

KWS25A

SPECIFICATIONS

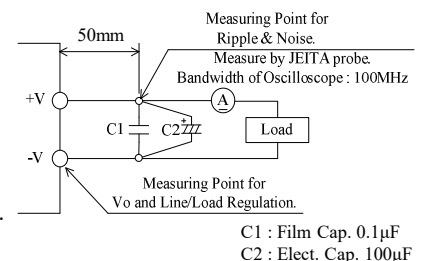
FC005-01-01B

ITEMS		MODEL	KWS25A-5	KWS25A-12	KWS25A-15	KWS25A-24	
1	Nominal Output Voltage	V	5	12	15	24	
2	Maximum Output Current	A	5.0	2.2	1.7	1.1	
3	Maximum Output Power	W	25.0	26.4	25.5	26.4	
4	Efficiency (Typ.) (*1)	100VAC / 115VAC	%	80/81	84/84	85/85	86/86
		200VAC / 230VAC	%	82/82	86/86	87/87	88/88
5	Input Voltage Range	(*2)	85- 265VAC (47-440Hz) or 120- 370VDC				
6	Input Current (Typ.)	(*1)	A 0.56 / 0.34				
7	Inrush Current (Typ.)	(*1)(*3)	- 15A at 100VAC, 30A at 200VAC, Ta=25°C, Cold Start				
8	Output Voltage Range	V	Fixed				
9	Output Voltage Accuracy	-	+/- 5%				
10	Maximum Ripple & Noise	(*4)(*5)(*6)	mV	200	240	240	240
11	Maximum Line Regulation	(*5)(*12)	mV	20	48	60	96
12	Maximum Load Regulation	(*6)(*12)	mV	40	96	120	150
13	Temperature Coefficient	-	Less than 0.02% / °C				
14	Over Current Protection	(*7)	A	5.25 -	2.31 -	1.79 -	1.16 -
15	Over Voltage Protection	(*8)	V	5.75 - 7.0	13.8 - 18.3	17.25 - 22.4	27.6 - 34.0
16	Hold-up Time (Typ.)	(*9)	-	10ms/30ms			
17	Leakage Current	(*10)	-	< 0.25mA			
18	Parallel Operation	-	-				
19	Series Operation	-	Possible				
20	Operating Temperature	(*11)(*12)	-	-10 to 85°C : 5V (-10 to 45°C : 100%, 65°C : 55%, 85°C : 10%) 12V,15V,24V (-10 to 55°C : 100%, 70°C : 55%, 85°C : 10%) Guarantee Start up at -40 to -10°C			
21	Operating Humidity	-	30 to 90%RH (No Condensing)				
22	Storage Temperature	-	-40 to +85°C				
23	Storage Humidity	-	20 to 95%RH (No Condensing)				
24	Cooling	-	Convection Cooling				
25	Withstand Voltage	-	Input - Output : 3kVAC(20mA) for 1 minute.				
26	Isolation Resistance	-	More than 100M Ohms at 25°C and 70%RH Input - Output 500VDC				
27	Vibration	-	10 - 55Hz, constant amplitude 1.65mmp-p (Max 10G), sweep 1 minute X, Y, Z 1 hour each				
28	Shock	-	Less than 50G for 11 ± 5ms on ± (X, Y, Z) axis each 3 times				
29	Safety	-	Approved by UL62368-1, CSA62368-1, EN62368-1, UL60950-1, CSA60950-1, EN60950-1 (Expire date of 60950-1 : 20/12/2020) Designed to meet Den-an Appendix 12.				
30	Conducted Emission	(*13)	-	Designed to meet EN55011/EN55032-B, FCC-B, VCCI-B (Need External parts) Designed to meet EN55011/EN55032-A, FCC-A, VCCI-A (No Need External parts)			
31	Radiated Emission	(*13)	-	Designed to meet EN55011/EN55032-B, FCC-B, VCCI-B (Need External parts) Designed to meet EN55011/EN55032-A, FCC-A, VCCI-A (No Need External parts)			
32	Immunity	(*13)	-	Designed to meet IEC61000-6-2 IEC61000-4-2, -3, -4, -5, -6, -8, -11			
33	Weight (Typ.)	-	85g				
34	Size (W x H x D)	mm	25.4 x 29 x 63.5 (Refer to Outline Drawing)				

*Read instruction manual carefully, before using the power supply unit.

