参考資料

COSEL

TEST DATA OF ZTS34815

(48.0V INPUT)

Regulated DC Power Supply

Date : Mar.5. 1998

Approved by : N. Shiraishi
Design Manager

Prepared by : T. Tsuri
Design Engineer

コーセル株式会社

COSEL CO.,LTD.

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CONTENTS

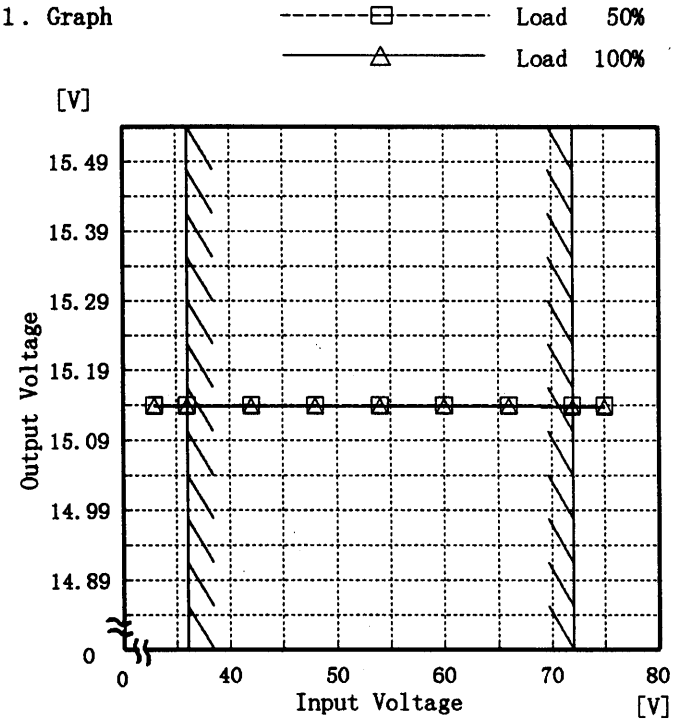
(Final Page 15)

COSEL

Model	ZTS34815
Item	Line Regulation 静的入力変動
Object	+15V0.2A

Temperature 25℃
Testing Circuitry Figure A

1. Graph



Note: Slanted line shows the range of the rated input voltage.

(注)斜線は定格入力電圧範囲を示す。

2. Values

Input Voltage [V]	Load 50% Output Volt. [V]	Load 100% Output Volt. [V]
33.0	15.140	15.139
36.0	15.140	15.139
42.0	15.140	15.139
48.0	15.140	15.139
54.0	15.140	15.139
60.0	15.140	15.138
66.0	15.140	15.138
72.0	15.141	15.138
75.0	15.140	15.138
—	—	—
—	—	—
—	—	—

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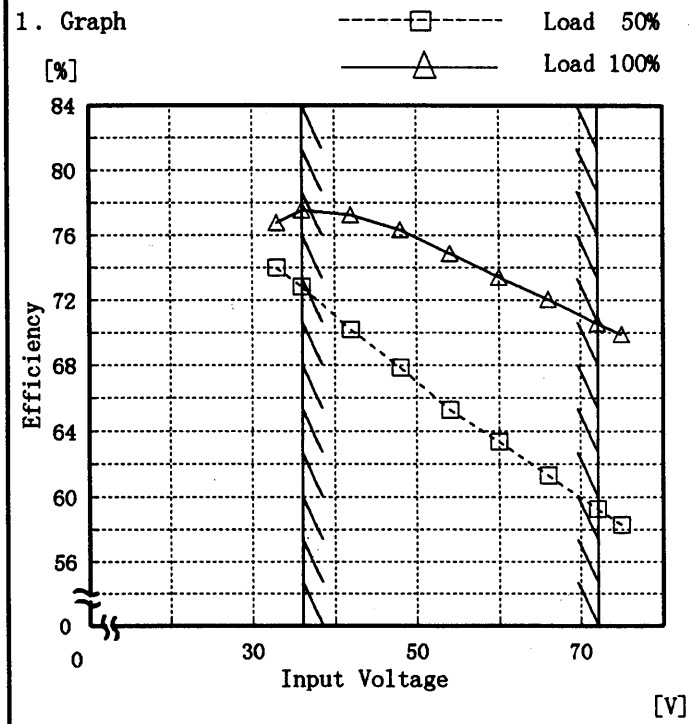
Model	ZTS34815
Item	Efficiency 効率
Object	———————————

Temperature 25℃
Testing Circuitry Figure A

1. Graph



Note: Slanted line shows the range of the rated input voltage.

