

Conventional panel mounting type

KS15-F Solid State Relay

Single channel control type

-  Compliant with **IP20** standard
-  Compatible with various types of crimp terminals, including round, fork, and tube types
-  Load current: 10A to 40A



Application Scenarios:

Mainly used in food, packaging, commercial kitchen appliances, coffee machines, photovoltaics and other equipment.



DESCRIPTION

KS15-F is an AC output panel mount type SSR with DC control. The DC input voltage range is 4~32VDC. Three output current ratings from 10A to 40A are available for selection. The SSR is epoxy resin encapsulated with built-in RC snubber and it provides photoelectric isolation between input and output with dielectric strength 4000V.

- Built-in RC snubber circuit
- Photoelectric isolation
- TRIAC output
- Removable protective cover
- Dielectric strength 4000V
- Zero-cross or random turn-on
- Green LED status indicator

SELECTION GUIDE

KS15-F/	D-	38	Z	10	-L	(XXX)
Type	Control voltage	Load voltage	Switching mode	Load current	LED indicator	Customer special code
	D:4~32VDC	38:380VAC	Z:Zero-cross P:Random	10:10A 25:25A 40:40A	L:Included	

■ SELECTION GUIDE (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□10-L	D-38□25-L	D-38□40-L
Load voltage range	(48 ~ 440)VAC		
Max. transient voltage	800Vpk		
Load current range	0.1 to 10	0.1 to 25	0.1 to 40
Max. I^2t (10ms, A ² s)	72	312	882
Max. surge current (10ms)	120A _{pk}	250A _{pk}	420A _{pk}
Max. off-state leakage current	10mA		
Max. on-state voltage drop	1.5V _{r.m.s.}		
Max. turn-on time	Zero-cross: 1/2 cycle + 1ms, Random: 1ms		
Max. turn-off time	1/2 cycle + 1ms		
Min. off-state dv/dt	1000V/μs		
Min. power factor	0.5		

■ PRECAUTIONS

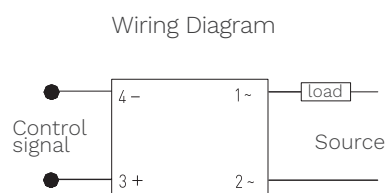
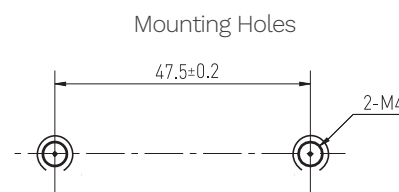
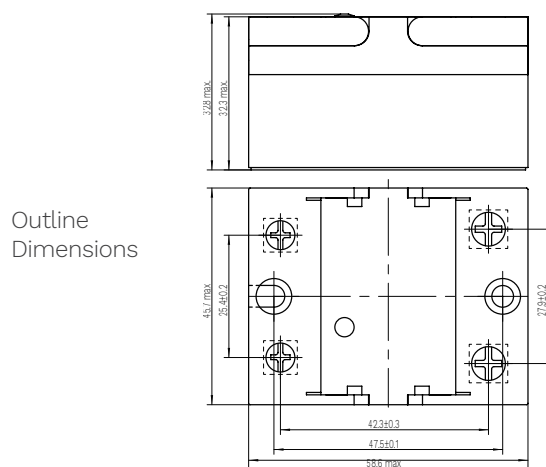
1. Please pay special attention to the actual load current and the ambient temperature when doing the type selection. And the SSR requires proper heat sinking for heat dissipation in full load. For ambient temperature above 40°C, the load current must be derated. Please refer to the curve of Max. Load 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 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. Please do not use the SSR exceeding the limitation which is specified on this datasheet.

