



TEST DATA OF ZUS34812
(48.0V INPUT)

Regulated DC Power Supply

Date : Nov. 5. 1996

Approved by : T. Sugimori
Design Manager

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Design Engineer

コーセル株式会社

COSEL CO., LTD.

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Model		ZUS34812	Temperature		25°C																																									
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COSEL

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Item	Dynamic Load Responce 動的負荷変動	Testing Circuitry	Figure A
Object	+12V0.25A		

Input Volt. 48.0 V

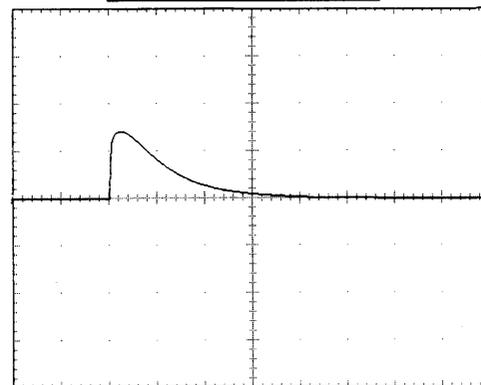
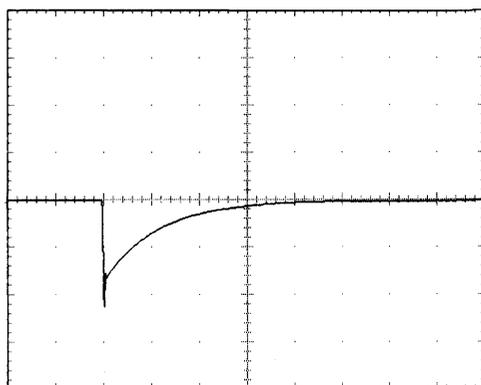
Cycle 100 mS

Load Current

Min. Load ↔

Load 100 %

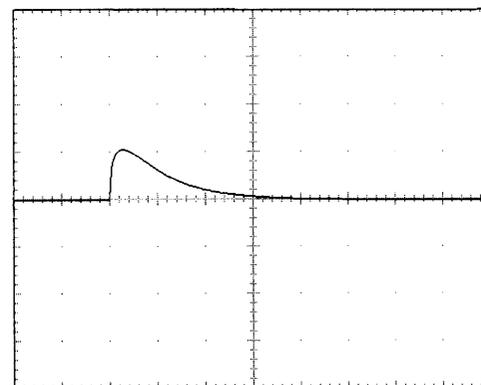
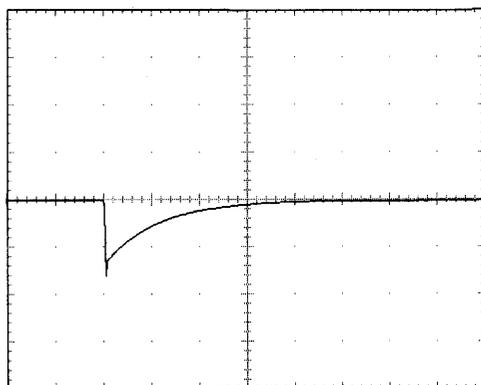
200 mV/div



Min. Load ↔

Load 50 %

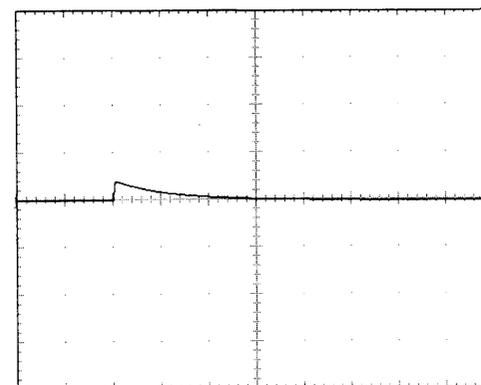
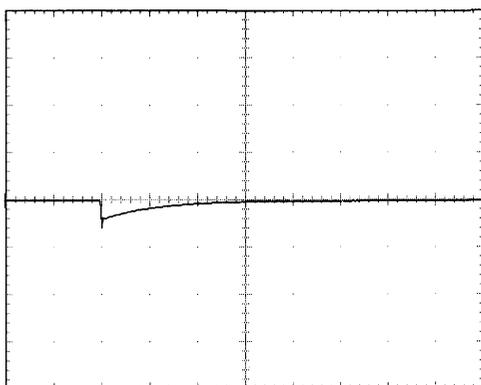
200 mV/div



