



TEST DATA OF ZUS34805

(48.0V INPUT)

Regulated DC Power Supply

Date : Nov. 5. 1996

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Design Manager

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Design Engineer

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|----------|------------------------|-------------------|----------|
| Model | ZUS34805 | Temperature | 25℃ |
| Item | Line Regulation 静的入力変動 | Testing Circuitry | Figure A |
| Object | +5V0.6A | | |
| 1. Graph | | 2. Values | |

-----□----- Load 50%

-----△----- Load 100%

Output Voltage [V]

5.130

5.110

5.090

5.070

5.050

5.030

5.010

0

0

40

50

60

70

80

Input Voltage [V]

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

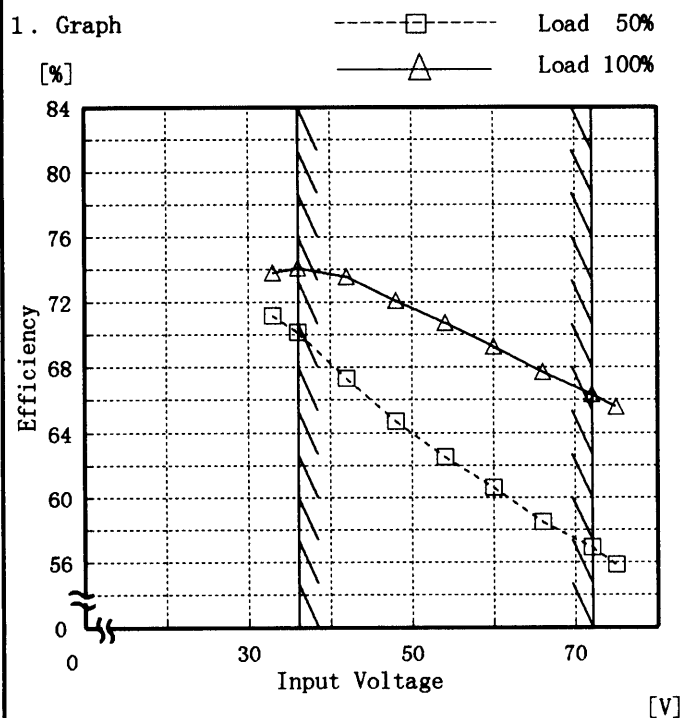
(注)斜線は定格入力電圧範囲を示す。

| Input Voltage [V] | Load 50% Output Volt. [V] | Load 100% Output Volt. [V] |
|-------------------|---------------------------|----------------------------|
| 33.0 | 5.058 | 5.057 |
| 36.0 | 5.058 | 5.057 |
| 42.0 | 5.058 | 5.056 |
| 48.0 | 5.058 | 5.056 |
| 54.0 | 5.058 | 5.056 |
| 60.0 | 5.058 | 5.056 |
| 66.0 | 5.058 | 5.056 |
| 72.0 | 5.058 | 5.056 |
| 75.0 | 5.058 | 5.056 |
| — | — | — |
| — | — | — |
| — | — | — |

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| | |
|--------|---------------|
| Model | ZUS34805 |
| Item | Efficiency 効率 |
| Object | |

