

TEST DATA OF MODULE 2G

(ACE series)

Regulated DC power supply
Jul.17.2003

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K.Shibutani Design Manager

Prepared by : *M. Hamaguchi*
M.Hamaguchi Design Engineer

COSEL CO.,LTD.

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|--|--------------------|---|-------------------|--------------------|--|----------|-----------|----|--------|--------|-----|--------|--------|-----|--------|--------|-----|--------|--------|-----|--------|--------|-----|--------|--------|----|---|---|----|---|---|----|---|---|
| Model | MODULE 2G | Temperature 25°C Testing Circuitry Figure A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Item | Line Regulation | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Object | +18V17A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>1.Graph</p> <p style="text-align: right;"> --- □ --- Load 50% ——— △ ——— Load 100% </p> | | <p>2.Values</p> <table border="1"> <thead> <tr> <th rowspan="2">Input Voltage [V]</th> <th colspan="2">Output Voltage [V]</th> </tr> <tr> <th>Load 50%</th> <th>Load 100%</th> </tr> </thead> <tbody> <tr><td>85</td><td>18.022</td><td>18.022</td></tr> <tr><td>100</td><td>18.022</td><td>18.022</td></tr> <tr><td>120</td><td>18.022</td><td>18.022</td></tr> <tr><td>200</td><td>18.022</td><td>18.022</td></tr> <tr><td>230</td><td>18.022</td><td>18.022</td></tr> <tr><td>264</td><td>18.023</td><td>18.022</td></tr> <tr><td>--</td><td>-</td><td>-</td></tr> <tr><td>--</td><td>-</td><td>-</td></tr> <tr><td>--</td><td>-</td><td>-</td></tr> </tbody> </table> | Input Voltage [V] | Output Voltage [V] | | Load 50% | Load 100% | 85 | 18.022 | 18.022 | 100 | 18.022 | 18.022 | 120 | 18.022 | 18.022 | 200 | 18.022 | 18.022 | 230 | 18.022 | 18.022 | 264 | 18.023 | 18.022 | -- | - | - | -- | - | - | -- | - | - |
| Input Voltage [V] | Output Voltage [V] | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Load 50% | Load 100% | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 85 | 18.022 | 18.022 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 100 | 18.022 | 18.022 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 120 | 18.022 | 18.022 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 200 | 18.022 | 18.022 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 230 | 18.022 | 18.022 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 264 | 18.023 | 18.022 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -- | - | - | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -- | - | - | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -- | - | - | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>Note: Slanted line shows the range of the rated input voltage.</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |



| Model | | MODULE 2G | Temperature 25°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|--------------------|--------------------|--|--|------------------|--------------------|--|--|--------------------|--------------------|--------------------|-----|--------|--------|--------|-----|--------|--------|--------|-----|--------|--------|--------|-----|--------|--------|--------|------|--------|--------|--------|------|--------|--------|--------|------|--------|--------|--------|------|--------|--------|--------|----|---|---|---|----|---|---|---|----|---|---|---|
| Item | | Load Regulation | Testing Circuitry Figure A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Object | | +18V17A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>1.Graph</p> <p>—△— Input Volt. 100V ---□--- Input Volt. 200V ---○--- Input Volt. 230V</p> <p>Output Voltage [V]</p> <p>Load Current [A]</p> <p>Note: Slanted line shows the range of the rated load current.</p> | | | <p>2.Values</p> <table border="1"> <thead> <tr> <th rowspan="2">Load Current [A]</th> <th colspan="3">Output Voltage [V]</th> </tr> <tr> <th>Input Volt. 100[V]</th> <th>Input Volt. 200[V]</th> <th>Input Volt. 230[V]</th> </tr> </thead> <tbody> <tr><td>0.0</td><td>18.022</td><td>18.022</td><td>18.023</td></tr> <tr><td>3.0</td><td>18.021</td><td>18.021</td><td>18.021</td></tr> <tr><td>6.0</td><td>18.020</td><td>18.022</td><td>18.022</td></tr> <tr><td>9.0</td><td>18.021</td><td>18.022</td><td>18.022</td></tr> <tr><td>12.0</td><td>18.021</td><td>18.022</td><td>18.022</td></tr> <tr><td>15.0</td><td>18.021</td><td>18.022</td><td>18.022</td></tr> <tr><td>17.0</td><td>18.021</td><td>18.022</td><td>18.022</td></tr> <tr><td>18.7</td><td>18.020</td><td>18.021</td><td>18.022</td></tr> <tr><td>--</td><td>-</td><td>-</td><td>-</td></tr> <tr><td>--</td><td>-</td><td>-</td><td>-</td></tr> <tr><td>--</td><td>-</td><td>-</td><td>-</td></tr> </tbody> </table> | | Load Current [A] | Output Voltage [V] | | | Input Volt. 100[V] | Input Volt. 200[V] | Input Volt. 230[V] | 0.0 | 18.022 | 18.022 | 18.023 | 3.0 | 18.021 | 18.021 | 18.021 | 6.0 | 18.020 | 18.022 | 18.022 | 9.0 | 18.021 | 18.022 | 18.022 | 12.0 | 18.021 | 18.022 | 18.022 | 15.0 | 18.021 | 18.022 | 18.022 | 17.0 | 18.021 | 18.022 | 18.022 | 18.7 | 18.020 | 18.021 | 18.022 | -- | - | - | - | -- | - | - | - | -- | - | - | - |
| Load Current [A] | Output Voltage [V] | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Input Volt. 100[V] | Input Volt. 200[V] | Input Volt. 230[V] | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0.0 | 18.022 | 18.022 | 18.023 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.0 | 18.021 | 18.021 | 18.021 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6.0 | 18.020 | 18.022 | 18.022 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9.0 | 18.021 | 18.022 | 18.022 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12.0 | 18.021 | 18.022 | 18.022 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 15.0 | 18.021 | 18.022 | 18.022 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 17.0 | 18.021 | 18.022 | 18.022 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 18.7 | 18.020 | 18.021 | 18.022 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -- | - | - | - | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -- | - | - | - | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -- | - | - | - | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