(注)斜線は定格入力電圧範囲を示す。

2. Values

Input Voltage [V]	Load 50% Efficiency [%]	Load 100% Efficiency [%]
33.0	74.0	76.8
36.0	72.8	77.6
42.0	70.2	77.3
48.0	67.9	76.4
54.0	65.3	74.9
60.0	63.3	73.4
66.0	61.3	72.0
72.0	59.3	70.6
75.0	58.3	69.9
—	—	—
—	—	—
—	—	—

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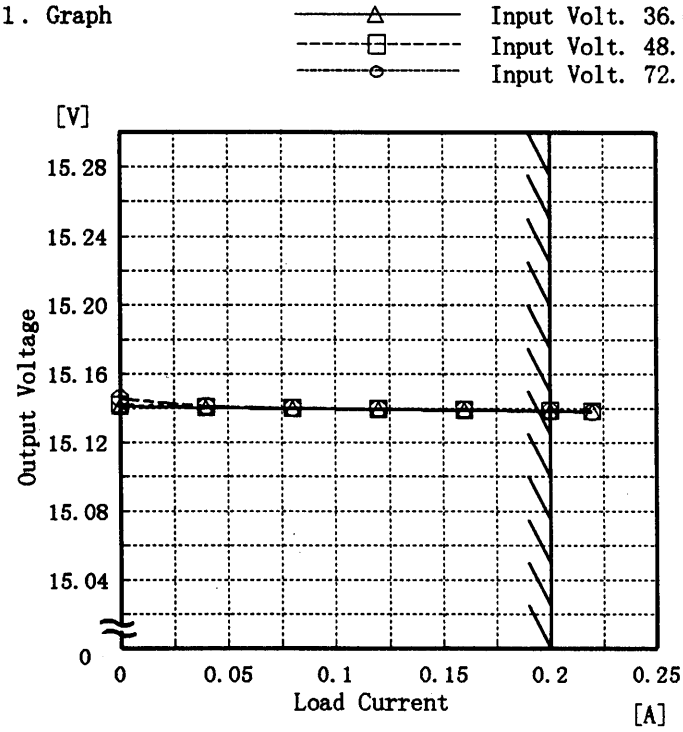
Model	ZTS34815
Item	Load Regulation 静的負荷変動
Object	+15V0.2A

Temperature 25℃
Testing Circuitry Figure A

1. Graph



Note: Slanted line shows the range of the rated load current.

(注)斜線は定格負荷電流範囲を示す。

2. Values

Load Current [A]	Input Volt. 36.0[V] Output Volt. [V]	Input Volt. 48.0[V] Output Volt. [V]	Input Volt. 72.0[V] Output Volt. [V]
0.00	15.141	15.142	15.146
0.04	15.140	15.141	15.141
0.08	15.140	15.140	15.140
0.12	15.139	15.140	15.140
0.16	15.139	15.139	15.139
0.20	15.139	15.139	15.138
0.22	15.138	15.139	15.138
—	—	—	—
—	—	—	—
—	—	—	—

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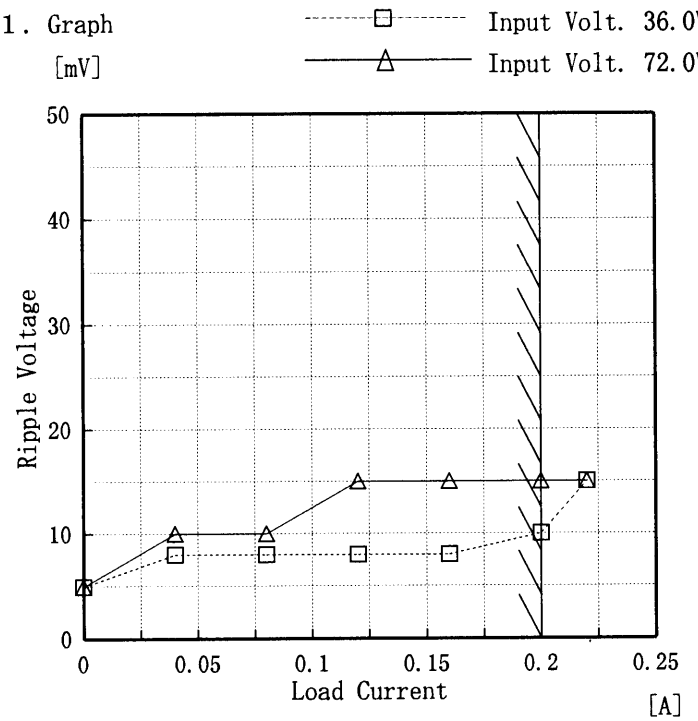
Model	ZTS34815
Item	Ripple Voltage(by Load Current) リップル電圧(負荷電流特性)
Object	+15V0.2A

Temperature 25℃
Testing Circuitry Figure A

1. Graph



Ripple Voltage is shown as p-p in the figure below.

Note: Slanted line shows the range of the rated load current.

