

### ■ Features :

- AC input range selected by switch
- Protections: Short circuit/Over load/Over voltage
- Cooling by free air convection
- 100% full load burn-in test
- Fixed switching frequency at 28KHz
- 2 years warranty

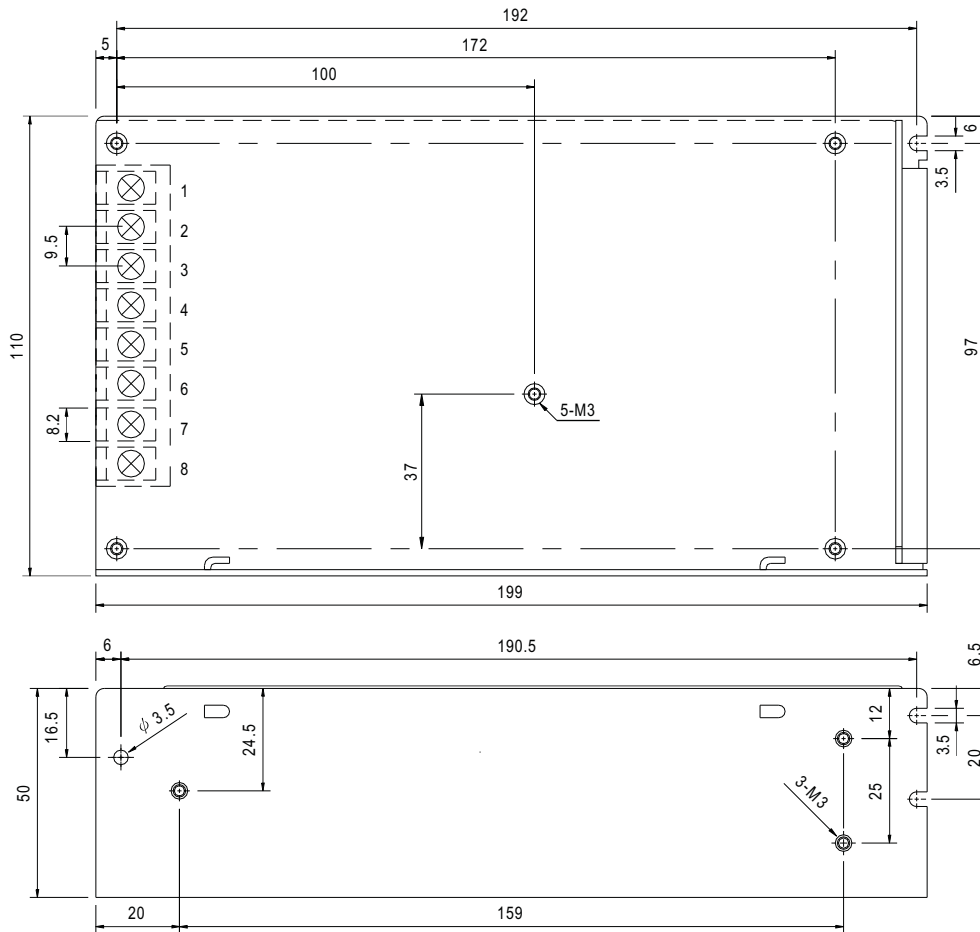


### SPECIFICATION

MODEL		AD-120A		AD-120B	
OUTPUT	OUTPUT NUMBER	CH1	CH2	CH1	CH2
	DC VOLTAGE	5V	12V	5V	24V
	RATED CURRENT	12A	5A	6A	4A
	CURRENT RANGE	2 ~ 12A	0.5 ~ 5A	2 ~ 10A	0.4 ~ 4A
	RATED POWER	120W		126W	
	RIPPLE & NOISE (max.) Note.2	60mVp-p	120mVp-p	60mVp-p	150mVp-p
	VOLTAGE ADJ. RANGE	CH1: 4.75 ~ 5.5V			
	VOLTAGE TOLERANCE Note.3	±2.0%	±6.0%	±2.0%	±7.0%
	LINE REGULATION	±0.5%	±1.0%	±0.5%	±1.0%
	LOAD REGULATION	±0.5%	±5.0%	±0.5%	±6.0%
SETUP, RISE, HOLD TIME	200ms, 50ms, 20ms at full load				
INPUT	VOLTAGE RANGE	88 ~ 132VAC/176 ~ 264VAC selected by switch		248 ~ 370VDC	
	FREQUENCY RANGE	47 ~ 63Hz			
	EFFICIENCY (Typ.)	78%		80%	
	AC CURRENT	2.8A/115VAC	1.6A/230VAC		
	INRUSH CURRENT (max.)	COLD START 35A			
	LEAKAGE CURRENT	<3.5mA / 240VAC			
PROTECTION	OVER LOAD	105 ~ 135% rated output power Protection type : Shut down o/p voltage, re-power on to recover			
	OVER VOLTAGE	CH1: 5.75 ~ 6.75VDC Protection type : Shut down o/p voltage, re-power on to recover			
ENVIRONMENT	WORKING TEMP.	-10 ~ +60°C (Refer to output load derating curve)			
	WORKING HUMIDITY	20 ~ 90% RH non-condensing			
	STORAGE TEMP., HUMIDITY	-20 ~ +85°C, 10 ~ 95% RH			
	TEMP. COEFFICIENT	±0.03%/°C (0~50°C) on +5V output			
	VIBRATION	10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes			
SAFETY & EMC (Note 4)	SAFETY STANDARDS	UL60950-1, TUV EN60950-1 Approved			
	WITHSTAND VOLTAGE	I/P-O/P: 3KVAC I/P-FG: 1.5KVAC O/P-FG: 0.5KVAC			
	ISOLATION RESISTANCE	I/P-O/P, I/P-FG, O/P-FG: 100M Ohms/500VDC			
	EMI CONDUCTION & RADIATION	Compliance to EN55022 (CISPR22) Class B			
	HARMONIC CURRENT	Compliance to EN61000-3-2, -3			
	EMS IMMUNITY	Compliance to EN61000-4-2, 3, 4, 5, 6, 8, 11; ENV50204, EN55024, Light industry level, criteria A			
OTHERS	MTBF	272.8K hrs min. MIL-HDBK-217F (25°C)			
	DIMENSION	199*110*50mm (L*W*H)			
	PACKING	0.82Kg; 16pcs/14.2Kg/0.95CUFT			
NOTE	<ol style="list-style-type: none"> <li>1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature.</li> <li>2. Ripple &amp; noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uF &amp; 47uF parallel capacitor.</li> <li>3. Tolerance : includes set up tolerance, line regulation and load regulation.</li> <li>4. The power supply is considered a component which will be installed into a final equipment. The final equipment must be re-confirmed that it still meets EMC directives.</li> </ol>				

