vdc	SGTH1048ZD1	SGTH1548ZD1	SGTH2548ZD1	SGTH4048ZD1
Zero	3~32 Vdc	SGTH1048ZD3	SGTH1548ZD3	SGTH2548ZD3	SGTH4048ZD3
Voltage	90~250Vac	SGTH1048ZA2	SGTH1548ZA2	SGTH2548ZA2	SGTH4048ZA2
530 V _{AC}	4~16 Vdc	SGTH1053ZD1	SGTH1553ZD1	SGTH2553ZD1	SGTH4053ZD1
Zero	3~32 Vdc	SGTH1053ZD3	SGTH1553ZD3	SGTH2553ZD3	SGTH4053ZD3
Voltage	90~250Vac	SGTH1053ZA2	SGTH1553ZA2	SGTH2553ZA2	SGTH4053ZA2

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480 V _{AC} Random	4~16 Vdc	SGTH1048RD1	SGTH1548RD1	SGTH2548RD1	SGTH4048RD1
	3~32 Vdc	SGTH1048RD3	SGTH1548RD3	SGTH2548RD3	SGTH4048RD3
	90~250Vac	SGTH1048RA2	SGTH1548RA2	SGTH2548RA2	SGTH4048RA2
530 V _{AC} 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 _{AC} Zero Voltage	4~16 Vdc	SGTH6048ZD1	SGTH8048ZD1	SGTH10048ZD1	SGTH12048ZD1
	3~32 Vdc	SGTH6048ZD3	SGTH8048ZD3	SGTH10048ZD3	SGTH12048ZD3
	90~250Vac	SGTH6048ZA2	SGTH8048ZA2	SGTH10048ZA2	SGTH12048ZA2
530 V _{AC} Zero Voltage	4~16 Vdc	SGTH6053ZD1	SGTH8053ZD1	SGTH10053ZD1	SGTH12053ZD1
	3~32 Vdc	SGTH6053ZD3	SGTH8053ZD3	SGTH10053ZD3	SGTH12053ZD3
	90~250Vac	SGTH6053ZA2	SGTH8053ZA2	SGTH10053ZA2	SGTH12053ZA2
480 V _{AC} Random	4~16 Vdc	SGTH6048RD1	SGTH8048RD1	SGTH10048RD1	SGTH12048RD1
	3~32 Vdc	SGTH6048RD3	SGTH8048RD3	SGTH10048RD3	SGTH12048RD3
	90~250Vac	SGTH6048RA2	SGTH8048RA2	SGTH10048RA2	SGTH12048RA2
530 V _{AC} 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
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
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	3×10	3×15	3×25	3×40
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. SGTH	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	mAac	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	mAac	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: L×W×H	105×74×32.5 mm

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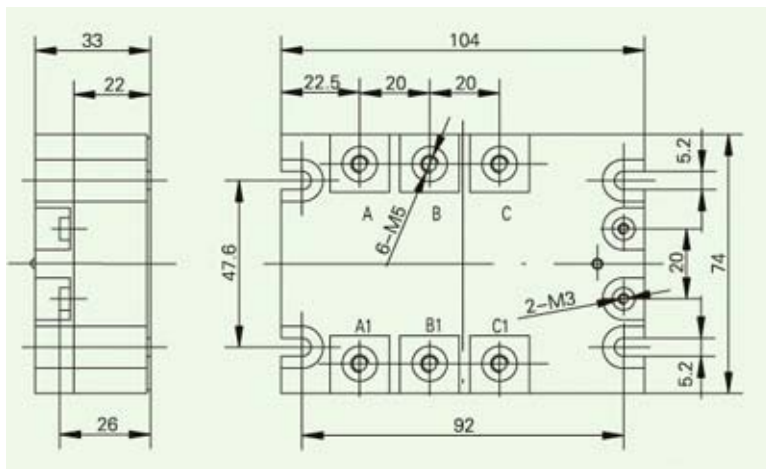
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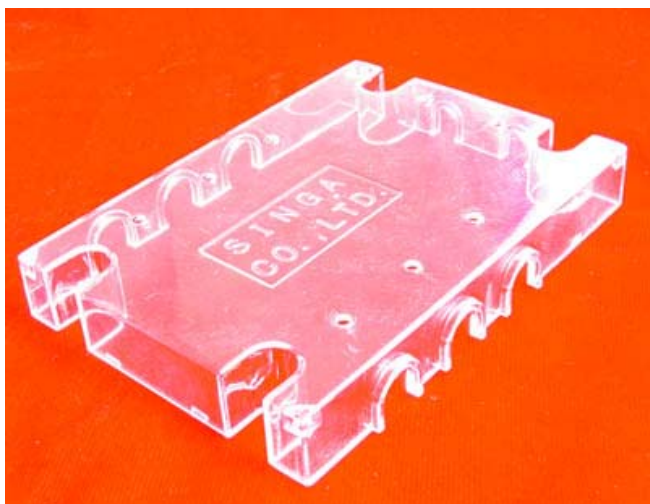
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Defense Covering (Optional)



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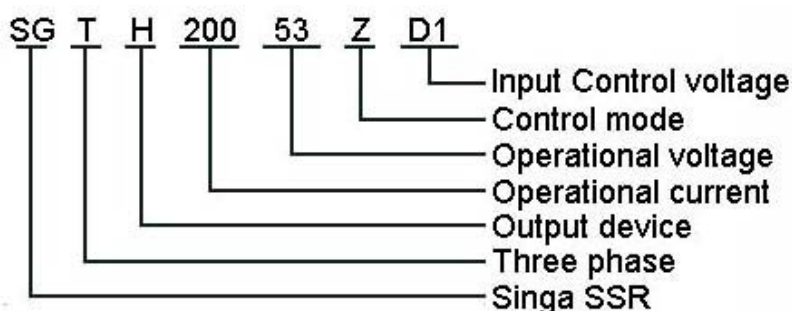
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The SGTH series three phase Solid State Relays is used three phase loads. SCR Output. SGTH series is Dual SCR Power Hybrid technology provides highly efficient thermal management for greatly increased cyclic life.