リップル電圧は、下図ｐ－ｐ値で示される。

(注)斜線は定格負荷電流範囲を示す。

T1: Due to AC Input Line
入力商用周期
T2: Due to Switching
ｽｲｯﾁﾝｸﾞ周期

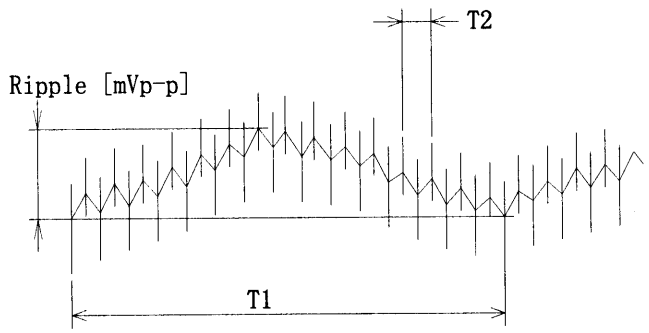


Fig. Complex Ripple Wave Form
図 リップル波形詳細図

2. Values

Load Current [A]	Input Volt. 36.0 [V] Ripple Output Volt. [mV]	Input Volt. 72.0 [V] Ripple Output Volt. [mV]
0.00	5	5
0.04	8	10
0.08	8	10
0.12	8	15
0.16	8	15
0.20	10	15
0.22	15	15
—	—	—
—	—	—
—	—	—
—	—	—

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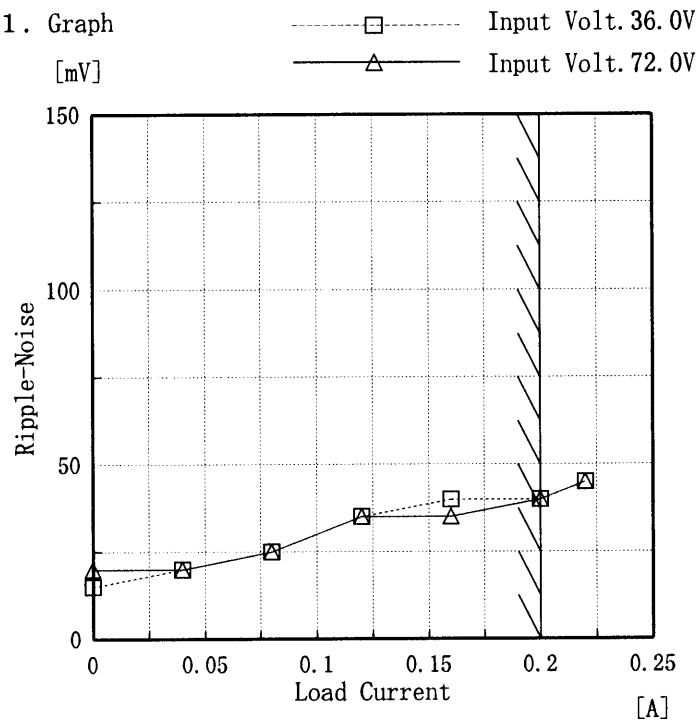
Model	ZTS34815
Item	Ripple-Noise　リップルノイズ
Object	+15V0.2A

Temperature　25℃
Testing Circuitry　Figure A

1. Graph



Ripple-Noise is shown as p-p in the figure below.
Note: Slanted line shows the range of the rated load current.

リップルノイズは、下図ｐ－ｐ値で示される。
(注)斜線は定格負荷電流範囲を示す。

T1: Due to AC Input Line
入力商用周期
T2: Due to Switching
ｽｲｯﾁﾝｸﾞ周期

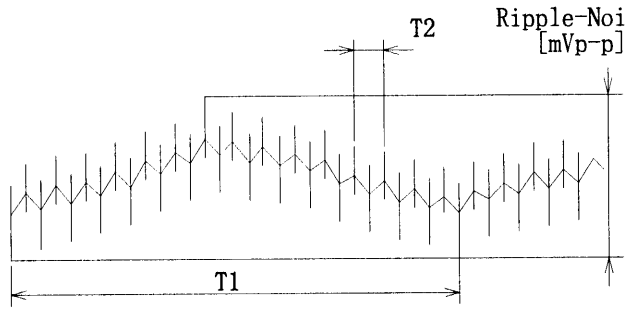


Fig. Complex Ripple Wave Form
図　リップル波形詳細図

2. Values

Load current [A]	Input Volt. 36.0 [V] Ripple-Noise [mV]	Input Volt. 72.0 [V] Ripple-Noise [mV]
0.00	15	20
0.04	20	20
0.08	25	25
0.12	35	35
0.16	40	35
0.20	40	40
0.22	45	45
—	—	—
—	—	—
—	—	—
—	—	—

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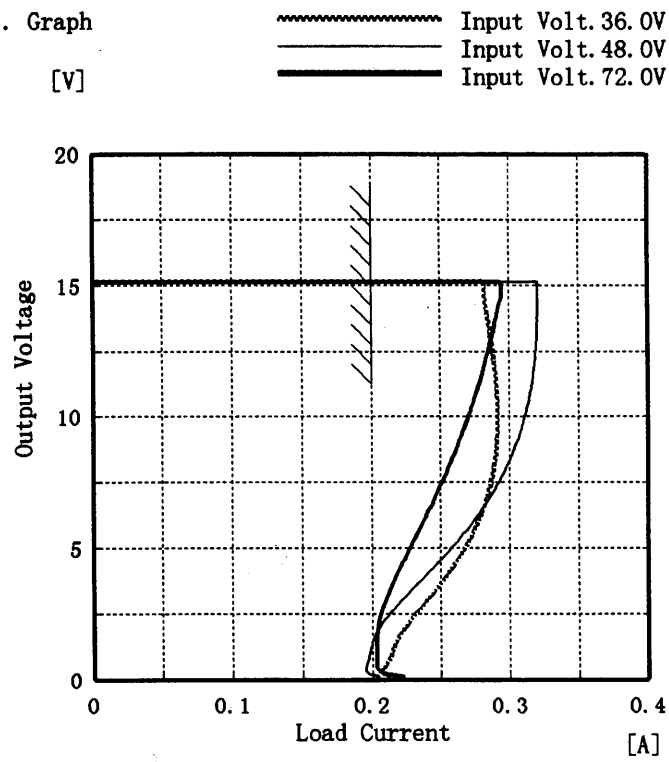
Model	ZTS34815
Item	Overcurrent Protection 過電流保護
Object	+15V0.2A