Load 50% ↔

Load 100 %

200 mV/div



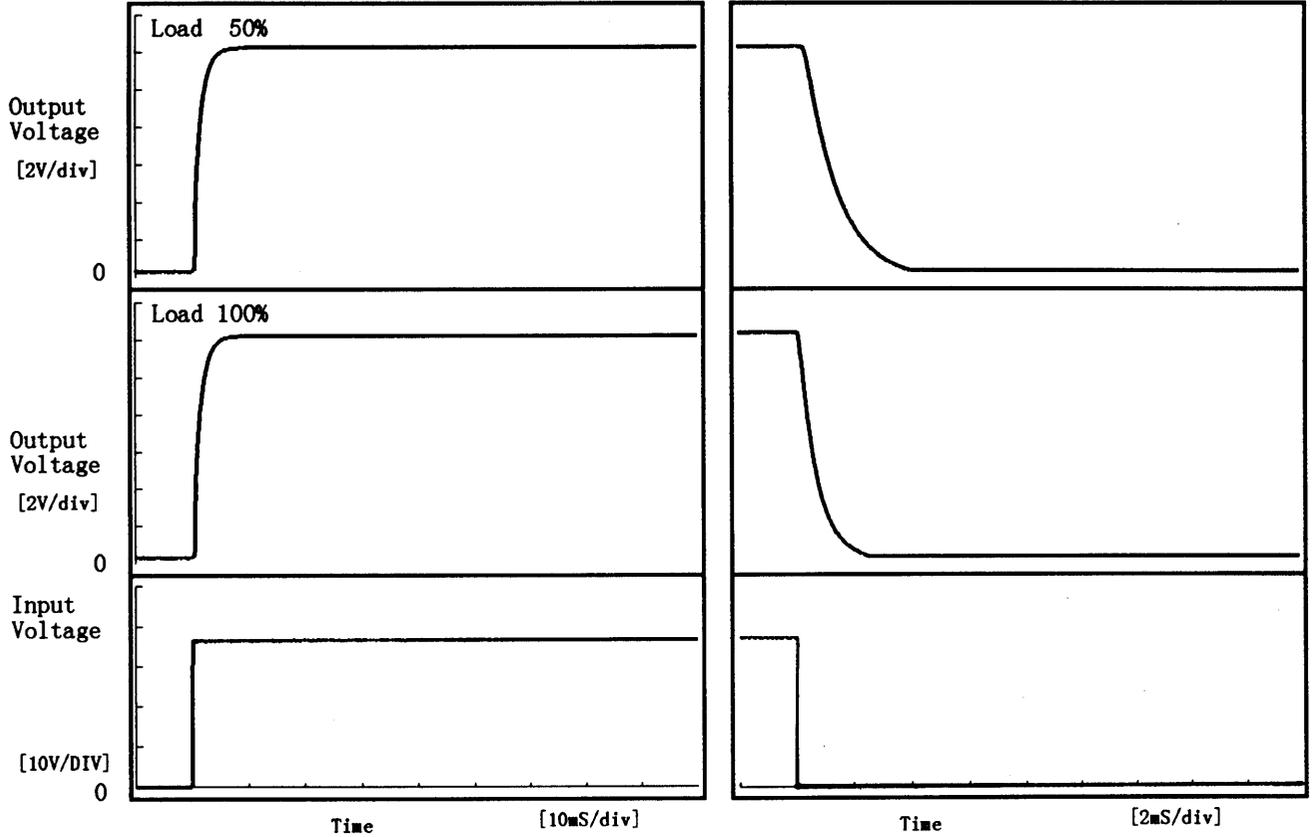
1 mS/div



Model	ZUS34812	Temperature	25°C
Item	Rise and Fall Time 立上り、立下り時間	Testing Circuitry	Figure A
Object	+12V0.25A		

1. Graph

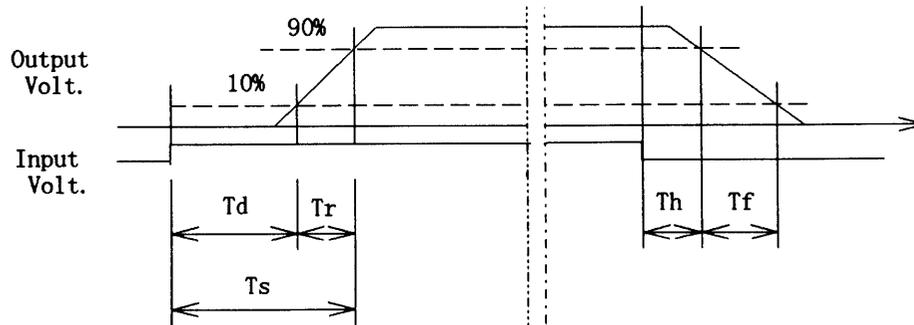
Input Volt. 36.0 V



2. Values

[mS]

Load \ Time	T d	T r	T s	T h	T f
50 %	0.45	2.65	3.10	0.49	2.22
100 %	0.45	2.65	3.10	0.22	1.31





