

TEST DATA OF PDA50F-5

Regulated DC Power Supply
November 28, 2023

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Design Manager

Prepared by : _____ Takaaki Sekiguchi

Design Engineer

COSEL CO.,LTD.



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(Final Page 15)

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| Model | PDA50F-5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---------------------------------|--------------------|---|------------------|-------------------|--|--|--------------------|--------------------|--------------------|---|-------|-------|-------|---|-------|-------|-------|---|-------|-------|-------|---|-------|-------|-------|---|-------|-------|-------|----|-------|-------|-------|----|-------|-------|-------|----|---|---|---|----|---|---|---|----|---|---|---|----|---|---|---|
| Item | Input Current (by Load Current) | Temperature 25°C | Testing Circuitry Figure A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Object | _____ | _____ | _____ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1.Graph | | | 2.Values | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>The graph shows the relationship between Input Current [A] on the Y-axis (0.0 to 2.0) and Load Current [A] on the X-axis (0 to 12). Three curves are plotted for different input voltages: 100V (solid line with open triangle markers), 200V (dashed line with open square markers), and 230V (dash-dot line with open circle markers). All curves start at (0,0) and increase monotonically. A slanted line is drawn through the points (8, 1.0) and (11, 1.139), representing the rated load current range.</p> | | | <table border="1"> <thead> <tr> <th rowspan="2">Load Current [A]</th> <th colspan="3">Input 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>0</td><td>0.038</td><td>0.059</td><td>0.067</td></tr> <tr> <td>2</td><td>0.231</td><td>0.155</td><td>0.145</td></tr> <tr> <td>4</td><td>0.415</td><td>0.255</td><td>0.234</td></tr> <tr> <td>6</td><td>0.611</td><td>0.358</td><td>0.325</td></tr> <tr> <td>8</td><td>0.814</td><td>0.465</td><td>0.418</td></tr> <tr> <td>10</td><td>1.027</td><td>0.577</td><td>0.517</td></tr> <tr> <td>11</td><td>1.139</td><td>0.637</td><td>0.572</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> | Load Current [A] | Input Current [A] | | | Input Volt. 100[V] | Input Volt. 200[V] | Input Volt. 230[V] | 0 | 0.038 | 0.059 | 0.067 | 2 | 0.231 | 0.155 | 0.145 | 4 | 0.415 | 0.255 | 0.234 | 6 | 0.611 | 0.358 | 0.325 | 8 | 0.814 | 0.465 | 0.418 | 10 | 1.027 | 0.577 | 0.517 | 11 | 1.139 | 0.637 | 0.572 | -- | - | - | - | -- | - | - | - | -- | - | - | - | -- | - | - | - |
| Load Current [A] | Input Current [A] | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Input Volt. 100[V] | Input Volt. 200[V] | Input Volt. 230[V] | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0 | 0.038 | 0.059 | 0.067 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | 0.231 | 0.155 | 0.145 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | 0.415 | 0.255 | 0.234 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | 0.611 | 0.358 | 0.325 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | 0.814 | 0.465 | 0.418 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | 1.027 | 0.577 | 0.517 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | 1.139 | 0.637 | 0.572 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -- | - | - | - | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -- | - | - | - | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -- | - | - | - | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -- | - | - | - | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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

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| Model | PDA50F-5 | Temperature | 25°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|------------------------------|----------------------|----------------------|----------------------|----------------------|---|------|------|------|---|------|------|------|---|------|------|------|---|------|------|------|----|------|------|------|----|------|------|------|----|------|------|------|----|---|---|---|----|---|---|---|----|---|---|---|----|---|---|---|
| Item | Efficiency (by Load Current) | Testing Circuitry | Figure A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Object | _____ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1.Graph | | 2.Values | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>The graph shows efficiency decreasing as load current increases beyond the rated range (indicated by the slanted line).</p> <table border="1"> <thead> <tr> <th>Load Current [A]</th> <th>Input Volt. 100V [%]</th> <th>Input Volt. 200V [%]</th> <th>Input Volt. 230V [%]</th> </tr> </thead> <tbody> <tr><td>2</td><td>80.7</td><td>82.4</td><td>81.0</td></tr> <tr><td>4</td><td>82.4</td><td>84.7</td><td>83.9</td></tr> <tr><td>6</td><td>84.3</td><td>85.7</td><td>85.0</td></tr> <tr><td>8</td><td>83.1</td><td>85.8</td><td>85.8</td></tr> <tr><td>10</td><td>81.5</td><td>85.0</td><td>85.2</td></tr> <tr><td>11</td><td>80.5</td><td>84.6</td><td>84.8</td></tr> </tbody> </table> | | Load Current [A] | Input Volt. 100V [%] | Input Volt. 200V [%] | Input Volt. 230V [%] | 2 | 80.7 | 82.4 | 81.0 | 4 | 82.4 | 84.7 | 83.9 | 6 | 84.3 | 85.7 | 85.0 | 8 | 83.1 | 85.8 | 85.8 | 10 | 81.5 | 85.0 | 85.2 | 11 | 80.5 | 84.6 | 84.8 | | | | | | | | | | | | | | | | | | | | |
| Load Current [A] | Input Volt. 100V [%] | Input Volt. 200V [%] | Input Volt. 230V [%] | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | 80.7 | 82.4 | 81.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | 82.4 | 84.7 | 83.9 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | 84.3 | 85.7 | 85.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | 83.1 | 85.8 | 85.8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | 81.5 | 85.0 | 85.2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | 80.5 | 84.6 | 84.8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>The graph shows efficiency decreasing as load current increases beyond the rated range (indicated by the slanted line).</p> <table border="1"> <thead> <tr> <th>Load Current [A]</th> <th>Input Volt. 100[V]</th> <th>Input Volt. 200[V]</th> <th>Input Volt. 230[V]</th> </tr> </thead> <tbody> <tr><td>0</td><td>-</td><td>-</td><td>-</td></tr> <tr><td>2</td><td>80.7</td><td>82.4</td><td>81.0</td></tr> <tr><td>4</td><td>82.4</td><td>84.7</td><td>83.9</td></tr> <tr><td>6</td><td>84.3</td><td>85.7</td><td>85.0</td></tr> <tr><td>8</td><td>83.1</td><td>85.8</td><td>85.8</td></tr> <tr><td>10</td><td>81.5</td><td>85.0</td><td>85.2</td></tr> <tr><td>11</td><td>80.5</td><td>84.6</td><td>84.8</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> | | Load Current [A] | Input Volt. 100[V] | Input Volt. 200[V] | Input Volt. 230[V] | 0 | - | - | - | 2 | 80.7 | 82.4 | 81.0 | 4 | 82.4 | 84.7 | 83.9 | 6 | 84.3 | 85.7 | 85.0 | 8 | 83.1 | 85.8 | 85.8 | 10 | 81.5 | 85.0 | 85.2 | 11 | 80.5 | 84.6 | 84.8 | -- | - | - | - | -- | - | - | - | -- | - | - | - | -- | - | - | - |
| Load Current [A] | Input Volt. 100[V] | Input Volt. 200[V] | Input Volt. 230[V] | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0 | - | - | - | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | 80.7 | 82.4 | 81.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | 82.4 | 84.7 | 83.9 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | 84.3 | 85.7 | 85.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | 83.1 | 85.8 | 85.8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | 81.5 | 85.0 | 85.2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | 80.5 | 84.6 | 84.8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -- | - | - | - | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -- | - | - | - | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -- | - | - | - | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -- | - | - | - | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>Note: Slanted line shows the range of the rated load current.</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

