DESCRIPTION

KS41 is a set of SPST-NO AC output PCB mount SIP type SSR. Adopting the SMT process, the SSR has thinner size, excellent electrical performance and high surge current resistance. And it adopts the Aluminum PCB which can greatly improve the heat dissipation. The SSR also provides photoelectric isolation between input and output and offers two alternative switching modes: zero-cross turn-on and random turn-on, suitable for the control of lamplights, motors, vending machines, medical equipment, elevators, electric control doors, etc.

FEATURES

- DC control
- Alternative SCR or TRIAC output
- Dielectric strength 4000V
- PCB mount

PRECAUTIONS

1. Soldering must be completed within 10s at 260°C or 5s at 350°C.
2. The SSR's case serves to dissipate the heat generated by the SSR itself. If poor ventilation is unavoidable, the load current must be derated. Please refer to the curve of Max. Load Current vs. Ambient Temperature for derating.
3. The internal input circuit of SSR does not have the reverse polarity protection, thus make sure the wiring of input and output and the input polarity are correct so as to avoid any damage to the SSR.
4. If the output transient voltage exceeds the nominal value, a varistor should be connected to the SSR's output terminal in parallel to prevent the SSR being broken down. The recommended varistor voltage is 470V for rated output voltage 220VAC, 750V for rated output voltage 380VAC and 1100V for rated output voltage 480VAC.
5. Please do not use the SSR exceeding the limitation which is specified on this datasheet.

SELECTION GUIDE

KS41 /	D-	24	Z	S	5	N-	G	(XXX)
Type	Control voltage	Load voltage	Switching mode	Output component	Load current	RC snubber	Encapsulation type	Customer special code
	D: 4~32VDC	24: 240VAC 38: 380VAC 48: 480VAC	Z: Zero-cross P: Random	S: SCR Nil: TRIAC	3: 3A 4: 4A 5: 5A	N: Not included Nil: Included	G: Epoxy Nil: Case	

Note: Zero-cross turn-on is only for load voltage 480VAC, and Random turn-on is only for load voltage 240VAC and 380VAC.

INPUT SPECIFICATIONS (Ta = 25°C)

Control voltage range	D	4 ~ 32VDC
Must turn-on voltage	D	4VDC
Must turn-off voltage		1.0VDC
Max. Input current	D	25mA

OUTPUT SPECIFICATIONS (Ta = 25°C)

Load voltage range		48~280VAC (Rated voltage 240VAC)
		48~440VAC (Rated voltage 380 VAC)
		48~530VAC (Rated voltage 480 VAC)
Load current range		0.1 ~ 5A
Max. surge current (10ms)		TRIAC output: 120Apk
		SCR output: 250Apk
Max. off-state leakage current		1.5mA
Max. on-state voltage drop		1.5Vr.m.s.
Max. turn-on time	Zero-cross	1/2 Cycle + 1ms
	Random	1ms
Max. turn-off time		1/2 Cycle + 1ms
Max. transient overvoltage		600Vpk (Rated voltage 240VAC)
		800Vpk (Rated voltage 380VAC)
		1200Vpk (Rated voltage 480VAC)
Min. off-state dv/dt		200V/μs
Min. power factor		0.5
Max. I^2t (10ms)		TRIAC output: 78A^2s
		SCR output: 310A^2s

GENERAL SPECIFICATIONS (Ta = 25°C)

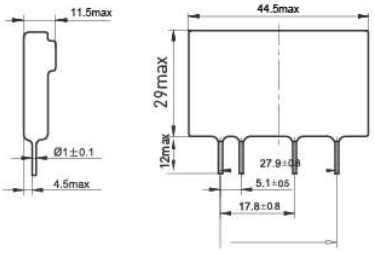
Dielectric strength (input/output)	4000VAC, 50Hz/60Hz, 1min
Insulation resistance	1000MΩ (500VDC)
Vibration resistance	10~55Hz, 1.5mm, DA
Shock resistance	980m/s²
Ambient operating temperature range	-30 ~ 80℃
Ambient storage temperature range	-30 ~ 100℃
Ambient humidity	45% ~ 85% RH
Unit weight	Approx. 15g

OUTLINE DIMENSIONS, WIRING DIAGRAM AND PCB LAYOUT

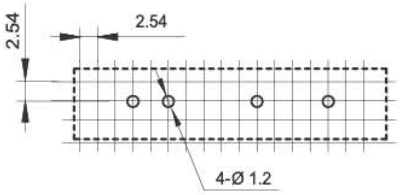
Unit: mm

Outline Dimensions

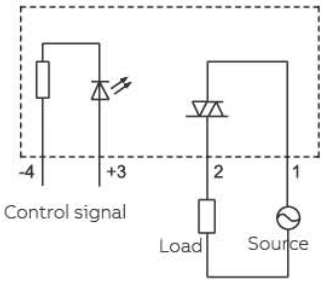
Epoxy Type



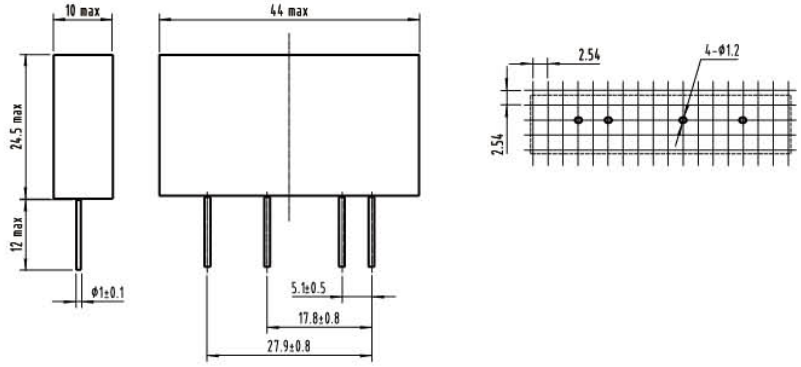
PCB Layout
(Bottom view)



Wiring Diagram

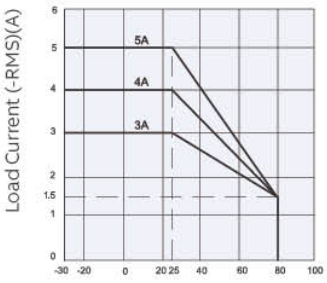


Case Type

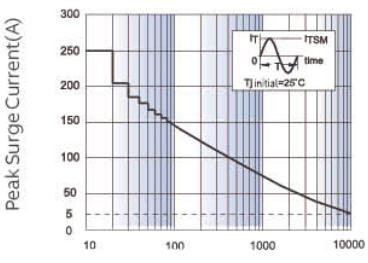


CHARACTERISTIC CURVES

Max. Load Current
vs. Ambient Temp.



Max. Permissible Non-repetitive Peak
Surge Current
vs. Continuance time (SCR output)



Max. Permissible Non-repetitive
Peak Surge Current
vs. Continuance time (TRIAC output)