



■ Features :

- Universal AC input / Full range
- Protections: Short circuit/Over load/Over voltage
- Cooling by free air convection
- LED indicator for power on
- 100% full load burn-in test
- All using 105°C long life electrolytic capacitors
- Withstand 300VAC surge input for 5 second
- High operating temperature up to 70°C
- Withstand 5G vibration test
- High efficiency, long life and high reliability
- 3 years warranty

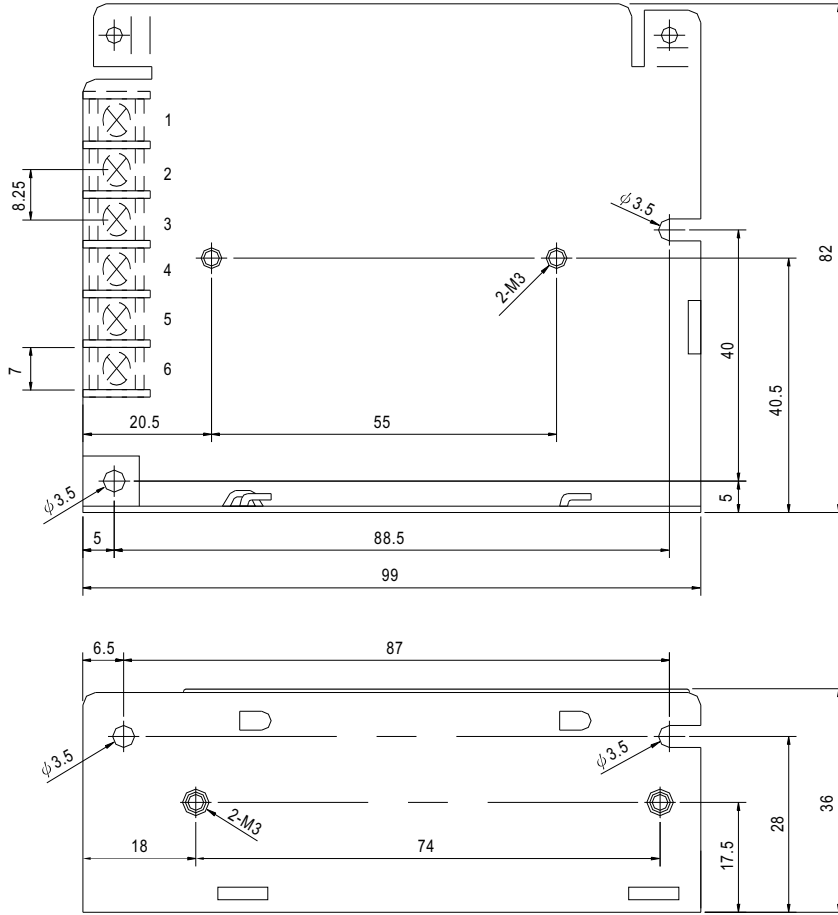


**SPECIFICATION**

MODEL		RD-35A		RD-35B		RD-3513	
OUTPUT	OUTPUT NUMBER	CH1	CH2	CH1	CH2	CH1	CH2
	DC VOLTAGE	5V	12V	5V	24V	13.5V	-13.5V
	RATED CURRENT	4A	1A	2.2A	1A	1.3A	1.3A
	CURRENT RANGE	0.3 ~ 4A	0.2 ~ 1A	0.3 ~ 4A	0.2 ~ 1.3A	0.3 ~ 2A	0.2 ~ 1.5A
	RATED POWER	32W		35W		35.1W	
	RIPPLE & NOISE (max.) Note.2	80mVp-p		120mVp-p		120mVp-p	
	VOLTAGE ADJ. RANGE	CH1: 4.75 ~ 5.5V		CH1: 4.75 ~ 5.5V		CH1: 11.5 ~ 15.5V	
	VOLTAGE TOLERANCE Note.3	±2.0%	±6.0%	±2.0%	±5.0%	±4.0%	±4.0%
	LINE REGULATION Note.4	±0.5%	±1.5%	±0.5%	±1.0%	±0.5%	±0.5%
	LOAD REGULATION Note.5	±0.5%	±3.0%	±0.5%	±2.0%	±3.0%	±3.0%
SETUP, RISE TIME	500ms, 30ms/230VAC		1200ms, 30ms/115VAC at full load				
HOLD TIME (Typ.)	80ms/230VAC	16ms/115VAC at full load					
INPUT	VOLTAGE RANGE	88 ~ 264VAC	125 ~ 373VDC (Withstand 300VAC surge for 5sec. Without damage)				
	FREQUENCY RANGE	47 ~ 63Hz					
	EFFICIENCY (Typ.)	79%		82%		80%	
	AC CURRENT (Typ.)	0.8A/115VAC	0.55A/230VAC				
	INRUSH CURRENT (Typ.)	COLD START 36A/230VAC					
LEAKAGE CURRENT	<2mA / 240VAC						
PROTECTION	OVER LOAD	110 ~ 150% rated output power Protection type : Hiccup mode, recovers automatically after fault condition is removed					