Temperature 25℃
Testing Circuitry Figure A



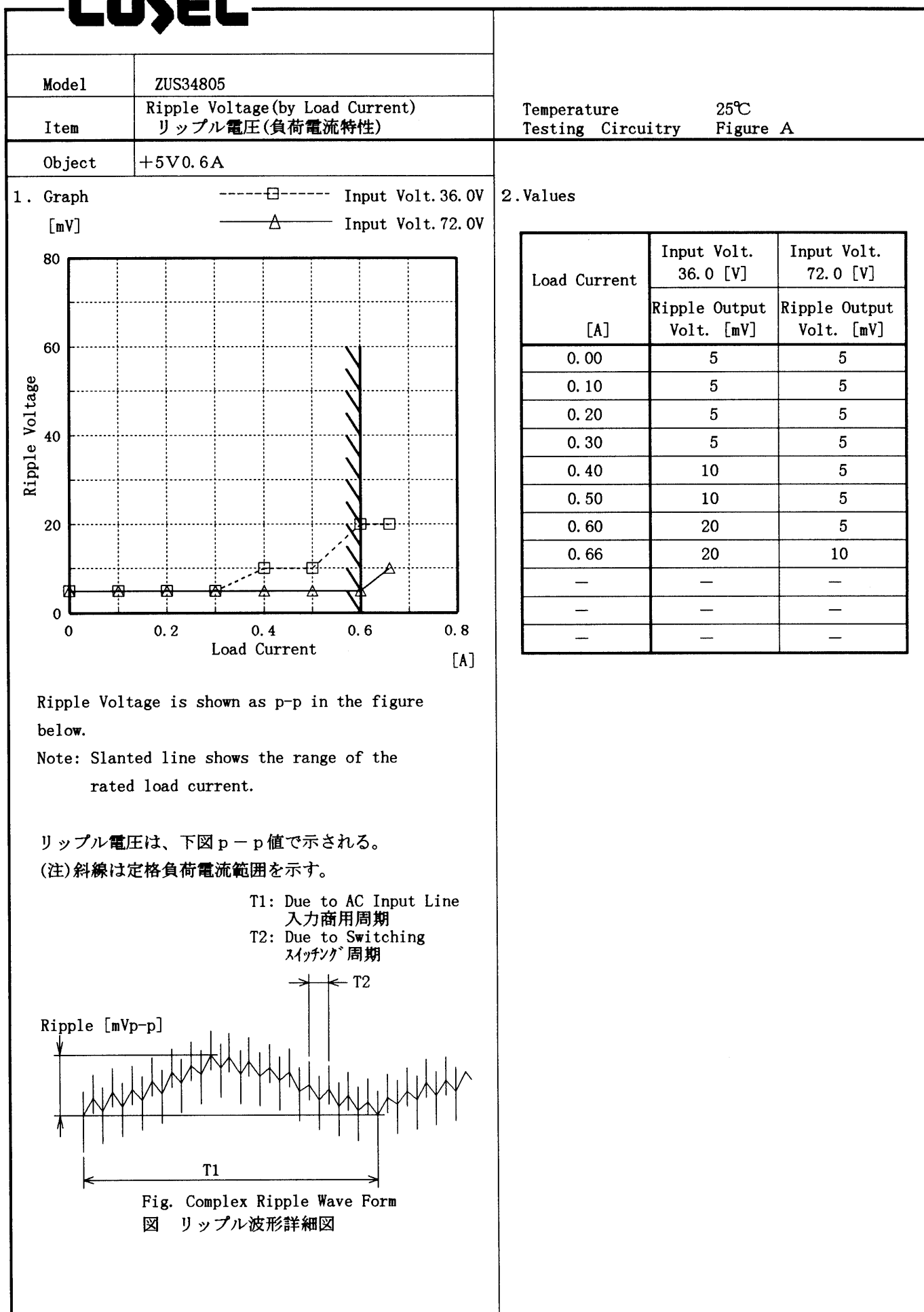
2. Values

| Input Voltage [V] | Load 50% | Load 100% |
|-------------------|----------------|----------------|
| | Efficiency [%] | Efficiency [%] |
| 33.0 | 71.2 | 73.8 |
| 36.0 | 70.2 | 74.1 |
| 42.0 | 67.3 | 73.6 |
| 48.0 | 64.7 | 72.1 |
| 54.0 | 62.5 | 70.7 |
| 60.0 | 60.6 | 69.3 |
| 66.0 | 58.5 | 67.7 |
| 72.0 | 56.9 | 66.4 |
| 75.0 | 55.8 | 65.6 |
| — | — | — |
| — | — | — |
| — | — | — |

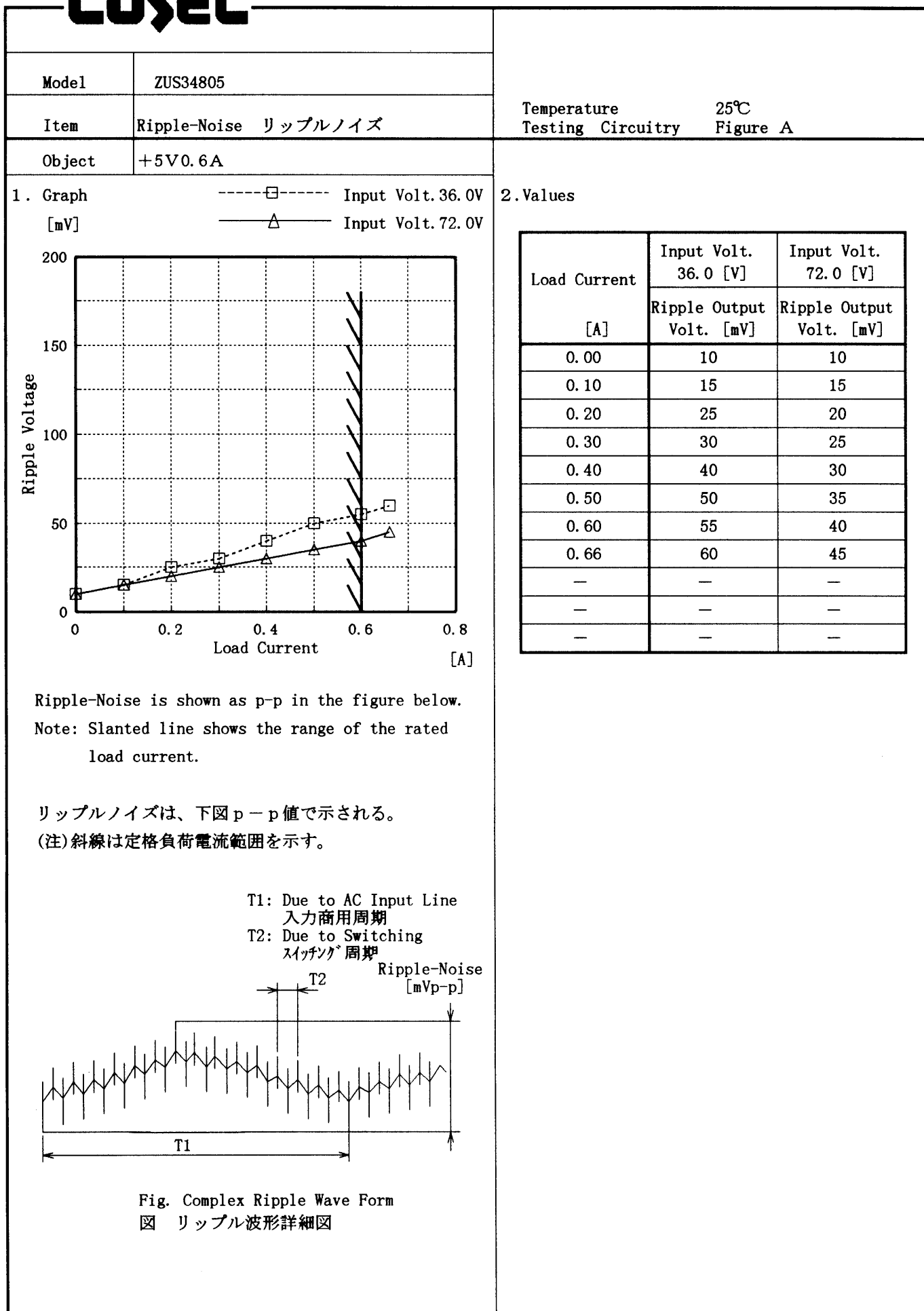
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| Model | | ZUS34805 | | Temperature 25℃ Testing Circuitry Figure A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|------------------------|------------------------|------------------------|---|--|---------------------|------------------------|------------------------|------------------------|---------------------|---------------------|---------------------|------|-------|-------|-------|------|-------|-------|-------|------|-------|-------|-------|------|-------|-------|-------|------|-------|-------|-------|------|-------|-------|-------|------|-------|-------|-------|------|-------|-------|-------|---|---|---|---|---|---|---|---|
| Item | | Load Regulation 静的負荷変動 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Object | | +5V0.6A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1. Graph | | | | 2. Values | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <div><div><div>—△—</div><div>---□---</div><div>---○---</div></div><div><div>Input Volt. 36.0V</div><div>Input Volt. 48.0V</div><div>Input Volt. 72.0V</div></div></div> <div><div>[V]</div><div>Output Voltage</div><div>Load Current</div><div>[A]</div></div> <div>Note: Slanted line shows the range of the rated load current.</div> <div>(注)斜線は定格負荷電流範囲を示す。