

CUS30M/P

(P:Solderable Pin option)

CA851-01-01/P-A

SPECIFICATIONS

ITEMS	MODEL	CUS30M -12/P	CUS30M -15/P	CUS30M -18/P	CUS30M -24/P	CUS30M -36/P	CUS30M -48/P
1 Nominal Output Voltage	V	12	15	18	24	36	48
2 Maximum Output Current	A	2.5	2	1.7	1.25	0.84	0.63
3 Maximum Output Power	W	30	30	30.6	30	30.24	30.24
4 Efficiency (Typ.)	115/230 VAC (*1)	%	87 / 88	87 / 88	87 / 88	88 / 90	88 / 90
5 Active Average Efficiency related to Erp	115/230 VAC (*1)	%		87 / 87			88 / 89
6 No Load Power Consumption	W			< 0.3 , Ta=25°C, Nominal Input and Output Voltage			
7 Input Voltage Range	(*)2)	-			85 - 265 VAC (47-63Hz)		
8 Input Current (Typ.)	115/230 VAC (*1)	A			0.6 / 0.4		
9 Inrush Current (Typ.)	(*)1)(*)3)	A			30 / 60 at Cold Start		
10 Output Voltage Range	-				Fixed (shipment condition : ±2.5%)		
11 Maximum Ripple & Noise(Ta>0°C/Ta<=0°C)(*1)(*4)(*5)	mV	120 / 200	150 / 200	150 / 200	150 / 200	200 / 300	200 / 300
12 Maximum Ripple & Noise (0%~35% Load) (*4)(*5)	mV	280	280	280	280	400	480
13 Maximum Line Regulation (*4)(*6)	mV	48	60	72	96	144	192
14 Maximum Load Regulation (*4)(*7)	mV	120	120	144	192	288	384
15 Temperature Coefficient (*4)	-				Less than 0.02% / °C		
16 Over Current Protection (*8)	-				>105% of Maximum Output Current . Class 2 limited power source		
17 Over Voltage Protection (*9)	-				Above 115% ~ , shutdown		
18 Hold-up time (Typ.)	115/230 VAC(*1)	ms			20 / 100		
19 Earth Leakage Current (*10)	-				0.25mA max @265VAC,60Hz		
20 Patient Leakage Current	-				100uA max @265VAC , 60Hz , Input to Output		
21 Parallel Operation	-				No		
22 Series Operation	-				Possible		
23 Operating Temperature (*11)	-				-20°C ~ +70°C		
24 Operating Humidity	-				10 - 90%RH (No condensing)		
25 Storage Temperature	-				-40°C ~ +85°C		
26 Storage Humidity	-				10 - 90%RH (No condensing)		
27 Operating Altitude	-				5000m, derating 5°C/1000m above 3000m		
28 Isolation Class / Class of Protection	-				Class I (L,N,FG) or ClassII (L,N)		
29 Cooling	-				Convection Cooling		
30 Withstand Voltage	-				Input-Output : 4kVAC (20mA) 2xMOPP, Input-FG : 2kVAC (20mA) 1xMOPP, Output-FG : 1.5kVAC (20mA) 1xMOPP		
31 Isolation Resistance	-				More than 100MΩ at 25°C,70%RH, Output - FG : 500VDC		
32 Vibration	-				At no operating, 10-500Hz (Sweep for 1min.) Maximum 19.6m/s ² X,Y,Z 1 hour each		
33 Shock	-				Less than 196m/s ²		
34 Safety	-				Approved by IEC/EN62368-1, UL62368-1, CSA62368-1 Approved by IEC/EN60601-1, ES60601-1, CSA-C22.2 No.60601-1		
35 Pollution	-				Degree 2, material group 3		
36 EMI (*1)	-				Designed to meet EN55011-B, EN55032-B, FCC-Class B		
37 Immunity	-				Designed to meet IEC61000-4-2 (Level 4,3), IEC61000-4-3 (Level 3), IEC61000-4-4 (Level 3), IEC61000-4-5 (Level 3,4), IEC61000-4-6 (Level 3), IEC61000-4-8 (Level 4) ,IEC60601-1-2 Ed.4, Criteria A		
38 Line voltage dip	-				SEMI47 (Input Voltage: 200VAC~240VAC)		
	-				Designed to meet IEC61000-4-11 (Class 3) : Criteria A : 200VAC~240VAC Criteria B : 100VAC~120VAC		
	-				Designed to meet IEC61000-4-11 (Class 2) : IEC60601-1-2 Ed.4 Criteria A : Input Voltage above 120VAC or output below 70% of Maximum Output Current Criteria B : Input Voltage below 120VAC and Output Current more than 70%		
39 Weight (Typ.)	g				65		
40 Size (L x W x H)	inch				3 x 2 x 1.18 (Refer to Outline Drawing)		

