

Conventional panel mounting type

KS34-F Solid State Relay

Single channel control type



Max AC load **125A**



Good flame retardant performance and high reliability



380VAC, 480VAC, 600VAC load voltage



Application Scenarios:

Mainly used in equipment such as rubber and plastics, glass manufacturing, commercial kitchen appliances, SMT, and food processing.



DESCRIPTION

KS34-F is a high-power AC output panel mount type SSR with DC control. The DC input voltage range is 4~32VDC. The SSR offers five output current ratings from 40A to 125A and three output voltage options from 380VAC, 480VAC and 600VAC for selection. The SSR provides photoelectric isolation between input and output with dielectric strength 4000V.

- Photoelectric isolation
- Dielectric strength 4000V
- DC control
- Flip cover design, easy to wire connection by cold terminals
- Zero-cross
- SCR output

SELECTION GUIDE

KS34-F/	D-	38	Z	40	-Y	L	(XXX)
Type	Control voltage	Load voltage	Switching mode	Load	Overvoltage protection	LED indicator	Customer special code
	D:(4~ 32)VDC	38:380Vac 48:480Vac 60:600Vac	Z:Zero-cross	40:40A 60:60A 80:80A 100:100A 125:125A	Y:Included Nil:Not included	L:Included	

Nots:

(1) For SSRs with overvoltage protection function, the output will self-trigger when the load peak voltage reaches the protection value. Please refer to the overvoltage range for different loads as follows: 600~800VDC for D-38 type, 850~1200VDC for D-48/D-60 type. This SSR is not suitable for capacitive loads.

(2) Available parts are as below:

KS34-F/D-38Z40-□L	KS34-F/D-38Z60-□L	KS34-F/D-38Z80-□L	KS34-F/D-38Z100-□L	KS34-F/D-38Z125-□L
KS34-F/D-48Z40-□L	KS34-F/D-48Z60-□L	KS34-F/D-48Z80-□L	KS34-F/D-48Z100-□L	KS34-F/D-48Z125-□L
KS34-F/D-60Z40-□L	KS34-F/D-60Z60-□L	KS34-F/D-60Z80-□L	KS34-F/D-60Z100-□L	KS34-F/D-60Z125-□L

■ INPUT SPECIFICATIONS (Ta = 25°C)

Control voltage range	(4 ~ 32)VDC
Must turn-on voltage	4VDC
Must turn-off voltage	1VDC
Max. input current	25mA
Max. reverse protection voltage	- 32VDC

■ OUTPUT SPECIFICATIONS (Ta = 25°C)

	D-38		D-48		D -60
Load voltage range	(48 ~ 440)VAC		(48 ~ 530)VAC		(48 ~660)VAC
Max. transient voltage	800Vpk		1200Vpk		1600Vpk
Load current range	40A	60A	80A	100A	125A
Max. surge current (10ms)	700Apk	900Apk	1250Apk	1250Apk	2250Apk
Max. I ² t for fusing (10ms, A ² s)	2450	4050	7800	7800	25000
Max. off-state leakage current	10mA				
Max. on-state voltage drop	1.7Vr.m.s.				
Min. power factor	0.5				
Max. turn-on time	1/2 cycle + 1ms				
Max. turn-off time	1/2 cycle + 1ms				
Frequency range	(47 ~ 63)Hz				
Min. off-state dv/dt	1000V/μs				

Note: The max. transient voltage of KS34-F/D-60Z40-□L is 1200Vpk.