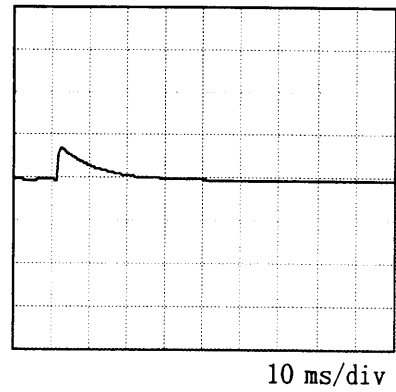
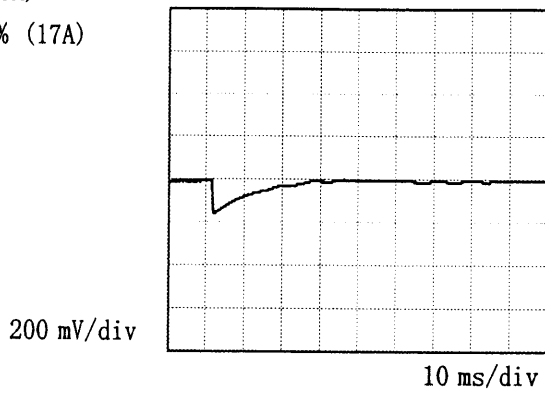


| | | | |
|--------|--|-----------------------|--|
| Model | | MODULE 2G | Temperature 25°C Testing Circuitry Figure A |
| Item | | Dynamic Load Response | |
| Object | | +18V17A | |

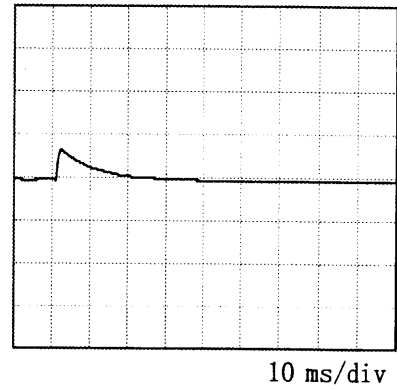
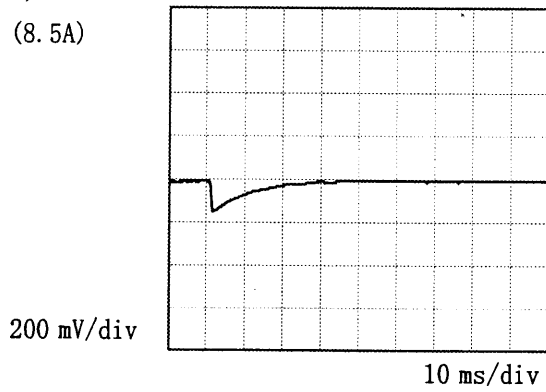
Input Volt. 100 V
Cycle 1000 mS



Min. Load (0A) ←→
Load 100% (17A)



Min. Load (0A) ←→
Load 50% (8.5A)



*The characteristic of AC200V is equal.

