

TEST DATA OF PMA15F-5

Regulated DC Power Supply
June 4, 2010

Approved by : *Katsumi Ishikawa*
katsumi Ishikawa Design Manager

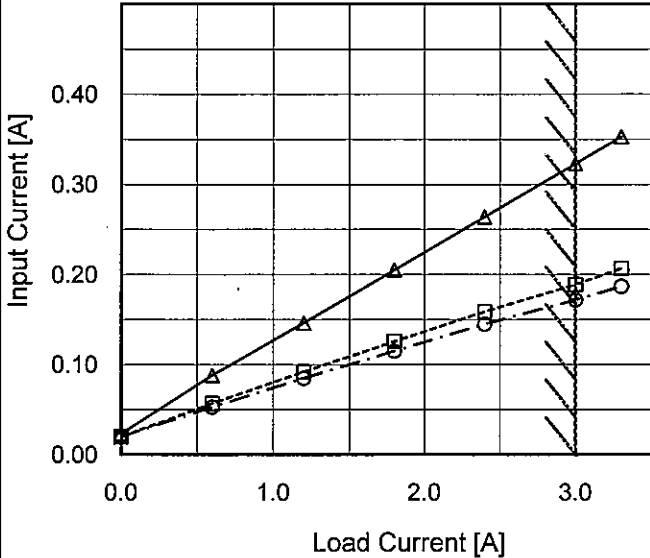
Prepared by : *Tsutomu Okano*
Tsutomu Okano Design Engineer

COSEL CO.,LTD.

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Model		PMA15F-5																																																				
Item		Input Current (by Load Current)																																																				
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1.Graph		2.Values																																																				
<div><div><div>—△—</div><div>Input Volt.</div><div>100V</div></div><div><div>---□---</div><div>Input Volt.</div><div>200V</div></div><div><div>---○---</div><div>Input Volt.</div><div>230V</div></div></div> 		<table><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><tr><td>0.0</td><td>0.023</td><td>0.020</td><td>0.020</td></tr><tr><td>0.6</td><td>0.088</td><td>0.057</td><td>0.053</td></tr><tr><td>1.2</td><td>0.146</td><td>0.092</td><td>0.085</td></tr><tr><td>1.8</td><td>0.205</td><td>0.126</td><td>0.115</td></tr><tr><td>2.4</td><td>0.264</td><td>0.159</td><td>0.145</td></tr><tr><td>3.0</td><td>0.323</td><td>0.189</td><td>0.172</td></tr><tr><td>3.3</td><td>0.353</td><td>0.207</td><td>0.187</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></table>		Load Current [A]	Input Current [A]			Input Volt. 100[V]	Input Volt. 200[V]	Input Volt. 230[V]	0.0	0.023	0.020	0.020	0.6	0.088	0.057	0.053	1.2	0.146	0.092	0.085	1.8	0.205	0.126	0.115	2.4	0.264	0.159	0.145	3.0	0.323	0.189	0.172	3.3	0.353	0.207	0.187	--	-	-	-	--	-	-	-	--	-	-	-	--	-	-	-
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Note: Slanted line shows the range of the rated load current.																																																						

Model

PMA15F-5

Item

Input Power (by Load Current)

Object

1.Graph

—△—

Input Volt.

100V

---□---

Input Volt.

200V

---○---

Input Volt.

230V

Input Power [W]

50

40

30

20

10

0

0.0

1.0

2.0

3.0

0.0

1.0

2.0

3.0

Load Current [A]

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

Temperature

25°C

Testing Circuitry

Figure A

2.Values

Load Current [A]	Input Power [W]		
	Input Volt. 100[V]	Input Volt. 200[V]	Input Volt. 230[V]
0.0	1.00	1.50	1.70
0.6	4.70	5.00	5.20
1.2	8.60	8.80	8.90
1.8	12.80	12.60	12.80
2.4	17.00	16.70	16.80
3.0	21.30	20.30	20.30
3.3	23.60	22.50	22.40
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-