=NOTES=

- *1. At 100VAC/200VAC and 115VAC/230VAC , Ta=25°C, nominal output voltage and maximum output power.
- *2. For cases where conformance to various safety specs (UL, CSA, EN) are required, to be described as 100 - 240VAC(50 - 60Hz).
- *3. Not applicable for the inrush current to Noise Filter for less than 0.2ms.
- *4. Measure with JEITA RC-9131B probe, Bandwidth of scope :100MHz.
For start up at low ambient temperature and low input voltage, output ripple noise might not meet specification.
However, specification can be met after 1 minute.
- *5. 85 - 265VAC, constant load.
- *6. No load-Full load, constant input voltage.
- *7. Hiccup with automatic recovery.
Avoid to operate at over load or short circuit condition.
- *8. OVP apply the output zener clamp circuit.
- *9. At 100VAC and 115VAC with 80% load ; 200VAC and 230VAC with 100% load.
- *10. Measured by the each measuring method of UL, CSA, EN and Den-an (at 60Hz), Ta=25°C.
- *11. Output Derating
 - Refer to OUTPUT DERATING CURVE (FC005-01-02_).
 - Load (%) is percent of maximum output power or maximum output current, do not exceed its derating of maximum load.
 - For conditions of start up at -40°C to -10°C, refer to derating curve (FC005-01-03_).
- *12. Output derating needed when input voltage less than 100VAC. Refer to LOAD vs. INPUT VOLTAGE (FC005-01-02_).
- *13. The power supply is considered a component which will be installed into a final equipment.
The final equipment should be re-evaluated that it meets EMC directives.



KWS25A

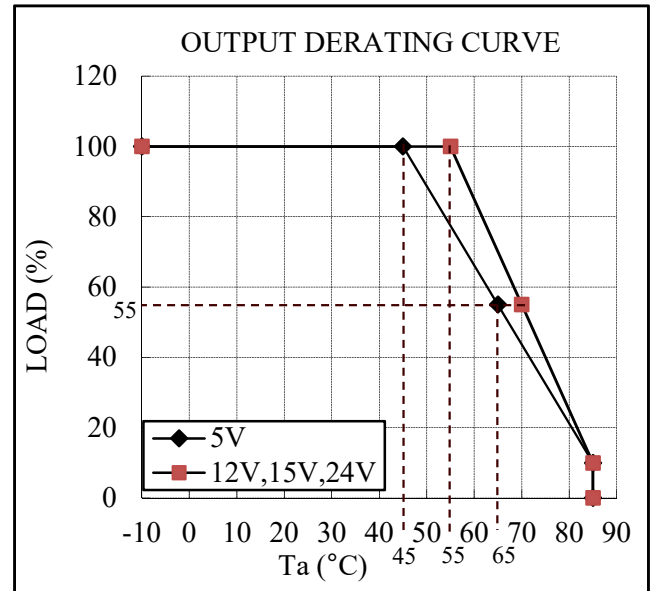
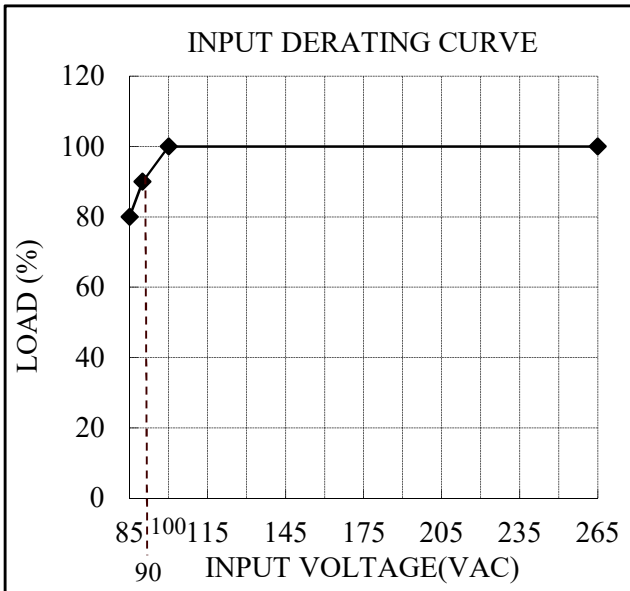
INPUT AND OUTPUT DERATING

FC005-01-02

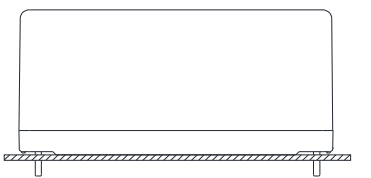
VIN(VAC) 5V to 24V	LOAD (%)
85	80
90	90
100 to 265	100