</div> | | | | <table><tr><th rowspan="2">Load Current [A]</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><tr><td>0.00</td><td>5.060</td><td>5.060</td><td>5.065</td></tr><tr><td>0.10</td><td>5.059</td><td>5.059</td><td>5.060</td></tr><tr><td>0.20</td><td>5.059</td><td>5.059</td><td>5.059</td></tr><tr><td>0.30</td><td>5.058</td><td>5.058</td><td>5.058</td></tr><tr><td>0.40</td><td>5.058</td><td>5.058</td><td>5.058</td></tr><tr><td>0.50</td><td>5.057</td><td>5.057</td><td>5.057</td></tr><tr><td>0.60</td><td>5.057</td><td>5.057</td><td>5.057</td></tr><tr><td>0.66</td><td>5.057</td><td>5.057</td><td>5.056</td></tr><tr><td>—</td><td>—</td><td>—</td><td>—</td></tr><tr><td>—</td><td>—</td><td>—</td><td>—</td></tr></table> | | Load Current [A] | Input Volt. 36.0[V] | Input Volt. 48.0[V] | Input Volt. 72.0[V] | Output Volt. [V] | Output Volt. [V] | Output Volt. [V] | 0.00 | 5.060 | 5.060 | 5.065 | 0.10 | 5.059 | 5.059 | 5.060 | 0.20 | 5.059 | 5.059 | 5.059 | 0.30 | 5.058 | 5.058 | 5.058 | 0.40 | 5.058 | 5.058 | 5.058 | 0.50 | 5.057 | 5.057 | 5.057 | 0.60 | 5.057 | 5.057 | 5.057 | 0.66 | 5.057 | 5.057 | 5.056 | — | — | — | — | — | — | — | — |
| Load Current [A] | Input Volt. 36.0[V] | Input Volt. 48.0[V] | Input Volt. 72.0[V] | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Output Volt. [V] | Output Volt. [V] | Output Volt. [V] | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0.00 | 5.060 | 5.060 | 5.065 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0.10 | 5.059 | 5.059 | 5.060 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0.20 | 5.059 | 5.059 | 5.059 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0.30 | 5.058 | 5.058 | 5.058 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0.40 | 5.058 | 5.058 | 5.058 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0.50 | 5.057 | 5.057 | 5.057 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0.60 | 5.057 | 5.057 | 5.057 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0.66 | 5.057 | 5.057 | 5.056 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| — | — | — | — | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| — | — | — | — | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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|--------|--|---------------------------------|--|
| Model | | ZUS34805 | Temperature25℃ Testing Circuitry Figure A |
| Item | | Overcurrent Protection 過電流保護 | |
| Object | | +5V0.6A | |