### Mechanical Specification

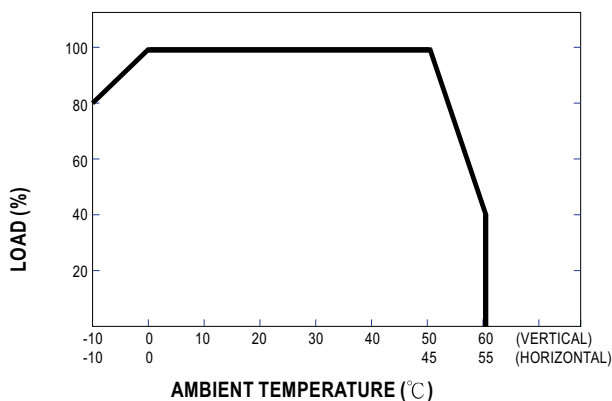
Case No. 906 Unit:mm



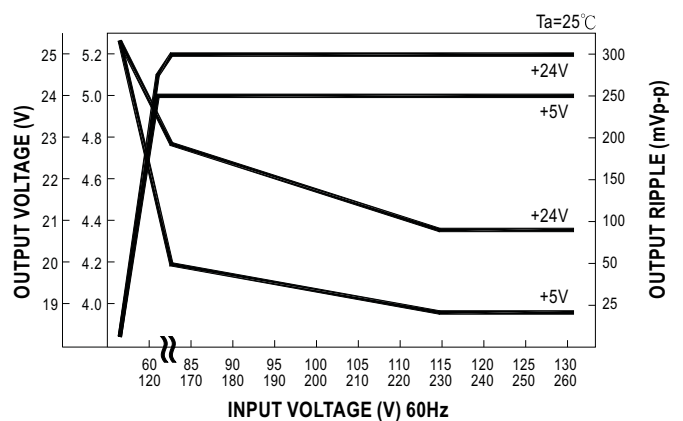
Terminal Pin. No Assignment

Pin No.	Assignment	Pin No.	Assignment
1	AC/L	4	DC OUTPUT +V2
2	AC/N	5,6	DC OUTPUT COM
3	FG $\perp$	7,8	DC OUTPUT +V1

### Derating Curve



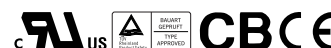
### Static Characteristics(B)





### ■ Features :

- AC input range selected by switch
- Protections: Short circuit/Over load/Over voltage
- 100% full load burn-in test
- Fixed switching frequency at 25KHz
- 2 years warranty

