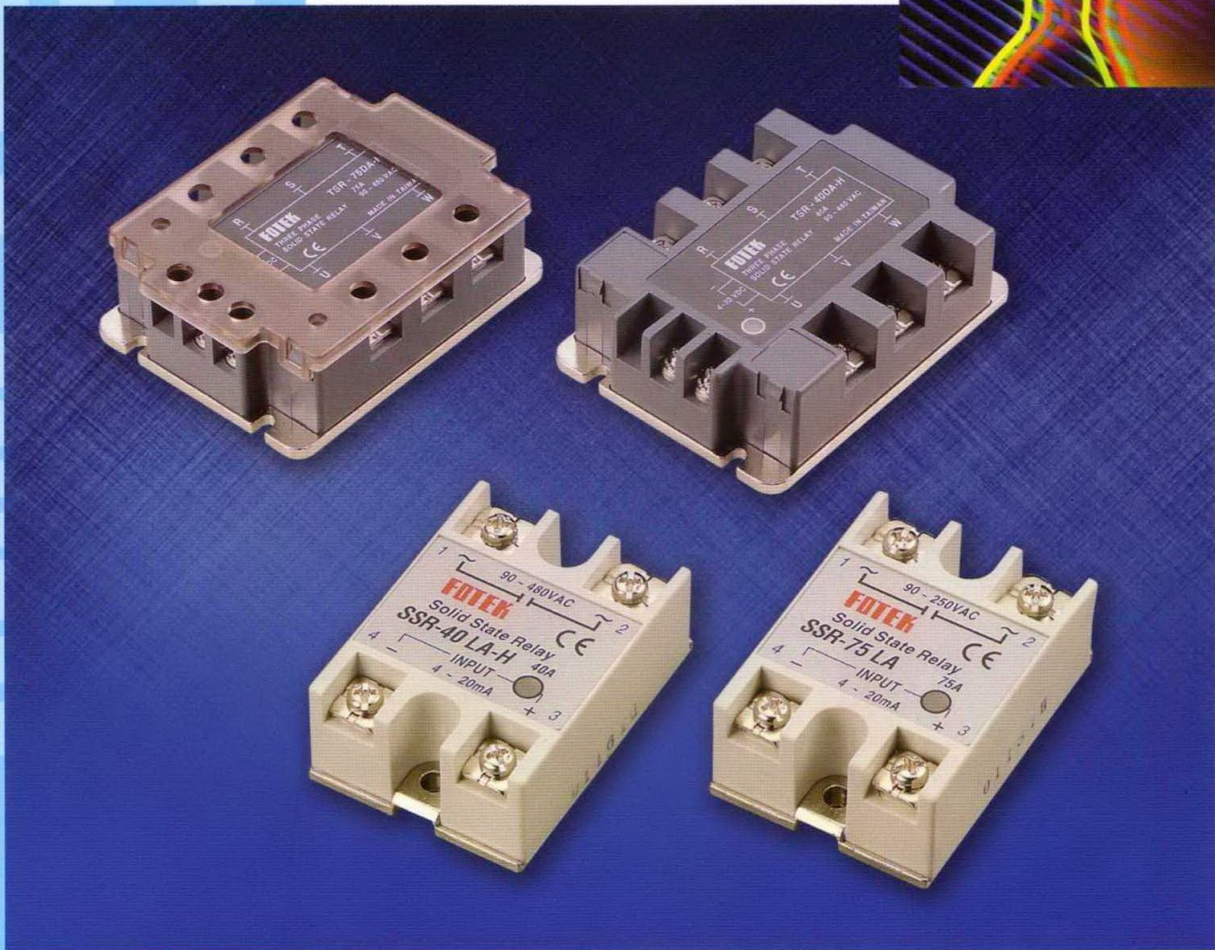
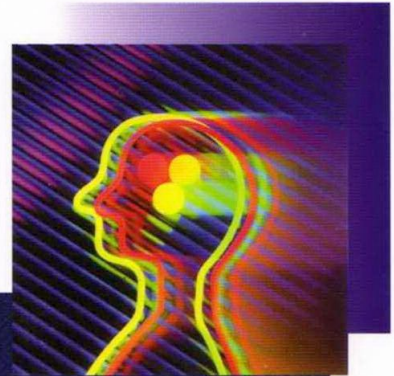


FOTEK®

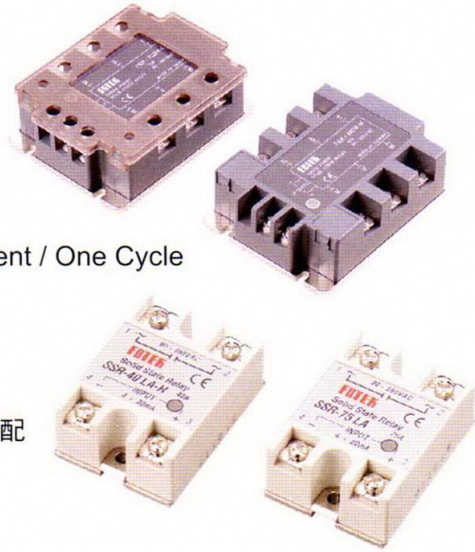
LINEAR & THREE PHASE

SOLID STATE RELAY



陽明電機股份有限公司
FOTEK CONTROLS CO., LTD.

