

# SPECIFICATION FOR APPROVAL

CUSTOMER: JAMES  
PART NO: 100853  
MODEL NO: DCU090050  
DESIGNED NO: Z7480 RoHS  
REVISION: 1-3  
CATEGORY: AC ADAPTOR  
DATE SUBMITTED: 2015.01.19

SAMPLE/SPECIFICATION SUBMITTED		CONCLUSION	APPROVED
SAMPLE 0			REJECTED
SPECIFICATION 1			CONDITION APP'D


CUSTOMER'S SIGNATURE:

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REV	DESCRIPTION	DATE
1-0	INITIAL RELEASED	1994.12.09
1-1	LOGO 	2007.05.11
1-2	APPEND THERMAL CUTOFF A2-F	2009.06.12
1-3	APPEND EFFICIENCY	2015.01.19

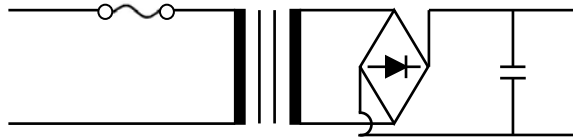
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1.0 ELECTRICAL CHARACTERISTIC:

- 1.1 INPUT RATED VOLTAGE AND LINE FREQUENCY: 120 VAC 60 Hz.
- 1.2 INPUT EXCITING CURRENT (Io): 80 mA RMS MAX. AT INPUT 120 VAC 60 Hz.
- 1.3 INPUT LOAD CURRENT (IP): 160 mA RMS MAX. INPUT 120 VAC 60 Hz OUTPUT FULL LOAD.
- 1.4 EMPTY LOSS: X W MAX, AT INPUT X VAC X Hz.
- 1.5 AVERAGE EFFICIENCY IM ACTIVE: 50 % min.
- 1.6 ELECTRICAL CIRCUIT:



1.7 OUTPUT RATED VOLTAGE AND CURRENT:

TEST POINT	FULL LOAD RATED VOLTAGE	RATED CURRENT	RIPPLE VOLTAGE Vp-p	NO LOAD VOLTAGE
	9VDC±5%	500mA	mV MAX.	14VDC±5%

- 1.8 D.C.RESISTANCE:PRIMARY X Ω±5%, MEASURED AT 25°C AMBIENT TEMPERATURE.
- 1.9 HI-POT TEST: 1240 VAC 50/60HZ FOR 60 SECONDS BETWEEN INPUT TO OUTPUT PLUG AND CASE NORMAL PERFORMANCE. (LEAKAGE CURRENT 1mA)
- 1.10 INSULATION RESISTANCE TEST: 500 VDC SUPPLIED, 100 MΩ MIN, BETWEEN INPUT TO OUTPUT PLUG AND CASE.
- 1.11 TEMPERATURE RISE TEST: INPUT 120 VAC 60 Hz, OUTPUT LOAD 0.5 A FOR INPUT COIL 75 °C MAX (BY USE RESISTANCE METHOD) ON CASE SURFACE X °C MAX (BY USE THERMOMETER METHOD) AT 25°C AMBIENT TEMPERATURE.
- 1.12 HUMIDITY TEST: IN AN AMBIENT TEMPERATURE 40±2 °C AND 90-95 % R.H FOR 4 HOURS, AFTER 10 MINUTES OUT OF THE OVEN, THE UNIT SHOULD MEET ITEM 1.8 REQUIREMENTS, AND INSULATION RESISTANCE SHALL BE 10M OHMS MIN.

2.0 MECHANICAL PERFORMANCE:

- 2.1 STRAIN RELIEF TEST: AT NORMAL POSITION, 20 LBS TO OUTPUT CORD FOR 60 SECONDS EACH, THERE SHALL BE NO BREAKAGE DISPLACEMENT.
- 2.2 DROP TEST: DROPPED FREELY FROM 3 FEET HEIGHT ONTO A CONCRETE FLOOR COVERED WITH 1/8 INCH VINYL TILE 3 TIMES FROM 3 DIFFERENT SURFACE THE UNIT SHOULD MEET THE ITEM 1.8 · 1.9.