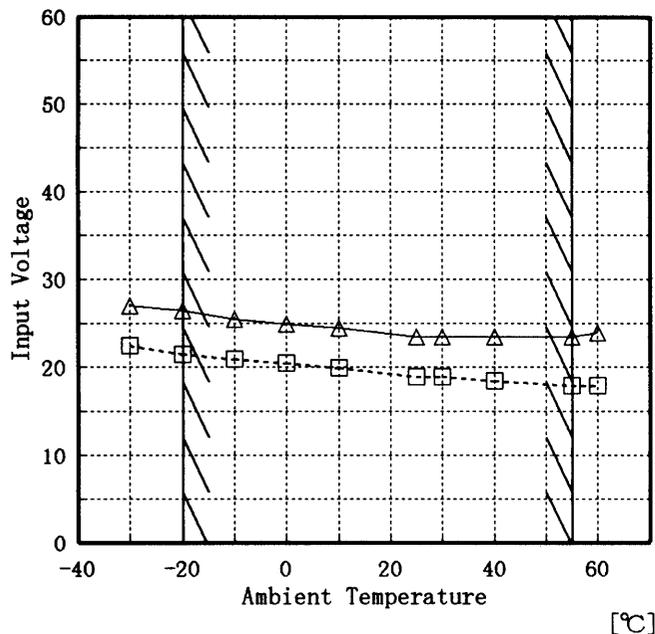
Model		ZUS34812																																																					
Item		Ambient Temperature Drift 周囲温度変動	Testing Circuitry Figure A																																																				
Object		+12V0.25A																																																					
1. Graph		<p>—△— Input Volt. 36.0V</p> <p>- - -□- - - Input Volt. 48.0V</p> <p>- - -○- - - Input Volt. 72.0V</p>	2. Values																																																				
<p>Output Voltage [V]</p> <p>Ambient Temperature [°C]</p> <p>Load 100%</p>		<table border="1"> <thead> <tr> <th rowspan="2">Temperature [°C]</th> <th>Input Volt. 36.0[V]</th> <th>Input Volt. 48.0[V]</th> <th>Input Volt. 72.0[V]</th> </tr> <tr> <th>Output Volt. [V]</th> <th>Output Volt. [V]</th> <th>Output Volt. [V]</th> </tr> </thead> <tbody> <tr><td>-30</td><td>11.938</td><td>11.938</td><td>11.938</td></tr> <tr><td>-20</td><td>11.942</td><td>11.943</td><td>11.942</td></tr> <tr><td>-10</td><td>11.945</td><td>11.945</td><td>11.946</td></tr> <tr><td>0</td><td>11.947</td><td>11.948</td><td>11.948</td></tr> <tr><td>10</td><td>11.949</td><td>11.950</td><td>11.950</td></tr> <tr><td>25</td><td>11.952</td><td>11.952</td><td>11.952</td></tr> <tr><td>30</td><td>11.955</td><td>11.955</td><td>11.955</td></tr> <tr><td>40</td><td>11.954</td><td>11.954</td><td>11.953</td></tr> <tr><td>55</td><td>11.952</td><td>11.952</td><td>11.952</td></tr> <tr><td>60</td><td>11.951</td><td>11.951</td><td>11.950</td></tr> <tr><td>-</td><td>-</td><td>-</td><td>-</td></tr> </tbody> </table>			Temperature [°C]	Input Volt. 36.0[V]	Input Volt. 48.0[V]	Input Volt. 72.0[V]	Output Volt. [V]	Output Volt. [V]	Output Volt. [V]	-30	11.938	11.938	11.938	-20	11.942	11.943	11.942	-10	11.945	11.945	11.946	0	11.947	11.948	11.948	10	11.949	11.950	11.950	25	11.952	11.952	11.952	30	11.955	11.955	11.955	40	11.954	11.954	11.953	55	11.952	11.952	11.952	60	11.951	11.951	11.950	-	-	-	-
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<p>Note: Slanted line shows the range of the rated ambient temperature.</p> <p>(注)斜線は定格周囲温度範囲を示す。</p>																																																							



Model	ZUS34812
Item	Minimum Input Voltage for Regulated Output Voltage 最低レギュレーション電圧
Object	+12V0.25A

Testing Circuitry Figure A

1. Graph
 [V]
 -----□----- Load 50%
 -----△----- Load 100%



2. Values

Ambient Temp. [°C]	Load 50%	Load 100%
	Input Volt. [V]	Input Volt. [V]
-30	22.4	26.9
-20	21.4	26.4
-10	20.9	25.4
0	20.4	24.9
10	19.9	24.4
25	18.9	23.4
30	18.9	23.4
40	18.4	23.4
55	17.9	23.4
60	17.9	23.9
—	—	—