- ★ High Reliability by S.M.T. & TQC.
(Surface Mounting Technology)
- ★ High Isolation over than 50MΩ / 500VDC
- ★ High Dielectric over than 2.5KV
- ★ Low Enable Current less than 7.5mA / 12VDC
C MOS IC or TTL Compatible.
- ★ Low EMI / EFI & Surge by Zero Cross Trigger Method.
- ★ High Surge Current Duration Over 10 Times of Rated Current / One Cycle
- ★ High Surge Voltage Duration by Snubber Circuit.
- ★ 表面貼焊技術及全面品管，提供最可靠的 SSR
- ★ 高絕緣阻抗超過 50MΩ / 500VDC
- ★ 高耐壓超過 2.5KV
- ★ 低觸發電流小於 7.5mA / 12VDC，可與 CMOS IC及 TTL 匹配
- ★ 零點觸發方式避免電磁 / 高頻干擾
- ★ 高耐過電流，超過10倍額定電流/一週期
- ★ 具緩衝迴路可吸收瞬間突破



Guiding of Model

Terminal Type

Ex. **SSR-40DA-H**

① ② ③ ④ ⑤

- ① **Product** 產品別
SSR: SINGLE PHASE SOLID STATE RELAY
單相固態繼電器
TSR: THREE PHASE SOLID STATE RELAY
三相固態繼電器

② **Output Current** 輸出電流

10 : 10A 25 : 25A
40 : 40A 50 : 50A

75 : 75A

③ **Input Voltage** 輸入方式

D: DC3W ~ 32V <ON/OFF>
A: AC80 ~ 250V <ON/OFF>
L: 4 ~ 20mA (linear)
V: VARIABLE RESISTER

④ **Output Voltage** 輸出電壓

A: AC VOLTAGE
D: DC VOLTAGE

⑤ **Output Voltage Range** 輸出電壓範圍

H : High Voltage Type < 90 ~ 480VAC >
Non: Standard Type < 24 ~ 380VAC >

PCB Type

Ex. **SSR-P03DA**

① ② ③ ④ ⑤

- ① **Product** 產品別
SSR : SINGLE PHASE SOLID STATE

② **Mounting Method** 固定方式

PCB: PCB TYPE

③ **Output Current** 輸出電流

03 = 3A
05 = 5A

④ **Input Method** 輸入方式

D : DC VOLTAGE

⑤ **Output Voltage** 輸出電壓

D : DC 5 ~ 60V
A : AC 24 ~ 280V

Control Method

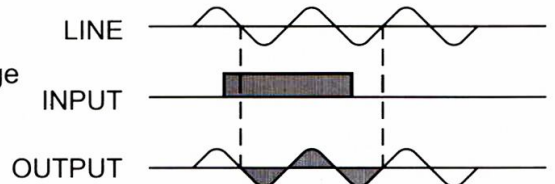
Zero Cross Trigger Method

Output TURN ON or TURN OFF

only on Zero Cross Point of sine wave , may avoid surge or EMI / RFI occurring.

Specially suited to control resistive , capacitive and Non - saturated inductive loads.

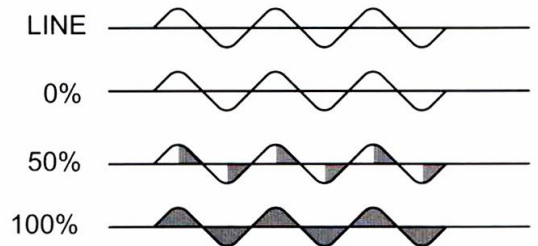
輸出只在正弦波的零點才會動作或復歸，可避免生突波或 EM / RFI，特別適於控制阻抗性，電容性和不飽和感抗性等負載。



Variable Resistance Control Method

< Trimmer Control Method >

Power Output is Controlled by the Trigger Angle of Triac with Variable Resistor 250K Ω /110VAC, 500K Ω /220VAC
 輸出功率以可變電阻 250K Ω /110VAC,500K Ω /220VAC
 控制 Triac 觸發角決定輸出功率。



Application Hints

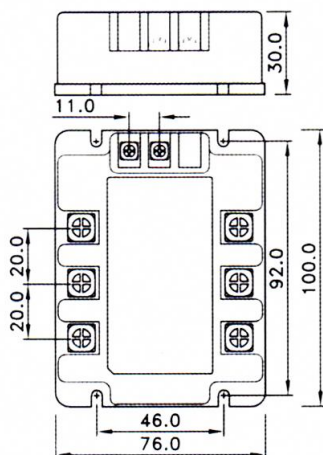
Input	NPN	Output	NO	Input	PNP	Output	NO	Input	L.S.	Output	NO
Input	NPN	Output	NC	Input	PNP	Output	NC	Latch Circuit (AC to AC)			