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2.3 BENDING TEST: THE PLUG AND S/R SHOULD WITHSTAND WEIGHT OF 200 GRAM, IT SWINGING FROM LEFT TO RIGHT AT AN ANGLE OF 120 DEGREE FOR 300 CYCLES, AND 15-20 CYCLES PER MINUTE, THE CORD SHALL BE CONDUCTIBLE.

3.0 SAFETY STANDARD:

UL/CUL      GS      CE      PSE      BSMI

4.0 APPEARANCE REQUIREMENTS:

4.1 APPEARANCE: DAMAGE AND RUSTING ARE NOT PERMITTED.

5.0 ENVIRONMENTAL CONDITION:

5.1 OPERATING TEMPERATURE RANGE: -10°C ----- +40°C

5.2 STORAGE TEMPERATURE RANGE: -20°C ----- +55°C

5.3 OPERATING HUMIDITY RANGE: 30-85% R.H.

6.0 INSPECTION ON LINE:

6.1 THE TEST ITEMS FOR EACH PRODUCE.

◇ PRIMARY EXCITING CURRENT

◇ CORE LOSS

◇ OUTPUT VOLTAGE

◇ INPUT CURRENT AND POWER AT RATED LOAD

◇ FOREIGN MASS BY SHOCK

◇ POLARITY OF OUTPUT PLUG

◇ HI-POT TEST

◇ APPERANCE

6.2 THE TEST ITEM FOR PART OF PRODUCTS.

◇ HUM OPERATING AT RATED LOAD

◇ D.C.RESISTANCE

◇ INSULATION TEST

7.0 NET WEIGHT: 227.7 g

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8.0 SAMPLE TEST DATA:

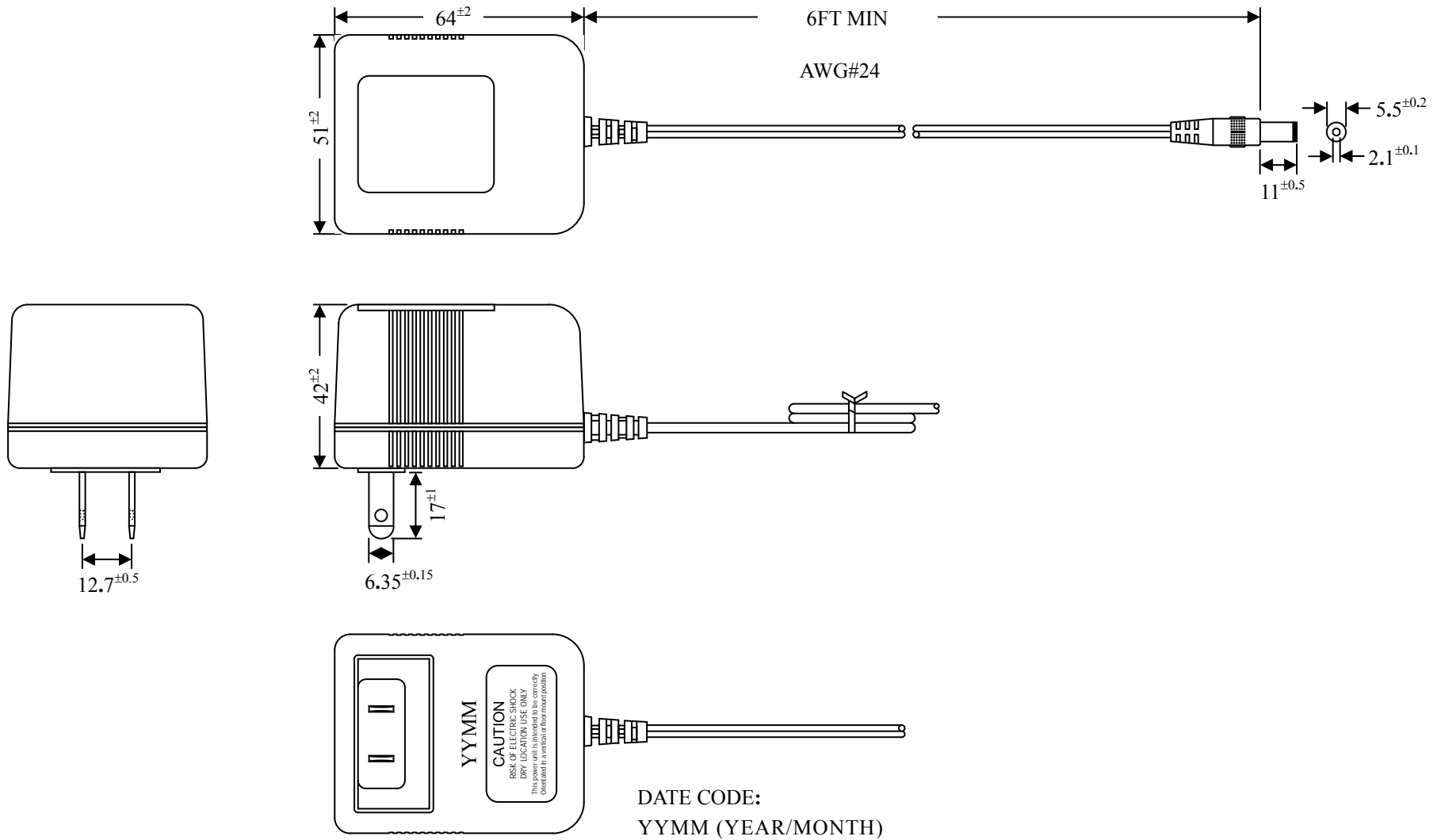
ITEM		SPEC.	1	2	3	4	5
PRIMARY EXCITING CURRENT I/P: 120VAC 60Hz		80mA MAX.	54				
PRIMARY LOAD CURRENT I/P: 120VAC 60Hz		160mA MAX.	86				
SECONDARY VOLTAGE NO LOAD		14VDC±5%	13.55				
SECONDARY VOLTAGE LOAD DC 500mA		9VDC±5%	8.85				
HI-POT TEST	INPUT TO OUTPUT 60 SECONDC	AC 1240V 1mA	OK				