Temperature 25℃
Testing Circuitry Figure A

1. Graph



Note: Slanted line shows the range of the rated load current.

(注)斜線は定格負荷電流範囲を示す。

2. Values

Output Voltage [V]	Input Volt. 36.0[V] Load Current [A]	Input Volt. 48.0[V] Load Current [A]	Input Volt. 72.0[V] Load Current [A]
15.00	0.28	0.32	0.29
14.25	0.28	0.32	0.29
13.50	0.28	0.32	0.29
12.00	0.29	0.32	0.28
10.50	0.29	0.31	0.27
9.00	0.29	0.31	0.26
7.50	0.29	0.29	0.25
6.00	0.28	0.27	0.24
4.50	0.26	0.25	0.22
3.00	0.24	0.22	0.21
1.50	0.22	0.20	0.20
0.00	0.21	0.21	0.22

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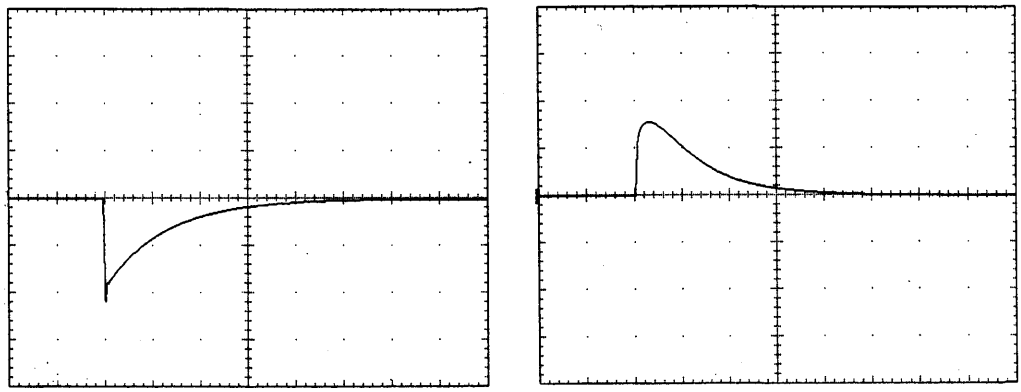
Model	ZTS34815		
Item	Dynamic Load Responce 動的負荷変動	Temperature Testing Circuitry	25℃ Figure A
Object	+15V0.2A		