FOTEK TSR SERIES THREE PHASE SOLID STATE RELAY

■ Specification <Dc To Ac>

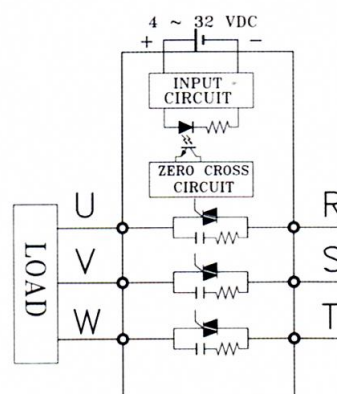
Type 型式	Standard Type 基本型			High Voltage Type 高壓型		
Model 型號	TSR-25DA	TSR-40DA	TSR-75DA	TSR-25DA-H	TSR-40DA-H	TSR-75DA-H
Rated Load Current 輸出額定電流	25A	40A	75A	25A	40A	75A
Input Voltage 輸入電壓	4~32VDC					
ON/OFF Voltage 動作/復歸電壓	ON > 3.6V/OFF < 2.4V					
Trigger Current 觸發電流	7.5A/12V					
Control Method 控制方式	Zero Cross Trigger 零點觸發					
Operating Voltage 工作電壓	24~380VAC			90~480VAC		
Min. Block Voltage 最低耐壓	600 VAC < Repetitive >					
Peak Voltage 耐突波	Over 1200V					
Max. One Cycle Surge 最大承受電流/一週期	275A	410A	820A	275A	410A	820A
Leakage Current 洩漏電流	12.5mA @ 380V			15.5mA @ 440V		
Response Time 動作應答時間	ON < 20ms/OFF < 20ms					
Dielectric Strength 耐壓強度	Over 2.5KVAC/1min.					
Isolation Strength 絕緣強度	Over 50M Ω / 500VDC					
Circumstance 工作環境	-20°C ~ +80°C					
Weight 重量	Appr.390g					

■ Dimension 外型尺寸圖

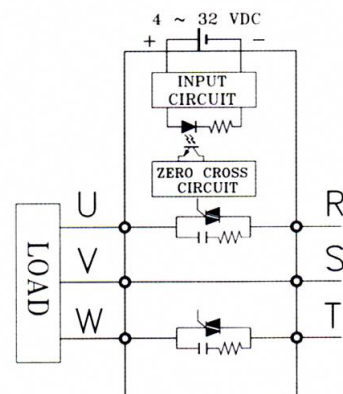


■ Connection Diagram 接線圖

TSR-25DA(H) ; TSR-40DA(H)



TSR-75DA(H)

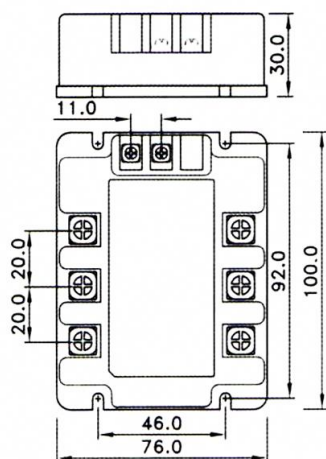


TSR SERIES THREE PHASE SOLID STATE RELAY **FOTEK**

■ Specification <Ac To Ac>

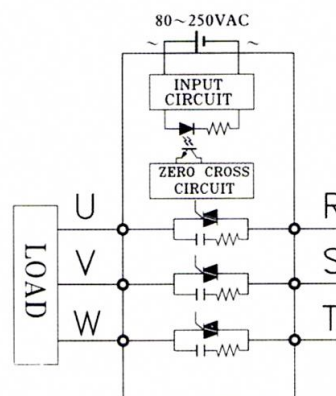
Type 型式	Standard Type 基本型			High Voltage Type 高壓型		
Model 型號	TSR-25AA	TSR-40AA	TSR-75AA	TSR-25AA-H	TSR-40AA-H	TSR-75AA-H
Rated Load Current 輸出額定電流	25A	40A	75A	25A	40A	75A
Input Voltage 輸入電壓	80~250VAC 50/60Hz					
ON/OFF Voltage 動作/復歸電壓	ON > 45V OFF < 35V					
Trigger Current 觸發電流	5.0mA/110V max					
Control Method 控制方式	Zero Cross Trigger 零點觸發					
Operating Voltage 工作電壓	24~380VAC			90~480VAC		
Min. Block Voltage 最低耐壓	600 VAC < Repetitive >					
Peak Voltage 耐突波	Over 1200V					
Max. One Cycle Surge 最大承受電流/一週期	275A	410A	820A	275A	410A	820A
Leakage Current 洩漏電流	12.5mA @ 380V			15.5mA @ 440V		
Response Time 動作應答時間	ON < 20ms/OFF < 20ms					
Dielectric Strength 耐壓強度	Over 2.5KVAC/1min.					
Isolation Strength 絕緣強度	Over 50M Ω / 500VDC					
Circumstance 工作環境	-20°C ~ +80°C					
Weight 重量	Appr.390g					

■ Dimension 外型尺寸圖

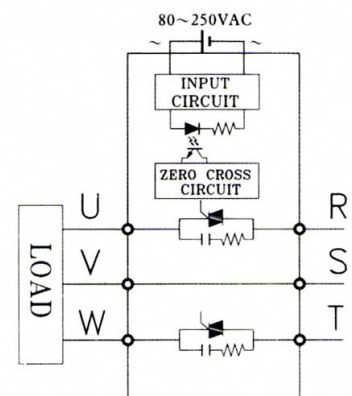


■ Connection Diagram 接線圖

TSR-25DA(H) : TSR-40DA(H)