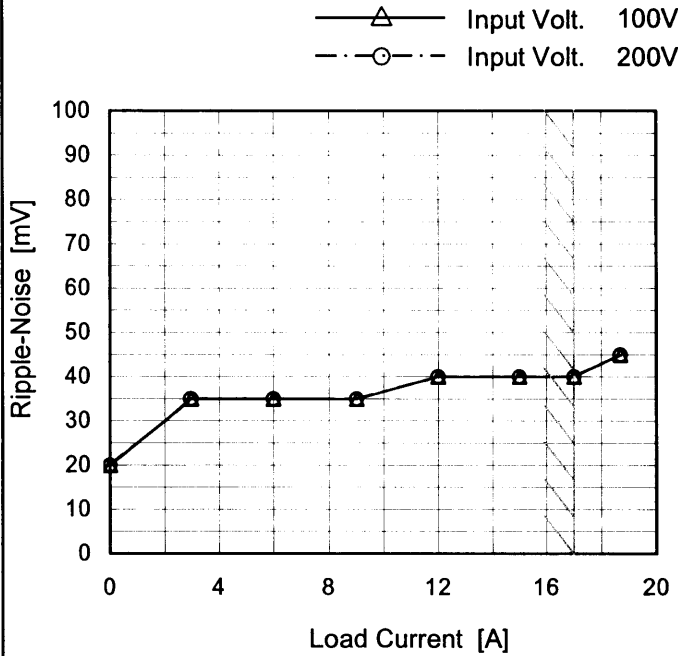


| <p>Model MODULE 2G</p> | | <p>Temperature 25°C Testing Circuitry Figure A</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---------------------|--|------------------|---------------------|--|---------------------|---------------------|-----|----|----|-----|----|----|-----|----|----|-----|----|----|------|----|----|------|----|----|------|----|----|------|----|----|----|---|---|----|---|---|----|---|---|
| <p>Item Ripple Voltage (by Load Current)</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>Object +18V17A</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>1. Graph</p> <div style="text-align: right;"> <p>—△— Input Volt. 100V - -○- - Input Volt. 200V</p> </div> <p style="text-align: center;">Ripple Voltage [mV]</p> <p style="text-align: center;">Load Current [A]</p> | | <p>2. Values</p> <table border="1"> <thead> <tr> <th rowspan="2">Load Current [A]</th> <th colspan="2">Ripple Voltage [mV]</th> </tr> <tr> <th>Input Volt. 100 [V]</th> <th>Input Volt. 200 [V]</th> </tr> </thead> <tbody> <tr><td>0.0</td><td>15</td><td>15</td></tr> <tr><td>3.0</td><td>25</td><td>25</td></tr> <tr><td>6.0</td><td>25</td><td>25</td></tr> <tr><td>9.0</td><td>25</td><td>25</td></tr> <tr><td>12.0</td><td>30</td><td>30</td></tr> <tr><td>15.0</td><td>30</td><td>30</td></tr> <tr><td>17.0</td><td>30</td><td>30</td></tr> <tr><td>18.7</td><td>30</td><td>30</td></tr> <tr><td>--</td><td>-</td><td>-</td></tr> <tr><td>--</td><td>-</td><td>-</td></tr> <tr><td>--</td><td>-</td><td>-</td></tr> </tbody> </table> | Load Current [A] | Ripple Voltage [mV] | | Input Volt. 100 [V] | Input Volt. 200 [V] | 0.0 | 15 | 15 | 3.0 | 25 | 25 | 6.0 | 25 | 25 | 9.0 | 25 | 25 | 12.0 | 30 | 30 | 15.0 | 30 | 30 | 17.0 | 30 | 30 | 18.7 | 30 | 30 | -- | - | - | -- | - | - | -- | - | - |
| Load Current [A] | Ripple Voltage [mV] | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Input Volt. 100 [V] | Input Volt. 200 [V] | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0.0 | 15 | 15 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.0 | 25 | 25 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6.0 | 25 | 25 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9.0 | 25 | 25 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12.0 | 30 | 30 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 15.0 | 30 | 30 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 17.0 | 30 | 30 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 18.7 | 30 | 30 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -- | - | - | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -- | - | - | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -- | - | - | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>Measured by 20 MHz Oscilloscope. Ripple Voltage is shown as p-p in the figure below. Note: Slanted line shows the range of the rated load current.</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <div style="text-align: center;"> <p>T1: Due to AC Input Line T2: Due to Switching</p> <p style="text-align: center;">Ripple [mVp-p]</p> <p style="text-align: center;">T1</p> <p style="text-align: center;">T2</p> </div> <p style="text-align: center;">Fig. Complex Ripple Wave Form</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |



| | | | |
|--------|--------------|-------------------|----------|
| Model | MODULE 2G | Temperature | 25°C |
| Item | Ripple-Noise | Testing Circuitry | Figure A |
| Object | +18V17A | | |

1. Graph



Measured by 20 MHz Oscilloscope.
 Ripple-Noise is shown as p-p in the figure below.
 Note: Slanted line shows the range of the rated load current.