- Three phase Solid State Relays
- Rated operational current 3×200, 3×300, 3×400 and 3×500Amps.
- High voltage (1400 Vpk) versions for 530 Vrms service.
- Both “Zero Voltage” & phase controllable “Random Switching” versions.
- Input Voltage Range 4 to 32 Vdc, 90 to 250vVac.
- 2500 Vrms Optical Isolation.(input/output)
- LED-indication for control input.

ORDERING KEY



TYPE SELECTION

Mounting type	TH: AC Three phase SSR, SCR Output.
Operational current	200: 3×200A, 300: 3×300A, 400: 3×400A, 500: 3×500Amps
Operational voltage	Voltage :480V 530V.
Control mode	Z: Zero Voltage R: Random Switching.
Input Control voltage	D3: DC 4~32V A2: 90~250V.

SELECTION GUIDE

Voltage	Control voltage	Rated operational current			
		200Amp	300Amp	400Amp	500Amp
480Vac	3~32 Vdc	SGTH20048ZD3	SGTH30048ZD3	SGTH40048ZD3	SGTH50048ZD3
Zero Voltage	90~250 Vac	SGTH20048ZA2	SGTH30048ZA2	SGTH40048ZA2	SGTH50048ZA2
530Vac	3~32 Vdc	SGTH20053ZD3	SGTH30053ZD3	SGTH40053ZD3	SGTH50053ZD3
Zero Voltage	90~250 Vac	SGTH20053ZA2	SGTH30053ZA2	SGTH40053ZA2	SGTH50053ZA2
480Vac	3~32 Vdc	SGTH20048RD3	SGTH30048RD3	SGTH40048RD3	SGTH50048RD3
Random	90~250 Vac	SGTH20048RA2	SGTH30048RA2	SGTH40048RA2	SGTH50048RA2
530Vac	3~32 Vdc	SGTH20053RD3	SGTH30053RD3	SGTH40053RD3	SGTH50053RD3
Random	90~250 Vac	SGTH20053RA2	SGTH30053RA2	SGTH40053RA2	SGTH50053RA2

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SPECIFICATIONS

INPUT PARAMETER ①	D3	A2
Control Voltage Range	3 to 32Vdc	90 to 250Vac
Input Current (Max.)	33/56 mAdc @=5V/24V	13 mAac @=220V
Must Turn On Voltage	3Vdc	90Vac
Must Turn Off Voltage	1.5Vdc	10Vdc
Reverse Voltage (Max.)	32Vdc	/
Display LED	Yes	Yes

OUTPUT PARAMETER ②	Units	Specification Limits			
Model No. SGTH		200A	300A	400A	500A
Load Current Range	Arms	3×200	3×300	3×400	3×500
Surge Current, 20 mSec (Max.)	Arms	2100	5000	7000	8000
Load Voltage Range (480V)	Vrms	44 to 480			
TRIAC Over voltage (480V)	Vpk	≥1200			
Load Voltage Range (530V)	Vrms	53 to 530			
TRIAC Over voltage (530V)	Vpk	≥1400			
Frequency Range	Hz	47 to 63			
Min. Off-state dv/dt	V/μsec	500			
Off State Leakage Current (Max.)	mArms	<10	<10	<15	<20
On-State Voltage Drop (Max.)	Vrms	1.8			
Thermal Resistance, (Rthjc)	°C/W	0.14	0.09	0.072	0.065
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
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)	g	2200			
Base plate: Copper, nickel-plated					
Mounting Dimensions: L×W×H		Case A: 185×135×76 mm			

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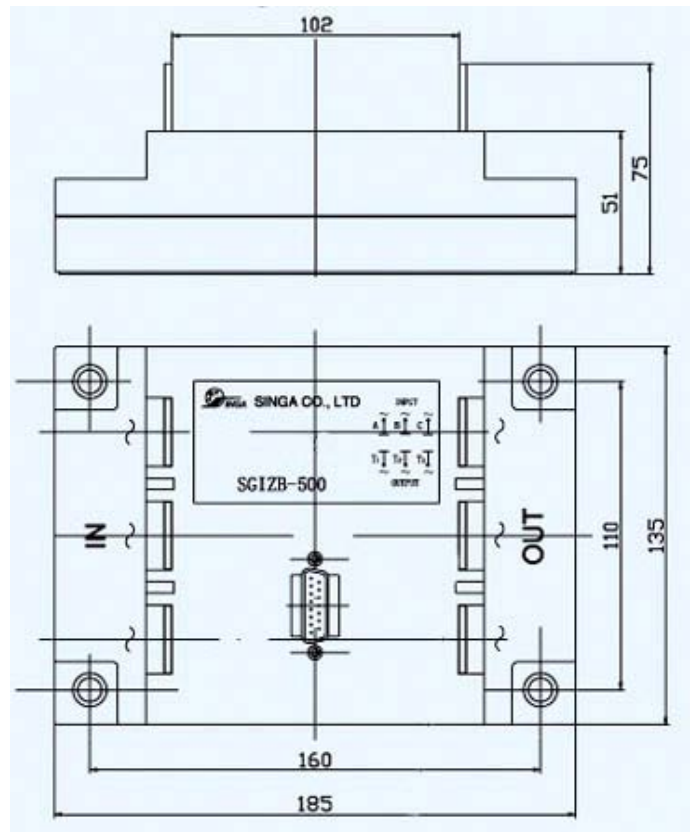
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