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

NOTES=

*1. At 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, input voltage range will be 100 ~ 240VAC (50-60Hz).

Output derating required when Vin is less than 115VAC, refer output derating curve for details.

*3. Not applicable for the in-rush current to noise filter for less than 0.2ms.

*4. Please refer to Fig. A for measurement of Vo, line and load regulation and ripple voltage.

*5. Ripple & noise are measured at 20MHz by using a 150mm twisted pair of load wires terminated with a 0.1uF and 47uF capacitor.

*6. 85~265VAC, constant load.

*7. No load - full load, constant input voltage.

*8. Hiccup with automatic recovery. Avoid operating at over load or short circuit condition.

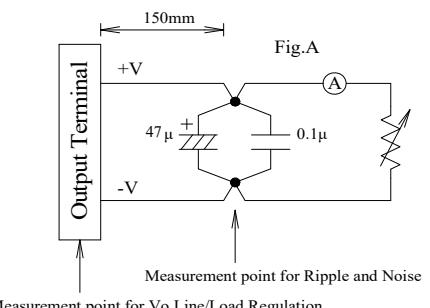
*9. OVP circuit shut down the output, manual reset (Re power on) to get output voltage.

*10. Measured by the each measuring method of UL, CSA, and EN (at 60Hz), Ta=25°C.

*11. Refer to output derating curve for details of output derating versus input voltage, ambient temperature and mounting method .

- Load (%) is percent of maximum output power or maximum output current. Do not exceed its derating of maximum Load.

- Maximum load start up at -30°C is possible. However, it may not fulfill all the specifications.



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OUTPUT DERATING

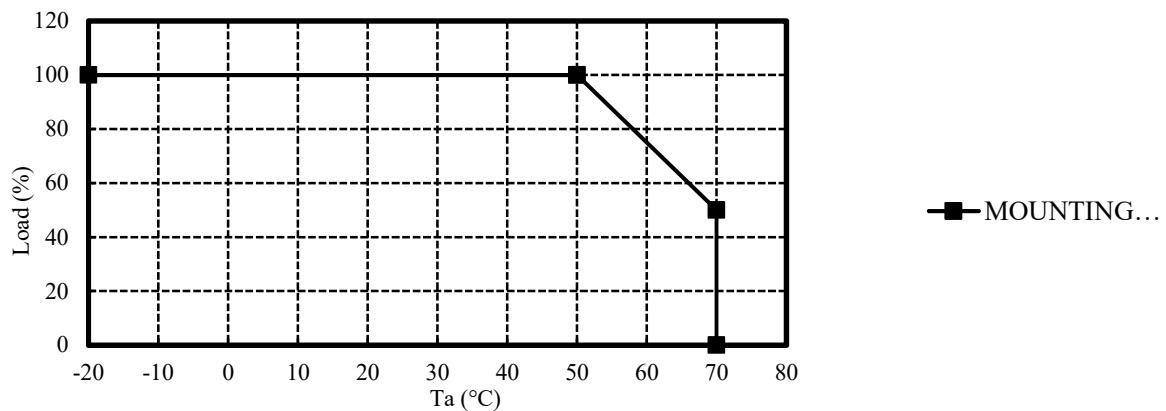
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OUTPUT DERATING VERSUS OPERATING AMBIENT TEMPERATURE(T_a)