2. Values

| Load Current [A] | Ripple-Noise [mV] | |
|------------------|---------------------|---------------------|
| | Input Volt. 100 [V] | Input Volt. 200 [V] |
| 0.0 | 20 | 20 |
| 3.0 | 35 | 35 |
| 6.0 | 35 | 35 |
| 9.0 | 35 | 35 |
| 12.0 | 40 | 40 |
| 15.0 | 40 | 40 |
| 17.0 | 40 | 40 |
| 18.7 | 45 | 45 |
| -- | - | - |
| -- | - | - |
| -- | - | - |

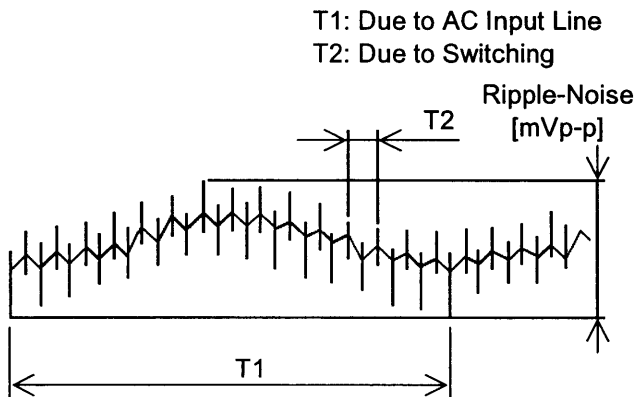


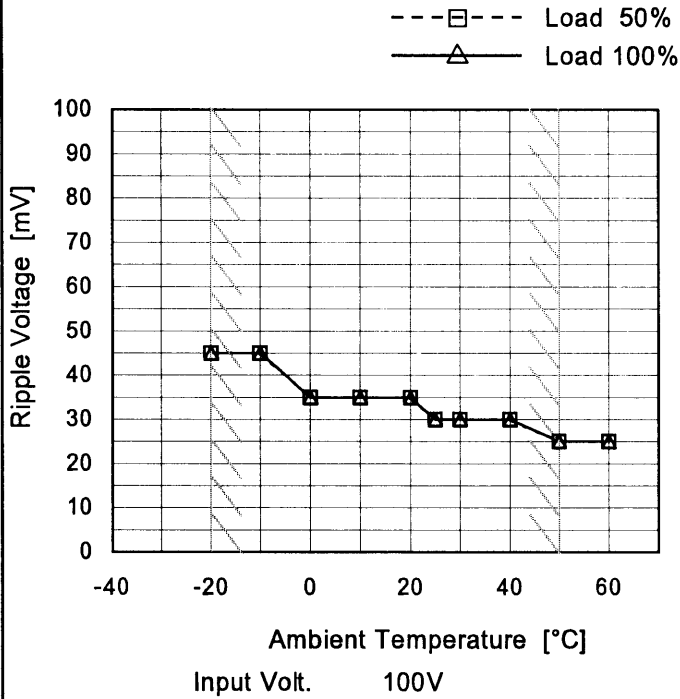
Fig. Complex Ripple Wave Form



| | |
|--------|-----------------------------------|
| Model | MODULE 2G |
| Item | Ripple Voltage (by Ambient Temp.) |
| Object | +18V17A |

Testing Circuitry Figure A

1. Graph



2. Values

| Ambient Temperature [°C] | Ripple Voltage [mV] | |
|--------------------------|---------------------|-----------|
| | Load 50% | Load 100% |
| -20 | 45 | 45 |
| -10 | 45 | 45 |
| 0 | 35 | 35 |
| 10 | 35 | 35 |
| 20 | 35 | 35 |
| 25 | 30 | 30 |
| 30 | 30 | 30 |
| 40 | 30 | 30 |
| 50 | 25 | 25 |
| 60 | 25 | 25 |
| -- | - | - |

Measured by 20 MHz Oscilloscope.