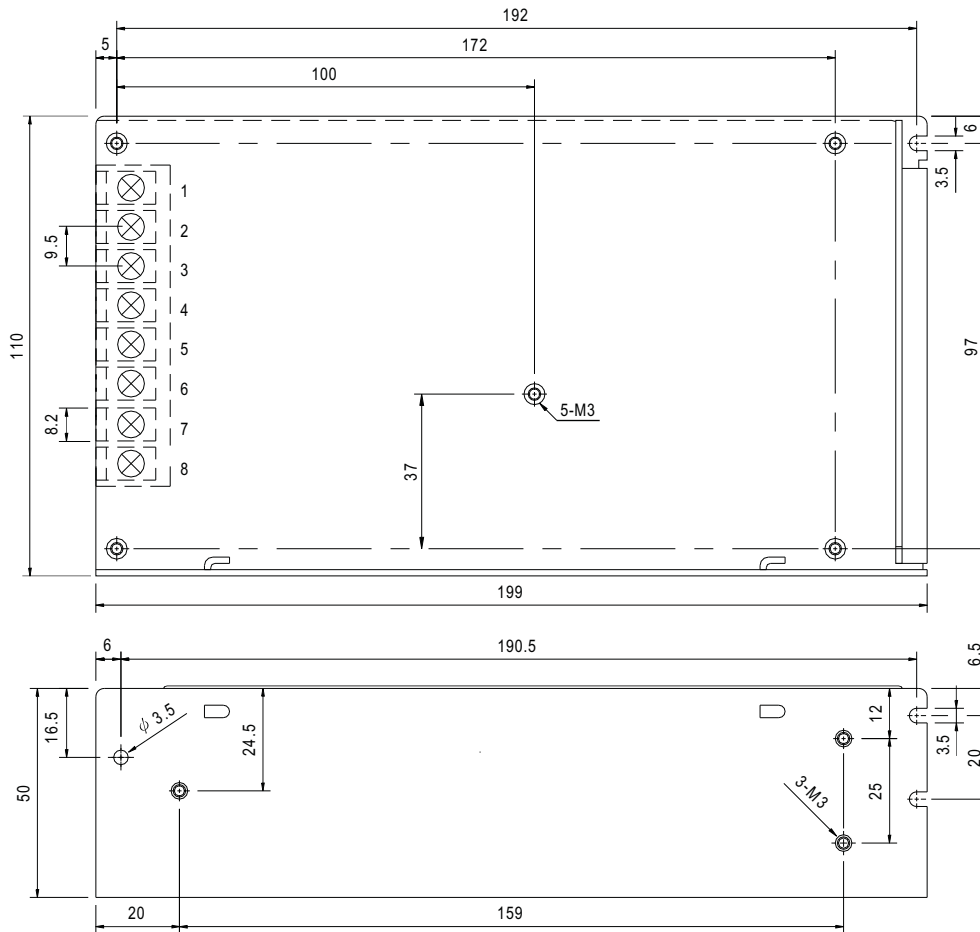


### SPECIFICATION

MODEL	AT-120A			AT-120B			AT-120C			AT-120D							
OUTPUT	OUTPUT NUMBER	CH1	CH2	CH3	CH1	CH2	CH3	CH1	CH2	CH3	CH1	CH2	CH3				
	DC VOLTAGE	5V	12V	-5V	5V	12V	-12V	5V	15V	-15V	5V	12V	24V				
	RATED CURRENT	11A	5A	1A	11A	4.5A	1A	10A	3.5A	1A	8A	2.5A	2A				
	CURRENT RANGE	2 ~ 12A	0.5 ~ 5A	0.2 ~ 1A	2 ~ 12A	0.5 ~ 5A	0.2 ~ 1A	2 ~ 12A	0.5 ~ 5A	0.2 ~ 1A	2 ~ 12A	0.2 ~ 5A	0.2 ~ 2A				
	RATED POWER	120W			121W			117.5W			118W						
	RIPPLE & NOISE (max.) Note.2	80mVp-p	120mVp-p	80mVp-p	80mVp-p	120mVp-p	120mVp-p	80mVp-p	150mVp-p	150mVp-p	80mVp-p	120mVp-p	180mVp-p				
	VOLTAGE ADJ. RANGE	CH1: 4.75 ~ 5.5V															
	VOLTAGE TOLERANCE Note.3	±2.0%	±6.0%	±6.0%	±2.0%	±6.0%	±6.0%	±2.0%	+10,-5%	+10,-5%	±2.0%	±6.0%	±6.0%				
	LINE REGULATION	±0.5%	±1.0%	±1.0%	±0.5%	±1.0%	±1.0%	±0.5%	±1.0%	±1.0%	±0.5%	±1.0%	±1.0%				
	LOAD REGULATION	±0.5%	±5.0%	±5.0%	±0.5%	±5.0%	±5.0%	±0.5%	±6.0%	±6.0%	±0.5%	±5.0%	±5.0%				
SETUP, RISE, HOLD TIME	800ms, 20ms, 20ms/230VAC      1600ms, 20ms, 12ms/115VAC at full load																
INPUT	VOLTAGE RANGE	88 ~ 132VAC/176 ~ 264VAC selected by switch      240 ~ 370VDC															
	FREQUENCY RANGE	47 ~ 63Hz															
	EFFICIENCY (Typ.)	77%			77%			76%			80%						
	AC CURRENT	2.8A/115VAC		1.6A/230VAC													
	INRUSH CURRENT (max.)	COLD START 35A															
	LEAKAGE CURRENT	<3.5mA / 240VAC															
PROTECTION	OVER LOAD	105 ~ 135% rated output power Protection type : Shut down o/p voltage, re-power on to recover															
	OVER VOLTAGE	CH1: 5.75 ~ 6.75VDC Protection type : Shut down o/p voltage, re-power on to recover															
