

CUS60M

(Standard model JST connector)

SPECIFICATIONS

CA849-01-01

ITEMS		MODEL	CUS60M	CUS60M
1	Nominal Output Voltage	V	-12	-24
2	Maximum Output Current	A	12	24
3	Maximum Output Power	W	5	2.5
4	Efficiency (Typ.)	115/230 VAC (*1)	60	60
5	Active Average Efficiency related to Erp	115/230 VAC (*1)	87 / 88	89 / 90
6	No Load Power Consumption	W	87 / 86	88 / 87
7	Input Voltage Range	(*2)	< 0.5 , Ta=25°C, Nominal Input and Output Voltage	
8	Input Current (Typ.)	115/230 VAC (*1)	85 - 265 VAC (47-63Hz)	
9	Inrush Current (Typ.)	(*1)(*3)	1.2 / 0.8	
10	Output Voltage	-	30 / 60 at Cold Start	
11	Maximum Ripple & Noise(Ta>0°C/Ta<=0°C)(*1)(*4)(*5)	mV	Fixed	
12	Maximum Ripple & Noise (0%~35% Load)	(*4)(*5)	Shipment condition: 12V,24V: ±2.5%	
13	Maximum Line Regulation	(*4)(*6)	120 / 200	
14	Maximum Load Regulation	(*4)(*7)	150 / 500	
15	Temperature Coefficient	(*4)	280	
16	Over Current Protection	(*8)	48	
17	Over Voltage Protection	(*9)	192	
18	Hold-up time (Typ.)	115/230 VAC (*1)	Less than 0.02% / °C	
19	Earth Leakage Current	(*10)	>105% of Maximum Output Current . 12V,24V Class 2 limited power source	
20	Patient Leakage Current	-	Above 120% ~ , shutdown	
21	Parallel Operation	-	0.2mA max @265VAC,60Hz	
22	Series Operation	-	60uA max @265VAC , 60Hz , Input to Output	
23	Operating Temperature	(*11)	No	
24	Operating Humidity	-	Possible	
25	Storage Temperature	-	-20°C ~ +70°C	
26	Storage Humidity	-	10 - 90%RH (No condensing)	
27	Operating Altitude	-	-40°C ~ +85°C	
28	Isolation Class / Class of Protection	-	10 - 90%RH (No condensing)	
29	Cooling	-	5000m, derating 5°C/1000m above 3000m	
30	Withstand Voltage	-	Class I (L,N,FG) or ClassII (L,N)	
31	Isolation Resistance	-	Convection Cooling	
32	Vibration	-	Input-Output : 4kVAC (20mA) 2xMOPP, Input-FG : 2kVAC (20mA) 1xMOPP, Output-FG : 1.5kVAC (20mA) 1xMOPP	
33	Shock	-	More than 100MΩ at 25°C,70%RH, Output - FG : 500VDC	
34	Safety	-	At no operating, 10-500Hz (Sweep for 1min.) Maximum 19.6m/s ² X,Y,Z 1 hour each	
35	Pollution	-	Less than 196m/s ² , MIL-STD-810F	
36	EMI	(*1)	Approved by IEC60601-1 3rd Edition, EN60601-1 3rd Edition, ANSI/AAMI ES60601-1, CAN/CSA-C22.2 No.60601-1 3rd Edition(cTUVus), IEC/EN60950-1 2nd Edition, UL/CSA60950-1 2nd Edition(cTUVus)	
37	Immunity	-	Degree 2, material group 3	
38	Line voltage dip	-	Designed to meet EN55011-B, EN55032-B, FCC-Class B	
39	Weight (Typ.)	g	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	
40	Size (L x W x H)	inch	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%	
			120	
			3 x 2 x 1.05 (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 100VAC, 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.

