

12J SMPSU T1210-21J

INPUT

	MINIMUM	RATED	MAXIMUM
Input Voltage	90V AC	100 – 240V AC	264V AC
Input Frequency	47 Hz	50 / 60 Hz	63 Hz
Input Current *			350mA
Inrush Current **	<60A		

* At 240v ac, maximum Load

** At full-load, 25°C, cold start. There shall not be any damage and the input fuse shall not blow

OUTPUT

Output Voltage	12.0V DC Nominal (Min. 11.4V DC – Max. 12.6V DC)
Maximum Load Current	1.0A (Max)
Maximum Output Power	12W
Ripple and Noise *	120mV
Output overshoot/undershoot **	10% (Max)
Turn-on Delay	5 Seconds (Max)
Hold-up Time ***	10mS (Min)
Dynamic Response	The power supply shall maintain output transient response time within 10ms with a loading current change from 20% to 80% of maximum current and 0.5A/ μ s rise up or drop down tested at output terminals.

* Voltage measured p-p with a 20MHz bandwidth oscilloscope. The output is paralleled with a 10uF low ESR electrolytic capacitor & a 0.1uF ceramic capacitor to ground at rated input and full load condition.

** When power is switched on and off at full load condition.

*** At 230V AC 50Hz and maximum load.

PROTECTION

Over-current Protection *	>1.2A and \leq 2.5A (Trip range at 240V AC 50Hz)
Short-circuit Protection	The adaptor's input power shall decrease when the output is short circuited and it shall be able to withstand this condition continuously without damage. There shall be self-recovery to the normal state when the fault condition is removed.

* The output voltage will drop when an over-current condition is applied to the output and there shall be self-recovery to the normal state when the over-current condition is removed (auto recovery).

ENVIRONMENTAL

	OPERATING	STORAGE
Temperature	0°C to +40°C	-30°C to +70°C
Relative Humidity	10 ~ 90 % RH. Non-condensing	
Altitude	Sea Level to 2,000 m	
Vibration and Shock	1.0mm, 10-55Hz, 15 minutes per cycle for each axis (X, Y, Z)	The power supply shall be designed to withstand normal transportation vibration per MIL-STD_810D, method 514 and procedures X, as it is mounted in the chassis assembly and packed for shipping.
Cooling	Natural convection	

RELIABILITY

Mean Time Between Failure (MTBF)	When the power supply is operating within the limits of this specification the MTBF shall be at least 50,000 at 25°C (MIL_HDBK-217F).
Burn-in Test	The power supply shall withstand a minimum of 4 hours burn-in testing under full load at 35°C ~ 40°C +/- 5°C room temperature. After the test, the product shall operate normally.

MECHANICAL

Dimensions	Refer to the Outline Drawing (Page 4)
Input Plug Type	Wall type, AU-pin, 2-conductors, <Active, Neutral>
Output Cord	UL2464, 22AWG * 2C, Black
Output Plug	11.0(L) x 5.5(D) x 2.1(ID)mm.
Drop Test	A sample is to be subjected to three impact tests by dropping from a height of 1000mm ±10mm onto a horizontal surface in positions most likely to produce the most adverse results. The horizontal surface consists of hardwood at least 13mm thick, mounted on two layers of plywood each 19mm to 20mm thick, all supported on a concrete or equivalent non-resilient floor. The sample shall subsequently pass an electrical functional test and the case shall not be cracked.

SAFETY

Compliance Standard	AS/NZS60950
Insulation Resistance	>10MΩ at 500V DC.
Dielectric withstanding voltage test (Hi-pot test) Primary to Secondary	4242V DC 5mA for 1 minute (sample) or for 3 seconds (production).
Leakage Current	<0.25mA for Class II at maximum input voltage.

EMC COMPLIANCE

Compliance Standard	AS/NZS CISPR22
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The power supply shall meet the following EMS Standards:

EN61000-4-2 Electrostatic discharge (ESD) Immunity
Severity Level: Level 3, Air Discharge: ± 8 KV
Severity level 2, Contact Discharge: ± 4 KV
Performance Criterion: B

EN61000-4-3 RF field strength immunity
Radio-frequency Electromagnetic Field Susceptibility Test (RS), 80-1000MHz,
Severity Level: Level2, 3V/M

EN61000-4-4 Electrical Fast Transient / Burst (EFT) Immunity
Severity Level: Level 2, line to line: 1.0KV
Performance Criterion: B

EN61000-4-5 Surge Immunity
Severity Level: Level 2, line to line: 1.0KV
Severity Level: Level 3, line to earth: 2.0KV

