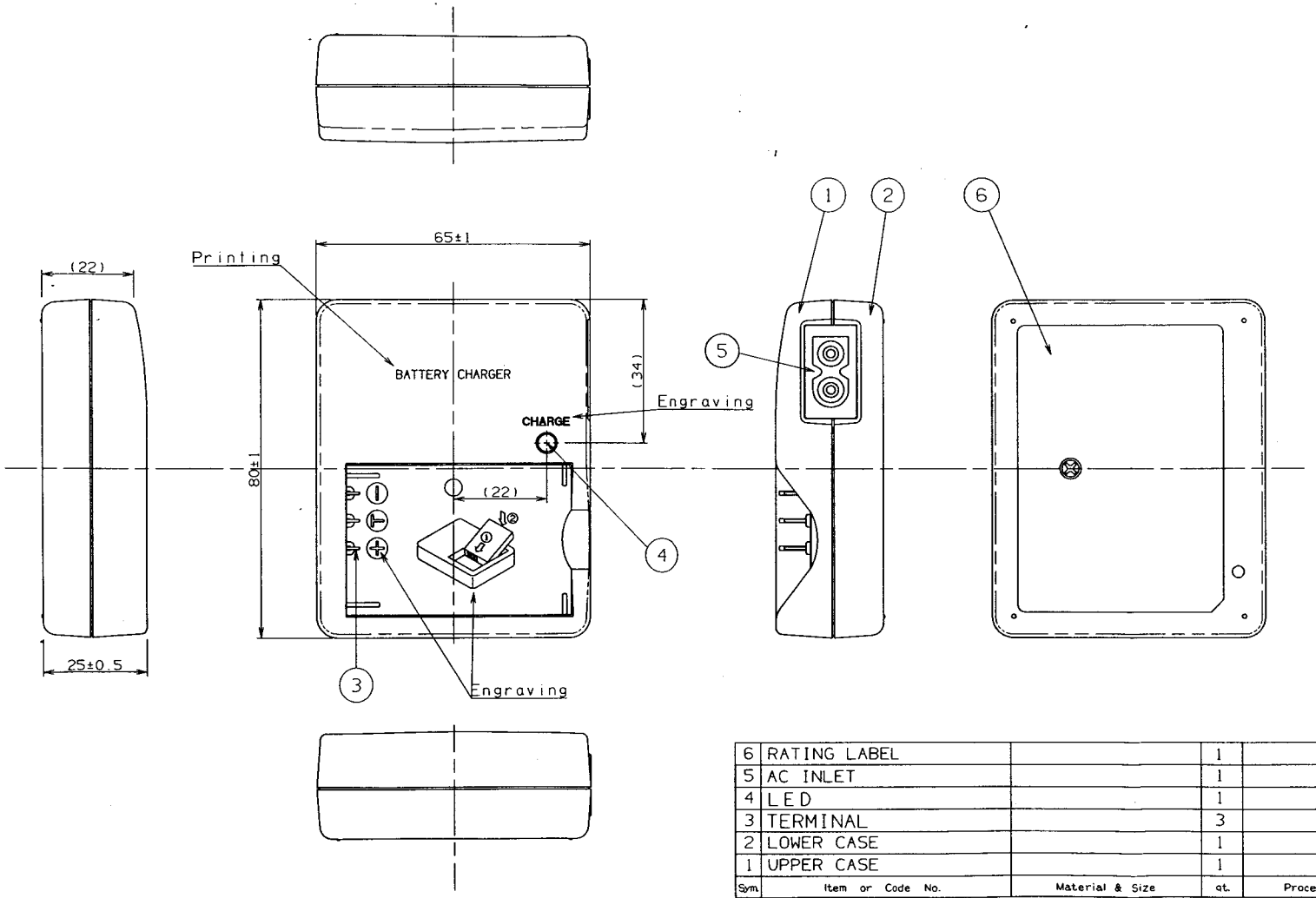
Commercial Tolerance	Sym.	Date	Revision	Signed	Checked



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)

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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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