ENVIRONMENT	WORKING TEMP.	-10 ~ +60°C (Refer to output load derating curve)															
	WORKING HUMIDITY	20 ~ 90% RH non-condensing															
	STORAGE TEMP., HUMIDITY	-20 ~ +85°C, 10 ~ 95% RH															
	TEMP. COEFFICIENT	±0.03%/°C (0~50°C)															
	VIBRATION	10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes															
SAFETY & EMC (Note 4)	SAFETY STANDARDS	UL60950-1, TUV EN60950-1 Approved															
	WITHSTAND VOLTAGE	I/P-O/P:3KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC															
	ISOLATION RESISTANCE	I/P-O/P, I/P-FG, O/P-FG:100M Ohms/500VDC															
	EMI CONDUCTION & RADIATION	Compliance to EN55022 (CISPR22) Class B															
	HARMONIC CURRENT	Compliance to EN61000-3-2,-3															
	EMS IMMUNITY	Compliance to EN61000-4-2,3,4,5,6,8,11; ENV50204, EN55024, Light industry level, criteria A															
OTHERS	MTBF	274.5K hrs min. MIL-HDBK-217F (25°C)															
	DIMENSION	199*110*50mm (L*W*H)															
	PACKING	0.83Kg; 16pcs/14.2Kg/0.95CUFT															
NOTE	<ol style="list-style-type: none"> <li>All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature.</li> <li>Ripple &amp; noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uF &amp; 47uF parallel capacitor.</li> <li>Tolerance : includes set up tolerance, line regulation and load regulation.</li> <li>The power supply is considered a component which will be installed into a final equipment. The final equipment must be re-confirmed that it still meets EMC directives.</li> </ol>																