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



| Model | | MODULE 2G | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|--------------------|---|----------------------------|--|--------------------------|--------------------|--|--|--------------------|--------------------|--------------------|-----|--------|--------|--------|-----|--------|--------|--------|---|--------|--------|--------|----|--------|--------|--------|----|--------|--------|--------|----|--------|--------|--------|----|--------|--------|--------|----|--------|--------|--------|----|--------|--------|--------|----|--------|--------|--------|----|---|---|---|
| Item | | Ambient Temperature Drift | Testing Circuitry Figure A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Object | | +18V17A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1.Graph | | <p>—△— Input Volt. 100V</p> <p>---□--- Input Volt. 200V</p> <p>-·-○-·- Input Volt. 230V</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">Ambient Temperature [°C]</th> <th colspan="3">Output Voltage [V]</th> </tr> <tr> <th>Input Volt. 100[V]</th> <th>Input Volt. 200[V]</th> <th>Input Volt. 230[V]</th> </tr> </thead> <tbody> <tr><td>-20</td><td>18.047</td><td>18.047</td><td>18.047</td></tr> <tr><td>-10</td><td>18.045</td><td>18.045</td><td>18.045</td></tr> <tr><td>0</td><td>18.041</td><td>18.041</td><td>18.041</td></tr> <tr><td>10</td><td>18.037</td><td>18.037</td><td>18.037</td></tr> <tr><td>20</td><td>18.032</td><td>18.032</td><td>18.032</td></tr> <tr><td>25</td><td>18.031</td><td>18.031</td><td>18.030</td></tr> <tr><td>30</td><td>18.027</td><td>18.026</td><td>18.026</td></tr> <tr><td>40</td><td>18.017</td><td>18.016</td><td>18.015</td></tr> <tr><td>50</td><td>18.004</td><td>18.003</td><td>18.003</td></tr> <tr><td>60</td><td>17.992</td><td>17.992</td><td>17.992</td></tr> <tr><td>--</td><td>-</td><td>-</td><td>-</td></tr> </tbody> </table> | | | Ambient Temperature [°C] | Output Voltage [V] | | | Input Volt. 100[V] | Input Volt. 200[V] | Input Volt. 230[V] | -20 | 18.047 | 18.047 | 18.047 | -10 | 18.045 | 18.045 | 18.045 | 0 | 18.041 | 18.041 | 18.041 | 10 | 18.037 | 18.037 | 18.037 | 20 | 18.032 | 18.032 | 18.032 | 25 | 18.031 | 18.031 | 18.030 | 30 | 18.027 | 18.026 | 18.026 | 40 | 18.017 | 18.016 | 18.015 | 50 | 18.004 | 18.003 | 18.003 | 60 | 17.992 | 17.992 | 17.992 | -- | - | - | - |
| Ambient Temperature [°C] | Output Voltage [V] | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Input Volt. 100[V] | Input Volt. 200[V] | Input Volt. 230[V] | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -20 | 18.047 | 18.047 | 18.047 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -10 | 18.045 | 18.045 | 18.045 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0 | 18.041 | 18.041 | 18.041 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | 18.037 | 18.037 | 18.037 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 20 | 18.032 | 18.032 | 18.032 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 25 | 18.031 | 18.031 | 18.030 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 30 | 18.027 | 18.026 | 18.026 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 40 | 18.017 | 18.016 | 18.015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 50 | 18.004 | 18.003 | 18.003 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 60 | 17.992 | 17.992 | 17.992 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -- | - | - | - | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>Note: Slanted line shows the range of the rated ambient temperature.</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |



| | | |
|--------------|-------------------------|----------------------------|
| COSEL | | |
| Model | MODULE 2G | |
| Item | Output Voltage Accuracy | Testing Circuitry Figure A |
| Object | +18V17A | |

1. 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 - 50°C

Input Voltage : 85 - 264V

Load Current : 0 - 17A

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

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

2. Values

| Item | Temperature [°C] | Input Voltage[V] | Output | | Output Voltage Accuracy | |
|-----------------|------------------|------------------|------------|------------|-------------------------|------------|
| | | | Current[A] | Voltage[V] | Value [mV] | Ration [%] |
| Maximum Voltage | 20 | 264 | 0 | 18.033 | ±16 | ±0.1 |
| Minimum Voltage | 50 | 264 | 17 | 18.001 | | |



| Model | MODULE 2G | | | | | | | | | | | | | | | | | | | | | | | |
|---|--------------------|--|----------------------|--------------------|-----|--------|-----|--------|-----|--------|-----|--------|-----|--------|-----|--------|-----|--------|-----|--------|-----|--------|-----|--------|
| Item | Time Lapse Drift | Temperature 25°C Testing Circuitry Figure A | | | | | | | | | | | | | | | | | | | | | | |
| Object | +18V17A | | | | | | | | | | | | | | | | | | | | | | | |
| 1.Graph | | 2.Values | | | | | | | | | | | | | | | | | | | | | | |
| <p style="text-align: center;">Time [H]</p> <p style="text-align: center;">Input Volt. 100V 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>18.026</td></tr> <tr><td>0.5</td><td>18.015</td></tr> <tr><td>1.0</td><td>18.015</td></tr> <tr><td>2.0</td><td>18.014</td></tr> <tr><td>3.0</td><td>18.015</td></tr> <tr><td>4.0</td><td>18.015</td></tr> <tr><td>5.0</td><td>18.015</td></tr> <tr><td>6.0</td><td>18.015</td></tr> <tr><td>7.0</td><td>18.015</td></tr> <tr><td>8.0</td><td>18.015</td></tr> </tbody> </table> | Time since start [H] | Output Voltage [V] | 0.0 | 18.026 | 0.5 | 18.015 | 1.0 | 18.015 | 2.0 | 18.014 | 3.0 | 18.015 | 4.0 | 18.015 | 5.0 | 18.015 | 6.0 | 18.015 | 7.0 | 18.015 | 8.0 | 18.015 |
| Time since start [H] | Output Voltage [V] | | | | | | | | | | | | | | | | | | | | | | | |
| 0.0 | 18.026 | | | | | | | | | | | | | | | | | | | | | | | |
| 0.5 | 18.015 | | | | | | | | | | | | | | | | | | | | | | | |
| 1.0 | 18.015 | | | | | | | | | | | | | | | | | | | | | | | |
| 2.0 | 18.014 | | | | | | | | | | | | | | | | | | | | | | | |
| 3.0 | 18.015 | | | | | | | | | | | | | | | | | | | | | | | |
| 4.0 | 18.015 | | | | | | | | | | | | | | | | | | | | | | | |
| 5.0 | 18.015 | | | | | | | | | | | | | | | | | | | | | | | |
| 6.0 | 18.015 | | | | | | | | | | | | | | | | | | | | | | | |
| 7.0 | 18.015 | | | | | | | | | | | | | | | | | | | | | | | |
| 8.0 | 18.015 | | | | | | | | | | | | | | | | | | | | | | | |
| * The characteristic of AC200V is equal. | | | | | | | | | | | | | | | | | | | | | | | | |