Input Volt. 48.0 V

Cycle 100 mS

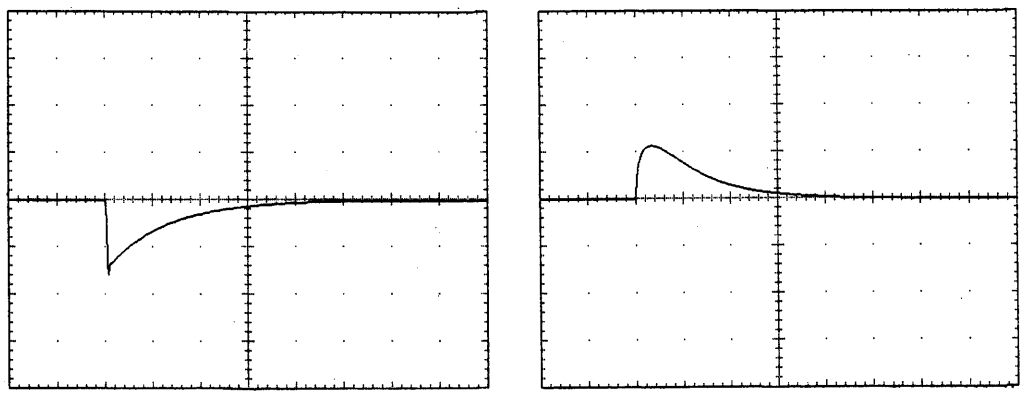
Load Current

Min. Load ⟷
Load 100 %



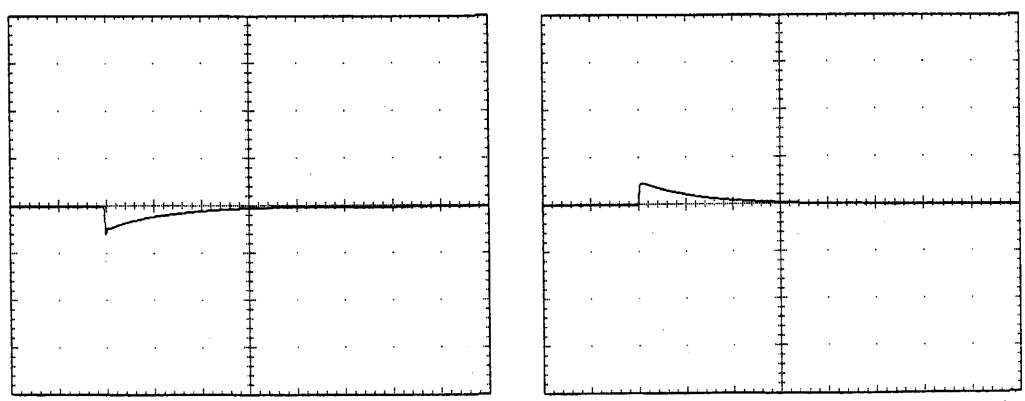
200 mV/div

Min. Load ⟷
Load 50 %



200 mV/div

Load 50%⟷
Load 100 %



200 mV/div

1 mS/div

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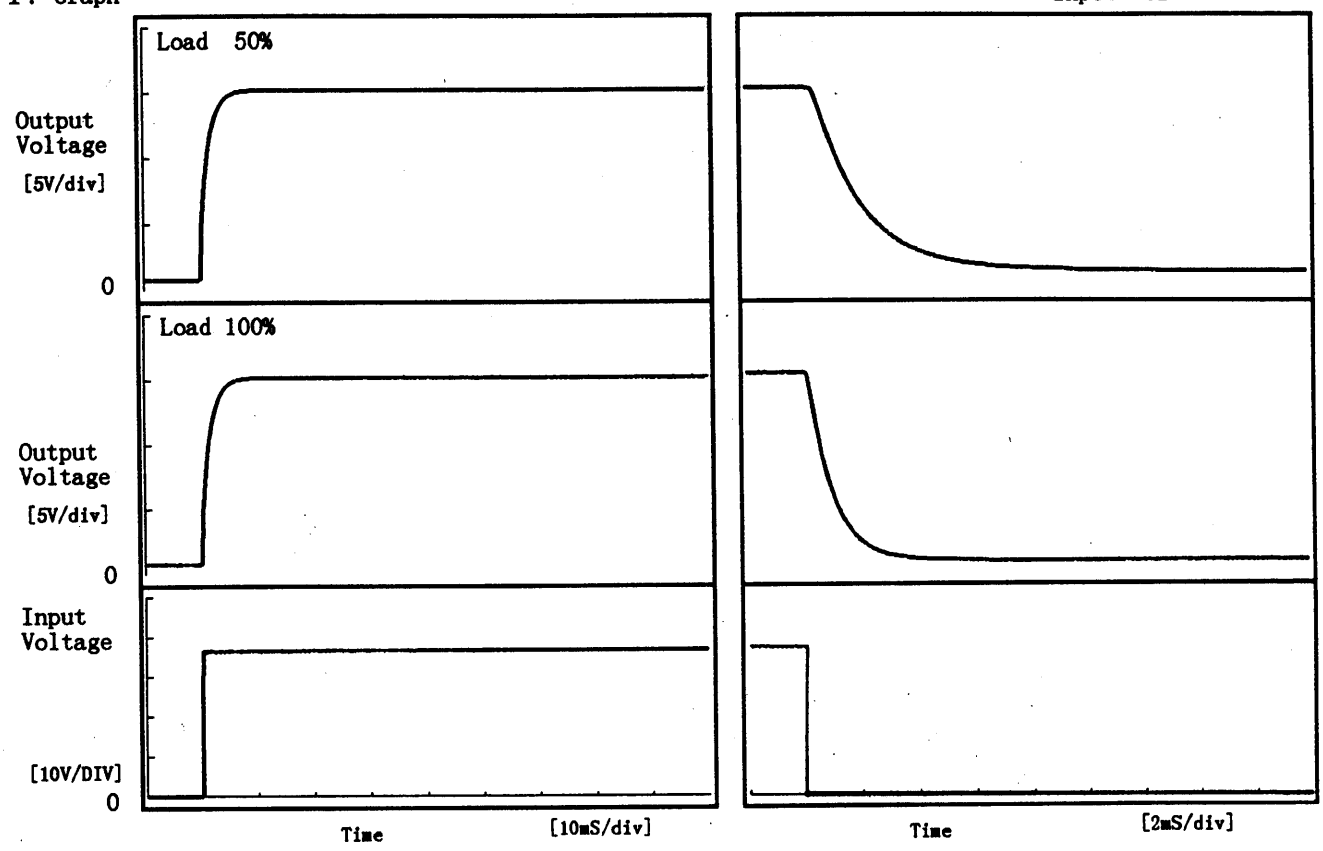
Model	ZTS34815		
Item	Rise and Fall Time 立上り、立下り時間	Temperature	25℃
		Testing Circuitry	Figure A
Object	+15V0.2A		