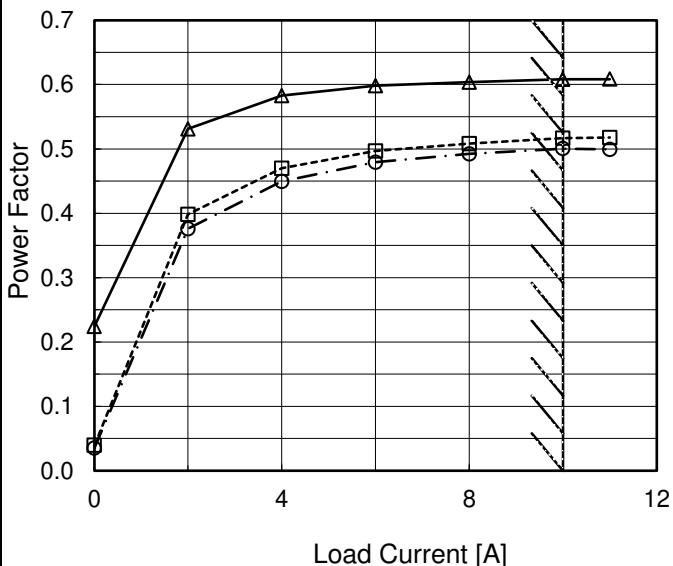
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| | |
|--------|--------------------------------|
| Model | PDA50F-5 |
| Item | Power Factor (by Load Current) |
| Object | _____ |

 Temperature 25°C
 Testing Circuitry Figure A

1.Graph

—△— Input Volt. 100V
 - -□--- Input Volt. 200V
 - -○--- Input Volt. 230V



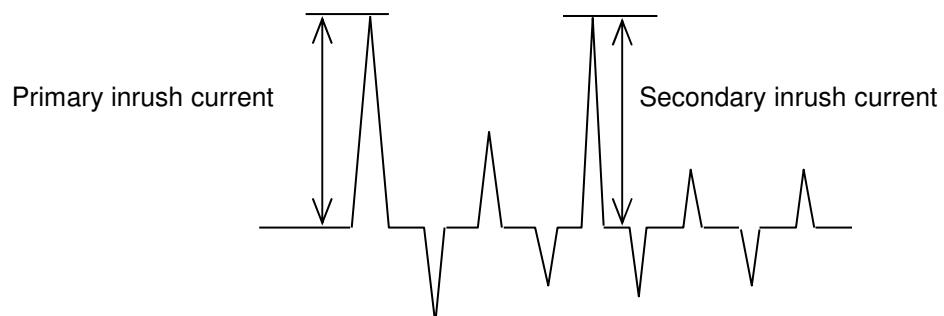
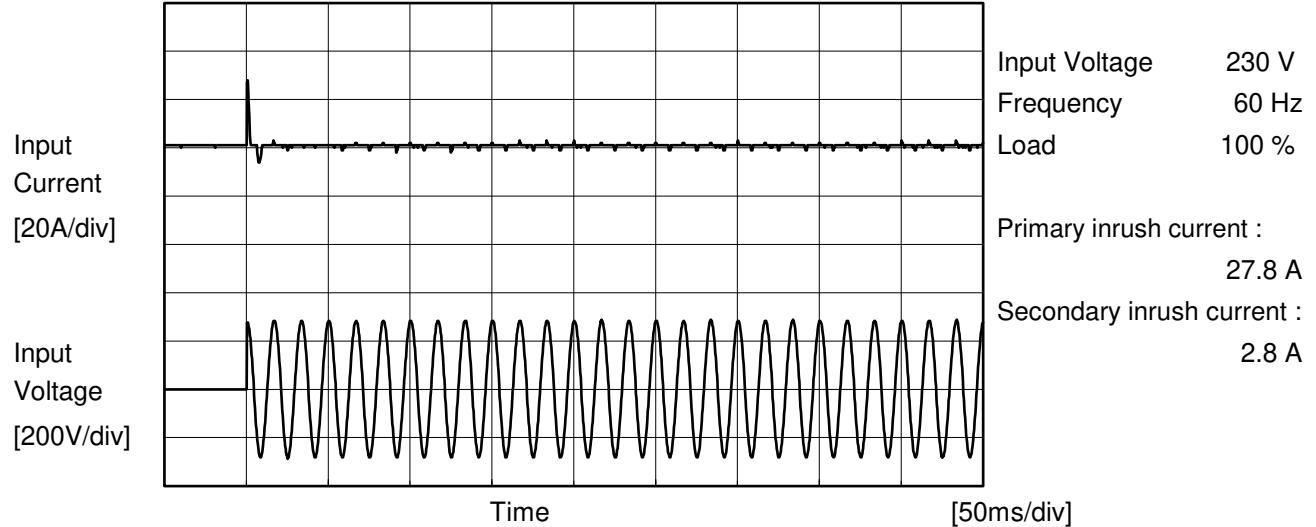
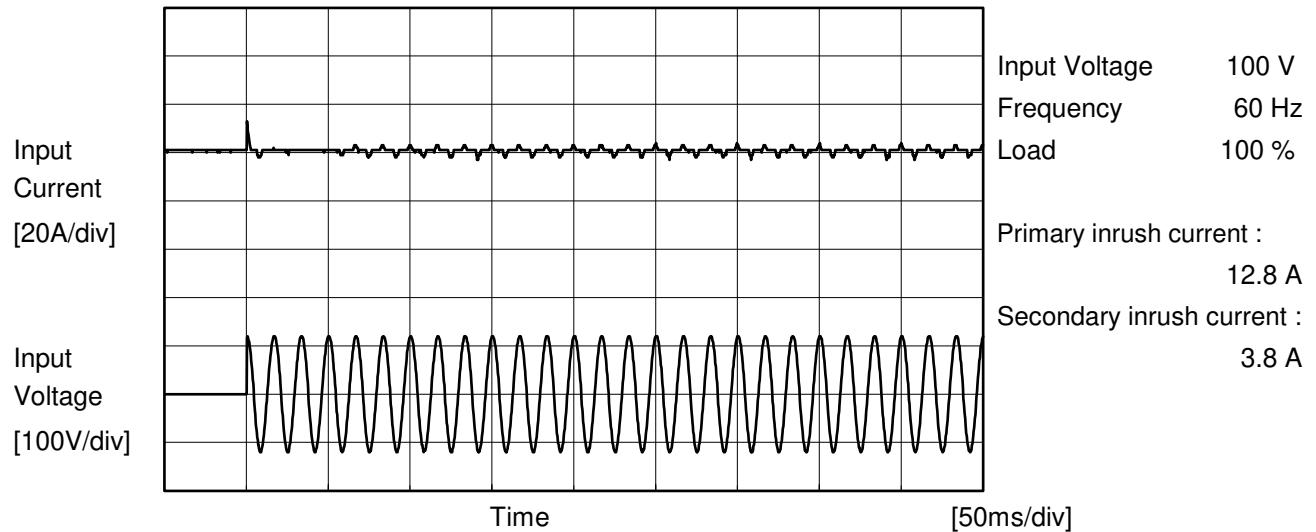
2.Values