Model		PMA15F-5	
Item		Efficiency (by Input Voltage)	
Object			

1.Graph

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Model	PMA15F-5																																																					
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Object	_____	Testing Circuitry	Figure A																																																			
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<div><div>—△— Input Volt. 100V</div><div>---□--- Input Volt. 200V</div><div>---○--- Input Volt. 230V</div></div> <p>Efficiency [%]</p> <p>Load Current [A]</p>		<table><tr><th rowspan="2">Load Current [A]</th><th colspan="3">Efficiency [%]</th></tr><tr><th>Input Volt. 100[V]</th><th>Input Volt. 200[V]</th><th>Input Volt. 230[V]</th></tr><tr><td>0.0</td><td>-</td><td>-</td><td>-</td></tr><tr><td>0.6</td><td>65.1</td><td>61.1</td><td>58.8</td></tr><tr><td>1.2</td><td>71.1</td><td>69.4</td><td>68.7</td></tr><tr><td>1.8</td><td>71.5</td><td>72.7</td><td>71.5</td></tr><tr><td>2.4</td><td>71.7</td><td>73.0</td><td>72.6</td></tr><tr><td>3.0</td><td>70.9</td><td>74.6</td><td>74.6</td></tr><tr><td>3.3</td><td>70.3</td><td>74.0</td><td>74.3</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></table>		Load Current [A]	Efficiency [%]			Input Volt. 100[V]	Input Volt. 200[V]	Input Volt. 230[V]	0.0	-	-	-	0.6	65.1	61.1	58.8	1.2	71.1	69.4	68.7	1.8	71.5	72.7	71.5	2.4	71.7	73.0	72.6	3.0	70.9	74.6	74.6	3.3	70.3	74.0	74.3	--	-	-	-	--	-	-	-	--	-	-	-	--	-	-	-
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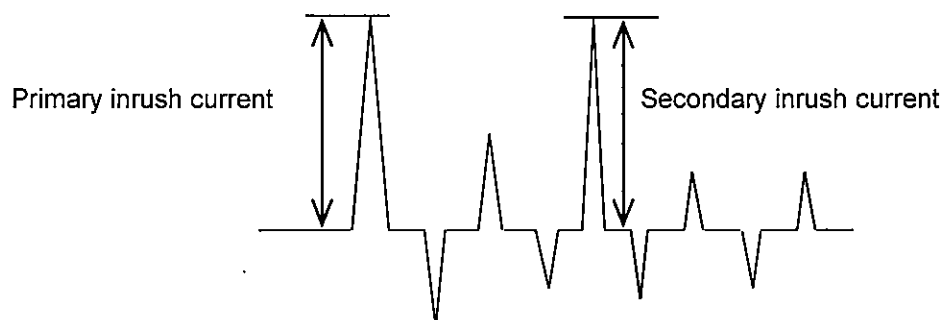
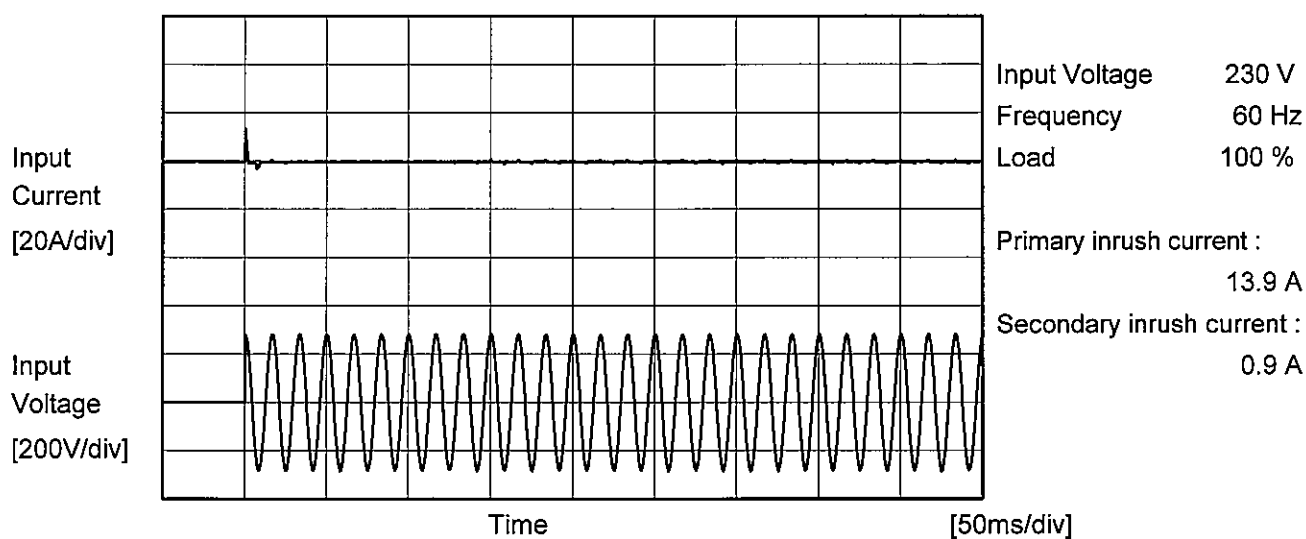
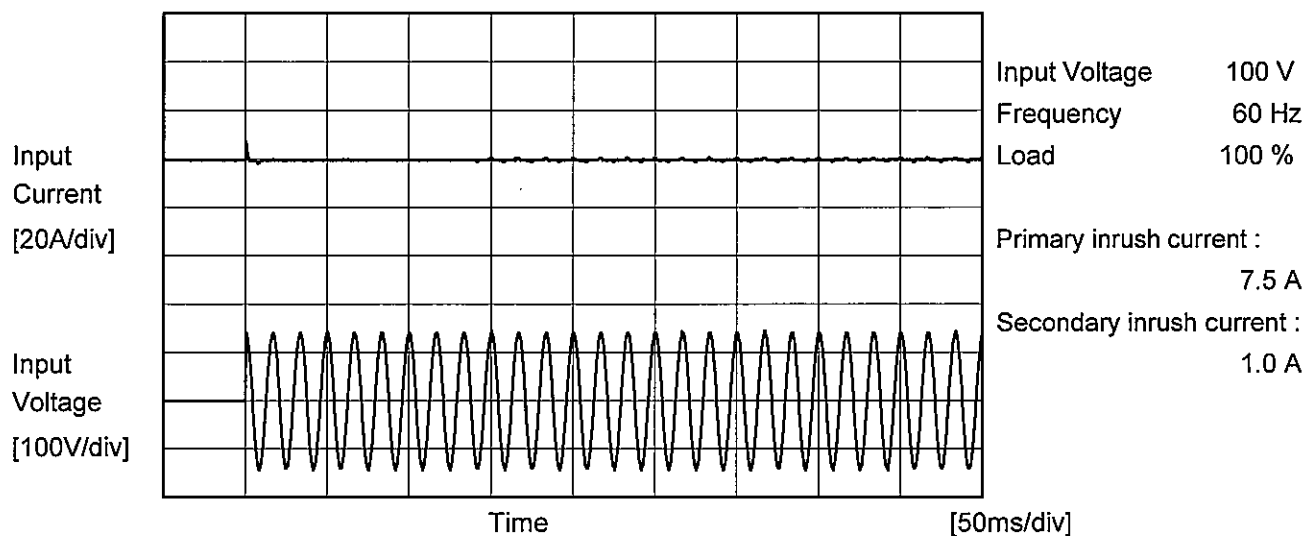
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Item	Power Factor (by Input Voltage)	Testing Circuitry	Figure A																														
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<div><div><div>---□---</div><div>Load 50%</div></div><div><div>---△---</div><div>Load 100%</div></div></div> <table><thead><tr><th>Input Voltage [V]</th><th>Load 50%</th><th>Load 100%</th></tr></thead><tbody><tr><td>75</td><td>0.661</td><td>0.719</td></tr><tr><td>85</td><td>0.635</td><td>0.689</td></tr><tr><td>100</td><td>0.601</td><td>0.659</td></tr><tr><td>120</td><td>0.573</td><td>0.623</td></tr><tr><td>200</td><td>0.489</td><td>0.533</td></tr><tr><td>230</td><td>0.468</td><td>0.513</td></tr><tr><td>264</td><td>0.451</td><td>0.492</td></tr><tr><td>280</td><td>0.444</td><td>0.485</td></tr><tr><td>--</td><td>-</td><td>-</td></tr></tbody></table>		Input Voltage [V]	Load 50%	Load 100%	75	0.661	0.719	85	0.635	0.689	100	0.601	0.659	120	0.573	0.623	200	0.489	0.533	230	0.468	0.513	264	0.451	0.492	280	0.444	0.485	--	-	-		
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<div><div>—△— Input Volt. 100V</div><div>---□--- Input Volt. 200V</div><div>---○--- Input Volt. 230V</div></div> <p>Power Factor</p> <p>Load Current [A]</p>		<table><tr><th rowspan="2">Load Current [A]</th><th colspan="3">Power Factor</th></tr><tr><th>Input Volt. 100[V]</th><th>Input Volt. 200[V]</th><th>Input Volt. 230[V]</th></tr><tr><td>0.0</td><td>0.435</td><td>0.366</td><td>0.362</td></tr><tr><td>0.6</td><td>0.534</td><td>0.439</td><td>0.426</td></tr><tr><td>1.2</td><td>0.585</td><td>0.478</td><td>0.456</td></tr><tr><td>1.8</td><td>0.621</td><td>0.502</td><td>0.483</td></tr><tr><td>2.4</td><td>0.642</td><td>0.524</td><td>0.501</td></tr><tr><td>3.0</td><td>0.659</td><td>0.536</td><td>0.514</td></tr><tr><td>3.3</td><td>0.669</td><td>0.543</td><td>0.521</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></table>		Load Current [A]	Power Factor			Input Volt. 100[V]	Input Volt. 200[V]	Input Volt. 230[V]	0.0	0.435	0.366	0.362	0.6	0.534	0.439	0.426	1.2	0.585	0.478	0.456	1.8	0.621	0.502	0.483	2.4	0.642	0.524	0.501	3.0	0.659	0.536	0.514	3.3	0.669	0.543	0.521	--	-	-	-	--	-	-	-	--	-	-	-	--	-	-	-
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Model	PMA15F-5	Temperature	25°C
Item	Inrush Current	Testing Circuitry	Figure A
Object	_____		



