### **SPECIFICATIONS**

### A182-01-01B

Nominal Output Voltage		ITEMS	MODEL		JWS240P-24	JWS240P-48
2   Average Output Current   (*1)   A   20   10	1	Nominal Output Voltage		V	24	48
3   Peak Output Current	2	Average Output Current		Α		
4 Average Output Power	3	Peak Output Current	(*1)		20	10
S Peak Output Power			( - )			
6   Efficiency (Typ)			(*1)			
Right Voltage Range						
Ringut Current (100/200VAC)(Typ)	7	Input Voltage Range				
Pinush Current(Typ)	8					
Designed to meet EN61000-3-2			(*4)	-	20A at 100VAC,	40A at 200VAC
11   Power Factor (100/200VAC)(Typ)	10	PFHC		-		
12   Output Voltage Range	11	Power Factor (100/200VAC)(Typ)	(*2)	-		
(*5)         -10 - 0°C         mV         360         720           14         Maximum Line Regulation         (*6)         mV         96         192           15         Maximum Load Regulation         (*7)         mV         192         384           16         Temperature Coefficient         -         Less than 0.02%/°C           17         Over Current Protection         (*8)         A         20.4 -         10.2 -           18         Over Voltage Protection         (*9)         V         30.0 - 34.8         55.2 - 64.8           19         Hold-up Time (Typ)         (*10)         -         20ms           20         Leakage Current         (*11)         -         0.75mA MAX, 0.2mA(Typ) at 100VAC / 0.44mA(Typ) at 230VAC           21         Remote Sensing         -         Possible           22         Remote ON/OFF control         -         Possible           23         Monitoring Signal         -         -         PF (Open Collector Output)           24         Parallel Operation         -         -         -           24         Parallel Operation         -         -         -           26         Operating Temperature         (*12)         - </td <td>12</td> <td>Output Voltage Range</td> <td>` ` ` `</td> <td>V</td> <td>21.6 - 28.8</td> <td>43.2 - 52.8</td>	12	Output Voltage Range	` ` ` `	V	21.6 - 28.8	43.2 - 52.8
(*5)         -10 - 0°C         mV         360         720           14         Maximum Line Regulation         (*6)         mV         96         192           15         Maximum Load Regulation         (*7)         mV         192         384           16         Temperature Coefficient         -         Less than 0.02%/°C           17         Over Current Protection         (*8)         A         20.4 -         10.2 -           18         Over Voltage Protection         (*9)         V         30.0 - 34.8         55.2 - 64.8           19         Hold-up Time (Typ)         (*10)         -         20ms           20         Leakage Current         (*11)         -         0.75mA MAX, 0.2mA(Typ) at 100VAC / 0.44mA(Typ) at 230VAC           21         Remote Sensing         -         Possible           22         Remote ON/OFF control         -         Possible           23         Monitoring Signal         -         -         PF (Open Collector Output)           24         Parallel Operation         -         -         -           24         Parallel Operation         -         -         -           26         Operating Temperature         (*12)         - </td <td>13</td> <td>Maximum Ripple &amp; Noise</td> <td>0 - +65°C</td> <td>mV</td> <td>240</td> <td></td>	13	Maximum Ripple & Noise	0 - +65°C	mV	240	
14 Maximum Line Regulation         (*6) mV         96         192           15 Maximum Load Regulation         (*7) mV         192         384           16 Temperature Coefficient         -         Less than 0.02%/°C           17 Over Current Protection         (*8) A         20.4 -         10.2 -           18 Over Voltage Protection         (*9) V         30.0 - 34.8         55.2 - 64.8           19 Hold-up Time (Typ)         (*10) -         20ms           20 Leakage Current         (*11) -         0.75mA MAX, 0.2mA(Typ) at 100VAC / 0.44mA(Typ) at 230VAC           21 Remote Sensing         -         Possible           22 Remote ON/OFF control         -         Possible           23 Monitoring Signal         -         PF (Open Collector Output)           24 Parallel Operation         -         -           25 Series Operation         -         Possible           26 Operating Temperature         (*12) -         -10 - +65°C (-10 - +50°C:100%, +60°C:70%, +65°C:55%)           27 Operating Humidity         -         30 - 90%RH (No dewdrop)           28 Storage Temperature         -         -30 - +85°C           29 Storage Humidity         -         10 - 95%RH (No dewdrop)           30 Cooling         -         Forced Air By Blower Fan		(*5)			360	