■ GENERAL SPECIFICATIONS (Ta=25°C)

Dielectric strength (50~60Hz)	input/output/base 2500VAC, 1min input/output 4000VAC, 1min
Insulation resistance	1000MΩ (500VDC)
Max. capacitance (input/output)	8pF
Operating Temperature	-30 ~ 80°C
Storage Temperature	-30 ~ 100°C
Ambient humidity	45% ~ 85% RH
Unit weight	40A,60A,80A type approx.95g
	100A,125A type approx.130g

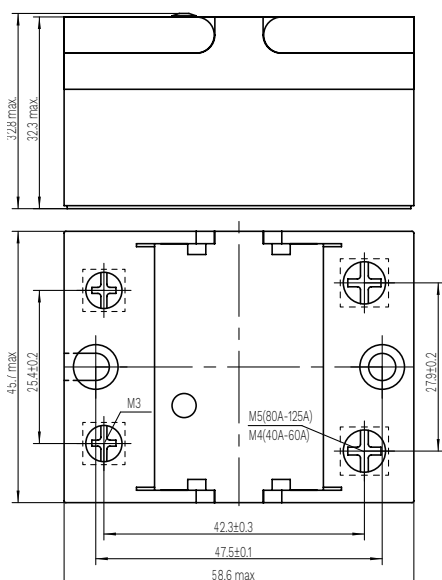
■ PRECAUTIONS

1. Please pay special attention to the actual load current and the ambient temperature when doing the type selection. And the SSR requires proper heat sinking for heat dissipation in full load. For ambient temperature above 40°C, the load current must be derated. Please refer to the curve of Max. Load Current vs. Ambient Temperature for derating.
2. The heat produced by the SSR during the working process must be dissipated via the metal base of the SSR. Please coat the SSR metal base with some thermal grease or a thermal pad, and then firmly press the SSR against the heatsink to ensure the full adherence.
3. It is recommended to use the matched heatsink made by Keysolu. If the user needs to use the home-made heatsinks, please ensure that the temperature of the SSR base must not exceed 85°C.
4. Tighten the SSR screw terminals properly. If the screws are loose, the SSR would be damaged by heat generated from connection. Also excessive screw mounting torque may damage the SSR's internal components. Please refer to the recommended screw mounting torque as follows: the M5 screw mounting torque range is 2~3N·m, the M4 screw mounting torque range is 0.98~1.37N·m, and the M3 screw mounting torque range is 0.58~0.98N·m.
5. For capacitive loads, please do not select the product with overvoltage protection (i.e. item number with letter Y).
6. The specified specifications are based on resistive loads. Please do not use the SSR exceeding the limitation which is specified on this datasheet.