		Temperature 25°C Testing Circuitry Figure B
Model	PMA15F-5	
Item	Leakage Current	
Object		

1.Results

[mA]

Standards		Input Volt.			Note
		100 [V]	200 [V]	240 [V]	
IEC60601	Both phases	0.02	0.04	0.05	Operation
	One of phases	0.03	0.07	0.08	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	PMA15F-5																																
Item	Line Regulation	Temperature	25°C																														
Object	+5V3A	Testing Circuitry	Figure A																														
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<div><div><div>---□---</div><div>Load 50%</div></div><div><div>—△—</div><div>Load 100%</div></div></div> <table><thead><tr><th>Input Voltage [V]</th><th>Output Voltage [V] Load 50%</th><th>Output Voltage [V] Load 100%</th></tr></thead><tbody><tr><td>75</td><td>5.089</td><td>5.079</td></tr><tr><td>85</td><td>5.089</td><td>5.079</td></tr><tr><td>100</td><td>5.089</td><td>5.079</td></tr><tr><td>120</td><td>5.090</td><td>5.082</td></tr><tr><td>200</td><td>5.090</td><td>5.084</td></tr><tr><td>230</td><td>5.090</td><td>5.084</td></tr><tr><td>264</td><td>5.090</td><td>5.084</td></tr><tr><td>280</td><td>5.090</td><td>5.084</td></tr><tr><td>--</td><td>-</td><td>-</td></tr></tbody></table> <p>Note: Slanted line shows the range of the rated input voltage.</p>		Input Voltage [V]	Output Voltage [V] Load 50%	Output Voltage [V] Load 100%	75	5.089	5.079	85	5.089	5.079	100	5.089	5.079	120	5.090	5.082	200	5.090	5.084	230	5.090	5.084	264	5.090	5.084	280	5.090	5.084	--	-	-		
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Model PMA15F-5