| Load Current [A] | Power Factor | | |
|------------------|--------------------|--------------------|--------------------|
| | Input Volt. 100[V] | Input Volt. 200[V] | Input Volt. 230[V] |
| 0 | 0.224 | 0.040 | 0.035 |
| 2 | 0.531 | 0.398 | 0.376 |
| 4 | 0.583 | 0.470 | 0.450 |
| 6 | 0.598 | 0.497 | 0.479 |
| 8 | 0.604 | 0.508 | 0.492 |
| 10 | 0.608 | 0.517 | 0.501 |
| 11 | 0.609 | 0.518 | 0.499 |
| -- | - | - | - |
| -- | - | - | - |
| -- | - | - | - |
| -- | - | - | - |

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

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| | | | |
|--------|----------------|--|------|
| Model | PDA50F-5 | Temperature Testing Circuitry Figure A | 25°C |
| Item | Inrush Current | | |
| Object | _____ | | |





| | | | |
|--------|-----------------|-------------------|----------|
| Model | PDA50F-5 | Temperature | 25°C |
| Item | Leakage Current | Testing Circuitry | Figure C |
| Object | _____ | | |

1. Results

[mA]

| Standards | Testing Circuitry | Measuring Method | Input Volt. | | | Note |
|------------|-------------------|------------------|-------------|---------|---------|-----------|
| | | | 100 [V] | 230 [V] | 240 [V] | |
| DEN-AN | Figure C-1 | Both phases | 0.18 | 0.47 | 0.49 | Operation |
| | | One of phases | 0.26 | 0.68 | 0.72 | Stand by |
| IEC62368-1 | Figure C-2 | Both phases | 0.18 | 0.46 | 0.48 | Operation |
| | | One of phases | 0.26 | 0.67 | 0.71 | Stand by |
| | Figure C-3 | Both phases | 0.18 | 0.46 | 0.48 | Operation |
| | | One of phases | 0.26 | 0.67 | 0.71 | Stand by |

The value for "One of phases" is the reference value only.

2. Condition

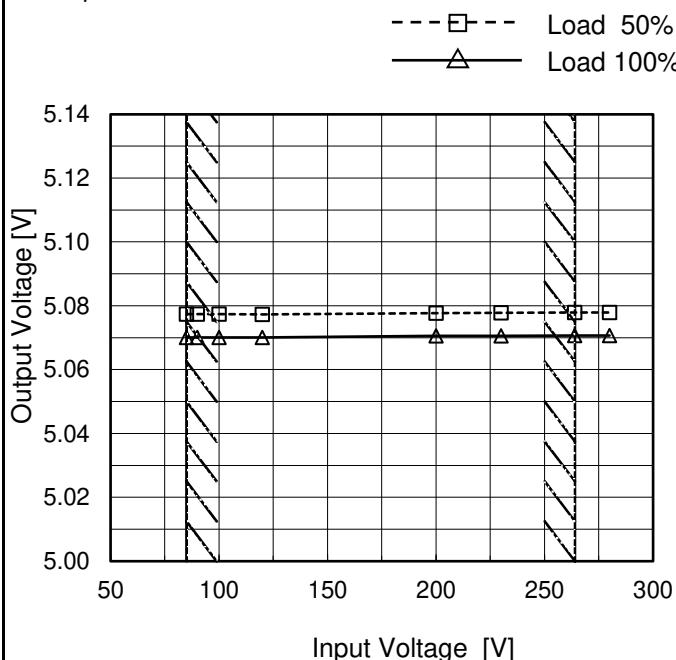
Leakage current value is concluded after measuring both phases of AC input and by choosing the larger one.