1. Graph

[V]

Output Voltage

Load Current

~~~~~ Input Volt. 36.0V

\_\_\_\_\_ Input Volt. 48.0V

———— Input Volt. 72.0V

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] | Input Volt. 48.0[V] | Input Volt. 72.0[V] |
|--------------------|---------------------|---------------------|---------------------|
|                    | Load Current [A]    | Load Current [A]    | Load Current [A]    |
| 5.00               | 0.87                | 0.96                | 0.83                |
| 4.75               | 0.87                | 0.96                | 0.83                |
| 4.50               | 0.88                | 0.96                | 0.82                |
| 4.00               | 0.90                | 0.97                | 0.81                |
| 3.50               | 0.92                | 0.96                | 0.79                |
| 3.00               | 0.93                | 0.95                | 0.77                |
| 2.50               | 0.93                | 0.93                | 0.74                |
| 2.00               | 0.91                | 0.89                | 0.71                |
| 1.50               | 0.87                | 0.82                | 0.67                |
| 1.00               | 0.80                | 0.73                | 0.63                |
| 0.50               | 0.70                | 0.63                | 0.59                |
| 0.00               | 0.65                | 0.67                | 0.73                |



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|        |                                 |                   |          |
|--------|---------------------------------|-------------------|----------|
| Model  | ZUS34805                        | Temperature       | 25°C     |
| Item   | Dynamic Load Response<br>動的負荷変動 | Testing Circuitry | Figure A |
| Object | +5V0.6A                         |                   |          |

Input Volt. 48.0 V

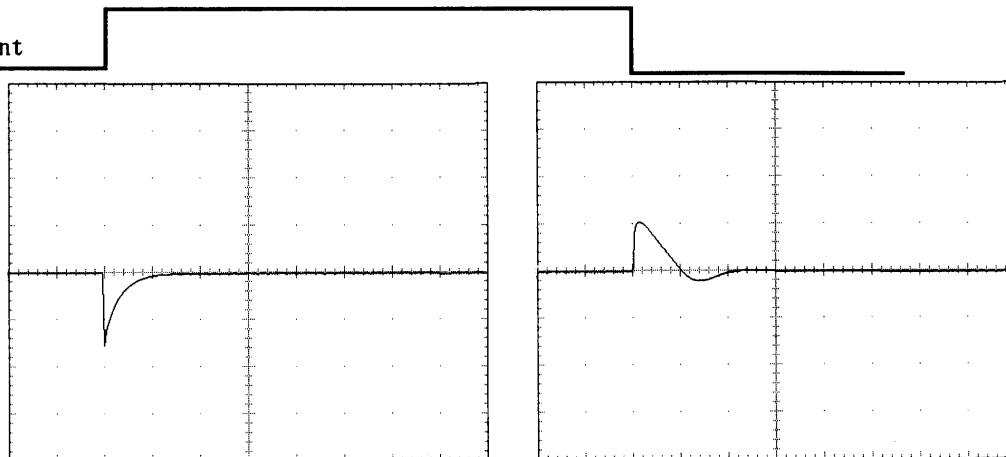
Cycle 100 mS

Load Current

Min. Load ↔

Load 100 %

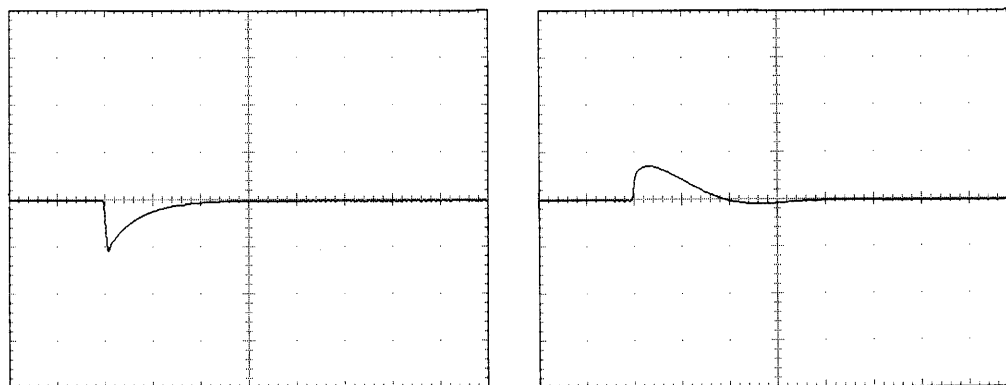
200 mV/div



Min. Load ↔

Load 50 %

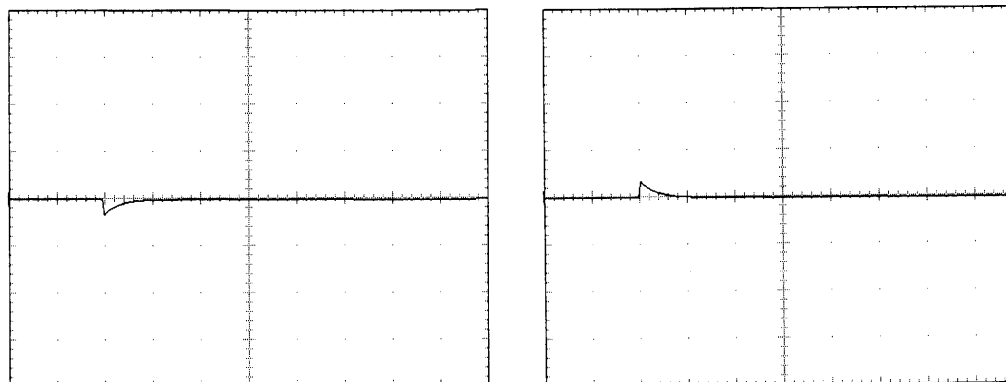
200 mV/div



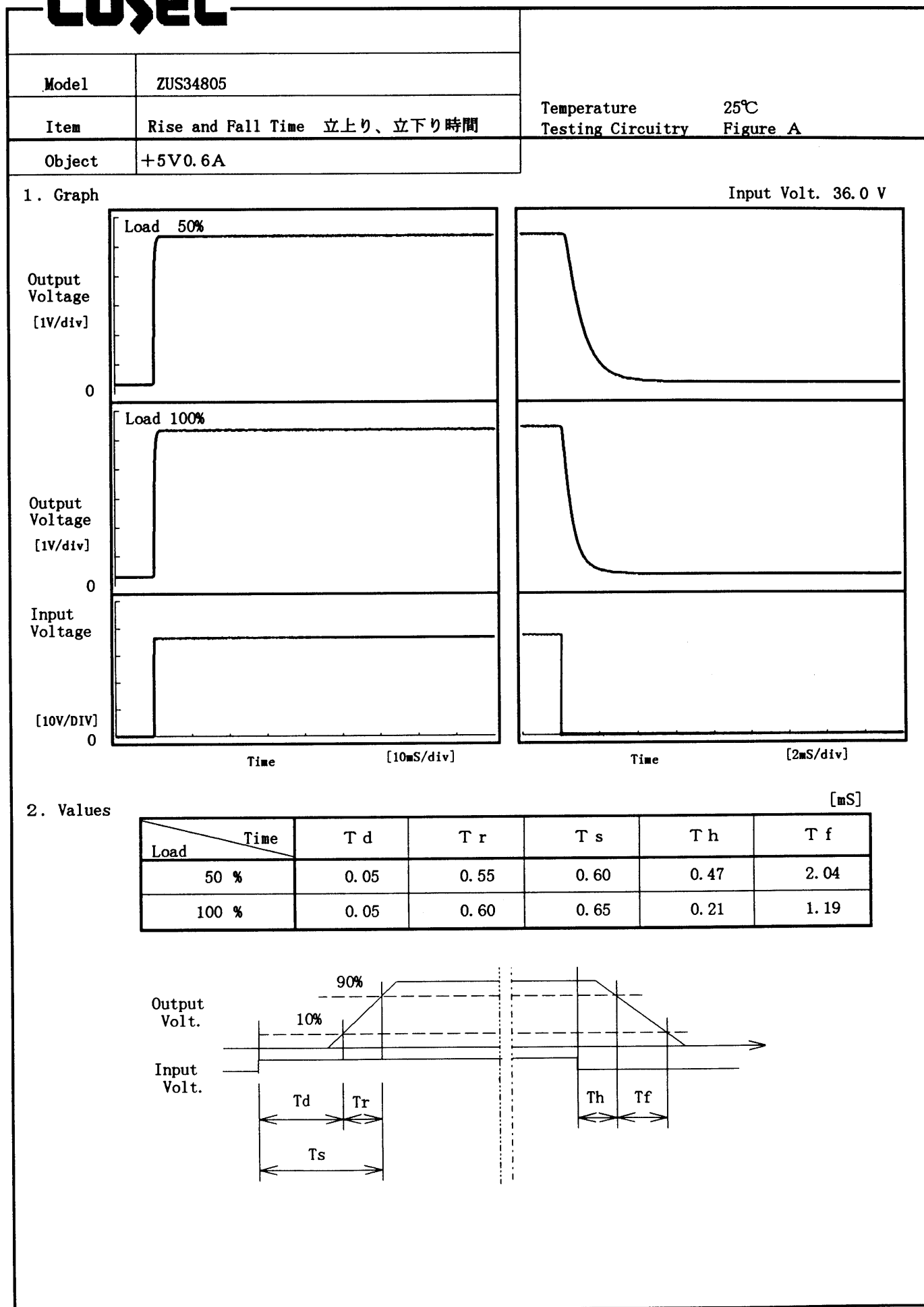
Load 50% ↔

Load 100 %

200 mV/div



1 mS/div

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| Model                                                                                                                                                                                                                                                                                                                         |                        | ZUS34805                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                        | Testing Circuitry    Figure A |                        |                        |                        |                     |                     |                     |     |       |       |       |     |       |       |       |     |       |       |       |   |       |       |       |    |       |       |       |    |       |       |       |    |       |       |       |    |       |       |       |    |       |       |       |    |       |       |       |   |   |   |   |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|-------------------------------|------------------------|------------------------|------------------------|---------------------|---------------------|---------------------|-----|-------|-------|-------|-----|-------|-------|-------|-----|-------|-------|-------|---|-------|-------|-------|----|-------|-------|-------|----|-------|-------|-------|----|-------|-------|-------|----|-------|-------|-------|----|-------|-------|-------|----|-------|-------|-------|---|---|---|---|
| Item                                                                                                                                                                                                                                                                                                                          |                        | Ambient Temperature Drift<br>周囲温度変動                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                        |                               |                        |                        |                        |                     |                     |                     |     |       |       |       |     |       |       |       |     |       |       |       |   |       |       |       |    |       |       |       |    |       |       |       |    |       |       |       |    |       |       |       |    |       |       |       |    |       |       |       |   |   |   |   |
| Object                                                                                                                                                                                                                                                                                                                        |                        | +5V0.6A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                        |                               |                        |                        |                        |                     |                     |                     |     |       |       |       |     |       |       |       |     |       |       |       |   |       |       |       |    |       |       |       |    |       |       |       |    |       |       |       |    |       |       |       |    |       |       |       |    |       |       |       |   |   |   |   |
| 1. Graph                                                                                                                                                                                                                                                                                                                      |                        | <div><div>—△—</div><div>---□---</div><div>---○---</div></div> <div><div>Input Volt. 36.0V</div><div>Input Volt. 48.0V</div><div>Input Volt. 72.0V</div></div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                        | 2. Values                     |                        |                        |                        |                     |                     |                     |     |       |       |       |     |       |       |       |     |       |       |       |   |       |       |       |    |       |       |       |    |       |       |       |    |       |       |       |    |       |       |       |    |       |       |       |    |       |       |       |   |   |   |   |
| <div><div>[V]</div><div><div>5.190</div><div>5.150</div><div>5.110</div><div>5.070</div><div>5.030</div><div>4.990</div><div>4.950</div><div>0</div></div><div>Output Voltage</div></div> <div><div>—40—</div><div>—20—</div><div>0</div><div>20</div><div>40</div><div>60</div></div> <div>Ambient Temperature    [°C]</div> |                        | <table><tr><th rowspan="2">Temperature<br/>[°C]</th><th>Input Volt.<br/>36.0[V]</th><th>Input Volt.<br/>48.0[V]</th><th>Input Volt.<br/>72.0[V]</th></tr><tr><th>Output<br/>Volt. [V]</th><th>Output<br/>Volt. [V]</th><th>Output<br/>Volt. [V]</th></tr><tr><td>-30</td><td>5.055</td><td>5.055</td><td>5.055</td></tr><tr><td>-20</td><td>5.056</td><td>5.056</td><td>5.056</td></tr><tr><td>-10</td><td>5.056</td><td>5.056</td><td>5.056</td></tr><tr><td>0</td><td>5.056</td><td>5.056</td><td>5.056</td></tr><tr><td>10</td><td>5.057</td><td>5.057</td><td>5.057</td></tr><tr><td>25</td><td>5.056</td><td>5.056</td><td>5.056</td></tr><tr><td>30</td><td>5.056</td><td>5.056</td><td>5.056</td></tr><tr><td>40</td><td>5.054</td><td>5.054</td><td>5.054</td></tr><tr><td>55</td><td>5.050</td><td>5.050</td><td>5.050</td></tr><tr><td>60</td><td>5.047</td><td>5.047</td><td>5.047</td></tr><tr><td>—</td><td>—</td><td>—</td><td>—</td></tr></table> |                        | Temperature<br>[°C]           | Input Volt.<br>36.0[V] | Input Volt.<br>48.0[V] | Input Volt.<br>72.0[V] | Output<br>Volt. [V] | Output<br>Volt. [V] | Output<br>Volt. [V] | -30 | 5.055 | 5.055 | 5.055 | -20 | 5.056 | 5.056 | 5.056 | -10 | 5.056 | 5.056 | 5.056 | 0 | 5.056 | 5.056 | 5.056 | 10 | 5.057 | 5.057 | 5.057 | 25 | 5.056 | 5.056 | 5.056 | 30 | 5.056 | 5.056 | 5.056 | 40 | 5.054 | 5.054 | 5.054 | 55 | 5.050 | 5.050 | 5.050 | 60 | 5.047 | 5.047 | 5.047 | — | — | — | — |