15 Maximum Load Regulation         (*7) mV         192         384           16 Temperature Coefficient         -         Less than 0.02%/°C           17 Over Current Protection         (*8) A         20.4 -         10.2 -           18 Over Voltage Protection         (*9) V         30.0 - 34.8         55.2 - 64.8           19 Hold-up Time (Typ)         (*10) -         20ms           20 Leakage Current         (*11) -         0.75mA MAX, 0.2mA(Typ) at 100VAC / 0.44mA(Typ) at 230VAC           21 Remote Sensing         -         Possible           22 Remote ON/OFF control         -         Possible           23 Monitoring Signal         -         PF (Open Collector Output)           24 Parallel Operation         -         -           25 Series Operation         -         Possible           26 Operating Temperature         (*12) -         -10 - +65°C (-10 - +50°C:100%, +60°C:70%,+65°C:55%)           27 Operating Humidity         -         30 - 90%RH (No dewdrop)           28 Storage Temperature         -         -30 - +85°C           29 Storage Humidity         -         10 - 95%RH (No dewdrop)           30 Cooling         -         Forced Air By Blower Fan           31 Withstand Voltage         -         Input - FG:2kVAC(20mA), Input - Output:3kVAC (20mA) </td <td>14</td> <td>Maximum Line Regulation</td> <td>(*6)</td> <td>mV</td> <td></td> <td></td>	14	Maximum Line Regulation	(*6)	mV		
17 Over Current Protection         (*8) A         20.4 -         10.2 -           18 Over Voltage Protection         (*9) V         30.0 - 34.8         55.2 - 64.8           19 Hold-up Time (Typ)         (*10) -         20ms           20 Leakage Current         (*11) -         0.75mA MAX, 0.2mA(Typ) at 100VAC / 0.44mA(Typ) at 230VAC           21 Remote Sensing         -         Possible           22 Remote ON/OFF control         -         Possible           23 Monitoring Signal         -         PF (Open Collector Output)           24 Parallel Operation         -         -           25 Series Operation         -         Possible           26 Operating Temperature         (*12) -         -10 - +65°C (-10 - +50°C:100%, +60°C:70%, +65°C:55%)           27 Operating Humidity         -         30 - 90%RH (No dewdrop)           28 Storage Temperature         -         -30 - +85°C           29 Storage Humidity         -         10 - 95%RH (No dewdrop)           30 Cooling         -         Forced Air By Blower Fan           31 Withstand Voltage         -         Input - FG:2kVAC(20mA), Input - Output:3kVAC (20mA)           Output - FG:500VAC(100mA), Output-CNT:100VAC(100mA) for 1min.	15	Maximum Load Regulation	(*7)	mV	192	384
18 Over Voltage Protection         (*9) V         30.0 - 34.8         55.2 - 64.8           19 Hold-up Time (Typ)         (*10) -         20ms           20 Leakage Current         (*11) -         0.75mA MAX, 0.2mA(Typ) at 100VAC / 0.44mA(Typ) at 230VAC           21 Remote Sensing         -         Possible           22 Remote ON/OFF control         -         Possible           23 Monitoring Signal         -         PF (Open Collector Output)           24 Parallel Operation         -            25 Series Operation         -         Possible           26 Operating Temperature         (*12) -         -10 - +65°C (-10 - +50°C:100%, +60°C:70%, +65°C:55%)           27 Operating Humidity         -         30 - 90%RH (No dewdrop)           28 Storage Temperature         -         -30 - +85°C           29 Storage Humidity         -         10 - 95%RH (No dewdrop)           30 Cooling         -         Forced Air By Blower Fan           31 Withstand Voltage         -         Input - FG:2kVAC(20mA), Input - Output:3kVAC (20mA)           Output - FG:500VAC(100mA), Output-CNT:100VAC(100mA) for 1 min.	16	Temperature Coefficient		-	Less than	0.02%/°C