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| | |
|--------|-----------------|
| Model | PDA50F-5 |
| Item | Line Regulation |
| Object | +5V10A |

 Temperature 25°C
 Testing Circuitry Figure A

1. Graph

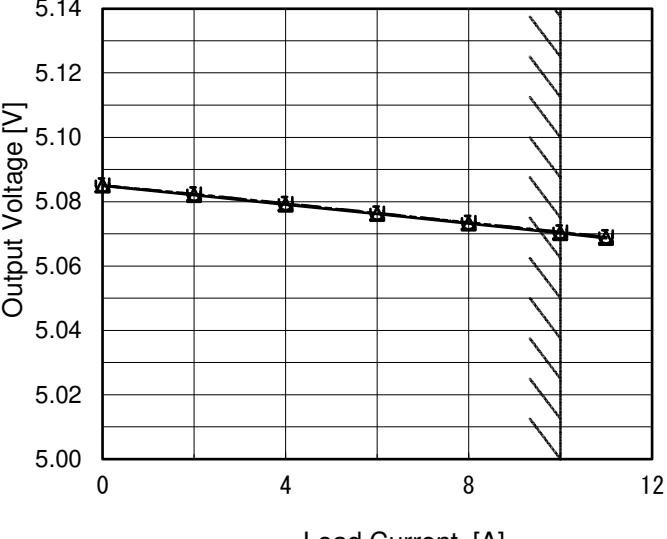
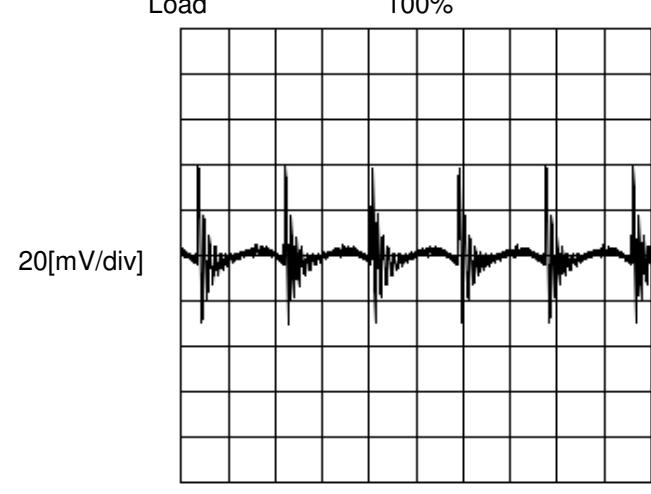


2. Values

| Input Voltage [V] | Output Voltage [V] | |
|-------------------|--------------------|-----------|
| | Load 50% | Load 100% |
| 85 | 5.077 | 5.070 |
| 90 | 5.077 | 5.070 |
| 100 | 5.077 | 5.070 |
| 120 | 5.077 | 5.070 |
| 200 | 5.078 | 5.071 |
| 230 | 5.078 | 5.071 |
| 264 | 5.078 | 5.071 |
| 280 | 5.078 | 5.071 |
| -- | - | - |

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

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| Model | PDA50F-5 | Temperature | 25°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|------------------|---|-----------------------|-----------------------|--|------------------|-----------------------|-----------------------|-----------------------|--------------------|--------------------|--------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Item | Load Regulation | Testing Circuitry | Figure A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Object | +5V10A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1.Graph | <p>—△— Input Volt. 100V - - -□- Input Volt. 200V - - -○- Input Volt. 230V</p>  <table border="1"> <caption>Data points estimated from Figure A graph</caption> <thead> <tr> <th>Load Current [A]</th> <th>Output Volt. 100V [V]</th> <th>Output Volt. 200V [V]</th> <th>Output Volt. 230V [V]</th> </tr> </thead> <tbody> <tr><td>0</td><td>5.085</td><td>5.085</td><td>5.085</td></tr> <tr><td>2</td><td>5.082</td><td>5.082</td><td>5.082</td></tr> <tr><td>4</td><td>5.079</td><td>5.079</td><td>5.080</td></tr> <tr><td>6</td><td>5.076</td><td>5.076</td><td>5.077</td></tr> <tr><td>8</td><td>5.073</td><td>5.074</td><td>5.074</td></tr> <tr><td>10</td><td>5.070</td><td>5.071</td><td>5.071</td></tr> <tr><td>11</td><td>5.069</td><td>5.069</td><td>5.069</td></tr> </tbody> </table> | | | | Load Current [A] | Output Volt. 100V [V] | Output Volt. 200V [V] | Output Volt. 230V [V] | 0 | 5.085 | 5.085 | 5.085 | 2 | 5.082 | 5.082 | 5.082 | 4 | 5.079 | 5.079 | 5.080 | 6 | 5.076 | 5.076 | 5.077 | 8 | 5.073 | 5.074 | 5.074 | 10 | 5.070 | 5.071 | 5.071 | 11 | 5.069 | 5.069 | 5.069 | | | | | | | | | | | | | | | | | | | |
| Load Current [A] | Output Volt. 100V [V] | Output Volt. 200V [V] | Output Volt. 230V [V] | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0 | 5.085 | 5.085 | 5.085 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | 5.082 | 5.082 | 5.082 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | 5.079 | 5.079 | 5.080 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | 5.076 | 5.076 | 5.077 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | 5.073 | 5.074 | 5.074 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | 5.070 | 5.071 | 5.071 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | 5.069 | 5.069 | 5.069 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2.Values | <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</td><td>5.085</td><td>5.085</td><td>5.085</td></tr> <tr><td>2</td><td>5.082</td><td>5.082</td><td>5.082</td></tr> <tr><td>4</td><td>5.079</td><td>5.079</td><td>5.080</td></tr> <tr><td>6</td><td>5.076</td><td>5.076</td><td>5.077</td></tr> <tr><td>8</td><td>5.073</td><td>5.074</td><td>5.074</td></tr> <tr><td>10</td><td>5.070</td><td>5.071</td><td>5.071</td></tr> <tr><td>11</td><td>5.069</td><td>5.069</td><td>5.069</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> | | | | Load Current [A] | Output Voltage [V] | | | Input Volt. 100[V] | Input Volt. 200[V] | Input Volt. 230[V] | 0 | 5.085 | 5.085 | 5.085 | 2 | 5.082 | 5.082 | 5.082 | 4 | 5.079 | 5.079 | 5.080 | 6 | 5.076 | 5.076 | 5.077 | 8 | 5.073 | 5.074 | 5.074 | 10 | 5.070 | 5.071 | 5.071 | 11 | 5.069 | 5.069 | 5.069 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Load Current [A] | Output Voltage [V] | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Input Volt. 100[V] | Input Volt. 200[V] | Input Volt. 230[V] | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0 | 5.085 | 5.085 | 5.085 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | 5.082 | 5.082 | 5.082 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | 5.079 | 5.079 | 5.080 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | 5.076 | 5.076 | 5.077 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | 5.073 | 5.074 | 5.074 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | 5.070 | 5.071 | 5.071 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | 5.069 | 5.069 | 5.069 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -- | -- | -- | -- | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -- | -- | -- | -- | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -- | -- | -- | -- | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -- | -- | -- | -- | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Note: | Slanted line shows the range of the rated load current. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Item | Ripple-Noise | Temperature | 25°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Object | +5V10A | Testing Circuitry | Figure B | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1.Graph | <p>Input Voltage 230V Load 100%</p>  | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