1. Graph

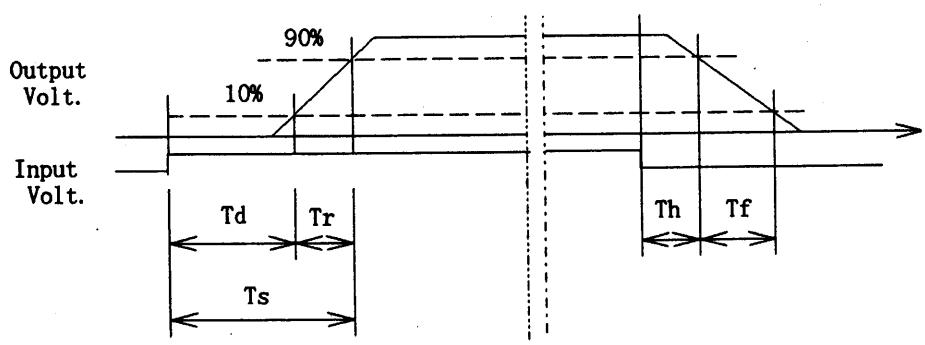
Input Volt. 36.0 V



2. Values

[mS]

Load \ Time	T d	T r	T s	T h	T f
50 %	0.10	3.30	3.40	0.59	5.96
100 %	0.10	3.30	3.40	0.26	2.27



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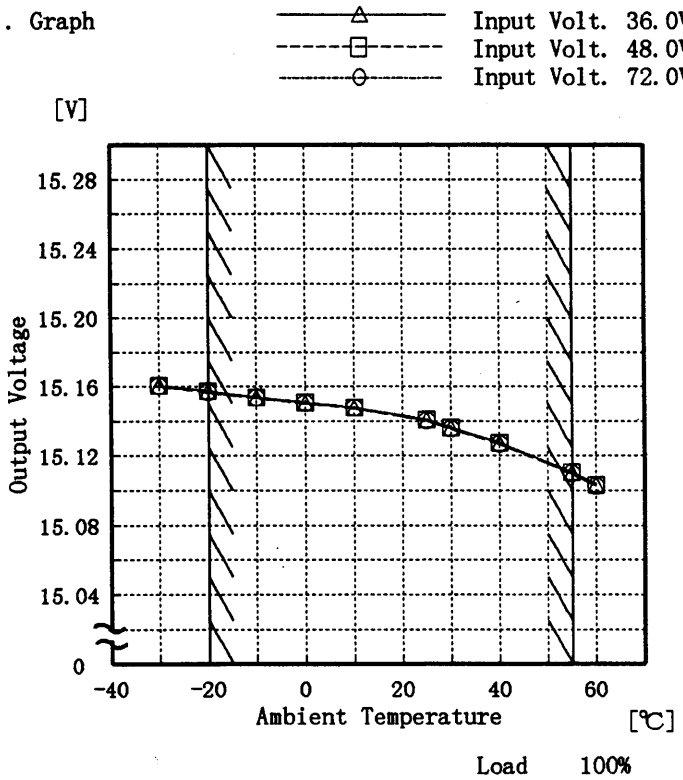
Model	ZTS34815
Item	Ambient Temperature Drift 周囲温度変動
Object	+15V0.2A

Testing Circuitry Figure A

1. Graph



Note: Slanted line shows the range of the rated ambient temperature.

(注)斜線は定格周囲温度範囲を示す。

2. Values

Temperature [℃]	Input Volt. 36.0[V] Output Volt. [V]	Input Volt. 48.0[V] Output Volt. [V]	Input Volt. 72.0[V] Output Volt. [V]
-30	15.160	15.161	15.160
-20	15.157	15.157	15.157
-10	15.154	15.154	15.154
0	15.151	15.151	15.151
10	15.148	15.148	15.148
25	15.141	15.141	15.140
30	15.136	15.136	15.136
40	15.127	15.128	15.127
55	15.111	15.111	15.110
60	15.104	15.103	15.103
—	—	—	—

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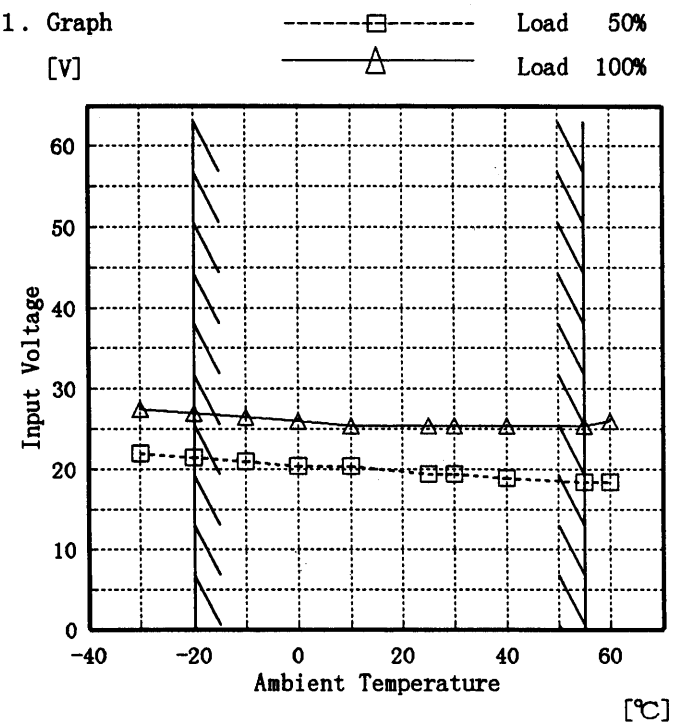
Model	ZTS34815
Item	Minimum Input Voltage for Regulated Output Voltage 最低レギュレーション電圧
Object	+15V0.2A

Testing Circuitry Figure A

1. Graph

[V]



Note: Slanted line shows the range of the rated ambient temperature.