| <p>Model MODULE 2G</p> <p>Item Overcurrent Protection</p> <p>Object +18V17A</p> | | <p>Temperature 25°C</p> <p>Testing Circuitry Figure A</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|--------------------|--|--------------------|------------------|--|--|--------------------|--------------------|--------------------|------|-------|-------|-------|------|-------|-------|-------|------|-------|-------|-------|------|-------|-------|-------|------|-------|-------|-------|------|-------|-------|-------|----|---|---|---|----|---|---|---|----|---|---|---|----|---|---|---|----|---|---|---|----|---|---|---|----|---|---|---|
| <p>1.Graph</p> <p> Input Volt. 100V Input Volt. 200V Input Volt. 230V </p> <p>Output Voltage [V]</p> <p>Load Current [A]</p> <p>Note: Slanted line shows the range of the rated load current.</p> <p>Intermittent operation occurs when the output voltage is from 10V to 0V.</p> | | <p>2.Values</p> <table border="1"> <thead> <tr> <th rowspan="2">Output Voltage [V]</th> <th colspan="3">Load Current [A]</th> </tr> <tr> <th>Input Volt. 100[V]</th> <th>Input Volt. 200[V]</th> <th>Input Volt. 230[V]</th> </tr> </thead> <tbody> <tr><td>18.0</td><td>24.70</td><td>24.80</td><td>24.81</td></tr> <tr><td>17.1</td><td>24.79</td><td>24.89</td><td>24.90</td></tr> <tr><td>16.2</td><td>24.91</td><td>25.01</td><td>25.02</td></tr> <tr><td>14.4</td><td>25.17</td><td>25.33</td><td>25.32</td></tr> <tr><td>12.6</td><td>25.49</td><td>25.58</td><td>25.58</td></tr> <tr><td>10.8</td><td>25.80</td><td>25.85</td><td>25.85</td></tr> <tr><td>--</td><td>-</td><td>-</td><td>-</td></tr> <tr><td>--</td><td>-</td><td>-</td><td>-</td></tr> <tr><td>--</td><td>-</td><td>-</td><td>-</td></tr> <tr><td>--</td><td>-</td><td>-</td><td>-</td></tr> <tr><td>--</td><td>-</td><td>-</td><td>-</td></tr> <tr><td>--</td><td>-</td><td>-</td><td>-</td></tr> <tr><td>--</td><td>-</td><td>-</td><td>-</td></tr> </tbody> </table> | Output Voltage [V] | Load Current [A] | | | Input Volt. 100[V] | Input Volt. 200[V] | Input Volt. 230[V] | 18.0 | 24.70 | 24.80 | 24.81 | 17.1 | 24.79 | 24.89 | 24.90 | 16.2 | 24.91 | 25.01 | 25.02 | 14.4 | 25.17 | 25.33 | 25.32 | 12.6 | 25.49 | 25.58 | 25.58 | 10.8 | 25.80 | 25.85 | 25.85 | -- | - | - | - | -- | - | - | - | -- | - | - | - | -- | - | - | - | -- | - | - | - | -- | - | - | - | -- | - | - | - |
| Output Voltage [V] | Load Current [A] | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Input Volt. 100[V] | Input Volt. 200[V] | Input Volt. 230[V] | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 18.0 | 24.70 | 24.80 | 24.81 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 17.1 | 24.79 | 24.89 | 24.90 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 16.2 | 24.91 | 25.01 | 25.02 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 14.4 | 25.17 | 25.33 | 25.32 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12.6 | 25.49 | 25.58 | 25.58 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10.8 | 25.80 | 25.85 | 25.85 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -- | - | - | - | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -- | - | - | - | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -- | - | - | - | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -- | - | - | - | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -- | - | - | - | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -- | - | - | - | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -- | - | - | - | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |



| <p>Model MODULE 2G</p> <p>Item Overvoltage Protection</p> <p>Object +18V17A</p> | | <p>Testing Circuitry Figure A</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---------------------|-----------------------------------|--|--------------------------|---------------------|--|--|--------------------|--------------------|--------------------|-----|-------|-------|-------|-----|-------|-------|-------|---|-------|-------|-------|----|-------|-------|-------|----|-------|-------|-------|----|-------|-------|-------|----|-------|-------|-------|----|-------|-------|-------|----|-------|-------|-------|----|-------|-------|-------|----|---|---|
| <p>1.Graph</p> <p> —△— Input Volt. 100V ---□--- Input Volt. 200V -·-○-·- Input Volt. 230V </p> <p>Operating Point [V]</p> <p>Ambient Temperature [°C]</p> <p>Load 0%</p> <p>Note: Slanted line shows the range of the rated ambient temperature.</p> | | | <p>2.Values</p> <table border="1"> <thead> <tr> <th rowspan="2">Ambient Temperature [°C]</th> <th colspan="3">Operating Point [V]</th> </tr> <tr> <th>Input Volt. 100[V]</th> <th>Input Volt. 200[V]</th> <th>Input Volt. 230[V]</th> </tr> </thead> <tbody> <tr><td>-20</td><td>22.85</td><td>22.73</td><td>22.79</td></tr> <tr><td>-10</td><td>23.03</td><td>23.03</td><td>22.97</td></tr> <tr><td>0</td><td>23.20</td><td>23.08</td><td>23.08</td></tr> <tr><td>10</td><td>23.38</td><td>23.32</td><td>23.32</td></tr> <tr><td>20</td><td>23.56</td><td>23.56</td><td>23.50</td></tr> <tr><td>25</td><td>23.68</td><td>23.56</td><td>23.62</td></tr> <tr><td>30</td><td>23.73</td><td>23.68</td><td>23.68</td></tr> <tr><td>40</td><td>23.85</td><td>23.85</td><td>23.85</td></tr> <tr><td>50</td><td>24.09</td><td>24.03</td><td>24.03</td></tr> <tr><td>60</td><td>24.20</td><td>24.20</td><td>24.20</td></tr> <tr><td>--</td><td>-</td><td>-</td><td>-</td></tr> </tbody> </table> | Ambient Temperature [°C] | Operating Point [V] | | | Input Volt. 100[V] | Input Volt. 200[V] | Input Volt. 230[V] | -20 | 22.85 | 22.73 | 22.79 | -10 | 23.03 | 23.03 | 22.97 | 0 | 23.20 | 23.08 | 23.08 | 10 | 23.38 | 23.32 | 23.32 | 20 | 23.56 | 23.56 | 23.50 | 25 | 23.68 | 23.56 | 23.62 | 30 | 23.73 | 23.68 | 23.68 | 40 | 23.85 | 23.85 | 23.85 | 50 | 24.09 | 24.03 | 24.03 | 60 | 24.20 | 24.20 | 24.20 | -- | - | - |
| Ambient Temperature [°C] | Operating Point [V] | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Input Volt. 100[V] | Input Volt. 200[V] | Input Volt. 230[V] | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -20 | 22.85 | 22.73 | 22.79 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -10 | 23.03 | 23.03 | 22.97 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0 | 23.20 | 23.08 | 23.08 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | 23.38 | 23.32 | 23.32 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 20 | 23.56 | 23.56 | 23.50 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 25 | 23.68 | 23.56 | 23.62 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 30 | 23.73 | 23.68 | 23.68 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 40 | 23.85 | 23.85 | 23.85 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 50 | 24.09 | 24.03 | 24.03 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 60 | 24.20 | 24.20 | 24.20 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -- | - | - | - | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