COSEL

| | | | |
|--------|-----------------------|--|------|
| Model | PDA50F-5 | Temperature Testing Circuitry Figure A | 25°C |
| Item | Dynamic Load Response | | |
| Object | +5V10A | | |

Input Volt. 230 V
 Cycle 1000 ms

Response. $t_1=t_2=50\mu\text{s}$. Typ

Load 0%(0A) \longleftrightarrow
 Load 100%(10A)

200[mV/div]

2[ms/div]

10[ms/div]

Load 50%(5A) \longleftrightarrow
 Load 100%(10A)

200[mV/div]

2[ms/div]

10[ms/div]

Load 0%(0A) \longleftrightarrow
 Load 50%(5A)

200[mV/div]

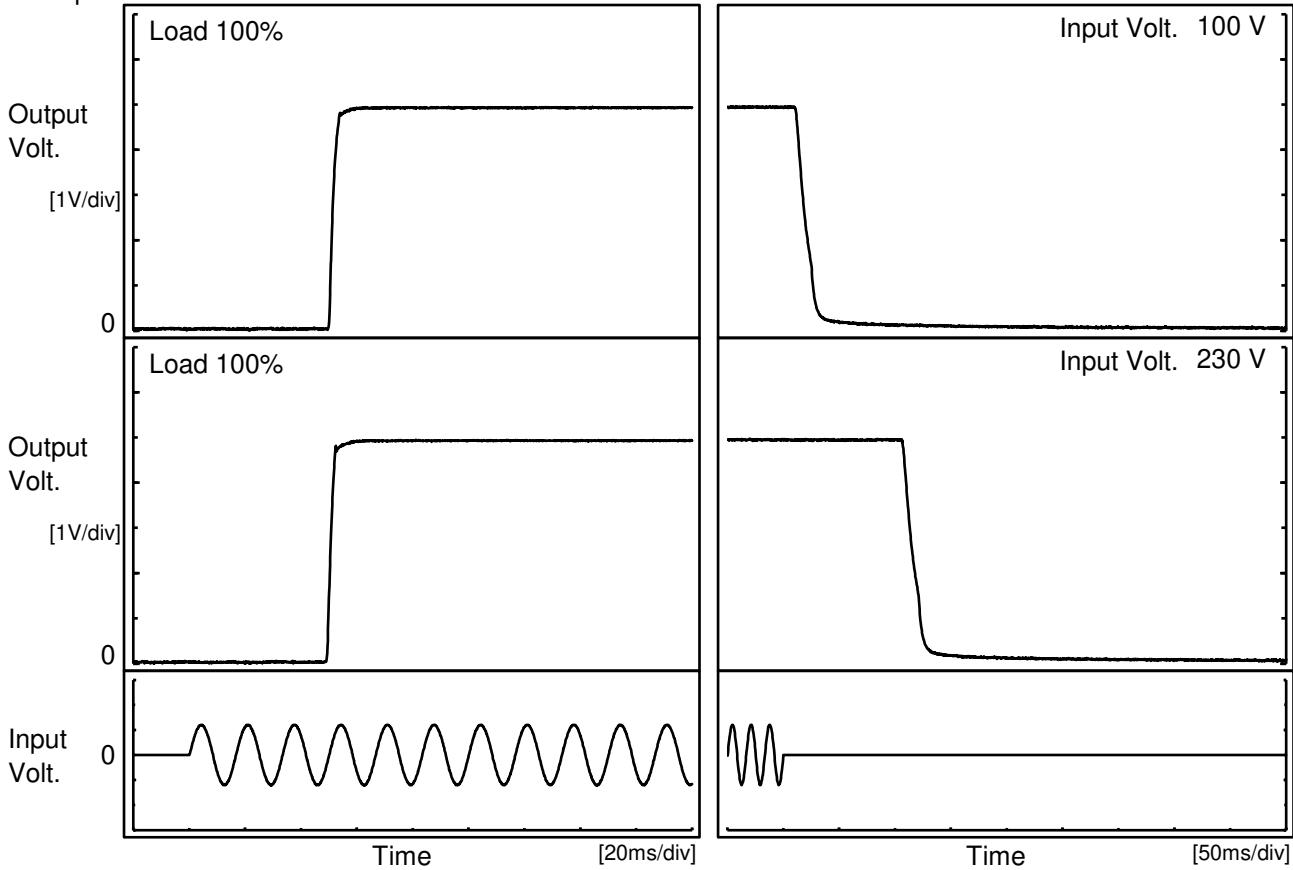
2[ms/div]

10[ms/div]

COSEL

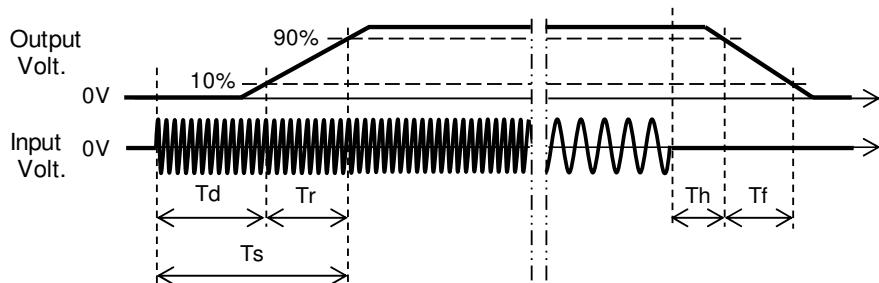
| | | | |
|--------|--------------------|-------------------|----------|
| Model | PDA50F-5 | Temperature | 25°C |
| Item | Rise and Fall Time | Testing Circuitry | Figure A |
| Object | +5V10A | | |