Ta (°C) 5V	LOAD (%)
-10 to +45	100
65	55
85	10

Ta (°C) 12V to 24V	LOAD (%)
-10 to +55	100
70	55
85	10

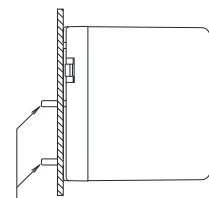


MOUNTING (A)
(STANDARD MOUNTING)



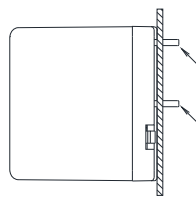
INPUT TERMINAL OUTPUT TERMINAL

MOUNTING (B)



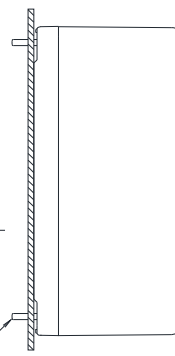
OUTPUT TERMINAL

MOUNTING (C)



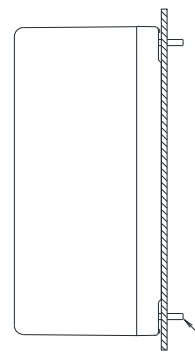
OUTPUT TERMINAL

MOUNTING (D)



OUTPUT TERMINAL

MOUNTING (E)

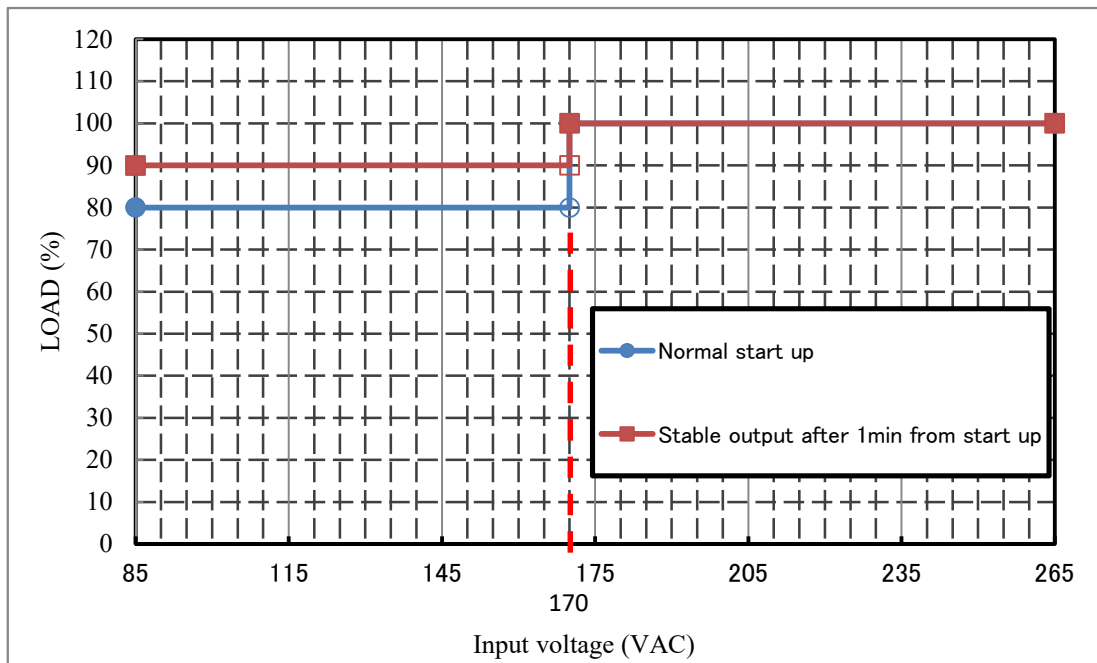


INPUT TERMINAL

DERATING TO START UP AT Ta: -40 to -10°C

FC005-01-03

VIN(VAC)	LOAD (%)	
	Normal start up	Stable output after 1 min from start up
$85 \leq V_{in} < 170$	80	90
$170 \leq V_{in} \leq 265$	100	100



NOTE :

- * At Ta: -40 to -10°C
- * Input voltage : Not gradual start up.
- * Do not use the load that is constant current mode.
- * Avoid forced air cooling . It is assumed that inside of power supply is heated by self-heating within 1 minute.
- * No condensing.
- * Pay attention to above items before using the unit. Incorrect usage could lead to unstable output voltage.