GENERAL SPECIFICATIONS (Ta=25°C)

Dielectric strength	2500VAC, 50~60Hz, 1min, input/output/base 4000VAC, 50~60Hz, 1min, input/output
Insulation resistance	1000MΩ (500VDC)
Operating temperature	-30 ~ 80°C
Storage temperature	30 ~ 100°C
Unit weight	Approx . 70g

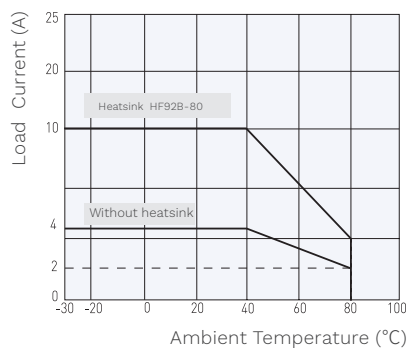
OUTLINE DIMENSIONS, WIRING DIAGRAM

Unit: mm

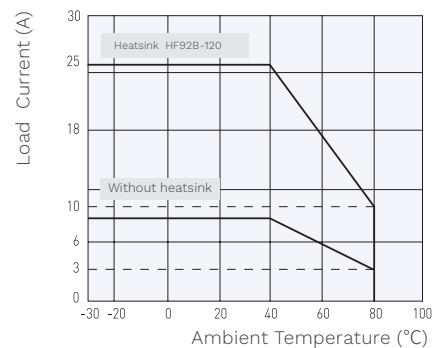


CHARACTERISTIC CURVES

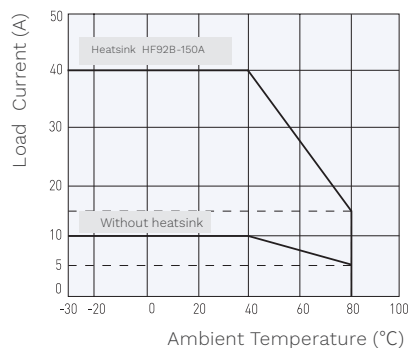
Max. Load Current vs.
Ambient Temperature (10A)



Max. Load Current vs.
Ambient Temperature (25A)



Max. Load Current vs.
Ambient Temperature (40A)



■ Heatsink Thermal Resistance (load current versus ambient temperature)

Heatsink thermal resistance (10A)

Load current(A)	Thermal resistance(°C/W)					
	20	30	40	50	60	70
10.0	6.51	5.65	4.80	3.94	3.08	2.22
7.5	10.22	9.00	7.79	6.58	5.37	4.16
5.0	17.71	15.79	13.86	11.94	10.01	8.09
2.5	-	-	-	-	-	19.99

Heatsink thermal resistance (25A)

Load current(A)	Thermal resistance(°C/W)					
	20	30	40	50	60	70
25.0	2.26	1.92	1.58	1.24	0.90	0.56
22.5	2.75	2.37	1.98	1.60	1.21	0.82
20.0	3.35	2.91	2.47	2.02	1.58	1.14
17.5	4.14	3.63	3.11	2.59	2.07	1.55
15.0	5.15	4.53	3.92	3.30	2.79	2.08
12.5	6.56	5.81	5.06	4.31	3.56	2.82
10.0	8.97	7.81	6.85	5.89	4.93	3.97
7.5	-	-	-	8.54	7.23	5.92
5.0	-	-	-	-	-	9.92
2.5	-	-	-	-	-	-

Heatsink thermal resistance (40A)

Load current(A)	Thermal resistance(°C/W)					
	20	30	40	50	60	70
40.0	1.16	0.95	0.74	0.53	0.32	0.11
37.5	1.36	1.13	0.90	0.67	0.44	0.21
35.0	1.57	1.32	1.07	0.82	0.57	0.32
32.5	1.82	1.55	1.27	1.00	0.73	0.45
30.0	2.10	1.80	1.50	1.20	0.90	0.60
27.5	2.43	2.10	1.77	1.44	1.11	0.77
25.0	2.81	2.45	2.08	1.71	1.34	0.97
22.5	3.30	2.89	2.47	2.06	1.64	1.23
20.0	3.93	3.45	2.98	2.50	2.03	1.56
17.5	4.75	4.20	3.65	3.09	2.54	1.99
15.0	5.77	5.12	4.47	3.82	3.17	2.52
12.5	7.46	6.65	5.84	5.03	4.22	3.41
10.0	-	-	-	6.67	5.64	4.61
7.5	-	-	-	-	-	6.61
5.0	-	-	-	-	-	10.53
2.5	-	-	-	-	-	-