	OVER VOLTAGE	CH1: 5.75 ~ 6.75V				CH1: 16.87 ~ 19.57V	
ENVIRONMENT	WORKING TEMP.	-25 ~ +70°C (Refer to output load derating curve)					
	WORKING HUMIDITY	20 ~ 90% RH non-condensing					
	STORAGE TEMP., HUMIDITY	-40 ~ +85°C, 10 ~ 95% RH					
	TEMP. COEFFICIENT	±0.03%/°C (0 ~ 50°C) on CH1 output					
	VIBRATION	10 ~ 500Hz, 5G 10min./1cycle, period for 60min. each along X, Y, Z axes					
SAFETY & EMC (Note 6)	SAFETY STANDARDS	UL60950, TUV EN60950 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					
OTHERS	EMT IMMUNITY	Compliance to EN61000-4-2,3,4,5,6,8,11; ENV50204, EN61000-6-2 (EN50082-2) heavy industry level, criteria A					
	MTBF	179Khrs min. MIL-HDBK-217F (25°C)					
	DIMENSION	99*82*36mm (L*W*H)					
NOTE	PACKING	0.3Kg; 45pcs/14Kg/0.83CUFT					
		<p>1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature.</p> <p>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.</p> <p>3. Tolerance : includes set up tolerance, line regulation and load regulation.</p> <p>4. Line regulation is measured from low line to high line at rated load.</p> <p>5. Load regulation is measured from 0% to 100% rated load.</p> <p>6. 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.</p>					

■ Mechanical Specification

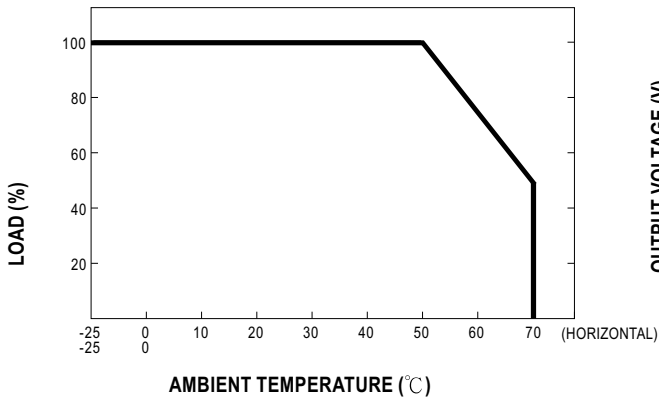
Case No. 932A Unit:mm



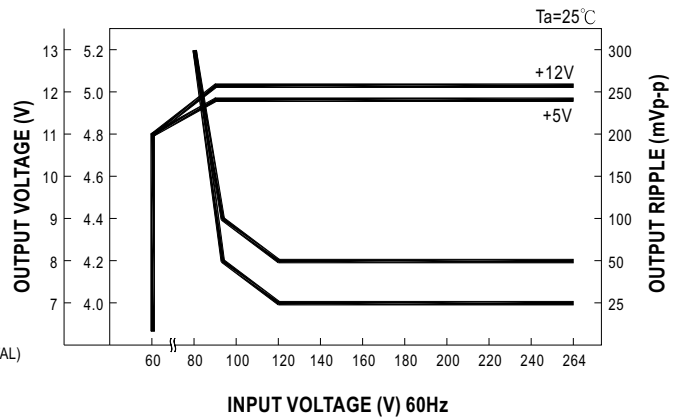
Terminal Pin. No Assignment

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

■ Output Derating



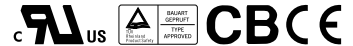
■ Static Characteristics (A)