1. Graph



2. Values

| Input Volt. | Time | Td | Tr | Ts | Th | Tf | [ms] |
|-------------|------|------|-----|------|-------|------|------|
| 100 V | | 50.3 | 3.1 | 53.4 | 21.0 | 17.0 | |
| 230 V | | 49.7 | 2.5 | 52.2 | 147.0 | 17.3 | |



COSEL

| Model | PDA50F-5 | Temperature | 25°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|-------------------|-------------------|---|-------------------|-------------------|--|----------|-----------|----|----|----|----|----|----|-----|----|----|-----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|---|---|
| Item | Hold-Up Time | Testing Circuitry | Figure A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Object | +5V10A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1. Graph | | | 2. Values | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | <table border="1"> <thead> <tr> <th rowspan="2">Input Voltage [V]</th> <th colspan="2">Hold-Up Time [ms]</th> </tr> <tr> <th>Load 50%</th> <th>Load 100%</th> </tr> </thead> <tbody> <tr> <td>85</td> <td>31</td> <td>11</td> </tr> <tr> <td>90</td> <td>36</td> <td>13</td> </tr> <tr> <td>100</td> <td>47</td> <td>21</td> </tr> <tr> <td>120</td> <td>72</td> <td>31</td> </tr> <tr> <td>200</td> <td>225</td> <td>107</td> </tr> <tr> <td>230</td> <td>306</td> <td>147</td> </tr> <tr> <td>264</td> <td>412</td> <td>200</td> </tr> <tr> <td>280</td> <td>467</td> <td>229</td> </tr> <tr> <td>--</td> <td>-</td> <td>-</td> </tr> </tbody> </table> | Input Voltage [V] | Hold-Up Time [ms] | | Load 50% | Load 100% | 85 | 31 | 11 | 90 | 36 | 13 | 100 | 47 | 21 | 120 | 72 | 31 | 200 | 225 | 107 | 230 | 306 | 147 | 264 | 412 | 200 | 280 | 467 | 229 | -- | - | - |
| Input Voltage [V] | Hold-Up Time [ms] | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Load 50% | Load 100% | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 85 | 31 | 11 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 90 | 36 | 13 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 100 | 47 | 21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 120 | 72 | 31 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 200 | 225 | 107 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 230 | 306 | 147 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 264 | 412 | 200 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 280 | 467 | 229 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -- | - | - | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>This duration covers from Shut-off of input voltage to the moment when output voltage descends to the rated range of voltage accuracy.</p> <p>Note: Slanted line shows the range of the rated input voltage.</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

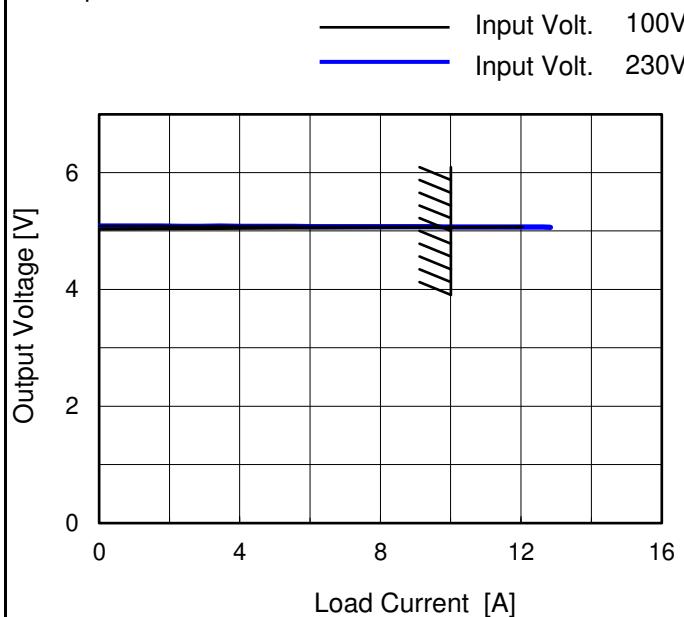
COSEL

| Model | PDA50F-5 | Temperature | 25°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|------------------|---|--------------------|--------------------|------------------|-----------|--|--|--------------------|--------------------|--------------------|---|---|---|---|---|-----|-----|-----|---|----|-----|-----|---|----|-----|-----|---|----|-----|-----|----|----|-----|-----|----|----|----|-----|----|---|---|---|----|---|---|---|----|---|---|---|----|---|---|---|
| Item | Instantaneous Interruption Compensation | Testing Circuitry | Figure A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Object | +5V10A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1.Graph | <p>Graph showing Instantaneous Compensation Time [ms] vs Load Current [A] for three input voltages: 100V, 200V, and 230V. The Y-axis is logarithmic from 10 to 10000 ms. The X-axis ranges from 0 to 12 A. Data points are marked with triangles (100V), squares (200V), and circles (230V). A slanted line indicates the rated load current range.</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2.Values | <table border="1"> <thead> <tr> <th rowspan="2">Load Current [A]</th> <th colspan="3">Time [ms]</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</td><td>-</td><td>-</td><td>-</td></tr> <tr> <td>2</td><td>121</td><td>562</td><td>757</td></tr> <tr> <td>4</td><td>61</td><td>292</td><td>393</td></tr> <tr> <td>6</td><td>38</td><td>190</td><td>257</td></tr> <tr> <td>8</td><td>23</td><td>139</td><td>190</td></tr> <tr> <td>10</td><td>16</td><td>107</td><td>148</td></tr> <tr> <td>11</td><td>14</td><td>96</td><td>132</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> | | | Load Current [A] | Time [ms] | | | Input Volt. 100[V] | Input Volt. 200[V] | Input Volt. 230[V] | 0 | - | - | - | 2 | 121 | 562 | 757 | 4 | 61 | 292 | 393 | 6 | 38 | 190 | 257 | 8 | 23 | 139 | 190 | 10 | 16 | 107 | 148 | 11 | 14 | 96 | 132 | -- | - | - | - | -- | - | - | - | -- | - | - | - | -- | - | - | - |
| Load Current [A] | Time [ms] | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Input Volt. 100[V] | Input Volt. 200[V] | Input Volt. 230[V] | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0 | - | - | - | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | 121 | 562 | 757 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | 61 | 292 | 393 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | 38 | 190 | 257 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | 23 | 139 | 190 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | 16 | 107 | 148 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | 14 | 96 | 132 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -- | - | - | - | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -- | - | - | - | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -- | - | - | - | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -- | - | - | - | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Note: | Slanted line shows the range of the rated load current. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

COSEL

| | |
|--------|------------------------|
| Model | PDA50F-5 |
| Item | Overcurrent Protection |
| Object | +5V10A |

1.Graph



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

Overcurrent protection is Hiccup mode.