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9.0 APPEARANCE DIMENSIONS: (UNIT:mm)

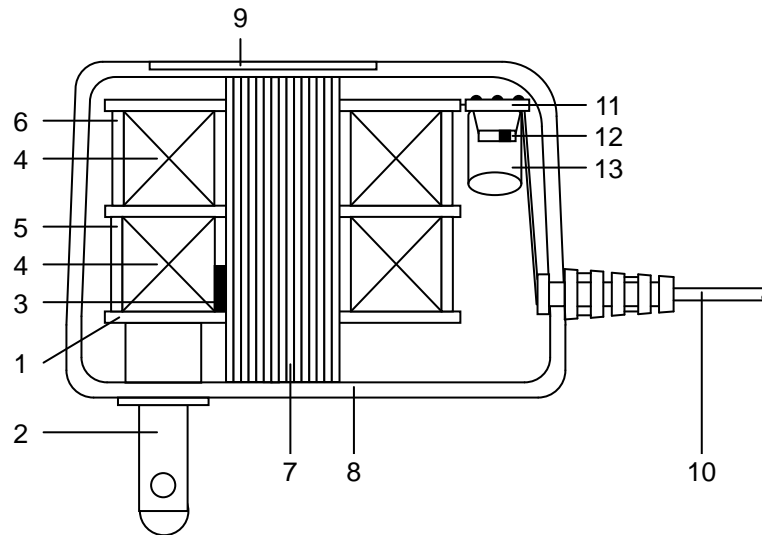


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10.0 MATERIAL LIST:



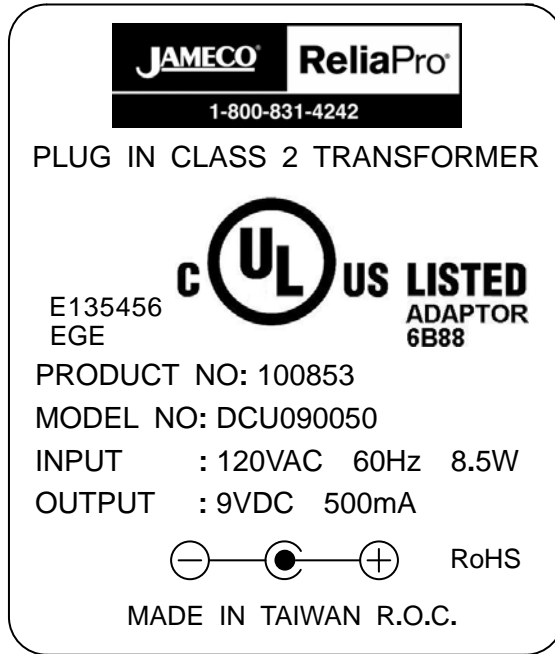
NO.	DESCRIPTION	MATERIAL	SPEC. & Q'TY	MANUFACTURE
1	BOBBIN	70G33L(E41938)		EAST TUNG JUNG PLASTIC HARDWARE CO., LTD. HWA YUE LTD.
2	PRIMARY BLADES	NICKEL PLATING		SPREAD PROFIT ELECTRONIC (DONG CO., LTD.
3	THERMAL CUTOFF	L20 (E142267) A2-F(E140847)	115°C 115°C	JOINT FORCE METAL RESEARCH & CO. AUPO ELECTRONICS LTD.
4	ENAMELED WIRE	POLYURETHANE ENAMELED COPPER WIRE(E85640(S))		FENG CHING METAL CORP. TAI-L ELECTRIC WIRE & CABLE CO., LTD.
5	PRIMARY OUTER WARP	POLYESTER FILM TAPE (E81174(S))	0.05mm(4T)	QUN YI TAPE (DONGGUAN) CO., LTD. CHYUN YIH TAPE CO., LTD.
6	SECONDARY OUTER WRAP	POLYESTER FILM TAPE (E81174(S))	0.025mm(2T)	QUN YI TAPE (DONGGUAN) CO., LTD. CHYUN YIH TAPE CO., LTD.
7	CORE	SILICON STEEL	0.5mm	SHENZHEN CHUNYUAN STEEL INDUSTRIAL CO., LTD.
8	ENCLOSURE	NORYL SE100X (E161723)		SABIC INNOVATIVE PLASTICS CHINA CO., LTD.
9	NAMEPLATE	PLASTIC FILM	0.2mm	GUANG MING YOU TONG PRINTING FACTORY
10	OUTPUT CORD	FLEXIBLE CORD	AWG#24	HUAN WEI ENTERPRISE CO., LTD. MING SHENG ENTERPRISE CO., LTD.
11	RECTIFIER BOARD	P.C.B.(E105119)	94V-0	CHIH HSIEN ENTERPRISE CO., LTD.
12	DIODES	1N4001---5		MASTER INSTRUMENT CORPORATION SHANGHAI LTD.
13	CAPACITOR	1000uf/16V		FUH YIN ELECTRONICS CO., LTD.

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11.0 NAMEPLATE DRAWING: (UNIT:mm)



- 1.MATERIAL:Plastic Film
- 2.THICKMESS:0.2
- 3.PRINTING:WORD:BLACK / BACKGROUND: SILVER

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# HAWK'S AIM INDUSTRIAL CO., LTD.

CUSTOMER : JAMES

MODEL : DCU090050 P/N# : 100853

Q'TY : 1 PCS

CHARACTRISTICS :

INPUT RATED VOLTAGE & LINE FREQUENCY : 120 V AC 60 Hz

SECONDARY RATED VOLTAGE AND CURRENT.

ITEM NO	RATED VOLTAGE 9 VDC±5%	RATED CURRENT	RESULT
1	8.85VDC	DC-500mA	PASS

RELIABILITY TEST :

1. HI-POT TEST :

AC 1240 V 50/60 Hz FOR 1 MINUTES BETWEEN INPUT TO OUTPUT PLUG AND CASE , NEED NORMAL PERFORMANCE , LEAKAGE CURRENT 1.0 mA,

SAMPLE : 1 PCS

ITEM	RESULT
INPUT TO OUTPUT PLUG	PASS
INPUT TO CASE	PASS

2.INSULATION RESISTANCE TEST :

500 VDC 100 MΩ MIN , BETWEEN INPUT TO OUTPUT PLUG AND CASE

SAMPLE : 1 PCS

ITEM	RESULT
INPUT TO OUTPUT PLUG	PASS
INPUT TO CASE	PASS

3.OVER LOAD TEST :

INPUT RATED VOLTAGE & LINE FREQUENCY : 120 V AC 60 Hz OUTPUT CURRENT 110% , TEST 30 MINUTES , SAMPLE : 1 PCS

ITEM	RESULT
OVERLOAD TEST	PASS

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## 4.TEMPERATURE RISE TEST :

ATTACHMENT 1.