■ Features :

- Universal AC input / Full range
- Protections: Short circuit / Overload / Over voltage
- Cooling by free air convection
- LED indicator for power on
- 100% full load burn-in test
- All using 105°C long life electrolytic capacitors
- Withstand 300VAC surge input for 5 second
- High operating temperature up to 70°C
- Withstand 5G vibration test
- High efficiency, long life and high reliability
- 3 years warranty

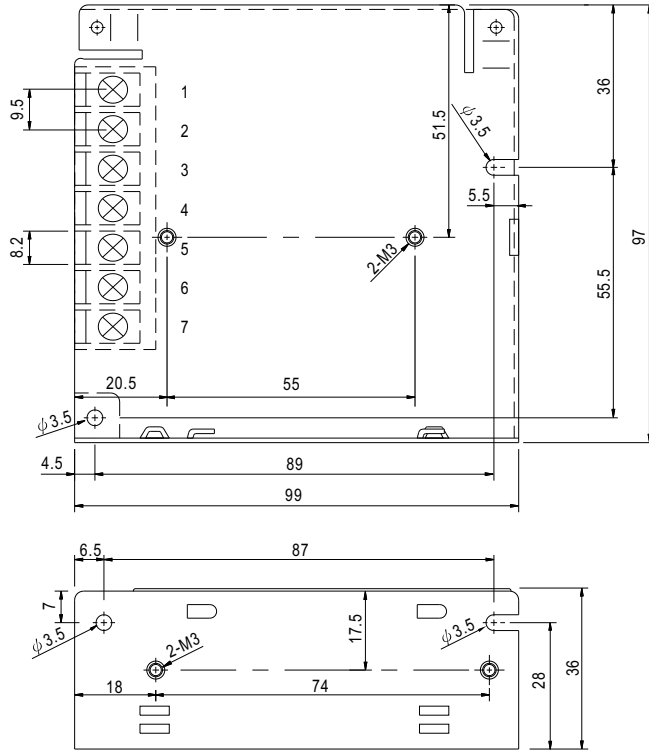


**SPECIFICATION**

MODEL	RD-50A		RD-50B		
OUTPUT	OUTPUT NUMBER	CH1	CH2	CH1	CH2
	DC VOLTAGE	5V	12V	5V	24V
	RATED CURRENT	6A	2A	4A	1.4A
	CURRENT RANGE	0.3 ~ 6A	0.3 ~ 3A	0.3 ~ 6A	0.2 ~ 2A
	RATED POWER	54W		53.6W	
	RIPPLE & NOISE (max.) Note.2	80mVp-p	120mVp-p	80mVp-p	150mVp-p
	VOLTAGE ADJ. RANGE	CH1: 4.75 ~ 5.5V		CH1: 4.75 ~ 5.5V	
	VOLTAGE TOLERANCE Note.3	±2.0%	±7.0%	±2.0%	-4,+8%
	LINE REGULATION Note.4	±0.5%	±1.5%	±0.5%	±1.5%
	LOAD REGULATION Note.5	±0.5%	±3.0%	±0.5%	±3.0%
SETUP, RISE TIME	500ms, 20ms/230VAC 1200ms, 30ms/115VAC at full load				
HOLD UP TIME (Typ.)	60ms/230VAC	12ms/115VAC at full load			
INPUT	VOLTAGE RANGE	88 ~ 264VAC	125 ~ 373VDC (Withstand 300VAC surge for 5sec. Without damage)		
	FREQUENCY RANGE	47 ~ 63Hz			
	EFFICIENCY(Typ.)	79%	80%		
	AC CURRENT (Typ.)	1.3A/115VAC	0.8A/230VAC		
	INRUSH CURRENT (Typ.)	COLD START 33A/230VAC			
LEAKAGE CURRENT	<2mA / 240VAC				
PROTECTION	OVERLOAD	110 ~ 150% rated output power Protection type : Hiccup mode, recovers automatically after fault condition is removed			
	OVER VOLTAGE	CH1: 5.75 ~ 6.75V Protection type : Hiccup mode, recovers automatically after fault condition is removed			
ENVIRONMENT	WORKING TEMP.	-25 ~ +70°C (Refer to output load derating curve)			
	WORKING HUMIDITY	20 ~ 90% RH non-condensing			
	STORAGE TEMP., HUMIDITY	-40 ~ +85°C, 10 ~ 95% RH			
	TEMP. COEFFICIENT	±0.03%/°C (0 ~ 50°C) on +5V output			
SAFETY & EMC (Note 6)	VIBRATION	10 ~ 500Hz, 5G 10min./1cycle, period for 60min. each along X, Y, Z axes			
	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 / 25°C / 70% RH			
	EMI CONDUCTION & RADIATION	Compliance to EN55022 (CISPR22) Class B			
	HARMONIC CURRENT	Compliance to EN61000-3-2,-3			
OTHERS	EMS IMMUNITY	Compliance to EN61000-4-2,3,4,5,6,8,11; ENV50204, EN61000-6-2 (EN50082-2), heavy industry level, criteria A			
	MTBF	172.6Khrs min. MIL-HDBK-217F (25°C)			
	DIMENSION	99*97*36mm (L*W*H)			
NOTE	PACKING	0.41Kg; 45pcs/19.5Kg/0.9CUFT			
		<p>1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature.</p> <p>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.</p> <p>3. Tolerance : includes set up tolerance, line regulation and load regulation.</p> <p>4. Line regulation is measured from low line to high line at rated load.</p> <p>5. Load regulation is measured from 0% to 100% rated load.</p> <p>6. 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.</p>			