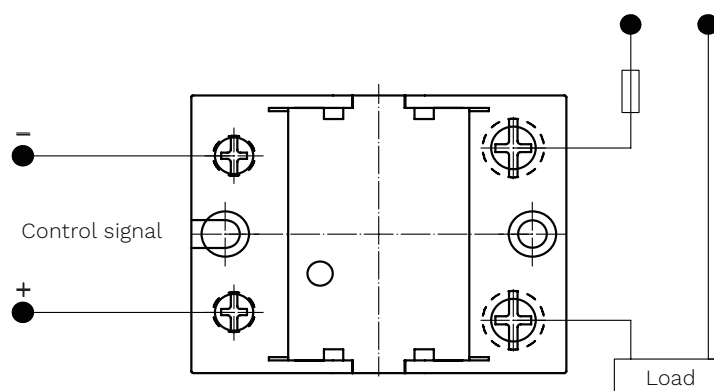
■ OUTLINE DIMENSIONS, WIRING DIAGRAM

Unit: mm

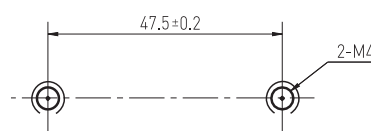
Outline Dimensions



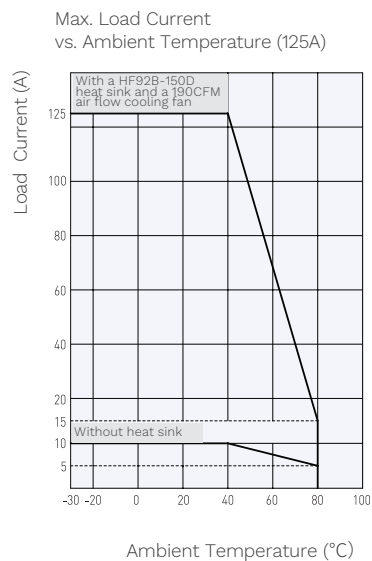
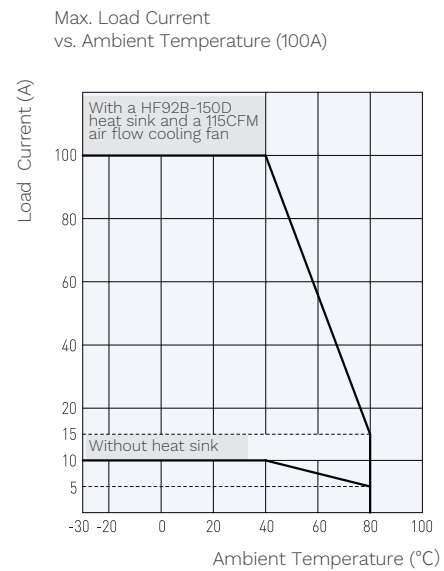
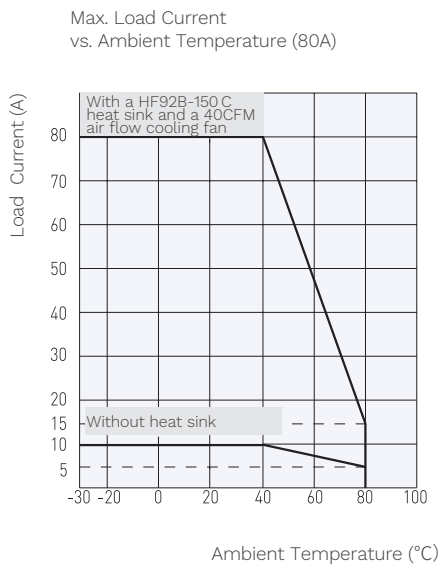
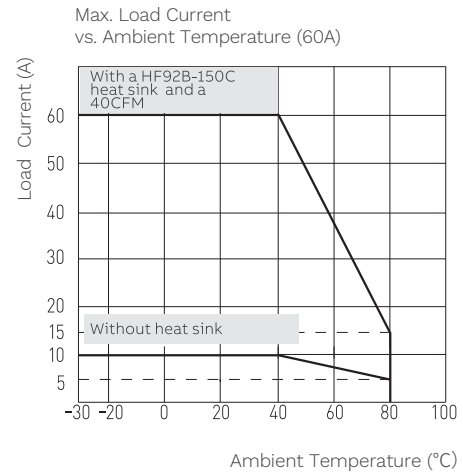
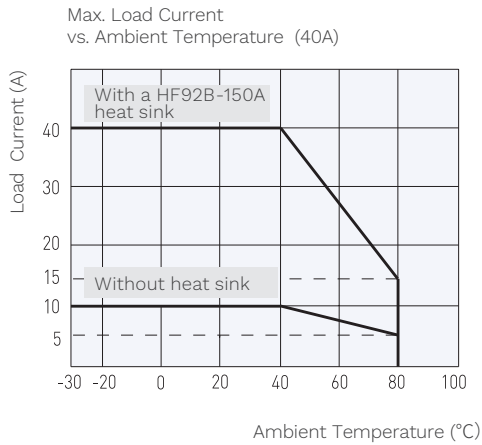
Wiring Diagram



Mounting Holes



■ CHARACTERISTIC CURVES



■ Heatsink Thermal Resistance (load current versus ambient temperature)

Heatsink thermal resistance (40A)

Load current(A)	Thermal resistance(C/W)						
	20	30	40	50	60	70	80
40	1.61	1.39	1.17	0.96	0.74	0.53	0.31
36	1.84	1.61	1.37	1.13	0.89	0.65	0.41
32	2.14	1.87	1.61	1.34	1.07	0.80	0.53
28	2.53	2.22	1.91	1.61	1.30	0.99	0.68
24	3.04	2.68	2.32	1.96	1.61	1.25	0.89
20	3.76	3.33	2.90	2.47	2.04	1.61	1.17
16	4.84	4.30	3.76	3.22	2.68	2.14	1.61
12	6.63	5.92	5.20	4.48	3.76	3.04	2.32
8	-	-	-	-	5.92	4.84	3.76
4	-	-	-	-	-	-	-

