Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!

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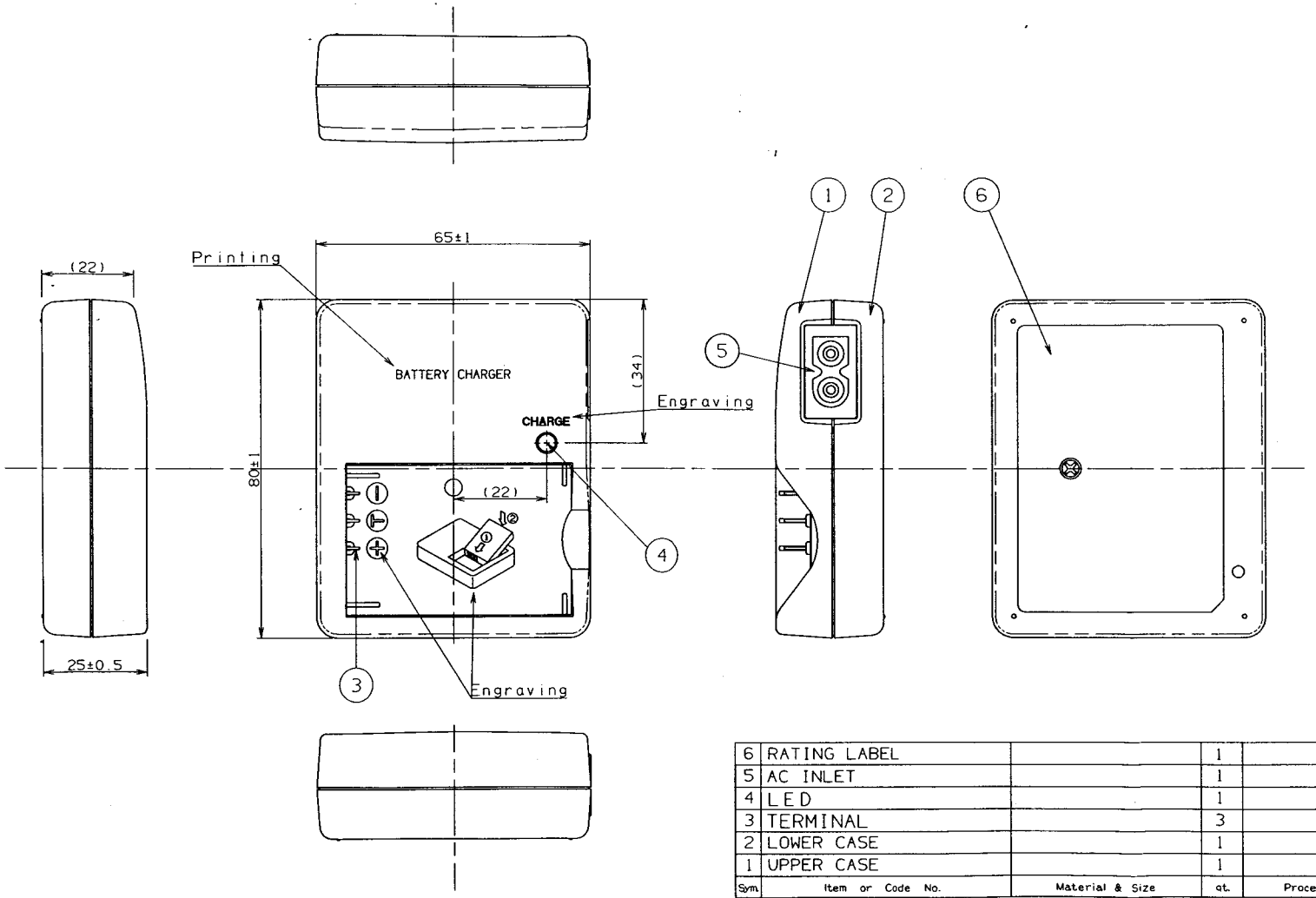
Commercial Tolerance	Sym.	Date	Revision	Signed	Checked



Sym.	Item or Code No.	Material & Size	qt.	Process	Remark
6	RATING LABEL		1		
5	AC INLET		1		
4	LED		1		
3	TERMINAL		3		
2	LOWER CASE		1		
1	UPPER CASE		1		