| Temperature<br>[°C]                                                                                                                                                                                                                                                                                                           | Input Volt.<br>36.0[V] | Input Volt.<br>48.0[V]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Input Volt.<br>72.0[V] |                               |                        |                        |                        |                     |                     |                     |     |       |       |       |     |       |       |       |     |       |       |       |   |       |       |       |    |       |       |       |    |       |       |       |    |       |       |       |    |       |       |       |    |       |       |       |    |       |       |       |   |   |   |   |
|                                                                                                                                                                                                                                                                                                                               | Output<br>Volt. [V]    | Output<br>Volt. [V]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Output<br>Volt. [V]    |                               |                        |                        |                        |                     |                     |                     |     |       |       |       |     |       |       |       |     |       |       |       |   |       |       |       |    |       |       |       |    |       |       |       |    |       |       |       |    |       |       |       |    |       |       |       |    |       |       |       |   |   |   |   |
| -30                                                                                                                                                                                                                                                                                                                           | 5.055                  | 5.055                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 5.055                  |                               |                        |                        |                        |                     |                     |                     |     |       |       |       |     |       |       |       |     |       |       |       |   |       |       |       |    |       |       |       |    |       |       |       |    |       |       |       |    |       |       |       |    |       |       |       |    |       |       |       |   |   |   |   |
| -20                                                                                                                                                                                                                                                                                                                           | 5.056                  | 5.056                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 5.056                  |                               |                        |                        |                        |                     |                     |                     |     |       |       |       |     |       |       |       |     |       |       |       |   |       |       |       |    |       |       |       |    |       |       |       |    |       |       |       |    |       |       |       |    |       |       |       |    |       |       |       |   |   |   |   |
| -10                                                                                                                                                                                                                                                                                                                           | 5.056                  | 5.056                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 5.056                  |                               |                        |                        |                        |                     |                     |                     |     |       |       |       |     |       |       |       |     |       |       |       |   |       |       |       |    |       |       |       |    |       |       |       |    |       |       |       |    |       |       |       |    |       |       |       |    |       |       |       |   |   |   |   |
| 0                                                                                                                                                                                                                                                                                                                             | 5.056                  | 5.056                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 5.056                  |                               |                        |                        |                        |                     |                     |                     |     |       |       |       |     |       |       |       |     |       |       |       |   |       |       |       |    |       |       |       |    |       |       |       |    |       |       |       |    |       |       |       |    |       |       |       |    |       |       |       |   |   |   |   |
| 10                                                                                                                                                                                                                                                                                                                            | 5.057                  | 5.057                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 5.057                  |                               |                        |                        |                        |                     |                     |                     |     |       |       |       |     |       |       |       |     |       |       |       |   |       |       |       |    |       |       |       |    |       |       |       |    |       |       |       |    |       |       |       |    |       |       |       |    |       |       |       |   |   |   |   |
| 25                                                                                                                                                                                                                                                                                                                            | 5.056                  | 5.056                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 5.056                  |                               |                        |                        |                        |                     |                     |                     |     |       |       |       |     |       |       |       |     |       |       |       |   |       |       |       |    |       |       |       |    |       |       |       |    |       |       |       |    |       |       |       |    |       |       |       |    |       |       |       |   |   |   |   |
| 30                                                                                                                                                                                                                                                                                                                            | 5.056                  | 5.056                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 5.056                  |                               |                        |                        |                        |                     |                     |                     |     |       |       |       |     |       |       |       |     |       |       |       |   |       |       |       |    |       |       |       |    |       |       |       |    |       |       |       |    |       |       |       |    |       |       |       |    |       |       |       |   |   |   |   |