Heatsink thermal resistance (60A)

Load current(A)	Thermal resistance(C/W)						
	20	30	40	50	60	70	80
60	0.90	0.77	0.64	0.51	0.38	0.25	0.12
54	1.05	0.90	0.76	0.61	0.47	0.32	0.18
48	1.23	1.06	0.90	0.74	0.58	0.41	0.25
42	1.46	1.27	1.09	0.90	0.72	0.53	0.34
36	1.77	1.55	1.34	1.12	0.90	0.69	0.47
30	2.20	1.94	1.68	1.42	1.16	0.90	0.64
24	2.86	2.53	2.20	1.88	1.55	1.23	0.90
18	3.94	3.51	3.07	2.64	2.20	1.77	1.34
12	6.11	5.46	4.81	4.16	3.51	2.86	2.2
6	-	-	-	-	-	6.11	4.81

Heatsink thermal resistance (80A)

Load current(A)	Thermal resistance(C/W)						
	20	30	40	50	60	70	80
80	0.59	0.50	0.41	0.31	0.22	0.12	0.03
72	0.70	0.59	0.49	0.38	0.28	0.18	0.07
64	0.83	0.71	0.59	0.48	0.36	0.24	0.12
56	1.00	0.86	0.73	0.59	0.46	0.33	0.19
48	1.22	1.06	0.91	0.75	0.59	0.44	0.28
40	1.53	1.35	1.16	0.97	0.78	0.59	0.41
32	2.00	1.77	1.53	1.30	1.06	0.83	0.59
24	2.79	2.47	2.16	1.85	1.53	1.22	0.91
16	4.35	3.88	3.41	2.94	2.47	2.00	1.53
8	-	-	-	-	5.29	4.35	3.41

Heatsink thermal resistance (100A)

Load current(A)	Thermal resistance(C/W)						
	20	30	40	50	60	70	80
100	0.37	0.30	0.23	0.16	0.09	0.02	-
90	0.45	0.37	0.30	0.22	0.14	0.06	-
80	0.55	0.46	0.37	0.29	0.20	0.11	0.02
70	0.68	0.58	0.47	0.37	0.27	0.17	0.07
60	0.84	0.73	0.61	0.49	0.37	0.26	0.14
50	1.08	0.94	0.80	0.66	0.52	0.37	0.23
40	1.43	1.25	1.08	0.90	0.73	0.55	0.37
30	2.02	1.78	1.55	1.31	1.08	0.84	0.61
20	3.19	2.84	2.49	2.13	1.78	1.43	1.08
10	-	-	-	4.60	3.90	3.19	2.49

■ Heatsink Thermal Resistance (load current versus ambient temperature)

Heatsink thermal resistance (125A)

Load current(A)	Thermal resistance(°C /W)						
	20	30	40	50	60	70	80
125	0.44	0.37	0.31	0.24	0.18	0.11	0.05
112.5	0.51	0.44	0.36	0.29	0.22	0.15	0.08
100	0.60	0.52	0.44	0.35	0.27	0.19	0.11
87.5	0.71	0.62	0.53	0.44	0.34	0.25	0.16
75	0.87	0.76	0.65	0.54	0.44	0.33	0.22
62.5	1.08	0.95	0.82	0.69	0.56	0.44	0.31
50	1.40	1.24	1.08	0.92	0.76	0.60	0.44
37.5	1.94	1.73	1.51	1.30	1.08	0.87	0.65
25	3.02	2.69	2.37	2.05	1.73	1.40	1.08
12.5	6.24	5.60	4.95	4.31	3.66	3.02	2.37
	Ambient temp.(°C)						