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

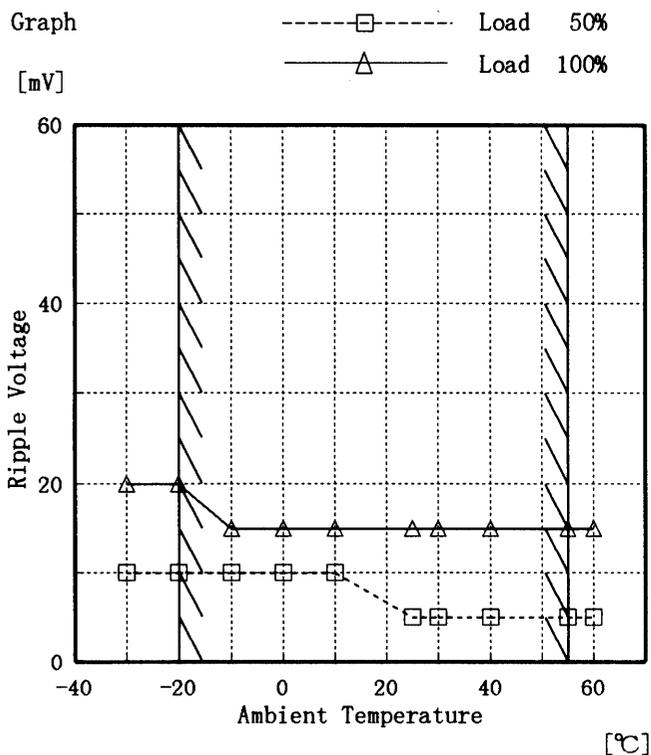
(注)斜線は定格周囲温度範囲を示す。



Model	ZUS34812
Item	Ripple Voltage (by Ambient Temp.) リップル電圧 (周囲温度特性)
Object	+12V0.25A

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

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



Model		ZUS34812																								
Item		Time Lapse Drift 経時ドリフト	Temperature	25 °C																						
Object		+12V0.25A	Testing Circuitry	Figure A																						
1. Graph			2. Values																							
<p>[V]</p> <p>Output Voltage [V]</p> <p>Time [H]</p> <p>Input Volt. 48V Load 100%</p>			<table border="1"> <thead> <tr> <th>Time since start [H]</th> <th>Output Voltage [V]</th> </tr> </thead> <tbody> <tr><td>0.0</td><td>11.955</td></tr> <tr><td>0.5</td><td>11.955</td></tr> <tr><td>1.0</td><td>11.955</td></tr> <tr><td>2.0</td><td>11.955</td></tr> <tr><td>3.0</td><td>11.955</td></tr> <tr><td>4.0</td><td>11.955</td></tr> <tr><td>5.0</td><td>11.955</td></tr> <tr><td>6.0</td><td>11.955</td></tr> <tr><td>7.0</td><td>11.955</td></tr> <tr><td>8.0</td><td>11.955</td></tr> </tbody> </table>		Time since start [H]	Output Voltage [V]	0.0	11.955	0.5	11.955	1.0	11.955	2.0	11.955	3.0	11.955	4.0	11.955	5.0	11.955	6.0	11.955	7.0	11.955	8.0	11.955
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7.0	11.955																									
8.0	11.955																									



Model		ZUS34812	Testing Circuitry Figure A
Item		Output Voltage Accuracy 定電圧精度	
Object		+12V0.25A	

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 °C
- Input Voltage : 36.0~72.0 V
- Load Current : 0.00~0.25 A

* Output Voltage Accuracy = $\pm (\text{Maximum of Output Voltage} - \text{Minimum of Output Voltage}) / 2$

* 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 °C
- 入力電圧 36.0~72.0 V
- 負荷電流 0.00~0.25 A

* 定電圧精度(変動値) = $\pm (\text{出力電圧の最高値} - \text{出力電圧の最低値}) / 2$

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

Item	Temperature [°C]	Input Voltage [V]	Output Current [A]	Output Voltage [V]	Output Voltage Accuracy [mV]	Output Voltage Accuracy (Ration) [%]
Maximum Voltage	25	72.0	0.00	11.960	±9	±0.1
Minimum Voltage	-20	36.0	0.25	11.943		



COSEL		
Model	ZUS34812	
Item	Condensation 結露特性	Testing Circuitry Figure A
Object	+12V0.25A	

1. Condensation test

Testing procedure is as follows.

- ① Keeping and cooling the unit in a tank at -10°C 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°C and the humidity is 40%RH.
- ③ Testing electrical characteristics of the unit to confirm there be no fault.
- ④ Repeating ①, ② and ③ three times.

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3度行い、異常のないことを確認する。

2. Values

	Times	Output Voltage [V]	Ripple Voltage [mV]	Ripple Noise [mV]
Load 50%	1	11.948	5	15
	2	11.947	5	15
	3	11.948	5	15
Load 100%	1	11.947	10	20
	2	11.946	10	20
	3	11.947	10	20

Input Volt. 48.0 V

COSEL