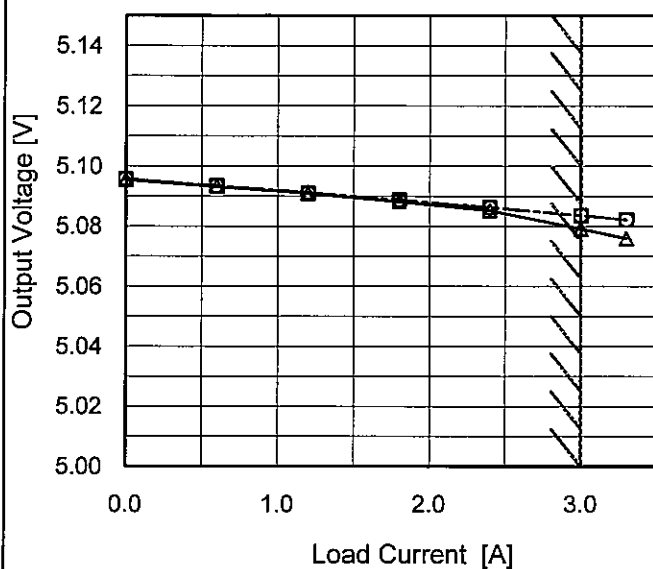
Item Load Regulation

Object +5V3A

Temperature 25°C
Testing Circuitry Figure A

1. Graph

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



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

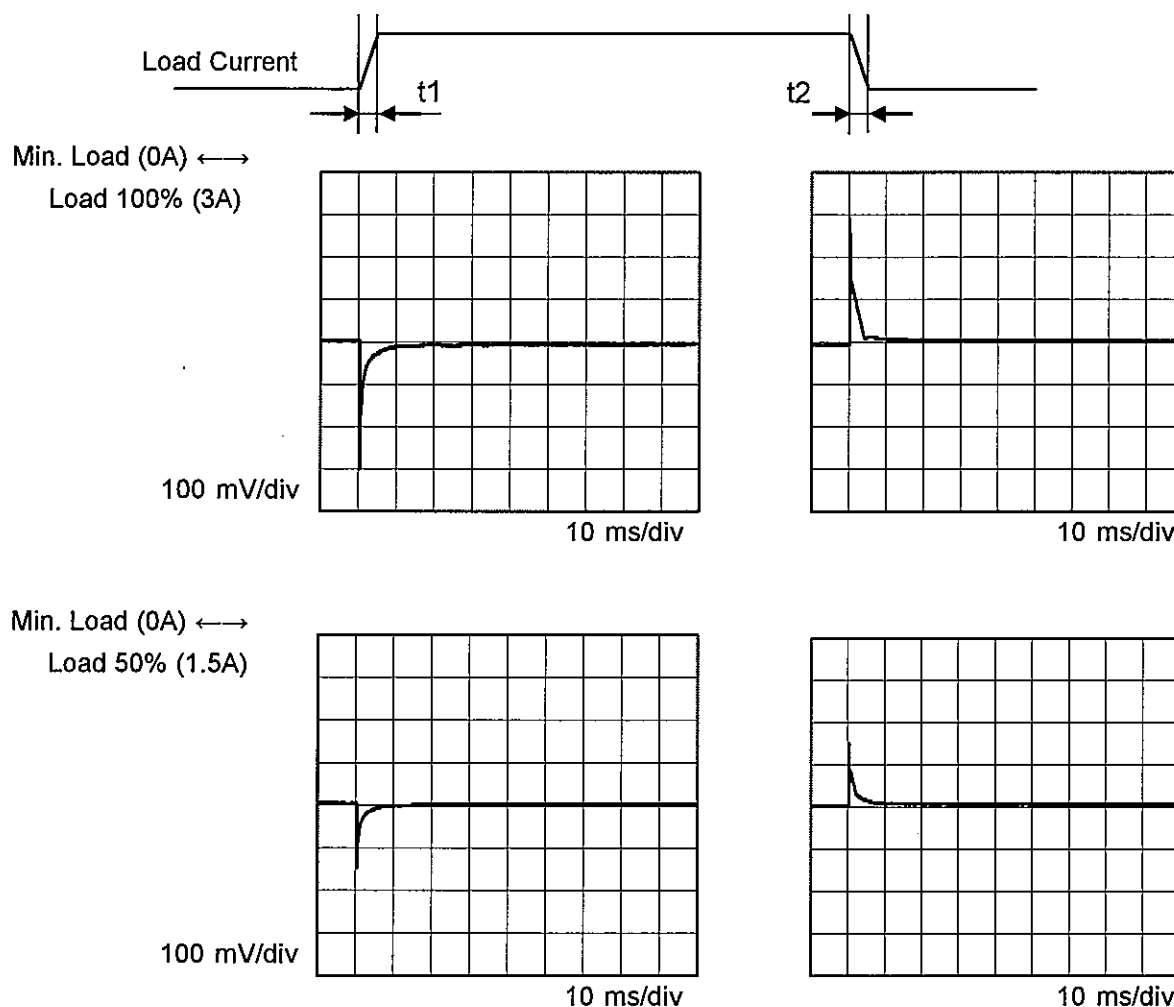
2. Values

Load Current [A]	Output Voltage [V]		
	Input Volt. 100[V]	Input Volt. 200[V]	Input Volt. 230[V]
0.0	5.095	5.096	5.096
0.6	5.093	5.094	5.094
1.2	5.091	5.091	5.091
1.8	5.088	5.089	5.089
2.4	5.085	5.086	5.086
3.0	5.079	5.084	5.084
3.3	5.076	5.082	5.082
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-

Model	PMA15F-5	Temperature	25° C
Item	Dynamic Load Response	Testing Circuitry	Figure A
Object	+5V3A		

Input Volt. 100 V
Cycle 1000 ms

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



Model	PMA15F-5		
Item	Ripple Voltage (by Load Current)	Temperature	25°C
Object	+5V3A	Testing Circuitry	Figure A
1.Graph		2.Values	
<div><div><div><div></div><div>—△—</div><div>Input Volt. 100V</div></div><div><div></div><div>- - ○ - -</div><div>Input Volt. 200V</div></div></div><div><p>Ripple Voltage [mV]</p><p>Load Current [A]</p></div></div> <div><p>Measured by 20 MHz Oscilloscope.</p><p>Ripple Voltage is shown as p-p in the figure below.</p><p>Note: Slanted line shows the range of the rated load current.</p></div> <div><div><div><div></div><div>T1: Due to AC Input Line</div></div><div><div></div><div>T2: Due to Switching</div></div></div><div><p>Ripple [mVp-p]</p><p>T1</p><p>T2</p></div></div> <div><p>Fig. Complex Ripple Wave Form</p></div>			

Model	PMA15F-5																																								
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Item		Ripple Voltage (by Ambient Temp.)
Object		+5V3A
1.Graph		2.Values

<

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Object		+5V3A																																																				
1.Graph		2.Values																																																				
<div><div><div>—△—</div><div>Input Volt.</div><div>100V</div></div><div><div>---□---</div><div>Input Volt.</div><div>200V</div></div><div><div>---○---</div><div>Input Volt.</div><div>230V</div></div></div> <p>Output Voltage [V]</p> <p>Ambient Temperature [°C]</p> <p>Load 100%</p> <p>Note: Slanted line shows the range of the rated ambient temperature.</p>		<table><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><tr><td>-20</td><td>5.074</td><td>5.079</td><td>5.079</td></tr><tr><td>-10</td><td>5.075</td><td>5.080</td><td>5.080</td></tr><tr><td>0</td><td>5.077</td><td>5.081</td><td>5.082</td></tr><tr><td>10</td><td>5.078</td><td>5.083</td><td>5.083</td></tr><tr><td>20</td><td>5.079</td><td>5.084</td><td>5.084</td></tr><tr><td>25</td><td>5.080</td><td>5.085</td><td>5.085</td></tr><tr><td>30</td><td>5.081</td><td>5.085</td><td>5.085</td></tr><tr><td>40</td><td>5.081</td><td>5.085</td><td>5.085</td></tr><tr><td>50</td><td>5.081</td><td>5.084</td><td>5.084</td></tr><tr><td>60</td><td>5.080</td><td>5.083</td><td>5.083</td></tr><tr><td>--</td><td>-</td><td>-</td><td>-</td></tr></table>		Ambient Temperature [°C]	Output Voltage [V]			Input Volt. 100[V]	Input Volt. 200[V]	Input Volt. 230[V]	-20	5.074	5.079	5.079	-10	5.075	5.080	5.080	0	5.077	5.081	5.082	10	5.078	5.083	5.083	20	5.079	5.084	5.084	25	5.080	5.085	5.085	30	5.081	5.085	5.085	40	5.081	5.085	5.085	50	5.081	5.084	5.084	60	5.080	5.083	5.083	--	-	-	-
Ambient Temperature [°C]	Output Voltage [V]																																																					
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		Testing Circuitry Figure A
Model	PMA15F-5	
Item	Output Voltage Accuracy	
Object	+5V3A	