Temperature 25°C
Testing Circuitry Figure A

2.Values

| Output Voltage [V] | Load Current [A] | |
|--------------------|--------------------|--------------------|
| | Input Volt. 100[V] | Input Volt. 230[V] |
| 5.00 | 12.03 | 12.83 |
| 4.75 | - | - |
| 4.50 | - | - |
| 4.00 | - | - |
| 3.50 | - | - |
| 3.00 | - | - |
| 2.50 | - | - |
| 2.00 | - | - |
| 1.50 | - | - |
| 1.00 | - | - |
| 0.50 | - | - |
| 0.00 | - | - |

COSEL

| | | |
|--------|---------------------------|----------------------------|
| Model | PDA50F-5 | |
| Item | Ambient Temperature Drift | Testing Circuitry Figure A |
| Object | +5V10A | |

1.Values

Load 100%

| Ambient Temperature [°C] | Output Voltage [V] | | |
|-----------------------------|--------------------|------------------|------------------|
| | Input Volt. 100V | Input Volt. 200V | Input Volt. 230V |
| -10 | 5.057 | 5.057 | 5.057 |
| 25 | 5.070 | 5.071 | 5.071 |
| 50 | 5.072 | 5.072 | 5.072 |

| | | |
|--------|---|----------------------------|
| Item | Minimum Input Voltage for Regulated Output Voltage | Testing Circuitry Figure A |
| Object | +5V10A | |

1.Values

| Ambient Temperature [°C] | Input Voltage [V] | |
|-----------------------------|-------------------|-----------|
| | Load 50% | Load 100% |
| -10 | 38 | 58 |
| 25 | 38 | 58 |
| 50 | 37 | 58 |

| | | |
|--------|------------------------|----------------------------|
| Item | Overvoltage Protection | Testing Circuitry Figure A |
| Object | +5V10A | |

1.Values

Load 0%

| Ambient Temperature [°C] | Operating Point [V] | |
|-----------------------------|---------------------|------------------|
| | Input Volt. 100V | Input Volt. 230V |
| -20 | 6.30 | 6.30 |
| 25 | 6.23 | 6.23 |
| 50 | 6.23 | 6.23 |