| 40                                                                                                                                                                                                                                                                                                                            | 5.054                  | 5.054                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 5.054                  |                               |                        |                        |                        |                     |                     |                     |     |       |       |       |     |       |       |       |     |       |       |       |   |       |       |       |    |       |       |       |    |       |       |       |    |       |       |       |    |       |       |       |    |       |       |       |    |       |       |       |   |   |   |   |
| 55                                                                                                                                                                                                                                                                                                                            | 5.050                  | 5.050                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 5.050                  |                               |                        |                        |                        |                     |                     |                     |     |       |       |       |     |       |       |       |     |       |       |       |   |       |       |       |    |       |       |       |    |       |       |       |    |       |       |       |    |       |       |       |    |       |       |       |    |       |       |       |   |   |   |   |
| 60                                                                                                                                                                                                                                                                                                                            | 5.047                  | 5.047                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 5.047                  |                               |                        |                        |                        |                     |                     |                     |     |       |       |       |     |       |       |       |     |       |       |       |   |       |       |       |    |       |       |       |    |       |       |       |    |       |       |       |    |       |       |       |    |       |       |       |    |       |       |       |   |   |   |   |
| —                                                                                                                                                                                                                                                                                                                             | —                      | —                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | —                      |                               |                        |                        |                        |                     |                     |                     |     |       |       |       |     |       |       |       |     |       |       |       |   |       |       |       |    |       |       |       |    |       |       |       |    |       |       |       |    |       |       |       |    |       |       |       |    |       |       |       |   |   |   |   |
| <div>Load    100%</div> <div>Note: Slanted line shows the range of the rated<br/>ambient temperature.</div> <div>(注)斜線は定格周囲温度範囲を示す。</div>                                                                                                                                                                                     |                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                        |                               |                        |                        |                        |                     |                     |                     |     |       |       |       |     |       |       |       |     |       |       |       |   |       |       |       |    |       |       |       |    |       |       |       |    |       |       |       |    |       |       |       |    |       |       |       |    |       |       |       |   |   |   |   |

# COSEL

|        |                                                                    |          |
|--------|--------------------------------------------------------------------|----------|
| Model  |                                                                    | ZUS34805 |
| Item   | Minimum Input Voltage for Regulated Output Voltage<br>最低レギュレーション電圧 |          |
| Object | +5V0.6A                                                            |          |

1. Graph

-----□-----

Load 50%

-----△-----

Load 100%

Input Voltage

[V]

60

50

40

30

20

10

0

-40

-20

0

20

40

60

Ambient Temperature

[°C]

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。

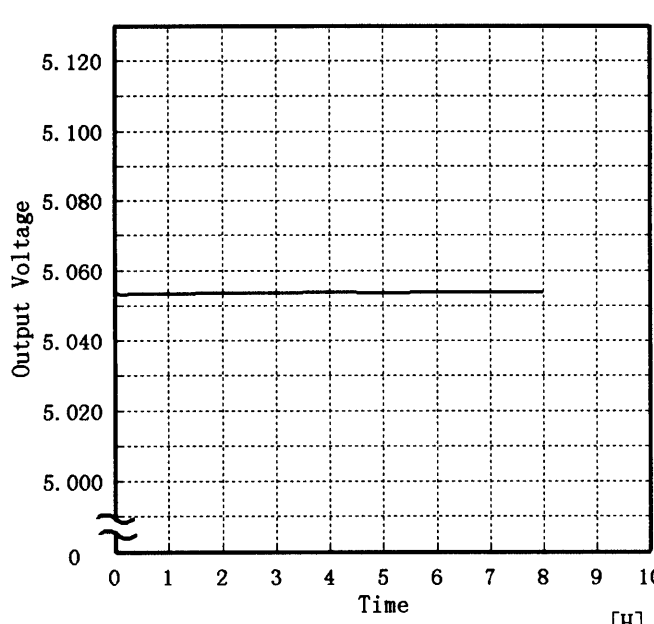
|                       |                    |                    |
|-----------------------|--------------------|--------------------|
| Ambient Temp.<br>[°C] | Load 50%           | Load 100%          |
|                       | Input Volt.<br>[V] | Input Volt.<br>[V] |
| -30                   | 21.4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

2. Values

# COSEL

| Model                 |                             | ZUS34805                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Testing Circuitry      Figure A |          |           |                             |                             |     |    |    |     |    |    |     |    |    |   |    |    |    |   |    |    |   |    |    |   |    |    |   |    |    |   |    |    |   |    |   |   |   |  |  |
|-----------------------|-----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|----------|-----------|-----------------------------|-----------------------------|-----|----|----|-----|----|----|-----|----|----|---|----|----|----|---|----|----|---|----|----|---|----|----|---|----|----|---|----|----|---|----|---|---|---|--|--|
| Item                  |                             | Ripple Voltage (by Ambient Temp.)<br>リップル電圧 (周囲温度特性)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                 |          |           |                             |                             |     |    |    |     |    |    |     |    |    |   |    |    |    |   |    |    |   |    |    |   |    |    |   |    |    |   |    |    |   |    |   |   |   |  |  |
| Object                |                             | +5V0.6A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                 |          |           |                             |                             |     |    |    |     |    |    |     |    |    |   |    |    |    |   |    |    |   |    |    |   |    |    |   |    |    |   |    |    |   |    |   |   |   |  |  |
| 1. Graph              |                             | <div><div>-----□-----</div>Load 50%</div> <div><div>——△——</div>Load 100%</div> <div><div>[mV]</div><div>80</div><div>60</div><div>40</div><div>20</div><div>0</div></div> <div><div>Ripple Voltage</div><div>[-40   -20   0   20   40   60]</div><div>Ambient Temperature</div><div>[°C]</div></div> <div>Input Volt. 36.0 V</div> <div>Note: Slanted line shows the range of the rated ambient temperature.</div> <div>(注)斜線は定格周囲温度範囲を示す。</div>                                                                                                                                                                                                                 | 2. Values                       |          |           |                             |                             |     |    |    |     |    |    |     |    |    |   |    |    |    |   |    |    |   |    |    |   |    |    |   |    |    |   |    |    |   |    |   |   |   |  |  |