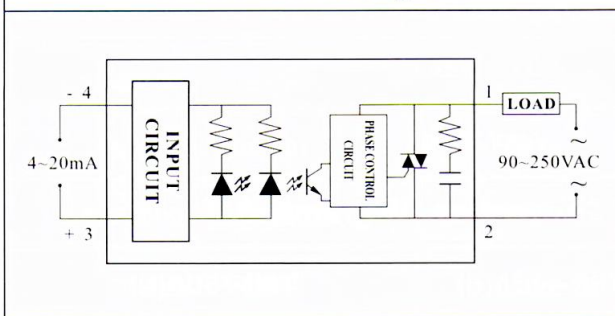
TSR-75DA(H)



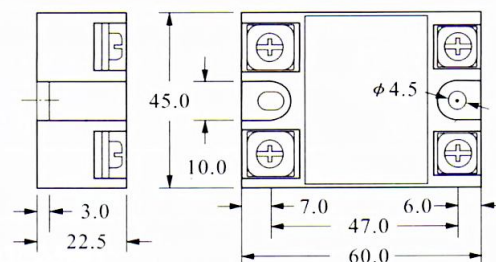
■ Specification

Type	Standard Type			
Model	SSR-25LA	SSR-40LA	SSR-50LA	SSR-75LA
Rated Load Current	25A	40A	50A	75A
Input Data				
Input	4~20mA			
Input Resistance	Appr.1.2KΩ			
Control Method	Phase Control			
Operating Data				
Operating Voltage	90~250 VAC			
Min. Blocking Voltage	600 VAC < Repetitive >			
Max. Duratde Current	275A	410A	550A	820A
Leakage Current	≦ 0.5% of Full Load			
Peak Voltage	Over 1200VAC			
General Data				
Dielectric Strength	Over 2.5KVAC/1min.			
Isolation Strength	Over 50M Ω / 500VDC			
Operating Temperature	-20℃ ~ +80℃			
Housing Material	Intensive ABS			
Weight	Appr.105g		Appr.110g	

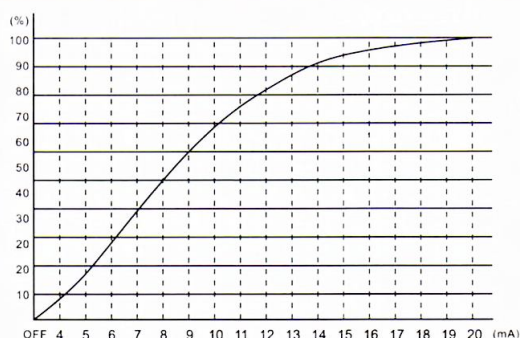
Connection Diagram



Dimension

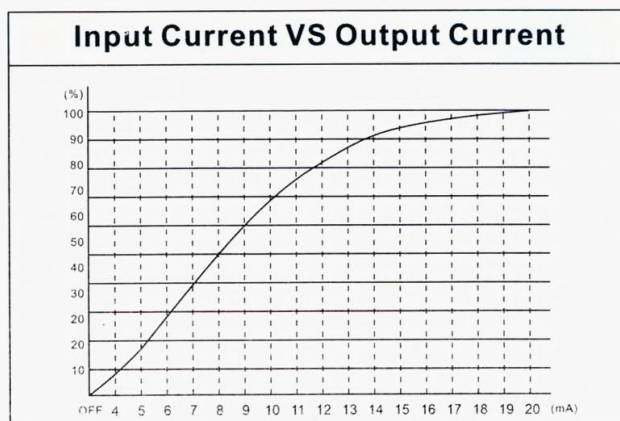
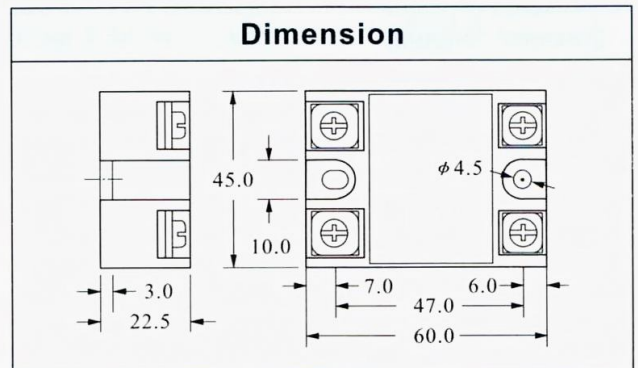
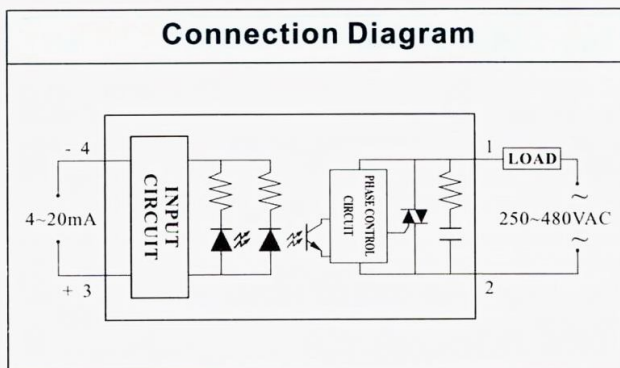