19 Hold-up Time (Typ)         (*10) -         20ms           20 Leakage Current         (*11) -         0.75mA MAX, 0.2mA(Typ) at 100VAC / 0.44mA(Typ) at 230VAC           21 Remote Sensing         -         Possible           22 Remote ON/OFF control         -         Possible           23 Monitoring Signal         -         PF (Open Collector Output)           24 Parallel Operation         -            25 Series Operation         -         Possible           26 Operating Temperature         (*12) -         -10 - +65°C (-10 - +50°C:100%, +60°C:70%, +65°C:55%)           27 Operating Humidity         -         30 - 90%RH (No dewdrop)           28 Storage Temperature         -         -30 - +85°C           29 Storage Humidity         -         10 - 95%RH (No dewdrop)           30 Cooling         -         Forced Air By Blower Fan           31 Withstand Voltage         -         Input - FG:2kVAC(20mA), Input - Output:3kVAC (20mA)           Output - FG:500VAC(100mA), Output-CNT:100VAC(100mA) for 1min.	17	Over Current Protection	(*8)	Α		10.2 -
20 Leakage Current (*11) - 0.75mA MAX, 0.2mA(Typ) at 100VAC / 0.44mA(Typ) at 230VAC 21 Remote Sensing - Possible  22 Remote ON/OFF control - Possible  23 Monitoring Signal - PF (Open Collector Output)  24 Parallel Operation  25 Series Operation - Possible  26 Operating Temperature (*12)10 - +65°C (-10 - +50°C:100%, +60°C:70%, +65°C:55%)  27 Operating Humidity - 30 - 90%RH (No dewdrop)  28 Storage Temperature30 - +85°C  29 Storage Humidity - 10 - 95%RH (No dewdrop)  30 Cooling - Forced Air By Blower Fan  31 Withstand Voltage - Input - FG:2kVAC(20mA), Input - Output:3kVAC (20mA)  Output - FG:500VAC(100mA), Output-CNT:100VAC(100mA) for 1min.			(*9)	V	30.0 - 34.8	55.2 - 64.8
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21 Remote Sensing         -         Possible           22 Remote ON/OFF control         -         Possible           23 Monitoring Signal         -         PF (Open Collector Output)           24 Parallel Operation         -            25 Series Operation         -         Possible           26 Operating Temperature         (*12) -         -10 - +65°C (-10 - +50°C:100%, +60°C:70%, +65°C:55%)           27 Operating Humidity         -         30 - 90%RH (No dewdrop)           28 Storage Temperature         -         -30 - +85°C           29 Storage Humidity         -         10 - 95%RH (No dewdrop)           30 Cooling         -         Forced Air By Blower Fan           31 Withstand Voltage         -         Input - FG:2kVAC(20mA), Input - Output:3kVAC (20mA)           Output - FG:500VAC(100mA), Output-CNT:100VAC(100mA) for 1min.         Output - FG:500VAC(100mA), Output-CNT:100VAC(100mA)	20	Leakage Current	(*11)	-	0.75mA MAX, 0.2mA(Typ) at 10	0VAC / 0.44mA(Typ) at 230VAC
23 Monitoring Signal       -       PF (Open Collector Output)         24 Parallel Operation       -          25 Series Operation       -       Possible         26 Operating Temperature       (*12) -       -10 - +65°C (-10 - +50°C:100%, +60°C:70%, +65°C:55%)         27 Operating Humidity       -       30 - 90%RH (No dewdrop)         28 Storage Temperature       -       -30 - +85°C         29 Storage Humidity       -       10 - 95%RH (No dewdrop)         30 Cooling       -       Forced Air By Blower Fan         31 Withstand Voltage       -       Input - FG:2kVAC(20mA), Input - Output:3kVAC (20mA)         Output - FG:500VAC(100mA), Output-CNT:100VAC(100mA) for 1min.       Output - FG:500VAC(100mA), Output-CNT:100VAC(100mA)	21	Remote Sensing		-		
23 Monitoring Signal       -       PF (Open Collector Output)         24 Parallel Operation       -          25 Series Operation       -       Possible         26 Operating Temperature       (*12) -       -10 - +65°C (-10 - +50°C:100%, +60°C:70%, +65°C:55%)         27 Operating Humidity       -       30 - 90%RH (No dewdrop)         28 Storage Temperature       -       -30 - +85°C         29 Storage Humidity       -       10 - 95%RH (No dewdrop)         30 Cooling       -       Forced Air By Blower Fan         31 Withstand Voltage       -       Input - FG:2kVAC(20mA), Input - Output:3kVAC (20mA)         Output - FG:500VAC(100mA), Output-CNT:100VAC(100mA) for 1min.       Output - FG:500VAC(100mA), Output-CNT:100VAC(100mA)	22	Remote ON/OFF control		-	Pos	sible