|                       |                             | <table><tr><th rowspan="2">Ambient Temp.<br/>[°C]</th><th>Load 50%</th><th>Load 100%</th></tr><tr><th>Ripple Output<br/>Volt. [mV]</th><th>Ripple Output<br/>Volt. [mV]</th></tr><tr><td>-30</td><td>10</td><td>30</td></tr><tr><td>-20</td><td>10</td><td>30</td></tr><tr><td>-10</td><td>10</td><td>30</td></tr><tr><td>0</td><td>10</td><td>25</td></tr><tr><td>10</td><td>5</td><td>20</td></tr><tr><td>25</td><td>5</td><td>20</td></tr><tr><td>30</td><td>5</td><td>20</td></tr><tr><td>40</td><td>5</td><td>20</td></tr><tr><td>55</td><td>5</td><td>20</td></tr><tr><td>60</td><td>5</td><td>20</td></tr><tr><td>—</td><td>—</td><td>—</td></tr></table> | Ambient Temp.<br>[°C]           | Load 50% | Load 100% | Ripple Output<br>Volt. [mV] | Ripple Output<br>Volt. [mV] | -30 | 10 | 30 | -20 | 10 | 30 | -10 | 10 | 30 | 0 | 10 | 25 | 10 | 5 | 20 | 25 | 5 | 20 | 30 | 5 | 20 | 40 | 5 | 20 | 55 | 5 | 20 | 60 | 5 | 20 | — | — | — |  |  |
| Ambient Temp.<br>[°C] | Load 50%                    | Load 100%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                 |          |           |                             |                             |     |    |    |     |    |    |     |    |    |   |    |    |    |   |    |    |   |    |    |   |    |    |   |    |    |   |    |    |   |    |   |   |   |  |  |
|                       | Ripple Output<br>Volt. [mV] | Ripple Output<br>Volt. [mV]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                 |          |           |                             |                             |     |    |    |     |    |    |     |    |    |   |    |    |    |   |    |    |   |    |    |   |    |    |   |    |    |   |    |    |   |    |   |   |   |  |  |
| -30                   | 10                          | 30                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                 |          |           |                             |                             |     |    |    |     |    |    |     |    |    |   |    |    |    |   |    |    |   |    |    |   |    |    |   |    |    |   |    |    |   |    |   |   |   |  |  |
| -20                   | 10                          | 30                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                 |          |           |                             |                             |     |    |    |     |    |    |     |    |    |   |    |    |    |   |    |    |   |    |    |   |    |    |   |    |    |   |    |    |   |    |   |   |   |  |  |
| -10                   | 10                          | 30                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                 |          |           |                             |                             |     |    |    |     |    |    |     |    |    |   |    |    |    |   |    |    |   |    |    |   |    |    |   |    |    |   |    |    |   |    |   |   |   |  |  |
| 0                     | 10                          | 25                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                 |          |           |                             |                             |     |    |    |     |    |    |     |    |    |   |    |    |    |   |    |    |   |    |    |   |    |    |   |    |    |   |    |    |   |    |   |   |   |  |  |
| 10                    | 5                           | 20                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                 |          |           |                             |                             |     |    |    |     |    |    |     |    |    |   |    |    |    |   |    |    |   |    |    |   |    |    |   |    |    |   |    |    |   |    |   |   |   |  |  |
| 25                    | 5                           | 20                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                 |          |           |                             |                             |     |    |    |     |    |    |     |    |    |   |    |    |    |   |    |    |   |    |    |   |    |    |   |    |    |   |    |    |   |    |   |   |   |  |  |
| 30                    | 5                           | 20                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                 |          |           |                             |                             |     |    |    |     |    |    |     |    |    |   |    |    |    |   |    |    |   |    |    |   |    |    |   |    |    |   |    |    |   |    |   |   |   |  |  |
| 40                    | 5                           | 20                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                 |          |           |                             |                             |     |    |    |     |    |    |     |    |    |   |    |    |    |   |    |    |   |    |    |   |    |    |   |    |    |   |    |    |   |    |   |   |   |  |  |
| 55                    | 5                           | 20                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                 |          |           |                             |                             |     |    |    |     |    |    |     |    |    |   |    |    |    |   |    |    |   |    |    |   |    |    |   |    |    |   |    |    |   |    |   |   |   |  |  |
| 60                    | 5                           | 20                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                 |          |           |                             |                             |     |    |    |     |    |    |     |    |    |   |    |    |    |   |    |    |   |    |    |   |    |    |   |    |    |   |    |    |   |    |   |   |   |  |  |
| —                     | —                           | —                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                 |          |           |                             |                             |     |    |    |     |    |    |     |    |    |   |    |    |    |   |    |    |   |    |    |   |    |    |   |    |    |   |    |    |   |    |   |   |   |  |  |

**COSEL**

| Model                                                                                                                                                                                                      | ZUS34805                | Temperature                                                                                                                                                                                                                                                                                                                                                                                                                                    | 25 ℃     |                      |                    |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|----------------------|--------------------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|
| Item                                                                                                                                                                                                       | Time Lapse Drift 経時ドリフト | Testing Circuitry                                                                                                                                                                                                                                                                                                                                                                                                                              | Figure A |                      |                    |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |
| Object                                                                                                                                                                                                     | +5V0.6A                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                |          |                      |                    |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |
| 1. Graph                                                                                                                                                                                                   |                         | 2.Values                                                                                                                                                                                                                                                                                                                                                                                                                                       |          |                      |                    |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |