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 : -10 - 50°C

Input Voltage : 85 - 264V

Load Current : 0 - 3A

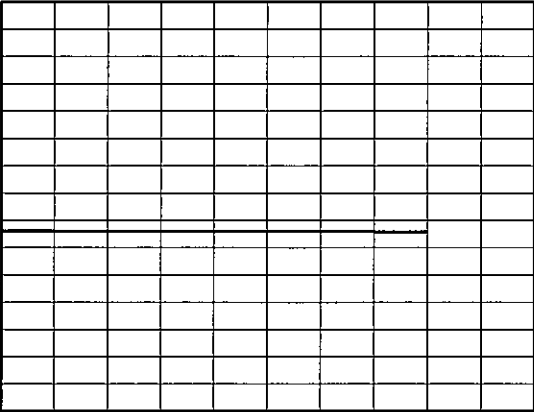
* Output Voltage Accuracy = $\pm(\text{Maximum of Output Voltage} - \text{Minimum of Output Voltage}) / 2$

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

2. Values

Item	Temperature [°C]	Input Voltage[V]	Output		Output Voltage Accuracy	
			Current[A]	Voltage[V]	Value [mV]	Ratio [%]
Maximum Voltage	50	264	0	5.099	±13	±0.3
Minimum Voltage	-10	85	3	5.073		

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Model	PMA15F-5																								
Item	Time Lapse Drift	Temperature	25°C																						
		Testing Circuitry	Figure A																						
Object	+5V3A																								
1.Graph		2.Values																							
<div><div><div>5.14</div><div>5.12</div><div>5.10</div><div>5.08</div><div>5.06</div><div>5.04</div><div>5.02</div><div>5.00</div></div><div><div><div>0</div><div>2</div><div>4</div><div>6</div><div>8</div><div>10</div></div><div><div>Time [H]</div><div>Input Volt. 230V</div><div>Load 100%</div></div></div><div></div></div>		<table><tr><th>Time since start [H]</th><th>Output Voltage [V]</th></tr><tr><td>0.0</td><td>5.066</td></tr><tr><td>0.5</td><td>5.066</td></tr><tr><td>1.0</td><td>5.066</td></tr><tr><td>2.0</td><td>5.066</td></tr><tr><td>3.0</td><td>5.066</td></tr><tr><td>4.0</td><td>5.066</td></tr><tr><td>5.0</td><td>5.066</td></tr><tr><td>6.0</td><td>5.066</td></tr><tr><td>7.0</td><td>5.066</td></tr><tr><td>8.0</td><td>5.066</td></tr></table>		Time since start [H]	Output Voltage [V]	0.0	5.066	0.5	5.066	1.0	5.066	2.0	5.066	3.0	5.066	4.0	5.066	5.0	5.066	6.0	5.066	7.0	5.066	8.0	5.066
Time since start [H]	Output Voltage [V]																								
0.0	5.066																								
0.5	5.066																								
1.0	5.066																								
2.0	5.066																								
3.0	5.066																								
4.0	5.066																								
5.0	5.066																								
6.0	5.066																								
7.0	5.066																								
8.0	5.066																								
* The characteristic of AC100V is equal.																									

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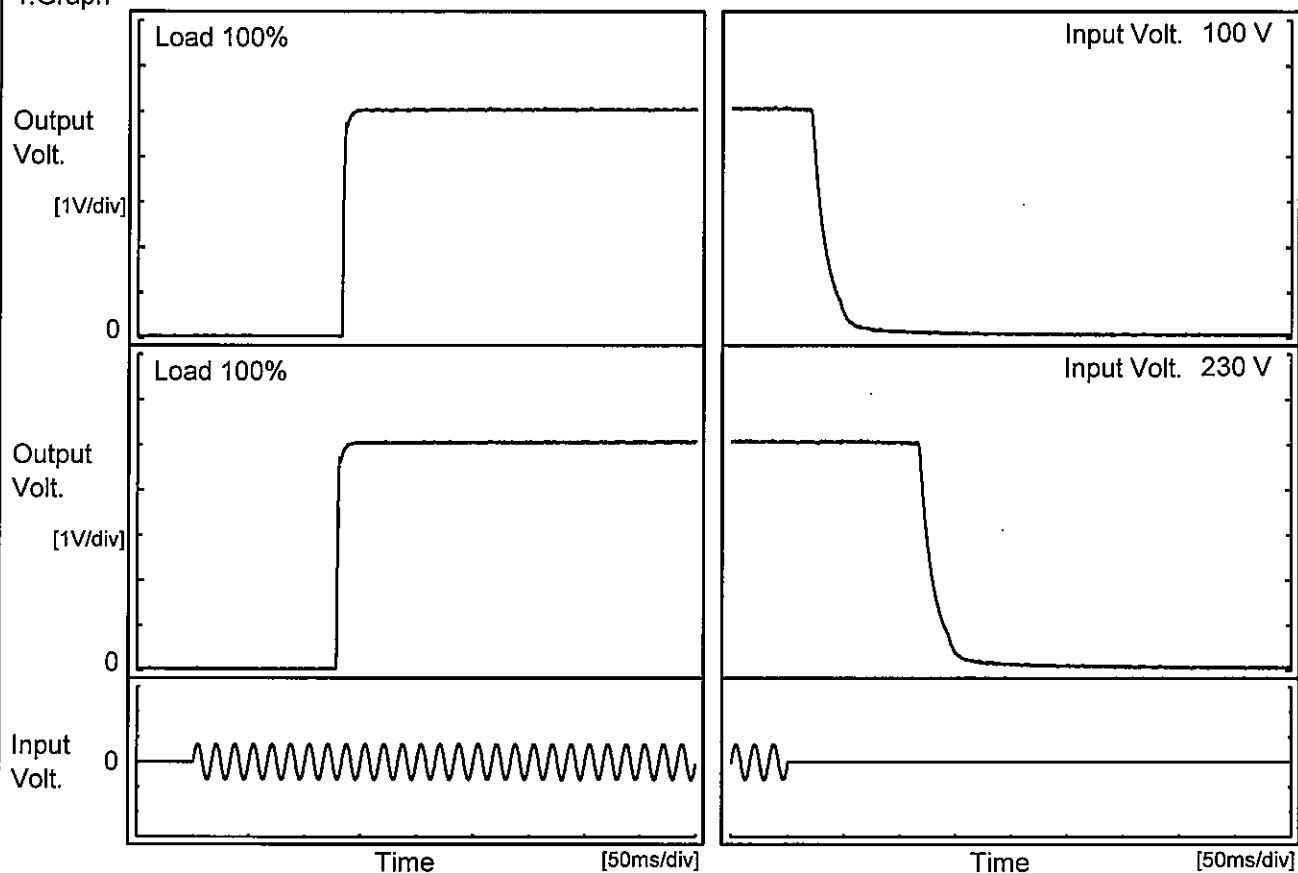
Model PMA15F-5