Input Current VS Output Current



■ Specification

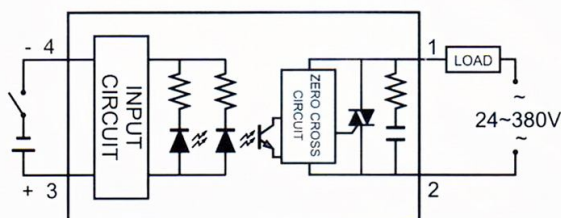
Type	Standard Type			
Model	SSR-25LAH	SSR-40LAH	SSR-50LAH	SSR-75LAH
Rated Load Current	25A	40A	50A	75A
Input Data				
Input	4~20mA			
Input Resistance	Appr.1.2KΩ			
Control Method	Phase Control			
Operating Data				
Operating Voltage	250~480 VAC			
Min. Blocking Voltage	600 VAC < Repetitive >			
Max. Duratde Current	275A	410A	550A	820A
Leakage Current	≤ 0.5% of Full Load			
Peak Voltage	1200V			
General Data				
Dielectric Strength	Over 2.5KVAC/1min.			
Isolation Strength	Over 50M Ω / 500VDC			
Operating Temperature	-20°C ~ +80°C			
Housing Material	Intensive ABS			
Weight	Appr.105g		Appr.110g	



■ Specification

Type	Terminal Type					PCB Type
Model	SSR-10DA	SSR-25DA	SSR-40DA	SSR-25DA-H	SSR-40DA-H	SSR-P03DA
Rated Load Current	10A	25A	40A	25A	40A	3A
Input Data						
Operating Voltage	3~32VDC					
Min. ON / OFF Voltage	ON > 2.4V , OFF < 1.0V					
Trigger Current	7.5mA / 12V					
Control Method	Zero Cross Trigger					
Output Data						
Operating Voltage	24~380VAC		90~480VAC		24~380VAC	
Min. Black Voltage	600 VAC < Repetive >					
Voltage Drop	1.6 V / 25 C					
Max. Durated Current	135A	275A	410A	275A	410A	135A
Leakage Current	3.0mA	3.0mA	3.0mA	5.0mA	5.0mA	3.0mA
Response Time	ON < 10ms , OFF < 10ms					
General Data						
Dielectric Strength	Over 2.5KVAC / 1min.					
Isolation Strength	Over 50MΩ / 500VDC					
Operating Temperature	-20 C ~+80 C					
Housing Material	Intensive ABS					
Weight	Appr. 105g					Appr. 15g

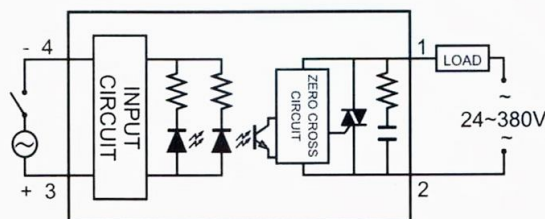
Connection Diagram



■ Specification

Type	Terminal Type				
Model	SSR-10AA	SSR-25AA	SSR-40AA	SSR-25AA-H	SSR-40AA-H
Rated Load Current	10A	25A	40A	25A	40A
Input Data					
Operating Voltage	80~250VAC 50 / 60Hz				
Min. ON / OFF Voltage	ON > 45V , OFF < 35V				
Trigger Current	5.0mA / 110VAC max.				
Control Method	Zero Cross Trigger				
Output Data					
Operating Voltage	24~380VAC			90~480VAC	
Min. Black Voltage	600 VAC < Repetive >				
Voltage Drop	1.6 V / 25 C				
Response Time	ON < 20ms , OFF < 20ms				
Max. Durated Current	135A	275A	410A	275A	410A
Leakage Current	3.0mA	5.0mA	3.0mA	5.0mA	5.0mA
General Data					
Dielectric Strength	Over 2.5KVAC / 1min.				
Isolation Strength	Over 50MΩ / 500VDC				
Operating Temperature	-20 C ~+80 C				
Housing Material	Intensive ABS				
Weight	Appr. 110g				

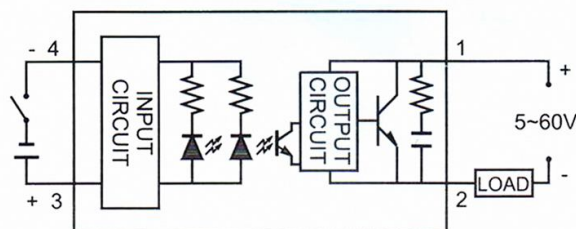
Connection Diagram



■ Specification

Type	Terminal Type		PCB Type
Model	SSR-05DD	SSR-10DD	SSR-P03DD
Rated Load Current	5A	10A	3A
Input Data			
Operating Voltage	3~32VDC		
Min. ON / OFF Voltage	ON > 2.4V , OFF < 1.0V		
Trigger Current	7.5mA / 12V		
Control Method	Isolated by photocouple		
Output Data			
Operating Voltage	5~60VDC		5~60VDC
Min. Block Voltage	300VDC		
Voltage Drop	1.6 V / 25 C		
Response Time	1ms < ON+OFF >		
Max. Durated Current	15A	30A	15A
Leakage Current	< 0.8mA		
General Data			
Dielectric Strength	Over 2.5KVAC / 1min.		
Isolation Strength	Over 50M Ω / 500VDC		
Operating Temperature	-20 C ~+80 C		
Housing Material	Intensive ABS		
Weight	Appr. 105g		Appr. 15g