### Mechanical Specification

Case No. 906 Unit:mm

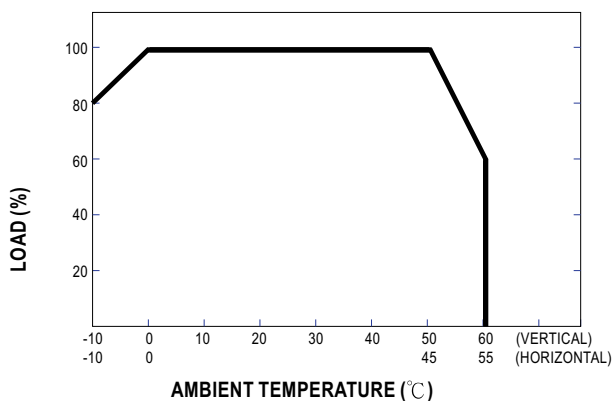


Terminal Pin. No Assignment

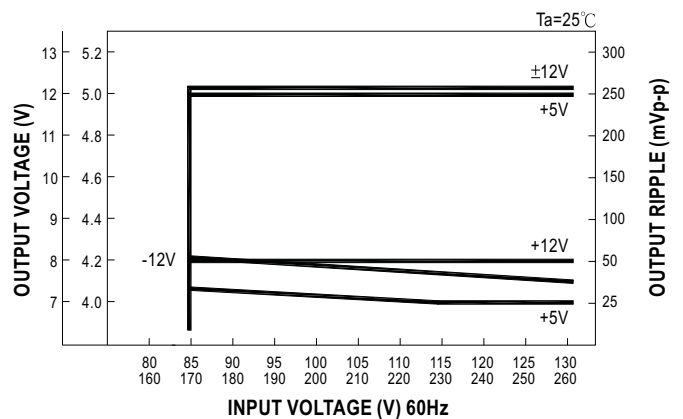
Pin No.	Assignment	Pin No.	Assignment
1	AC/L	4,5,6	DC OUTPUT
2	AC/N	7	DC OUTPUT COM
3	FG $\perp$	8	DC OUTPUT +5V

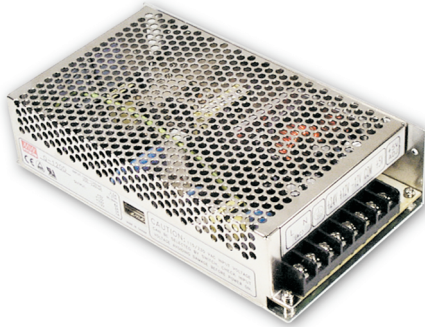
MODEL	T-120A	T-120B	T-120C	T-120D
Pin No. 4	+12V	+12V	+15V	+24V
Pin No. 5	NC	-12V	-15V	+12V
Pin No. 6	-5V	NC	NC	NC

### Derating Curve



### Static Characteristics(B)





### ■ Features :

- AC input range selected by switch
- Protections: Short circuit/Over load/Over voltage
- 100% full load burn-in test
- Fixed switching frequency at 25KHz
- 2 years warranty