EN61000-4-6 Conducted Disturbances Immunity
Conducted Radio Frequency Disturbances Test (CS), 0.15-80MHz,
Severity Level: Level 2, 3V(rms), Modulation signal 1kHz 80% AM
Performance Criterion: A

EN61000-4-11 Voltage Dips and Short Interruption Immunity
Voltage Dips and Short Interruption: 30%, 60%, >95%
Performance Criterion: B & C

ENERGY EFFICIENCY

No Load Power Consumption (230V AC 50Hz)	0.3W max
Average active mode efficiency *	>77.8%
International e Efficiency Level	V
Compliance	MEPS:AS/NZS 4665.1,AS/NZS 4665.2

* This measurement should be after the UUT working in a stable state and the average efficiency should be measured at four active loads: 25%, 50%, 75% and 100% of the rated load.

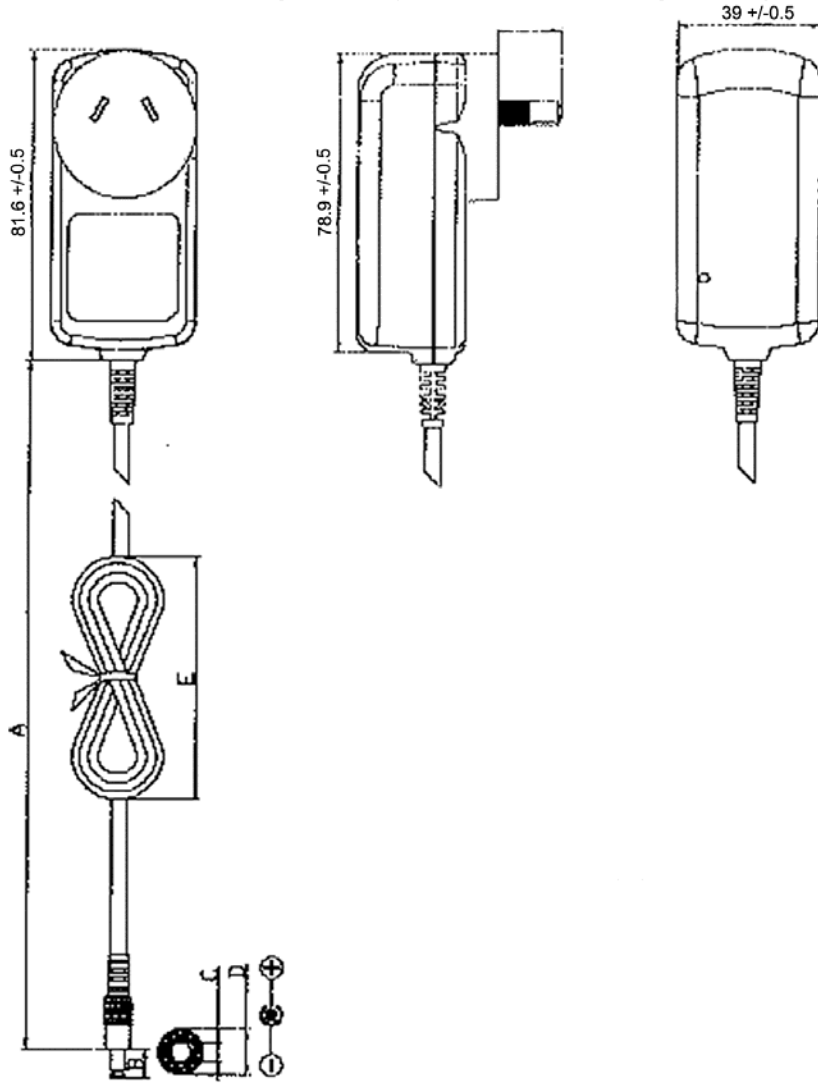
HAZARDOUS SUBSTANCES

All components and materials used shall be in compliance with:
EU Directive 2002/95/EC “RoHS”
EU Directive “REACH”

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OUTLINE DRAWING

Mechanical Dimensions(Unit: mm) , Tolerance Of unspecified parts:±1mm



	A	B	C	D	E
Dimension	1800	11	2.1	5.5	80
Tolerance	+100/-0	±0.5	±0.1	±0.1	±10
DC cord Spec.	22AWG*2C, Black .				

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RATING PLATE

Unit: mm, Tolerance:+0/-0.2

Size: 29.5*27.5*0.3mm

Font: Arial,

Printing: White words & Black background

Material; P.P Synthesize, Comply with 94V-2, Polishing.



PACKING DRAWING