Item Rise and Fall Time

Object +5V3A

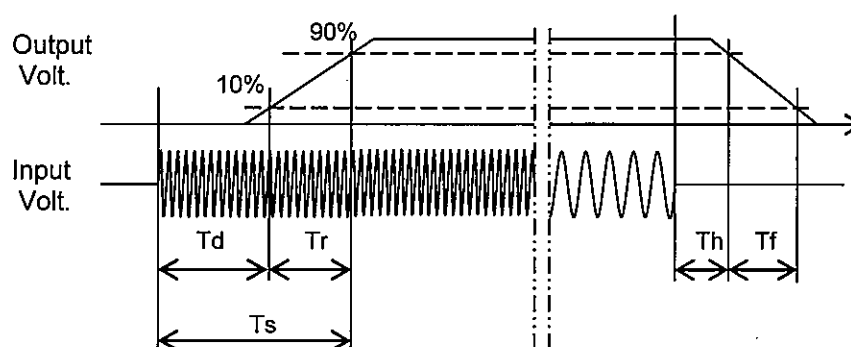
Temperature 25°C
Testing Circuitry Figure A

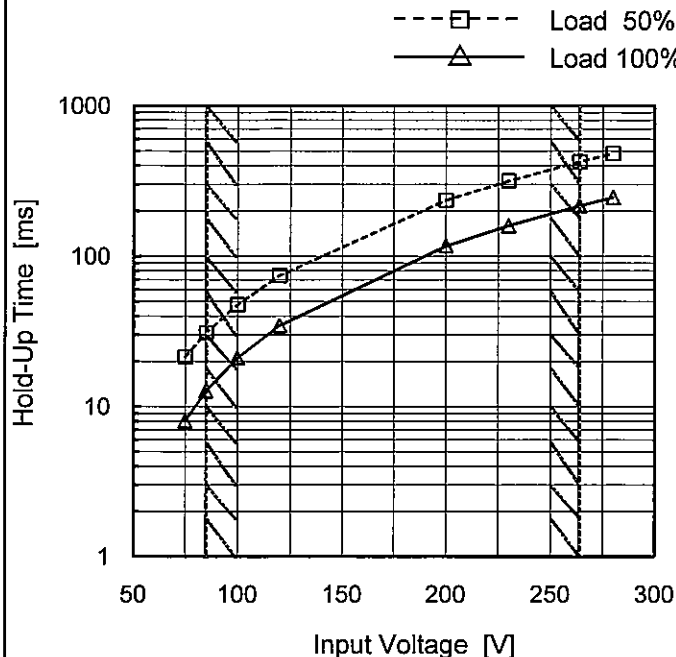
1. Graph



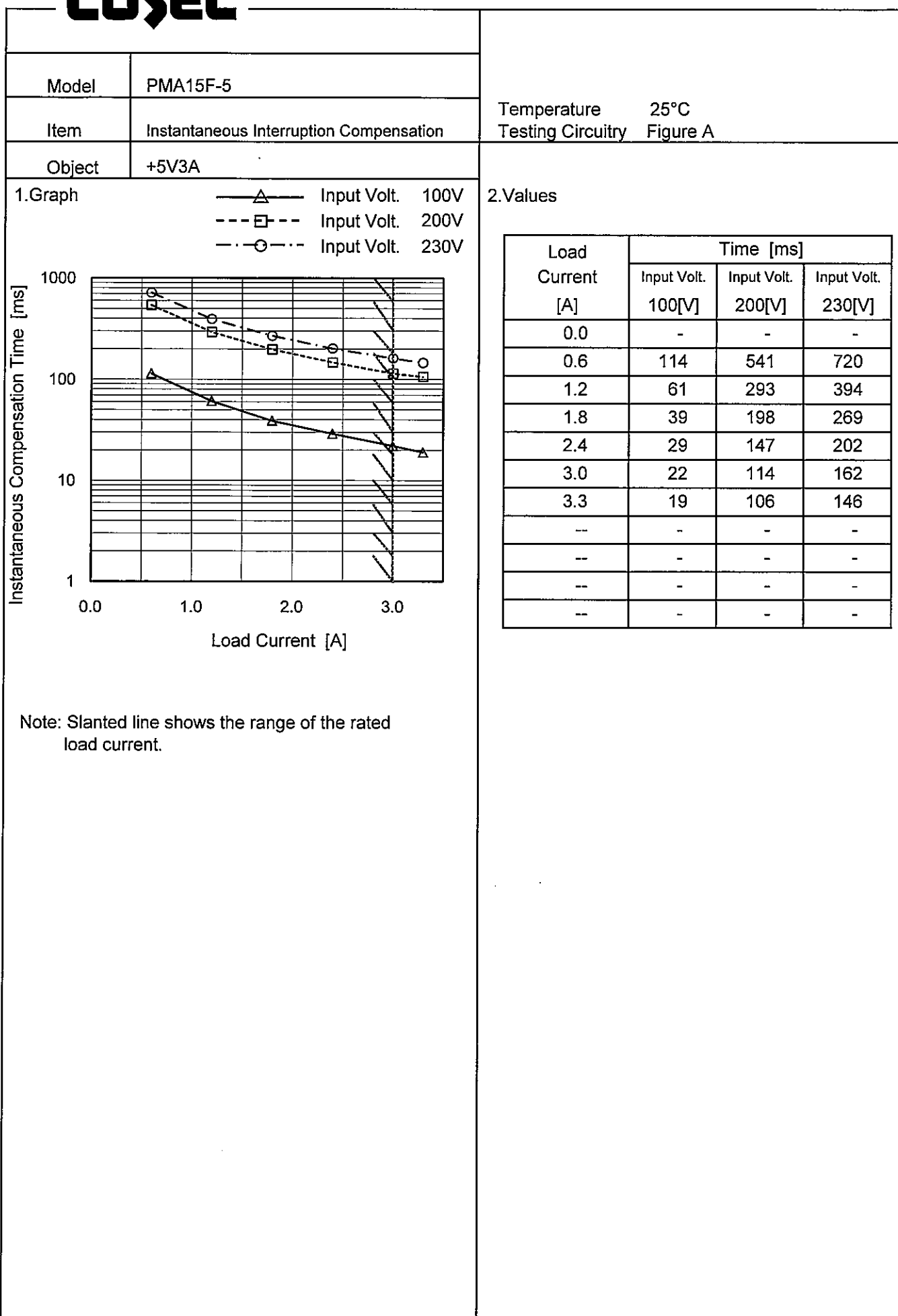
2. Values

		[ms]				
Input Volt.	Time	Td	Tr	Ts	Th	Tf
100 V		133.3	2.5	135.8	22.5	27.5
230 V		129.0	1.8	130.8	118.5	28.5



Model	PMA15F-5																																																													
Item	Hold-Up Time	Temperature	25°C																																																											
		Testing Circuitry	Figure A																																																											
Object	+5V3A																																																													
1.Graph		2.Values																																																												
<div><div>---□--- Load 50%</div><div>—△— Load 100%</div><p>The graph shows Hold-Up Time [ms] on a logarithmic y-axis (1 to 1000) versus Input Voltage [V] on a linear x-axis (50 to 300). Two curves are plotted: Load 50% (dashed line with square markers) and Load 100% (solid line with triangle markers). Both curves show an increasing trend. A slanted shaded region indicates the rated input voltage range from approximately 80V to 280V.</p><table><caption>Data points estimated from the graph</caption><tr><th>Input Voltage [V]</th><th>Hold-Up Time [ms] (Load 50%)</th><th>Hold-Up Time [ms] (Load 