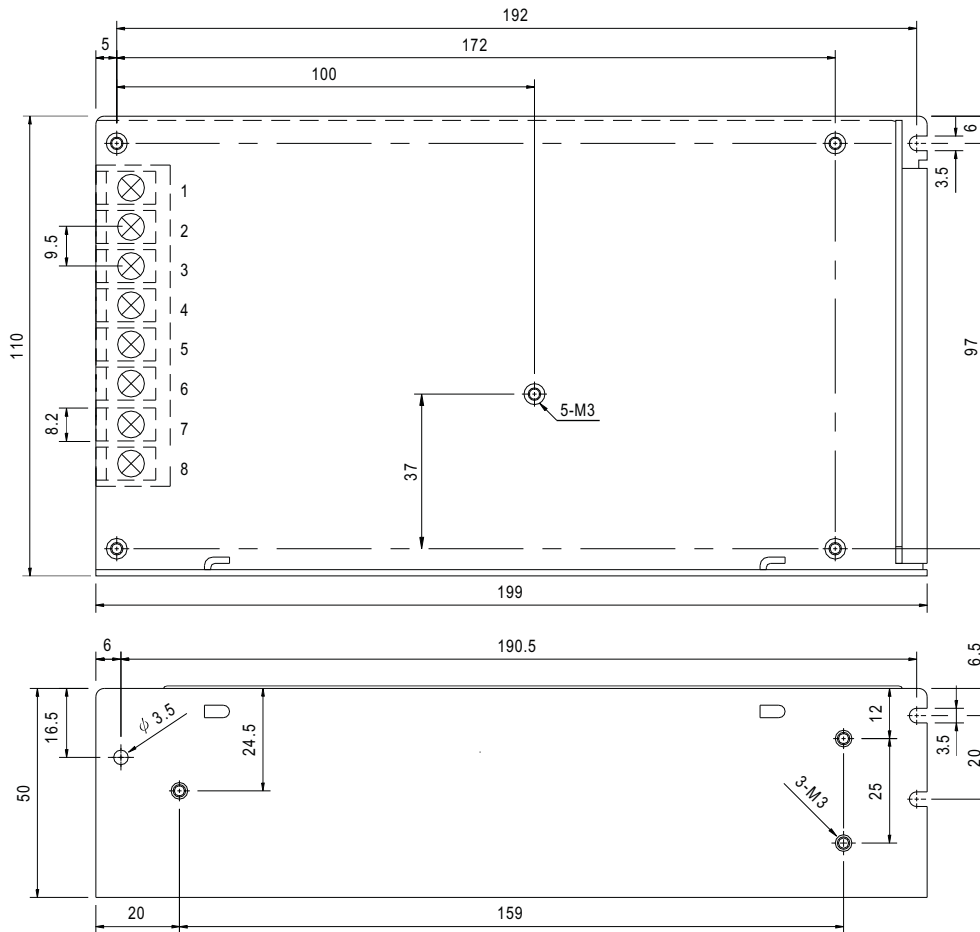


### SPECIFICATION

MODEL		AQ-120B				AQ-120C				AQ-120D							
OUTPUT	OUTPUT NUMBER	CH1	CH2	CH3	CH4	CH1	CH2	CH3	CH4	CH1	CH2	CH3	CH4				
	DC VOLTAGE	5V	12V	-5V	-12V	5V	15V	-5V	-15V	5V	12V	24V	-12V				
	RATED CURRENT	11A	4A	1A	1A	10A	3.5A	1A	1A	8A	2A	2A	1A				
	CURRENT RANGE	2 ~ 12A	0.5 ~ 5A	0.2 ~ 1A	0.2 ~ 1A	2 ~ 12A	0.5 ~ 5A	0.2 ~ 1A	0.2 ~ 1A	2 ~ 12A	0.2 ~ 5A	0.2 ~ 2A	0.2 ~ 1A				
	RATED POWER	120W				122.5W				124W							
	RIPPLE & NOISE (max.) Note.2	80mVp-p	120mVp-p	80mVp-p	120mVp-p	80mVp-p	150mVp-p	80mVp-p	150mVp-p	80mVp-p	120mVp-p	180mVp-p	120mVp-p				
	VOLTAGE ADJ. RANGE	CH1: 4.75 ~ 5.5V															
	VOLTAGE TOLERANCE Note.3	±2.0%	±6.0%	±6.0%	±6.0%	±2.0%	+10,-5%	±6.0%	+10,-5%	±2.0%	±6.0%	±6.0%	±6.0%				
	LINE REGULATION	±0.5%	±1.0%	±1.0%	±1.0%	±0.5%	±1.0%	±1.0%	±1.0%	±0.5%	±1.0%	±1.0%	±1.0%				
	LOAD REGULATION	±0.5%	±5.0%	±5.0%	±5.0%	±0.5%	±6.0%	±5.0%	±6.0%	±0.5%	±5.0%	±5.0%	±5.0%				
SETUP, RISE, HOLD TIME	200ms, 50ms, 20ms at full load																
INPUT	VOLTAGE RANGE	88 ~ 132VAC/176 ~ 264VAC selected by switch				240 ~ 370VDC											
	FREQUENCY RANGE	47 ~ 63Hz															
	EFFICIENCY (Typ.)	77%				76%				80%							
	AC CURRENT	2.8A/115VAC		1.6A/230VAC													
	INRUSH CURRENT (max.)	COLD START 35A															
	LEAKAGE CURRENT	<3.5mA / 240VAC															
PROTECTION	OVER LOAD	105 ~ 135% rated output power Protection type : Shut down o/p voltage, re-power on to recover															
	OVER VOLTAGE	CH1: 5.75 ~ 6.75VDC Protection type : Shut down o/p voltage, re-power on to recover															
ENVIRONMENT	WORKING TEMP.	-10 ~ +60°C (Refer to output load derating curve)															
	WORKING HUMIDITY	20 ~ 90% RH non-condensing															