Connection Diagram

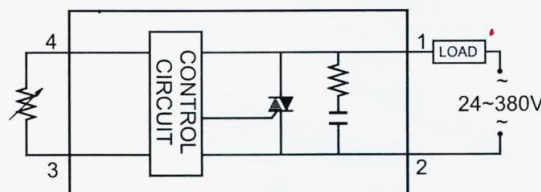


■ Specification

Type	Terminal Type		
Model	SSR-10VA	SSR-25VA	SSR-40VA
Rated Load Current	10A	25A	40A
Input Data			
Variable Resistance	Trimmer / 250kΩ to 110V , 500kΩ to 220V , / MΩ to 380V		
Control Method	Phase Control		
Output Data			
Operating Voltage	24~380VAC		
Min. Black Voltage	600 VAC < Repetive >		
Voltage Drop	1.6 V / 25 C		
Max. Durated Current	135A	275A	410A
Leakage Current	5.0mA	5.0mA	5.0mA
General Data			
Dielectric Strength	Over 2.5KVAC / 1min.		
Isolation Strength	Over 50MΩ / 500VDC		
Operating Temperature	-20 C ~+80 C		
Housing Material	Intensive ABS		
Weight	Appr. 105g		

Connection Diagram

Adjustable SSR



VR : 250KΩ/110VAC, 500KΩ/220VAC

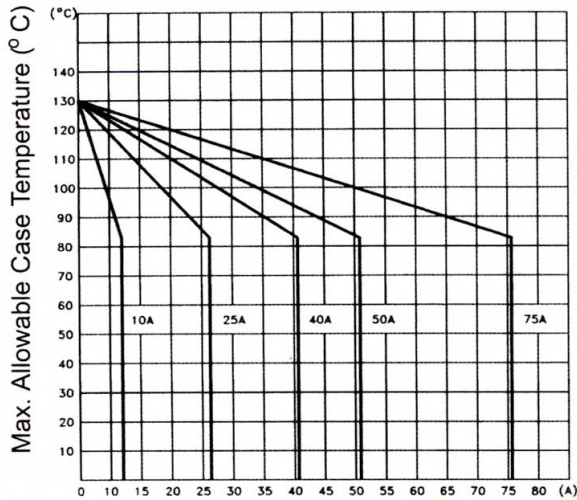
FOTEK SSR SERIES HIGH CURRENT DC TO AC SOLID STATE RELAY

■ Specification

Type	Terminal Type			
Model	SSR-50DA	SSR-75DA	SSR-50DA-H	SSR-75DA-H
Rated Load Current	50A	75A	50A	75A
Input Data				
Operating Voltage	3~32VDC			
Min. ON / OFF Voltage	ON > 2.4V , OFF < 1.0V			
Trigger Current	7.5mA / 12V			
Control Method	Zero Cross Trigger			
Operating Data				
Operating Voltage	24~380VAC	90~480VAC		
Min. Blocking Voltage	600 VAC < Repetitive >			
Voltage Drop	1.6V / 25°C			
Max. Duratde Current	550A	820A	550A	820A
Leakage Current Max.	6.0mA	6.0mA	6.0mA	6.0mA
Response Time	ON < 10ms , OFF < 10ms			
General Data				
Dielectric Strength	Over 2.5KVAC/1min.			
Isolation Strength	Over 50M Ω / 500VDC			
Operating Temperature	-20°C ~ +80°C			
Housing Material	Intensive ABS			
Weight	Appr.125g			
Connection Diagram/Dimension				