100%)</th></tr><tr><td>75</td><td>21</td><td>8</td></tr><tr><td>85</td><td>31</td><td>13</td></tr><tr><td>100</td><td>48</td><td>21</td></tr><tr><td>120</td><td>75</td><td>35</td></tr><tr><td>200</td><td>236</td><td>117</td></tr><tr><td>230</td><td>318</td><td>160</td></tr><tr><td>264</td><td>426</td><td>217</td></tr><tr><td>280</td><td>483</td><td>247</td></tr></table></div>		Input Voltage [V]	Hold-Up Time [ms] (Load 50%)	Hold-Up Time [ms] (Load 100%)	75	21	8	85	31	13	100	48	21	120	75	35	200	236	117	230	318	160	264	426	217	280	483	247	<table><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><tr><td>75</td><td>21</td><td>8</td></tr><tr><td>85</td><td>31</td><td>13</td></tr><tr><td>100</td><td>48</td><td>21</td></tr><tr><td>120</td><td>75</td><td>35</td></tr><tr><td>200</td><td>236</td><td>117</td></tr><tr><td>230</td><td>318</td><td>160</td></tr><tr><td>264</td><td>426</td><td>217</td></tr><tr><td>280</td><td>483</td><td>247</td></tr><tr><td>--</td><td>-</td><td>-</td></tr></table>		Input Voltage [V]	Hold-Up Time [ms]		Load 50%	Load 100%	75	21	8	85	31	13	100	48	21	120	75	35	200	236	117	230	318	160	264	426	217	280	483	247	--	-	-
Input Voltage [V]	Hold-Up Time [ms] (Load 50%)	Hold-Up Time [ms] (Load 100%)																																																												
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<p>This duration covers from Shut-off of input voltage to the moment when output voltage descends to the rated range of voltage accuracy. Note: Slanted line shows the range of the rated input voltage.</p>																																																														

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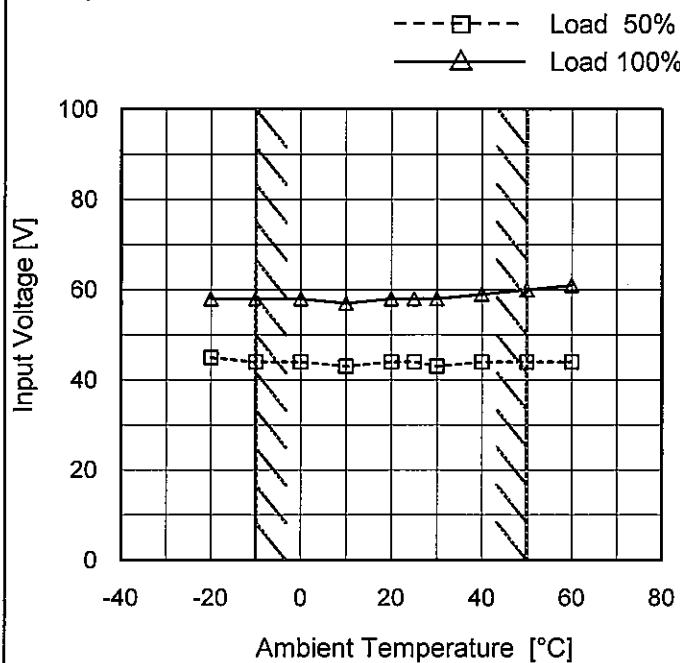
Model PMA15F-5