	STORAGE TEMP., HUMIDITY	-20 ~ +85°C, 10 ~ 95% RH															
	TEMP. COEFFICIENT	±0.03%/°C (0~50°C)															
	VIBRATION	10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes															
SAFETY & EMC (Note 4)	SAFETY STANDARDS	UL60950-1, TUV EN60950-1 Approved															
	WITHSTAND VOLTAGE	I/P-O/P: 3KVAC I/P-FG: 1.5KVAC O/P-FG: 0.5KVAC															
	ISOLATION RESISTANCE	I/P-O/P, I/P-FG, O/P-FG: 100M Ohms/500VDC															
	EMI CONDUCTION & RADIATION	Compliance to EN55022 (CISPR22) Class B															
	HARMONIC CURRENT	Compliance to EN61000-3-2,-3															
	EMS IMMUNITY	Compliance to EN61000-4-2,3,4,5,6,8,11; ENV50204, EN55024, Light industry level, criteria A															
OTHERS	MTBF	261.4K hrs min. MIL-HDBK-217F (25°C)															
	DIMENSION	199*110*50mm (L*W*H)															
	PACKING	0.86Kg; 16pcs/14.7Kg/0.95CUFT															
NOTE	<ol style="list-style-type: none"> <li>1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature.</li> <li>2. Ripple &amp; noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uF &amp; 47uF parallel capacitor.</li> <li>3. Tolerance : includes set up tolerance, line regulation and load regulation.</li> <li>4. The power supply is considered a component which will be installed into a final equipment. The final equipment must be re-confirmed that it still meets EMC directives.</li> </ol>																

### Mechanical Specification

Case No. 906 Unit:mm

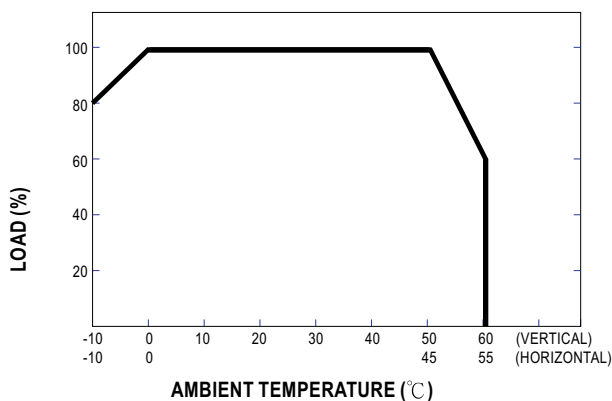


Terminal Pin. No Assignment

Pin No.	Assignment	Pin No.	Assignment
1	AC/L	6	DC OUTPUT -V1
2	AC/N	7	DC OUTPUT COM
3	FG $\perp$	8	DC OUTPUT +V1
4,5	DC OUTPUT		

MODEL	Q-120B	Q-120C	Q-120D
Pin No. 4	+12V	+15V	+24V
Pin No. 5	-12V	-15V	+12V

### Derating Curve



### Static Characteristics (B)