**Mechanical Specification**

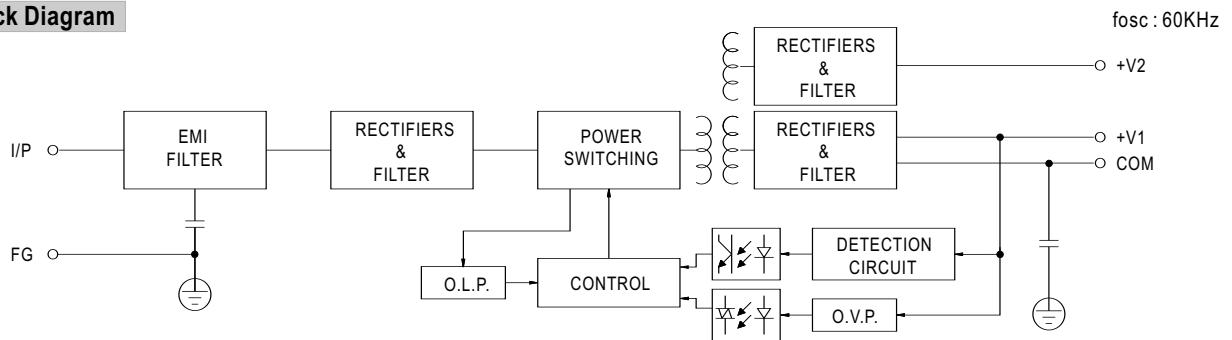
Case No. 905B Unit:mm



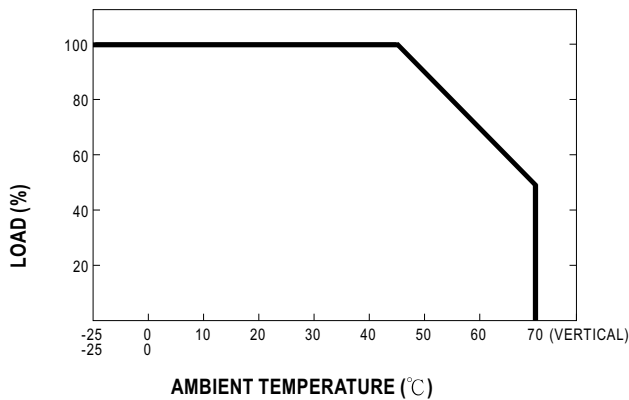
Terminal Pin. No Assignment

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

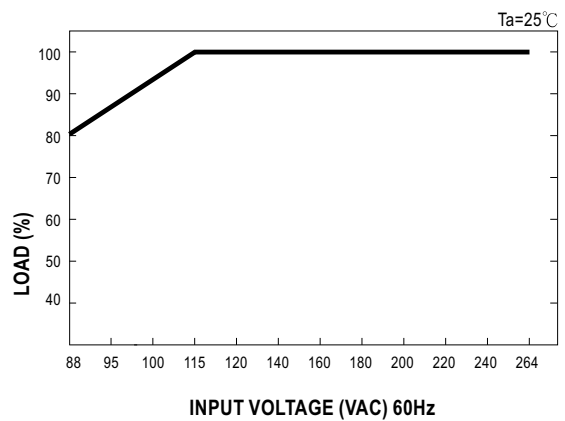
**Block Diagram**

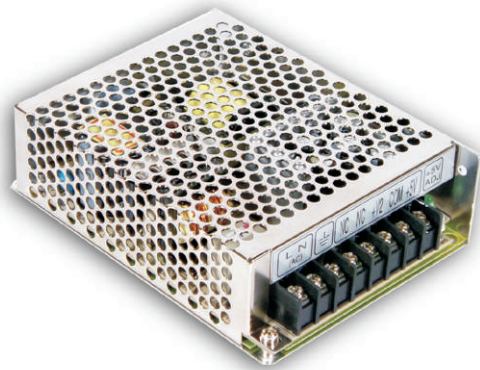


**Derating Curve**



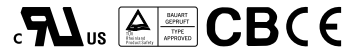
**Output Derating VS Input Voltage**





### ■ Features :

- Universal AC input / Full range