24 Parallel Operation       -          25 Series Operation       -       Possible         26 Operating Temperature       (*12)       -       -10 - +65°C (-10 - +50°C:100%, +60°C:70%, +65°C:55%)         27 Operating Humidity       -       30 - 90%RH (No dewdrop)         28 Storage Temperature       -       -30 - +85°C         29 Storage Humidity       -       10 - 95%RH (No dewdrop)         30 Cooling       -       Forced Air By Blower Fan         31 Withstand Voltage       -       Input - FG:2kVAC(20mA), Input - Output:3kVAC (20mA)         Output - FG:500VAC(100mA), Output-CNT:100VAC(100mA) for 1min.				-	PF (Open Col	lector Output)
25         Series Operation         -         Possible           26         Operating Temperature         (*12)         -         -10 - +65°C (-10 - +50°C:100%, +60°C:70%, +65°C:55%)           27         Operating Humidity         -         30 - 90%RH (No dewdrop)           28         Storage Temperature         -         -30 - +85°C           29         Storage Humidity         -         10 - 95%RH (No dewdrop)           30         Cooling         -         Forced Air By Blower Fan           31         Withstand Voltage         -         Input - FG:2kVAC(20mA), Input - Output:3kVAC (20mA)           Output - FG:500VAC(100mA), Output-CNT:100VAC(100mA) for 1min.         Output - FG:500VAC(100mA), Output-CNT:100VAC(100mA)	24	Parallel Operation		-		
27 Operating Humidity-30 - 90%RH (No dewdrop)28 Storage Temperature30 - +85°C29 Storage Humidity-10 - 95%RH (No dewdrop)30 Cooling-Forced Air By Blower Fan31 Withstand Voltage-Input - FG:2kVAC(20mA), Input - Output:3kVAC (20mA)Output - FG:500VAC(100mA), Output-CNT:100VAC(100mA) for 1min.	25	Series Operation		-		
28 Storage Temperature 29 Storage Humidity 30 Cooling 31 Withstand Voltage  - 30 - +85°C  - 10 - 95%RH (No dewdrop)  - Forced Air By Blower Fan  - Input - FG:2kVAC(20mA), Input - Output:3kVAC (20mA)  Output - FG:500VAC(100mA), Output-CNT:100VAC(100mA) for 1min.	26	Operating Temperature	(*12)	-	-10 - +65°C ( -10 - +50°C:100	0%, +60°C:70%,+65°C:55%)
29 Storage Humidity 30 Cooling - Forced Air By Blower Fan 31 Withstand Voltage - Input - FG:2kVAC(20mA), Input - Output:3kVAC (20mA) Output - FG:500VAC(100mA), Output-CNT:100VAC(100mA) for 1min.				-	30 - 90%RH (	(No dewdrop)
30 Cooling   Forced Air By Blower Fan   Sign of the stand Voltage   Input - FG:2kVAC(20mA), Input - Output:3kVAC (20mA)   Output - FG:500VAC(100mA), Output-CNT:100VAC(100mA) for 1min.	28	Storage Temperature		-		
31 Withstand Voltage  - Input - FG:2kVAC(20mA), Input - Output:3kVAC (20mA) Output - FG:500VAC(100mA), Output-CNT:100VAC(100mA) for 1min.	29	Storage Humidity		-	10 - 95%RH	(No dewdrop)
Output - FG:500VAC(100mA), Output-CNT:100VAC(100mA) for 1min.	30	Cooling				
	31	Withstand Voltage		-		
32 Isolation Registance More than 100MO Output FG 500VDC					Output - FG:500VAC(100mA), Outp	out-CNT:100VAC(100mA) for 1min.
32  Isolation Resistance   -   Iviole than 1001vis2 Output - FO 500 VDC	32	Isolation Resistance		-	More than 100MΩ Ou	ıtput - FG 500VDC
More than 10MΩ Output - CNT 100VDC at 25°C and 70%RH  33 Vibration  - At no operating, 10 - 55Hz (Sweep for 1min)					More than $10M\Omega$ Output - CNT	100VDC at 25°C and 70%RH
	33	Vibration		-		
19.6 m/s <sup>2</sup> Constant, X, Y, Z 1h each.	L				19.6 m/s <sup>2</sup> Constant	t, X, Y, Z 1h each.
34 Shock (In package) - Less than $196.1 \text{m/s}^2$	34				Less than	$196.1 \text{m/s}^2$
35 Safety (*13) - Approved by UL60950-1, CSA C22.2 No.60950 & EN60950-1.	35	Safety	(*13)	-		
Designed to meet DENAN.		-	` '		Designed to n	neet DENAN.
36 Conducted Emission - Designed to meet EN55011/EN55022-A, FCC-ClassA, VCCI-A.	36	Conducted Emission		-	Designed to meet EN55011/EN5	5022-A, FCC-ClassA, VCCI-A.
37 Radiated Emission - Designed to meet EN55011/EN55022-A, FCC-ClassA, VCCI-A.				-		
38 Weight (Typ.) - 1900g				-	190	00g
39 Size (W x H x D) mm 120 x 92 x 190 ( Refer to Outline Drawing )				mm	120 x 92 x 190 ( Refer	r to Outline Drawing)