## 5.HUMIDITY TEST :

40 ± 2 °C TEMP. , 90-95 % R. H. FOR 4 HOURS , AFTER AT 1 NINUTES TAKEN OUT FROM OVEN AND WIPED DRY. TEST ITEM 1 , AND INSULATION TEST 10 MΩ MIN , SAMPLE : 1 PCS.

ITEM	RESULT
HI-POT TEST 1240 VAC	PASS
INSULATION TEST 500VDC 10MΩ MIN	PASS

## 6.STRAIN-RELIEF TEST :

20 LB FOR 60 SEC , IN ANY DIRECTION SAMPLE : 1 PCS

STRAIN-RELIEF TEST	RESULT
20LB 60SEC	PASS

## 7.DROP TEST :

UNIT IS SHALL EXHIBIT NO ABNORMALITY IN MECHANICAL OR ELECTRICAL PERFORMANCE WHEN IT IS DROPPED TO 3cm HARDWOOD FROM A HEIGHT OF 3 FEET 3 TIME AND TEST ITEM 1 , AND ITEM 2. SAMPLE : 1 PCS.

ITEM	RESULT
HI-POT TEST AND INSULATION TEST	PASS
	PASS

## 8.BENDING RELIEF TEST :

THE CORD AND S/R SHALL BE WITHSTAND WEIGHT 200g FROM LEFT TO RIGHT AT AN ANGLE 120 deg , 300 CYCLE TIMES MIN.SAMPLE : 1 PCS.

RESULT
PASS

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## TEMPERATURE RISE TEST

CUSTOMER : JAMES  
MODEL NO : DCU090050

DATE : 2015.01.19  
DESIGEND NO : Z7480

### 1. PARAMETER MEASUREMENT :

- 1.1 PRIMARY EXCITING CURRENT IN mA  $I_o = 53.7 \text{ mA}$   
1.2 RESISTANCE OF THE COIL AT THE BEGINNING OF THE TEST IN OHMS  $r = 147.6 \ \Omega$   
1.3 AMBIENT TEMPERATURE AT THE BEGINNING OF THE TEST IN °C  $t_1 = 22.5 \text{ °C}$   
1.4 RESISTANCE OF THE COIL AT THE END OF THE TEST IN OHMS  $R = 183.5 \ \Omega$   
1.5 AMBIENT TEMPERATURE AT THE END OF THE TEST IN °C  $t_2 = 22.5 \text{ °C}$   
1.6  $K = 234.5$  FOR COPPER

### 2. TEST CRITERIA :

INPUT VOLTAGE	OUTPUT		RATING
	SEC.1	SEC.2	SEC.3
120VAC 60Hz	9VDC $\pm$ 5 % LOAD 500mA		

### 3. THE TRANSFORMER OR ADAPTOR WAS ALLOWED TO OPERATE CONTINUOUSLY UNTIL CONSTANT

TEMPERATURE ARE REACHED APPROXIMATELY 240 MINUTES, THEN MEASURED BY MEANS OF THERMOCOUPLE, PLACE ON THE ENCLOSURE. FRAME'S SURFACE TEMPERATURE IS 60.76 °C

### 4. THE TEMPERATURE RISE OF THE COIL, MEASURED BY USE OF RESISTANCE METHOD AS THE FOLLOWING FORMULA.

$$\Delta T = \frac{R}{r} (K + t_1) - (K + t_2) = \underline{60.76} \text{ °C}$$

### 5. DOES THE TEST RESULT MEET THE REQUIREMENT OF TECHNICAL ORDER SPECIFICATION: 75 °C MAX.

YES

NO

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