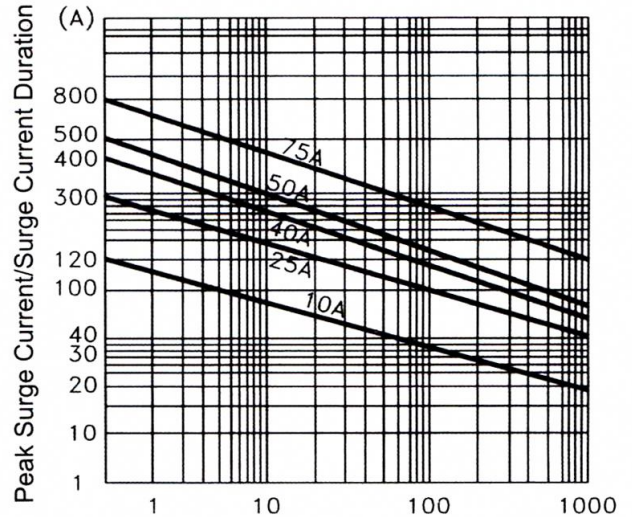
Curve of Characteristic

Max. Allowable Case Temperature
最高容許表面溫度



ON State Current (A) 動作電流

Peak Surge Current/Surge Current Duration
衝擊電流／承受次數

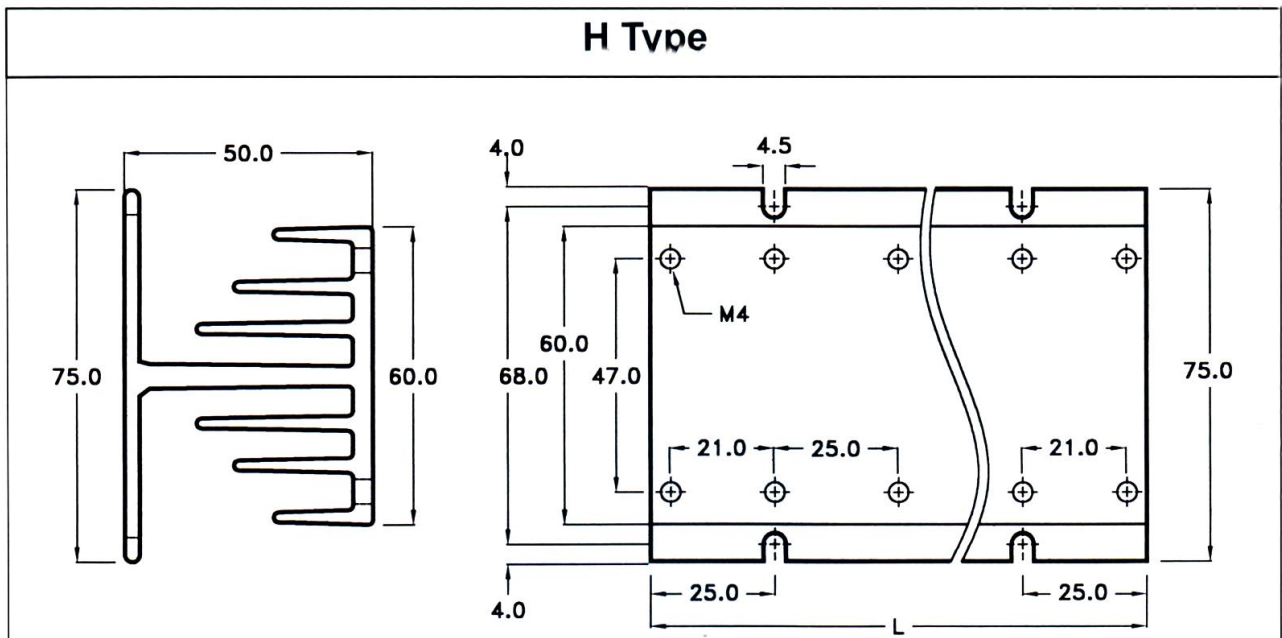
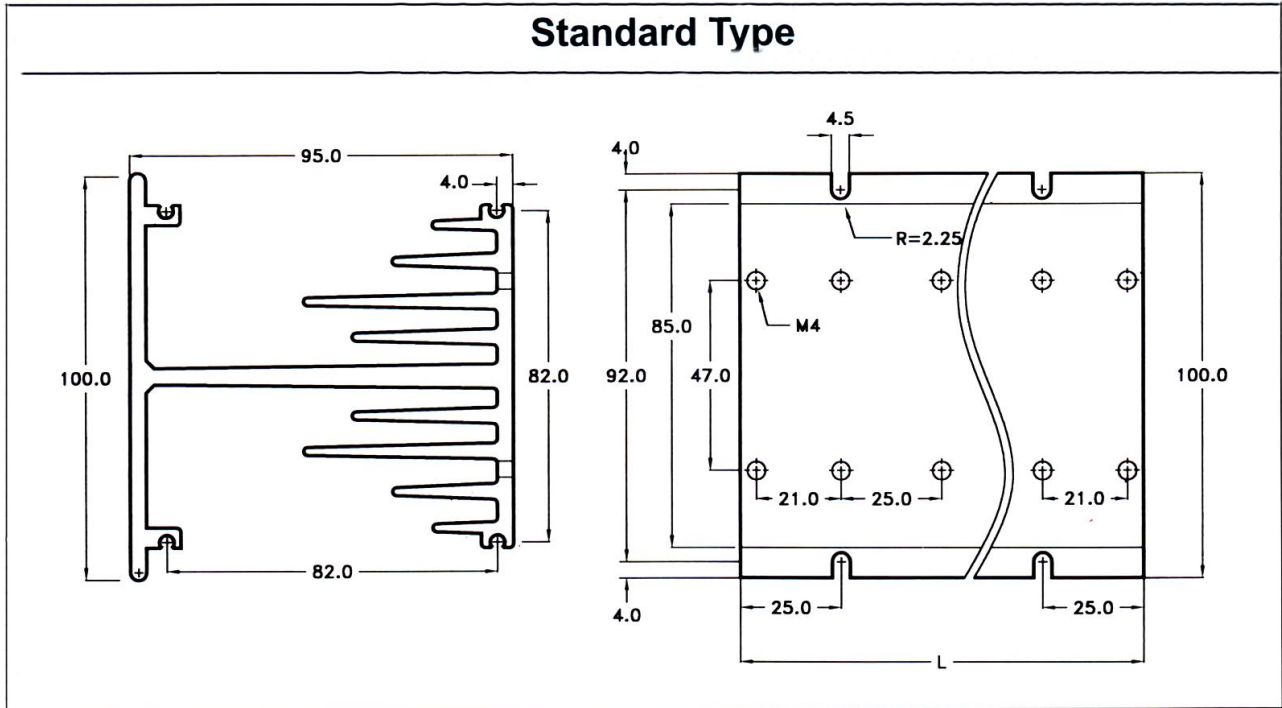


Surge Current Duration (Full cycles)