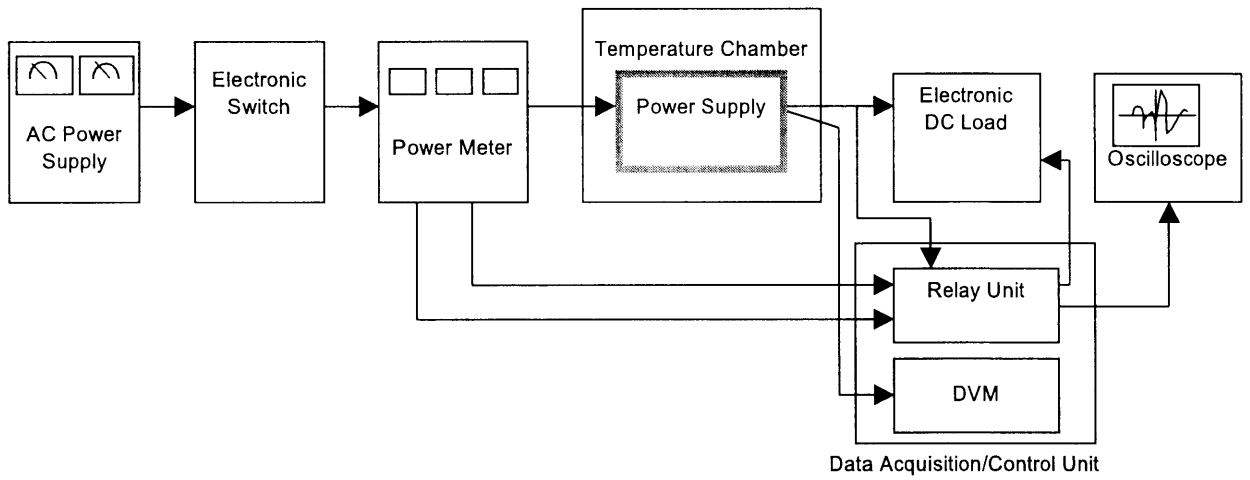


Figure A

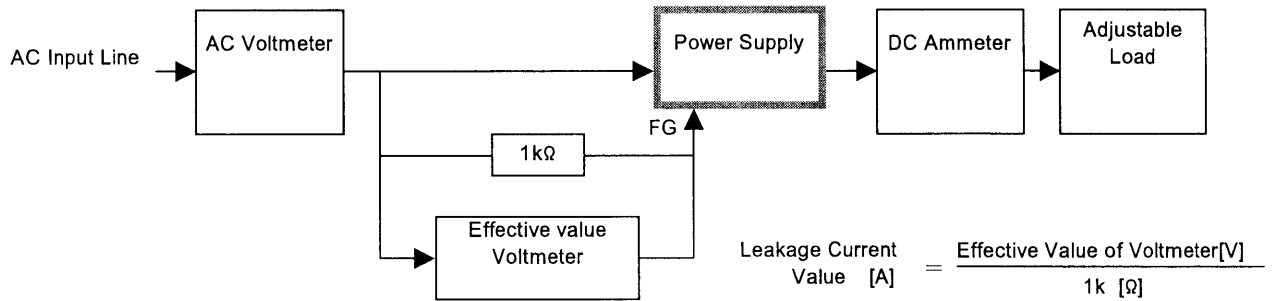


Figure B (DEN-AN)

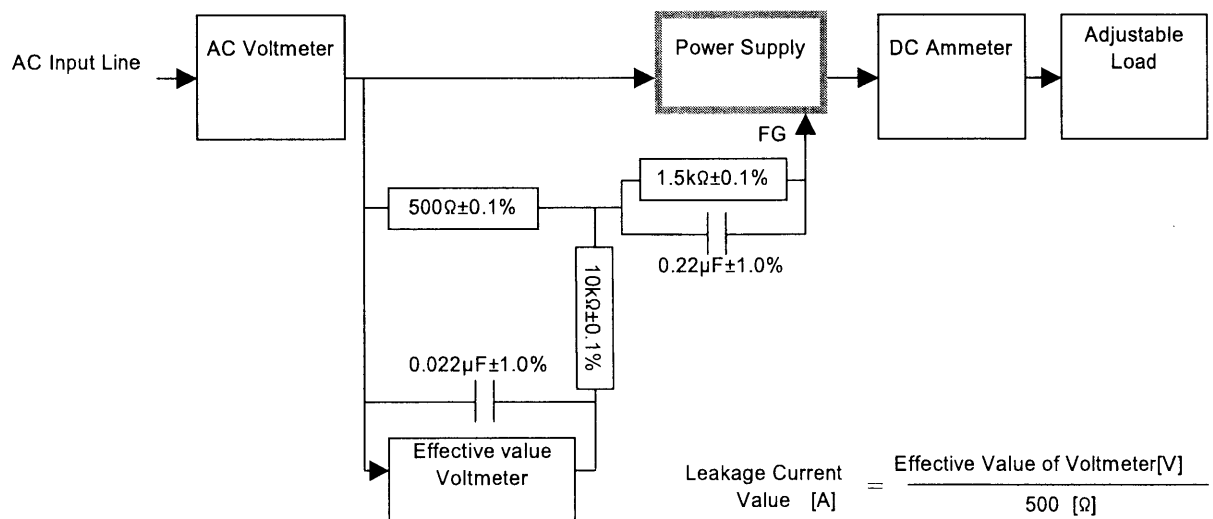


Figure B (IEC60950)