(注)斜線は定格周囲温度範囲を示す。

2. Values

Ambient Temp. [℃]	Load 50% Input Volt. [V]	Load 100% Input Volt. [V]
-30	21.9	27.4
-20	21.4	26.9
-10	20.9	26.4
0	20.4	25.9
10	20.4	25.4
25	19.4	25.4
30	19.4	25.4
40	18.9	25.4
55	18.4	25.4
60	18.4	25.9
—	—	—

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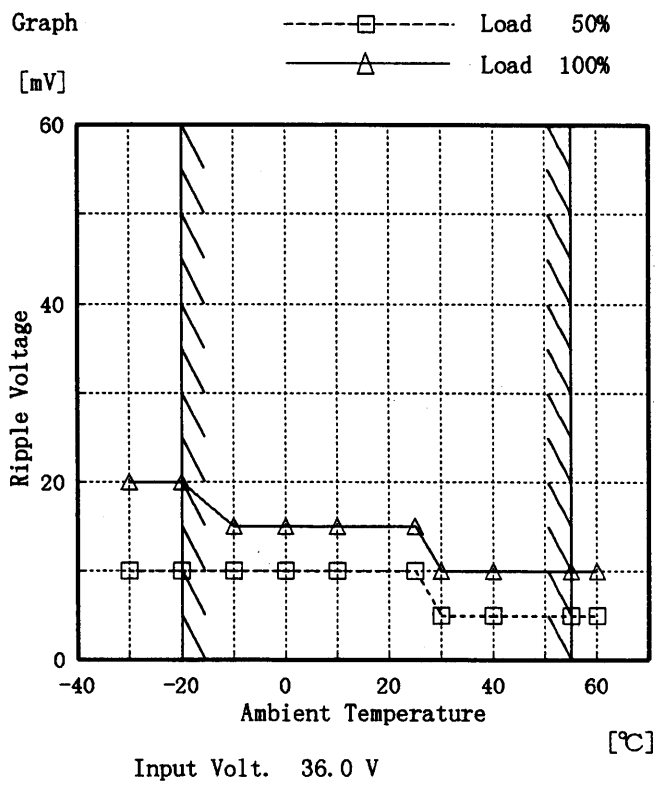
Model	ZTS34815
Item	Ripple Voltage (by Ambient Temp.) リップル電圧 (周囲温度特性)
Object	+15V0.2A

Testing Circuitry Figure A

1. Graph



Input Volt. 36.0 V

Note: Slanted line shows the range of the rated ambient temperature.

(注)斜線は定格周囲温度範囲を示す。

2. Values

Ambient Temp. [℃]	Load 50% Ripple Output Volt. [mV]	Load 100% Ripple Output Volt. [mV]
-30	10	20
-20	10	20
-10	10	15
0	10	15
10	10	15
25	10	15
30	5	10
40	5	10
55	5	10
60	5	10
—	—	—

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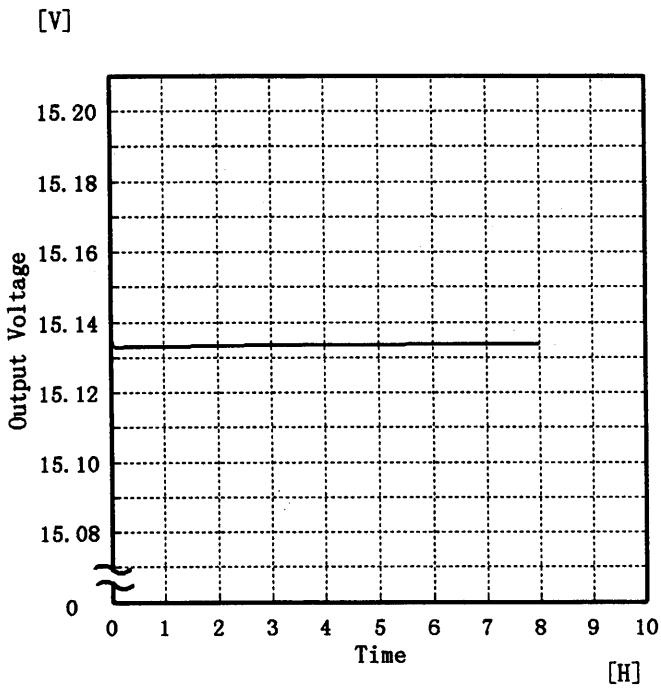
Model	ZTS34815
Item	Time Lapse Drift 経時ドリフト
Object	+15V0.2A

Temperature 25℃
Testing Circuitry Figure A

1. Graph



Input Volt. 48V
Load 100%

2. Values

Time since start [H]	Output Voltage [V]
0.0	15.139
0.5	15.133
1.0	15.133
2.0	15.133
3.0	15.133
4.0	15.134
5.0	15.134
6.0	15.134
7.0	15.134
8.0	15.134

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Model	ZTS34815	
Item	Output Voltage Accuracy 定電圧精度	Testing Circuitry Figure A
Object	+15V0.2A	

Output Voltage Accuracy

This is defined as the value of the output voltage, regulation load, ambient temperature and input voltage varied at random in the range as specified below.