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

=NOTES=

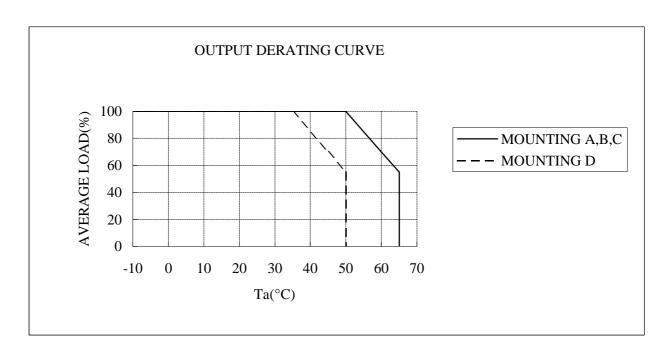
- \*1. Operating time at peak output is less than 10sec.(Duty<=0.5)
- \*2. At 100/200VAC, Ta=25°C and average output power.
- \*3. For cases where conformance to various safety specifications (UL, CSA, EN) are required, input voltage range will be 100 240VAC(50/60Hz).
- \*4. First in-rush current. Not applicable for the in-rush current to Noise Filter less than 0.2ms.
- \*5. Measure with JEITA RC-9131 probe, Bandwidth of scope :100MHz.
- \*6. 85 265VAC, constant load.
- \*7. No load Average load, constant input voltage.
- \*8. Constant current limit with automatic recovery.
  - Peak current conditions more than 10 seconds, which will shut down output, manual reset(Line recycle).
- \*9. OVP circuit will shut down output, manual reset (Line recycle).
- \*10. At 100/200VAC nominal output voltage and average output current.
- \*11. Measured by the each measuring method of UL, CSA, EN and DENAN (at 60Hz).
- \*12. Ratings Derating at standard mounting.
  - Load (%) is percent of average output power or averge output current, whichever is greater.
  - As for other mountings, refer to derating curve (A182-01-02\_).
- \*13. As for DENAN, designed to meet at 100VAC.

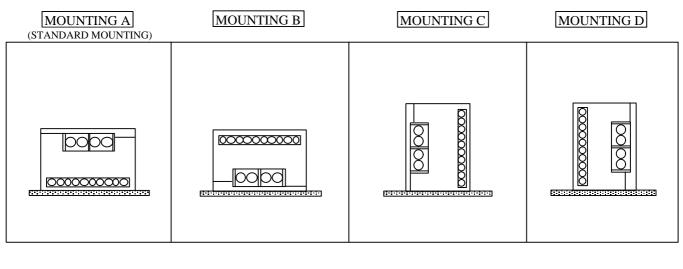
# **JWS 240P**

A182-01-02

## **OUTPUT DERATING**

		AVERAGE	LOAD(%)	
Ta(°C)	MOUNTING A	MOUNTING B	MOUNTING C	MOUNTING D
-10 ~+35	100	100	100	100
45	100	100	100	70
50	100	100	100	55
60	70	70	70	-
65	55	55	55	_