COSEL

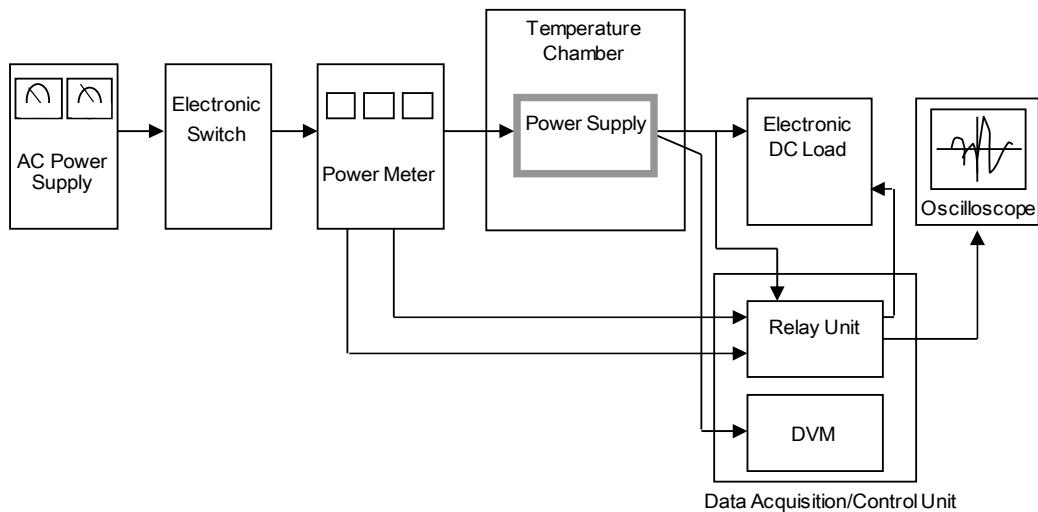


Figure A

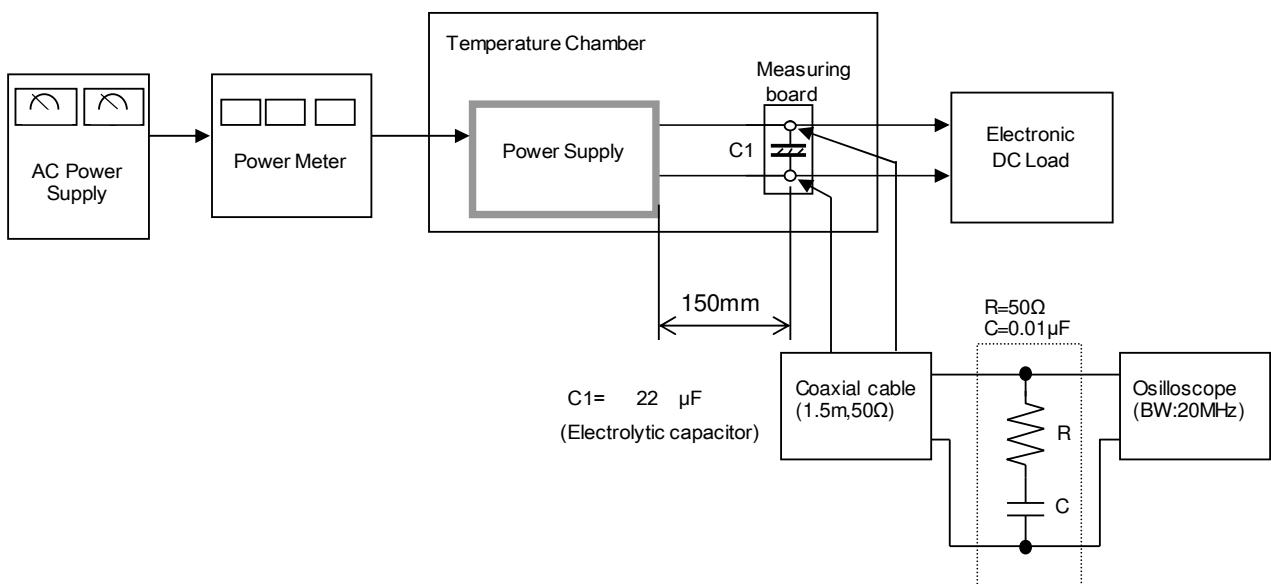


Figure B

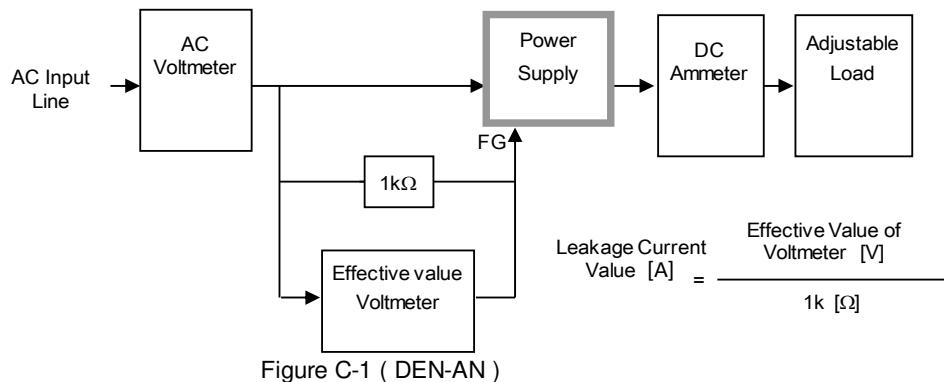


Figure C-1 (DEN-AN)

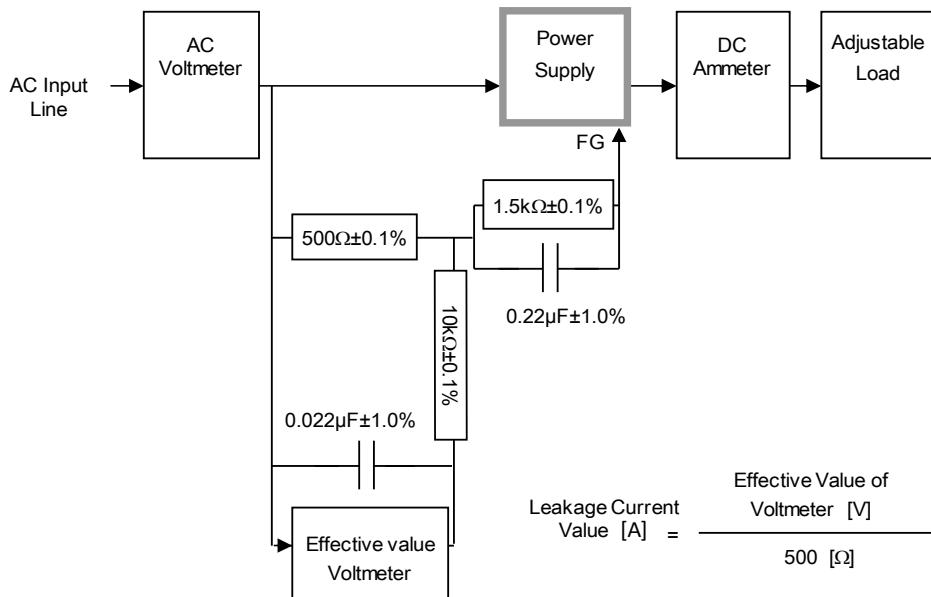


Figure C-2 (IEC62368-1 refer to IEC60990 Fig.4)

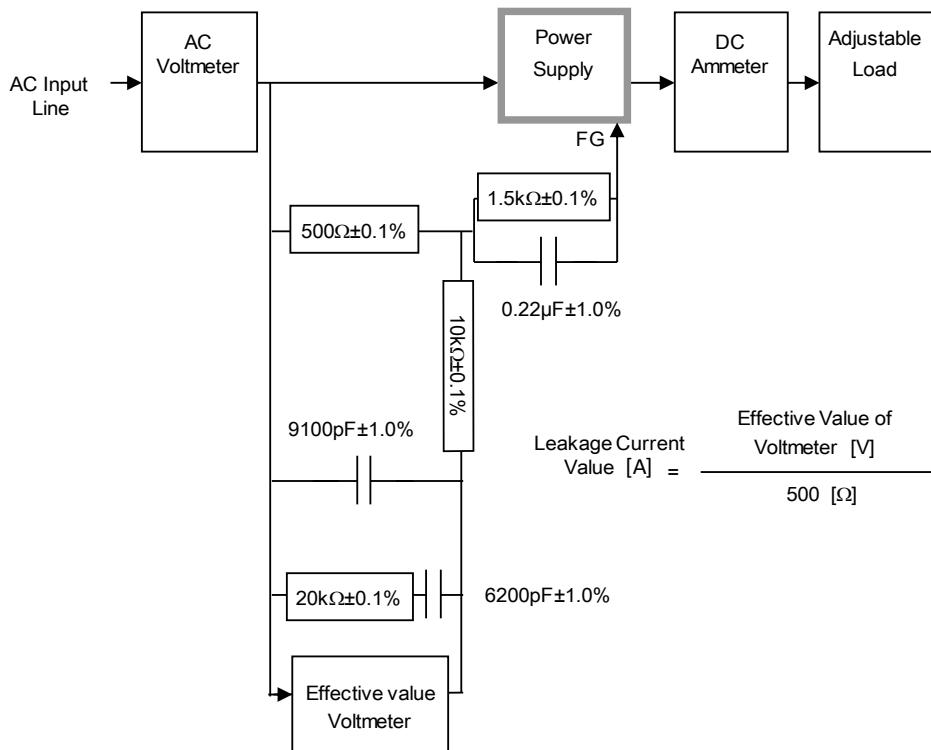


Figure C-3 (IEC62368-1 refer to IEC60990 Fig.5)