- Protections: Short circuit/Over load/Over voltage
- Cooling by free air convection
- LED indicator for power on
- 100% full load burn-in test
- All using 105°C long life electrolytic capacitors
- Withstand 300VAC surge input for 5 second
- High operating temperature up to 70°C
- Withstand 5G vibration test
- High efficiency, long life and high reliability
- 3 years warranty

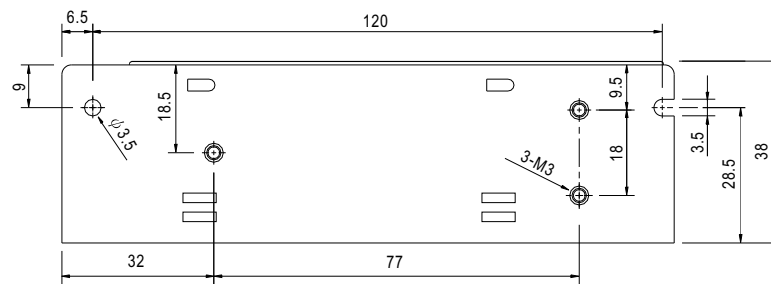
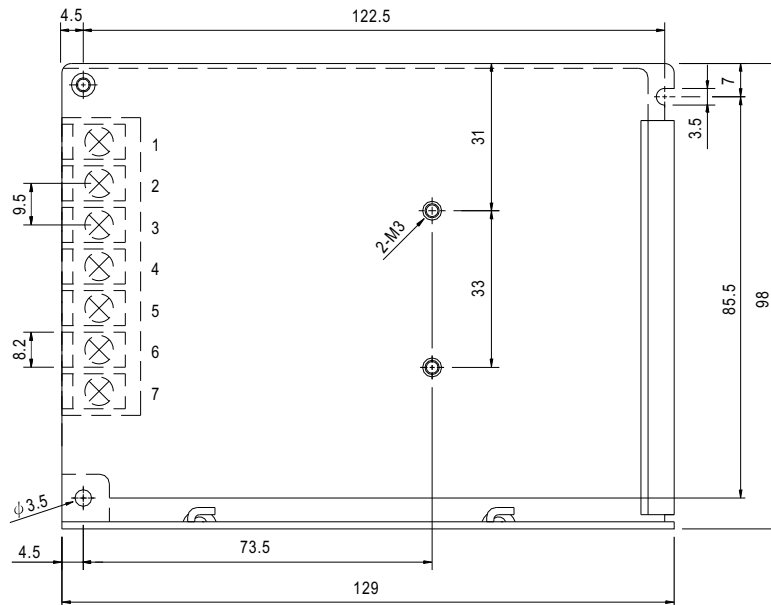