Dimension

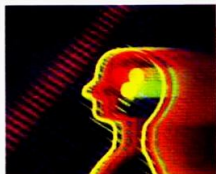
Terminal Type	PCB Type
<p>Terminal Type dimensions diagram showing a rectangular component with three terminals on each side. Dimensions include 6.0, 47.0, 60.0, 7.0, 45.0, 10.0, 22.5, and 3.0.</p>	<p>PCB Type dimensions diagram showing a component with four terminals on the bottom. Dimensions include 43.0, 10.0, 26.0, 7.5, 5.1, 0.8, 12.7, 10.2, 7.5, 0.5, and 5.5.</p>

■ Dimension < Heat Sink >



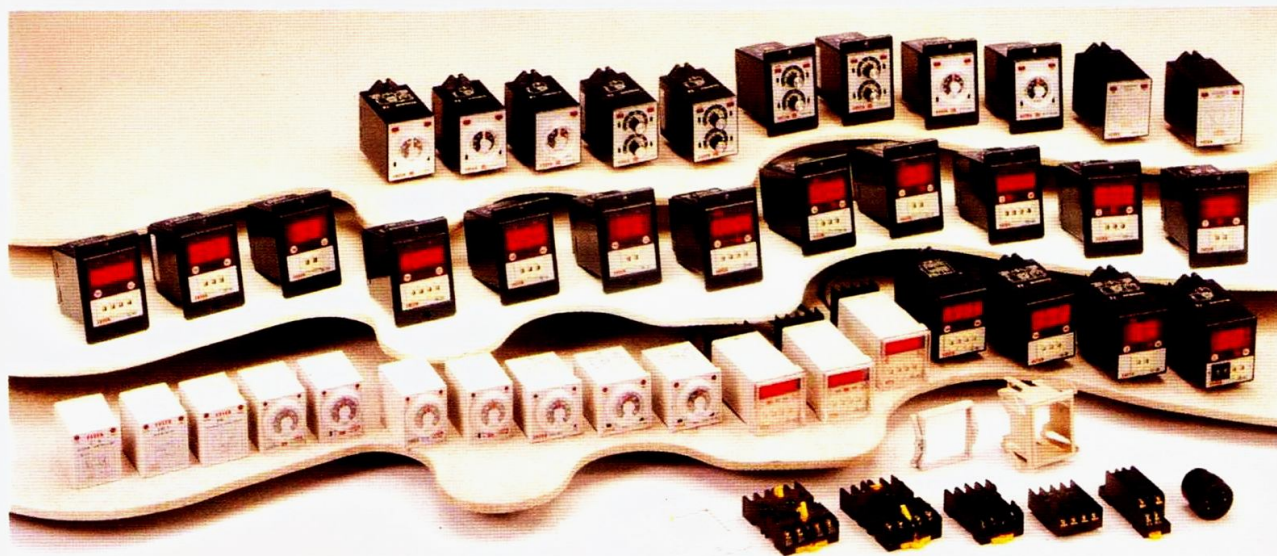
MODEL	LENGTH(L)mm	CURRENT DURATION	PCS OF SSR
HS-50H	50.0	10A MAX.	SIGLE
HS-100H	100.0	25A MAX.	TWICE
HS-150H	150.0	40A MAX.	THREE
HS-200H	200.0		FOUR

LINEAR & THREE PHASE SOLID STATE RELAY **FOTEK**



經營理念

- 追求永續經營
- 客戶是永遠的朋友
- 堅持品質、追求至善
- 不斷研發生產物超所質的產品
- 責任、務實、創新、邁向未來



成立1985年 主要產品

- 計時器
- 轉速表
- 電壓表
- 光電開關
- 磁簧開關
- 溫度控制器
- 欠逆相保護器
- 計數器
- 線速表
- 電流表
- 近接開關
- 固態繼電器
- 液位控制器
- 馬達起動器

Established 1985 Main product

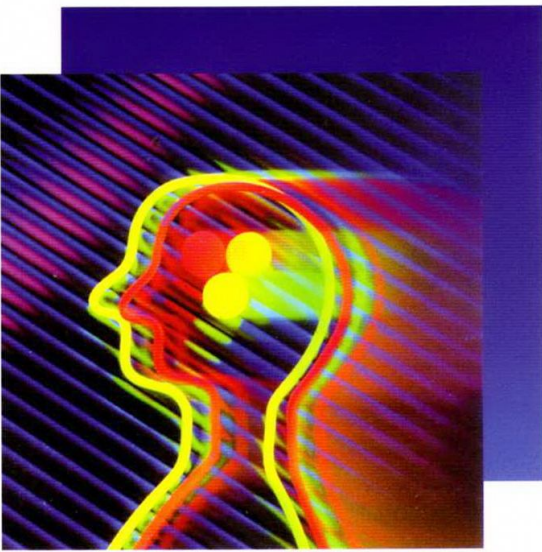
- Timer
- Tachometer
- Voltage Meter
- Photo Sensor
- Reed Sensor
- Temperature Controller
- Phase Relay
- Counter
- Line Speed Meter
- Current Meter
- Proximity Sensor
- Solid State Relay
- Floatless Level Relay
- Y-Δ Starter

FOTEK[®]



CONTROLS

2002-8



陽明電機股份有限公司
FOTEK CONTROLS CO., LTD.