1. CUS30M-12/P,15/P,24/P,36/P

* COOLING: CONVECTION COOLING

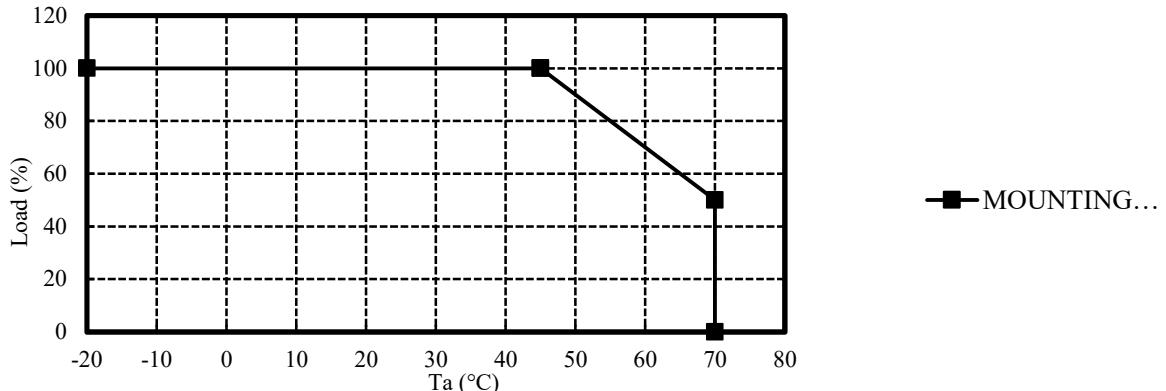
T _a (°C)	Load (%)
-20 - +50	100
70	50



2. CUS30M-18/P,48/P

* COOLING: CONVECTION COOLING

T _a (°C)	Load (%)
-20 - +45	100
70	50



CUS30M/P

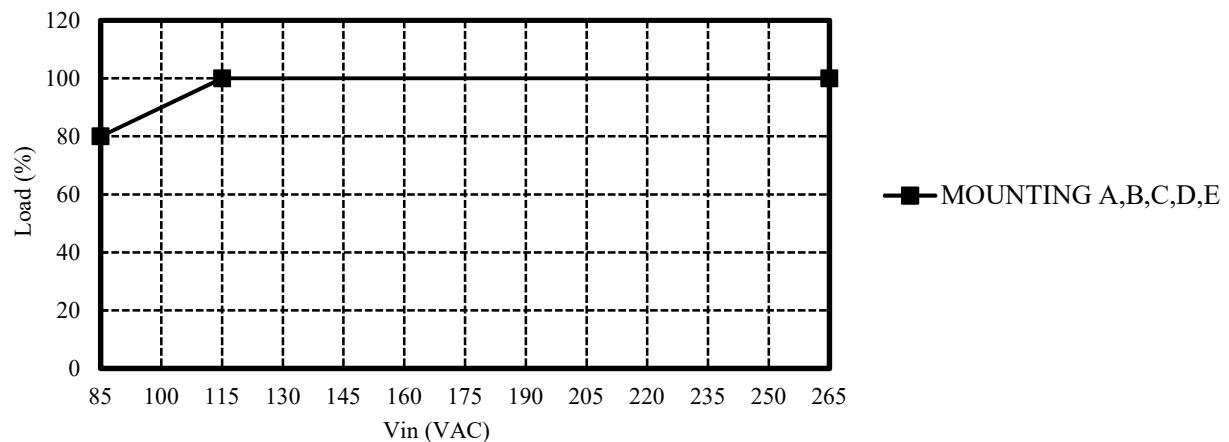
OUTPUT DERATING

CA851-01-03/P-A

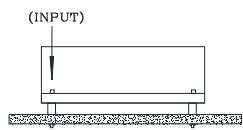
OUTPUT DERATING VERSUS INPUT VOLTAGE

CUS30M-12/P,15/P,18/P,24/P,36/P,48/P

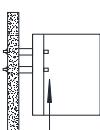
Input Voltage (VAC)	Load (%)
85	80
115~265	100



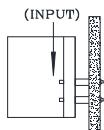
MOUNTING A
(STANDARD MOUNTING)



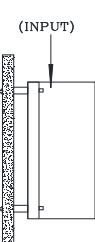
MOUNTING B



MOUNTING C



MOUNTING D



MOUNTING E