### SPECIFICATION

MODEL	RD-65A		RD-65B		
OUTPUT	OUTPUT NUMBER	CH1	CH2	CH1	CH2
	DC VOLTAGE	5V	12V	5V	24V
	RATED CURRENT	6A	3A	4A	2A
	CURRENT RANGE <small>Note.6</small>	0.3 ~ 8A	0.2 ~ 4A	0.3 ~ 8A	0.2 ~ 3A
	RATED POWER <small>Note.6</small>	66W		68W	
	RIPPLE & NOISE (max.) <small>Note.2</small>	80mVp-p	120mVp-p	80mVp-p	150mVp-p
	VOLTAGE ADJ. RANGE	CH1: 4.75 ~ 5.5V		CH1: 4.75 ~ 5.5V	
	VOLTAGE TOLERANCE <small>Note.3</small>	±2.0%	±6.0%	±2.0%	+4,-6%
	LINE REGULATION <small>Note.4</small>	±0.5%	±1.5%	±0.5%	±2.0%
	LOAD REGULATION <small>Note.5</small>	±0.5%	±3.0%	±0.5%	±4.0%
	SETUP, RISE TIME	500ms, 20ms/230VAC    1200ms, 30ms/115VAC at full load			
HOLD TIME (Typ.)	60ms/230VAC    14ms/115VAC at full load				
INPUT	VOLTAGE RANGE	88 ~ 264VAC    125 ~ 373VDC (Withstand 300VAC surge for 5sec. Without damage)			
	FREQUENCY RANGE	47 ~ 63Hz			
	EFFICIENCY(Typ.)	79%		78%	
	AC CURRENT (Typ.)	2A/115VAC    1.2A/230VAC			
	INRUSH CURRENT (Typ.)	COLD START 40A/230VAC			
LEAKAGE CURRENT	<2mA / 240VAC				
PROTECTION	OVER LOAD	110 ~ 150% rated output power Protection type : Hiccup mode, recovers automatically after fault condition is removed			
	OVER VOLTAGE	CH1: 5.75 ~ 6.75V Protection type : Hiccup mode, recovers automatically after fault condition is removed			
ENVIRONMENT	WORKING TEMP.	-25 ~ +70°C (Refer to output load derating curve)			
	WORKING HUMIDITY	20 ~ 90% RH non-condensing			
	STORAGE TEMP., HUMIDITY	-40 ~ +85°C, 10 ~ 95% RH			
	TEMP. COEFFICIENT	±0.03%/°C (0 ~ 50°C) on +5V output			
VIBRATION	10 ~ 500Hz, 5G 10min./1cycle, period for 60min. each along X, Y, Z axes				
SAFETY & EMC (Note 7)	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, EN61000-6-2 (EN50082-2) heavy industry level, criteria A				
OTHERS	MTBF	265.9Khrs min.    MIL-HDBK-217F (25°C)			
	DIMENSION	129*98*38mm (L*W*H)			
	PACKING	0.44Kg; 30pcs/14.2Kg/0.72CUFT			
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. Line regulation is measured from low line to high line at rated load.</li> <li>5. Load regulation is measured from 20% to 100% rated load, and other output at 60% rated load.</li> <li>6. Each output can work within current range. But total output power can't exceed rated output power.</li> <li>7. 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**

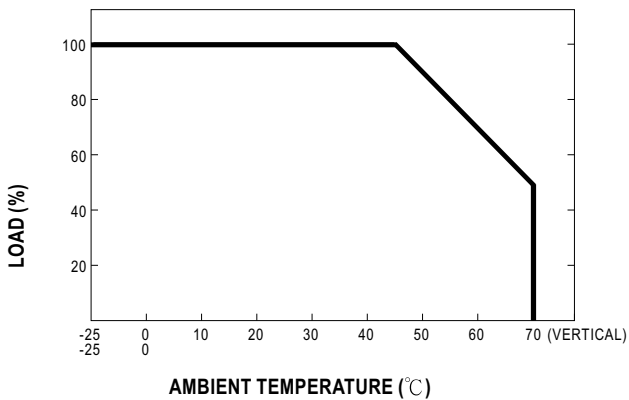
Case No. 903 Unit:mm



Terminal Pin. No Assignment

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

**Derating Curve**



**Output Derating VS Input Voltage**