Scale	Designed	Drawn	Traced	Checked	Approved
1:1	Yoshida 27-Jul-01	Yoshida 27-Jul-01			

DE-844R*

Name: External appearance

No. Z844-A091A

A3

Matsushita Electric Industrial Co.,Ltd

3rd Angle System Unit : mm

Lithium Ion Battery Charger Specifications	Approved	Checked	Drawn
	Tomi K	S. Kuwahara	Y. Yoshida

1. Product Name and Model Number

1-1 Product Name: Lithium Ion Battery Charger

1-2 Model Number: DE-844RA

2. Scope: This product is a battery charger for Lithium-Ion battery pack.

3. Destinations and safety standards

USA/Canada	: UL1310 (C - UL application) CSA C22.2 No.223
Europe	: EN60065 (CB certification) EN55014−1 EN50014−2
Japan	DENTORI

4. Appearance, mass, etc.

5-1 Appearance: Refer an attached drawing "External Appearance".
5-2 Mass: Approximately 75g
5-3 Indications: Refer an attached drawing

5. Applicable batteries

Type	Model No.	Cell	Voltage	Capacity	Manufacturer
Li-ion	CGA-7/102*	1 cell	3.7V	900mAh	Matsushita

Battery has following terminals.
1. Positive Terminal
2. Negative Terminal
3. T Terminal
(Thermistor TH05-3H103F is connected between T terminal and Negative terminal)

Mark	Date	Revision	Drawn	Aprvd	Mark	Date	Revision	Drawn	Aprvd
△					△				
△					△				

6. Electrical Characteristics

(Unspecified characteristics are at 100V AC input and Ta=25±5℃)

6-1 Input voltage

Input : 90 – 264V (100V–10% ～ 240V+10%)
Frequency : 50 –60Hz

6-2 Input Wattage

Input wattage shall be as follows at 3.9V battery with 100V AC input.

Input Wattage	4．5 ± 2W

6-3 Battery Detection

Battery connection is detected by connection o f thermistor between T terminal and Negative terminal. If positive terminal is open circuit, LED turns off at around 5 seconds after starting.

	Resistance	Detecting
Thermistor resistance	200±100kΩ～∝	No Battery
	0～200±100kΩ	Battery is connected

6-4 Charging current

Charging current at battery voltage 3.7V shall be as follows.

Charging current	630 ± 70mA

6-5 Battery temperature protection

According to thermistor resistance, following temperature protections are done.

Low temperature protection (No charging current)

Thermistor	Rth≧30．1±4kΩ	About -3℃

High temperature protection at starting (No charging current)

Thermistor	Rth≦4．97±0．6kΩ	About 45℃

High temperature protection during rapid charging (No charging current)

Thermistor	Rth≦3．57±0．4kΩ	About 55℃

Returned condition after high temperature protection

Thermistor	Rth≧4．97±0．6kΩ	About45℃

Low temperature protection 2 (Low charging current)

Thermistor	30．1±4kΩ≧Rth≧21．2±3kΩ	About 6℃
Charging current	160±50mA	

At temperature protection, following charging current flow for low voltage battery (over discharged battery)

Over discharge current	80±40mA

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6-6 Charging control method

Constant voltage and constant current control method.

Constant voltage	4．2V±30mV

Fully charging detection is at following charging current.

Fully charged Current	80±40mA

6-7 Charging timer

Charging timer … 240min±30%

6-8 Recharge voltage

After fully charging, rapid charging re-starts when battery voltage comes down to following voltage.

Recharge voltage	4．0±0．15V

6-9 Charge Indication

Red and green dual color LED shows following charging status.

Rapid charging	Red
Fully charging	Green
No battery	Off
NG battery	Off

6-10 Over discharged battery protection (Output short-circuit protection)

When battery voltage is lower than following voltage, charging current shall be as follows. And there shall be no abnormalities when output is short-circuited.

Battery voltage	Vout≦3．0±0．3V
Battery charge current	80±40mA

6-11Charging Time (for reference)

About 120 minutes

7. Temperature range

Temperature range of operation : 0℃ ～ 40℃
Temperature range of storage : −25℃ ～ 65℃

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