### **SPECIFICATIONS**

#### A182-01-03A

ITEMS MODEL		JWS240P-36
1 Nominal Output Voltage		36V
2 Average Output Current		6.65A
3 Peak Output Current (*1)		13.3A
4 Average Output Power	-	239.4W
5 Peak Output Power (*1)	-	478.8W
6 Efficiency (Typ) (*2)	-	80%
7 Input Voltage Range (*3)	-	85 - 265VAC (47 - 63Hz)
8 Input Current (100/200VAC)(Typ) (*2)	Ā	3.2/1.6
9 Inrush Current(Typ) (*4)	-	20A at 100VAC, 40A at 200VAC
10 PFHC	_	Designed to meet EN61000-3-2
11 Power Factor (100/200VAC)(Typ) (*2)	-	0.99/0.95
12 Output Voltage Range	V	32.4 - 43.2
13 Maximum Ripple & Noise 0 - +65°C	<u> </u>	32.4-43.2 360mV
(*5) -10 - 0°C	_	540mV
14 Maximum Line Regulation (*6)	-	144mV
15 Maximum Load Regulation (*7)	-	288mV
16 Temperature Coefficient	-	Less than 0.02%/°C
17 Over Current Protection (*8)	-	13.7A -
18 Over Voltage Protection (*9)	V	45.0 - 52.2
19 Hold-up Time (Typ) (*10)	-	45.0 - 52.2 20ms
20 Leakage Current (*11)	-	0.75mA MAX, 0.2mA(Typ) at 100VAC / 0.44mA(Typ) at 230VAC
21 Remote Sensing	-	Possible
22 Remote ON/OFF control	-	Possible
23 Monitoring Signal	_	PF (Open Collector Output)
24 Parallel Operation	-	FF (Open Conector Output)
25 Series Operation	-	Possible
26 Operating Temperature (*12)	_	-10 - +65°C ( -10 - +50°C:100%, +60°C:70%,+65°C:55% )
27 Operating Humidity (*12)	-	30 - 90%RH (No dewdrop)
28 Storage Temperature	-	-30 - +85°C
29 Storage Humidity	-	10 - 95%RH (No dewdrop)
30 Cooling		Forced Air By Blower Fan
31 Withstand Voltage	-	Input - FG:2kVAC(20mA), Input - Output:3kVAC (20mA)
31 Willistand Voltage	-	Output - FG:500VAC(100mA), Output-CNT:100VAC(100mA) for 1min.
32 Isolation Resistance		More than 100MΩ Output - FG 500VDC
32 Isolation Resistance	-	
33 Vibration		More than 10MΩ Output - CNT 100VDC at 25°C and 70%RH At no operating, 10 - 55Hz (Sweep for 1min)
33 VIDIALION	-	19.6 m/s <sup>2</sup> Constant, X, Y, Z 1h each.
34 Shock (In package)	-	Less than 196.1 m/s <sup>2</sup>
35 Safety (*13)	-	Approved by UL60950-1, CSA C22.2 No.60950 & EN60950-1.
		Designed to meet DENAN.
36 Conducted Emission	-	Designed to meet EN55011/EN55022-A, FCC-ClassA, VCCI-A.
37 Radiated Emission		Designed to meet EN55011/EN55022-A, FCC-ClassA, VCCI-A.
38 Weight (Typ.)	_	1900g
39 Size (W x H x D)	- mm	
*Pand instruction manual carefully before using the		

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

=NOTES=

- \*1. Operating time at peak output is less than 10sec.(Duty<=0.5)
- \*2. At 100/200VAC, Ta=25°C and average output power.
- \*3. For cases where conformance to various safety specifications (UL, CSA, EN) are required, input voltage range will be 100 240VAC(50/60Hz).
- \*4. First in-rush current. Not applicable for the in-rush current to Noise Filter less than 0.2ms.
- \*5. Measure with JEITA RC-9131 probe, Bandwidth of scope :100MHz.
- \*6. 85 265VAC, constant load.
- \*7. No load Average load, constant input voltage.
- \*8. Constant current limit with automatic recovery.
  - Peak current conditions more than 10 seconds, which will shut down output, manual reset(Line recycle).
- \*9. OVP circuit will shut down output, manual reset (Line recycle).
- \*10. At 100/200VAC nominal output voltage and average output current.
- \*11. Measured by the each measuring method of UL, CSA, EN and DENAN (at 60Hz).
- \*12. Ratings Derating at standard mounting.
  - Load (%) is percent of average output power or averge output current, whichever is greater.
  - As for other mountings, refer to derating curve (A182-01-02\_).
- \*13. As for DENAN, designed to meet at 100VAC.