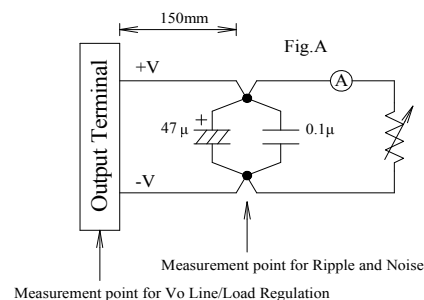
*9. OVP circuit shut down the output, manual reset (Re power on) to get output voltage.

*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.



CUS60M

OUTPUT DERATING

CA849-01-02

OUTPUT DERATING VERSUS OPERATING AMBIENT TEMPERATURE (Ta)

* COOLING: CONVECTION COOLING

12V Mounting A,B,C,D

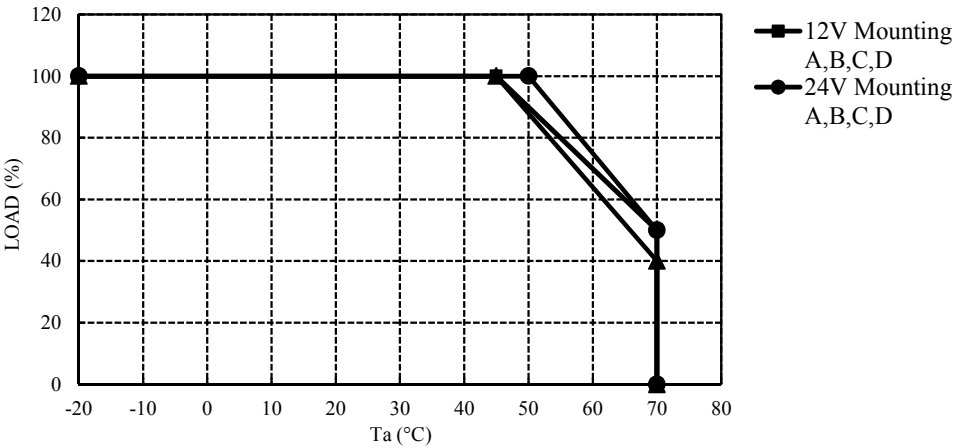
Ta (°C)	Load (%)
-20 - +45	100
60	70
70	50

24V Mounting A,B,C,D

Ta (°C)	Load (%)
-20 - +50	100
60	75
70	50

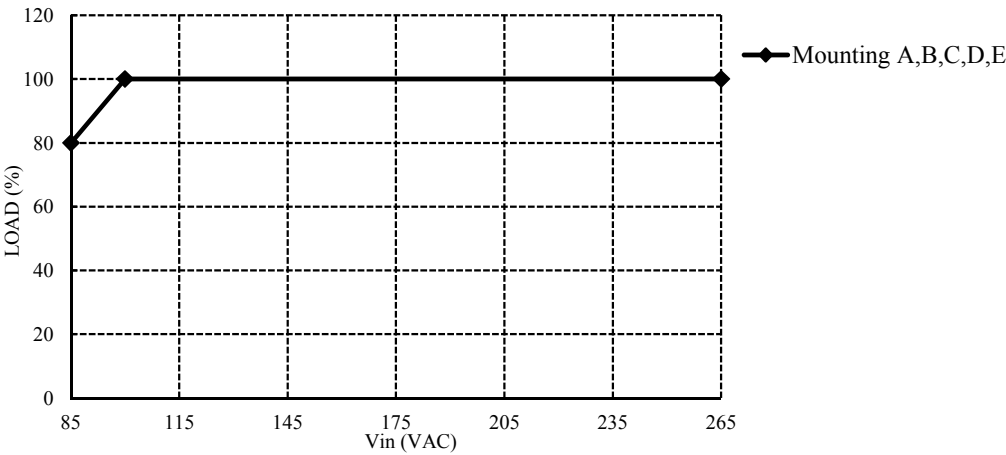
12V, 24V Mounting E

Ta (°C)	Load (%)
-20 - +45	100
60	65
70	40



OUTPUT DERATING VERSUS INPUT VOLTAGE
CUS60M-12 ONLY

INPUT VOLTAGE (VAC)	LOAD (%)
85	80
100~265	100



MOUNTING METHOD