| <div>[V]</div> <div></div> <div>Output Voltage</div> <div>Time [H]</div> <div>Input Volt. 48V</div> <div>Load 100%</div> |                         | <table><tr><th>Time since start [H]</th><th>Output Voltage [V]</th></tr><tr><td>0.0</td><td>5.055</td></tr><tr><td>0.5</td><td>5.053</td></tr><tr><td>1.0</td><td>5.053</td></tr><tr><td>2.0</td><td>5.053</td></tr><tr><td>3.0</td><td>5.054</td></tr><tr><td>4.0</td><td>5.054</td></tr><tr><td>5.0</td><td>5.054</td></tr><tr><td>6.0</td><td>5.054</td></tr><tr><td>7.0</td><td>5.054</td></tr><tr><td>8.0</td><td>5.054</td></tr></table> |          | Time since start [H] | Output Voltage [V] | 0.0 | 5.055 | 0.5 | 5.053 | 1.0 | 5.053 | 2.0 | 5.053 | 3.0 | 5.054 | 4.0 | 5.054 | 5.0 | 5.054 | 6.0 | 5.054 | 7.0 | 5.054 | 8.0 | 5.054 |
| Time since start [H]                                                                                                                                                                                       | Output Voltage [V]      |                                                                                                                                                                                                                                                                                                                                                                                                                                                |          |                      |                    |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |
| 0.0                                                                                                                                                                                                        | 5.055                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                |          |                      |                    |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |
| 0.5                                                                                                                                                                                                        | 5.053                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                |          |                      |                    |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |
| 1.0                                                                                                                                                                                                        | 5.053                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                |          |                      |                    |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |
| 2.0                                                                                                                                                                                                        | 5.053                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                |          |                      |                    |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |
| 3.0                                                                                                                                                                                                        | 5.054                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                |          |                      |                    |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |
| 4.0                                                                                                                                                                                                        | 5.054                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                |          |                      |                    |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |
| 5.0                                                                                                                                                                                                        | 5.054                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                |          |                      |                    |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |
| 6.0                                                                                                                                                                                                        | 5.054                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                |          |                      |                    |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |
| 7.0                                                                                                                                                                                                        | 5.054                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                |          |                      |                    |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |
| 8.0                                                                                                                                                                                                        | 5.054                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                |          |                      |                    |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |

# COSEL

|        |  |                               |                            |
|--------|--|-------------------------------|----------------------------|
| Model  |  | ZUS34805                      | Testing Circuitry Figure A |
| Item   |  | Output Voltage Accuracy 定電圧精度 |                            |
| Object |  | +5V0.6A                       |                            |

## 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 : 0.0~0.6 A

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

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

## 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 : 0.0~0.6 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 (Ratio) [%] |
|-----------------|------------------|-------------------|--------------------|--------------------|------------------------------|-------------------------------------|
| Maximum Voltage | -20              | 72.0              | 0.0                | 5.083              | ±18                          | ±0.4                                |
| Minimum Voltage | 55               | 72.0              | 0.6                | 5.048              |                              |                                     |

**COSEL**

COL

|        |                   |                   |          |
|--------|-------------------|-------------------|----------|
| Model  | ZUS34805          |                   |          |
| Item   | Condensation 結露特性 | Testing Circuitry | Figure A |
| Object | +5V0.6A           |                   |          |

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.
- 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<br>[V] | Ripple Voltage<br>[mV] | Ripple Noise<br>[mV] |
|------------------|-------|-----------------------|------------------------|----------------------|
| Load<br>50<br>%  | 1     | 5.057                 | 5                      | 30                   |
|                  | 2     | 5.055                 | 5                      | 30                   |
|                  | 3     | 5.057                 | 5                      | 30                   |
| Load<br>100<br>% | 1     | 5.055                 | 15                     | 45                   |
|                  | 2     | 5.054                 | 15                     | 45                   |
|                  | 3     | 5.055                 | 15                     | 45                   |

Input Volt. 48.0 V



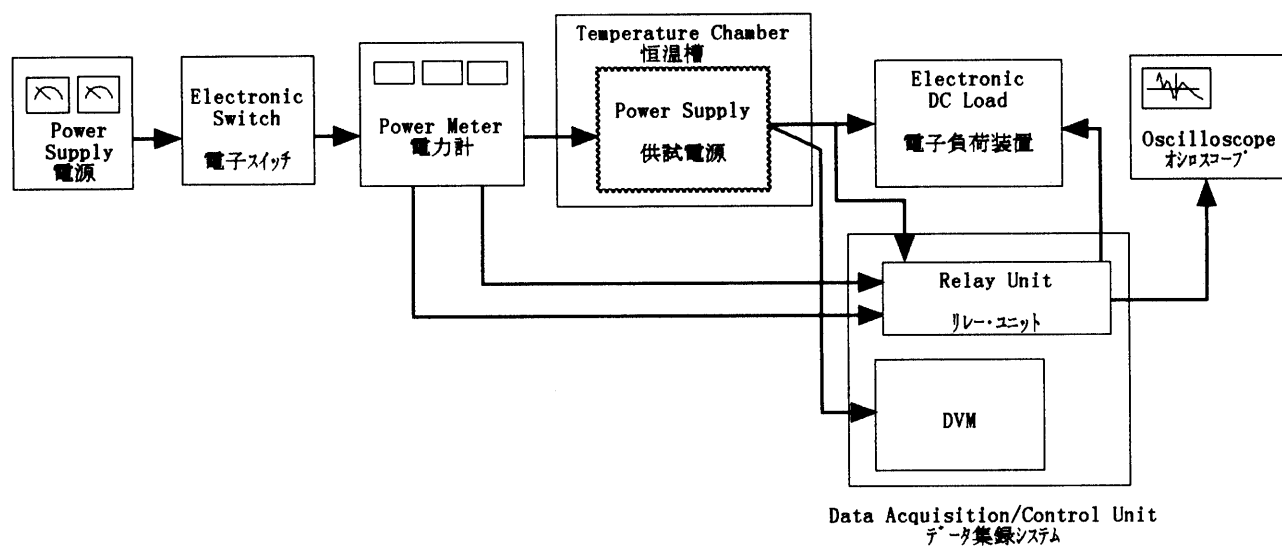
**COSEL**

Figure A