Temperature : -20～55 ℃
Input Voltage : 36.0～72.0 V
Load Current : 0.0～0.2 A

* Output Voltage Accuracy = ±(Maximum of Output Voltage − Minimum of Output Voltage)／2

$$\text{* Output Voltage Accuracy (Ration)} = \frac{\text{Voltage Accuracy}}{\text{Rated Output Voltage}} \times 100$$

定電圧精度

周囲温度、入力電圧、負荷を下記仕様内で、任意に変動させたときの出力電圧の変動をいう。

周囲温度 -20～55 ℃
入力電圧 36.0～72.0 V
負荷電流 0.0～0.2 A

* 定電圧精度(変動値) ＝ ±(出力電圧の最高値－出力電圧の最低値)／2

$$\text{* 定電圧精度(変動率)} = \frac{\text{変動値}}{\text{定格出力電圧}} \times 100$$

Item	Temperature [℃]	Input Voltage [V]	Output Current [A]	Output Voltage [V]	Output Voltage Accuracy [mV]	Output Voltage Accuracy (Ration) [%]
Maximum Voltage	-20	72.0	0.0	15.167	±30	±0.3
Minimum Voltage	55	72.0	0.2	15.107		

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Model	ZTS34815
Item	Condensation 結露特性
Object	+15V0.2A

Testing Circuitry Figure A

1. Condensation test

Testing procedure is as follows.

① Keeping and cooling the unit in a tank at -10℃ for an hour with the input off.

② Taking it out of the tank and dewing itself in a room where the temperature is 25℃ and the humidity is 40%RH.

③ Testing electrical characteristics of the unit to confirm there be no fault.

1．結露特性試験

入力を切った状態で、恒温槽で－１０℃に冷却しておき、約１時間後に恒温槽から取り出し、室温２５℃、湿度４０%RHの状態におき結露させ、その電気的特性の測定を行い、異常のないことを確認する。

2．Values

Item	Data	Testing Conditions
Output Voltage [V]	14.997	Input Volt.: 48V, Load Current:0.2A
Line Regulation [mV]	1	Input Volt.: 36～72V, Load Current:0.2A
Load Regulation [mV]	6	Input Volt.: 48V, Load Current:0～0.2A

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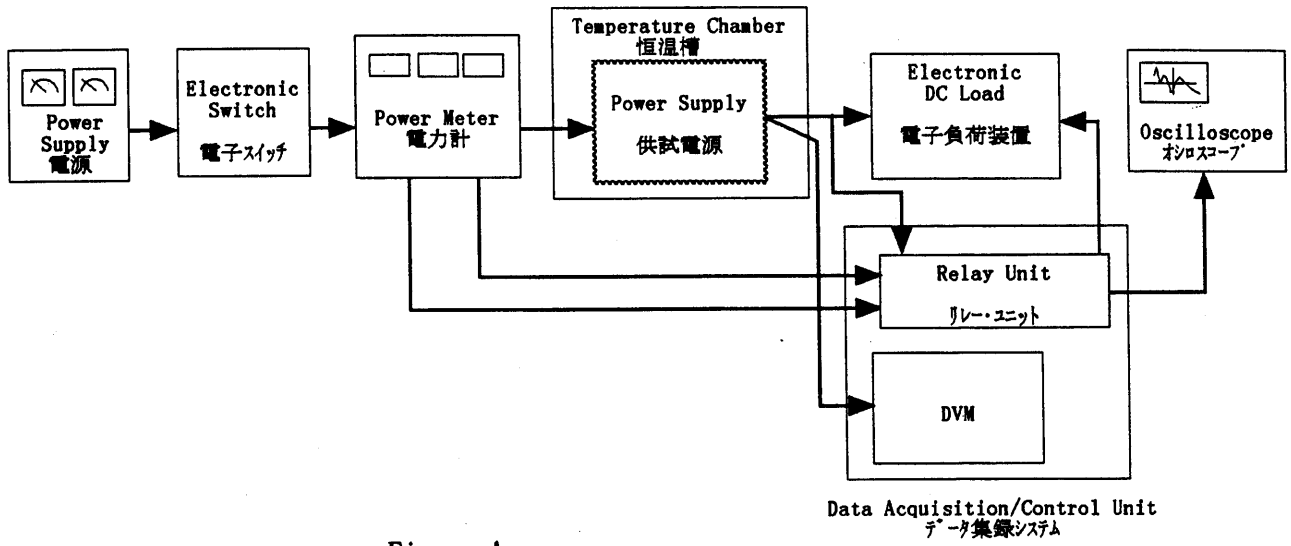

Figure A