Item Minimum Input Voltage
for Regulated Output Voltage

Object +5V3A

Testing Circuitry Figure A

1. Graph

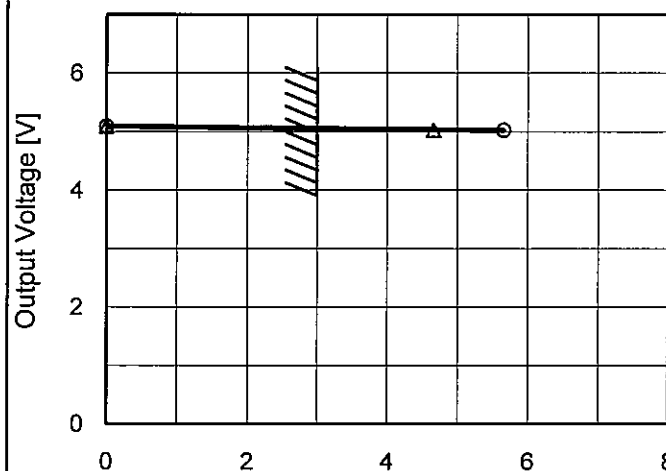


Note: Slanted line shows the range of the rated ambient temperature.

2. Values

Ambient Temperature [°C]	Input Voltage [V]	
	Load 50%	Load 100%
-20	45	58
-10	44	58
0	44	58
10	43	57
20	44	58
25	44	58
30	43	58
40	44	59
50	44	60
60	44	61
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Model	PMA15F-5																																											
Item	Overcurrent Protection	Temperature	25°C																																									
Object	+5V3A	Testing Circuitry	Figure A																																									
1.Graph		2.Values																																										
<div><div><div>△</div><div>Input Volt. 100V</div></div><div><div>○</div><div>Input Volt. 230V</div></div></div>  <p>Note: Slanted line shows the range of the rated load current.</p>		<table><tr><th rowspan="2">Output Voltage [V]</th><th colspan="2">Load Current [A]</th></tr><tr><th>Input Volt. 100[V]</th><th>Input Volt. 230[V]</th></tr><tr><td>5.00</td><td>4.66</td><td>5.65</td></tr><tr><td>4.75</td><td>-</td><td>-</td></tr><tr><td>4.50</td><td>-</td><td>-</td></tr><tr><td>4.00</td><td>-</td><td>-</td></tr><tr><td>3.50</td><td>-</td><td>-</td></tr><tr><td>3.00</td><td>-</td><td>-</td></tr><tr><td>2.50</td><td>-</td><td>-</td></tr><tr><td>2.00</td><td>-</td><td>-</td></tr><tr><td>1.50</td><td>-</td><td>-</td></tr><tr><td>1.00</td><td>-</td><td>-</td></tr><tr><td>0.50</td><td>-</td><td>-</td></tr><tr><td>0.00</td><td>-</td><td>-</td></tr></table>		Output Voltage [V]	Load Current [A]		Input Volt. 100[V]	Input Volt. 230[V]	5.00	4.66	5.65	4.75	-	-	4.50	-	-	4.00	-	-	3.50	-	-	3.00	-	-	2.50	-	-	2.00	-	-	1.50	-	-	1.00	-	-	0.50	-	-	0.00	-	-
Output Voltage [V]	Load Current [A]																																											
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Model	PMA15F-5		
Item	Overvoltage Protection	Testing Circuitry Figure A	
Object	+5V3A		
1.Graph		2.Values	
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[V]</div></div><div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></d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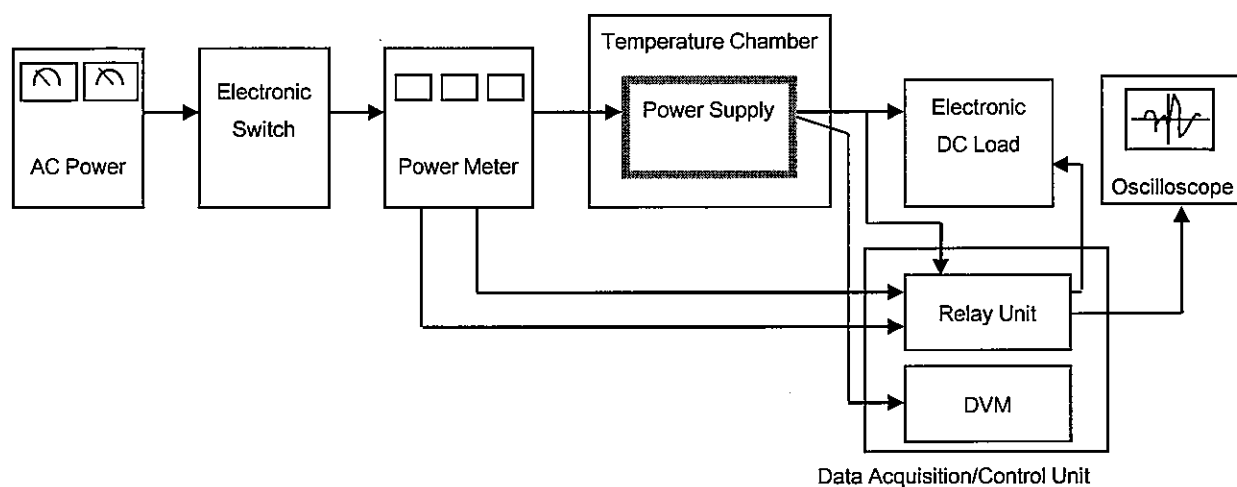


Figure A

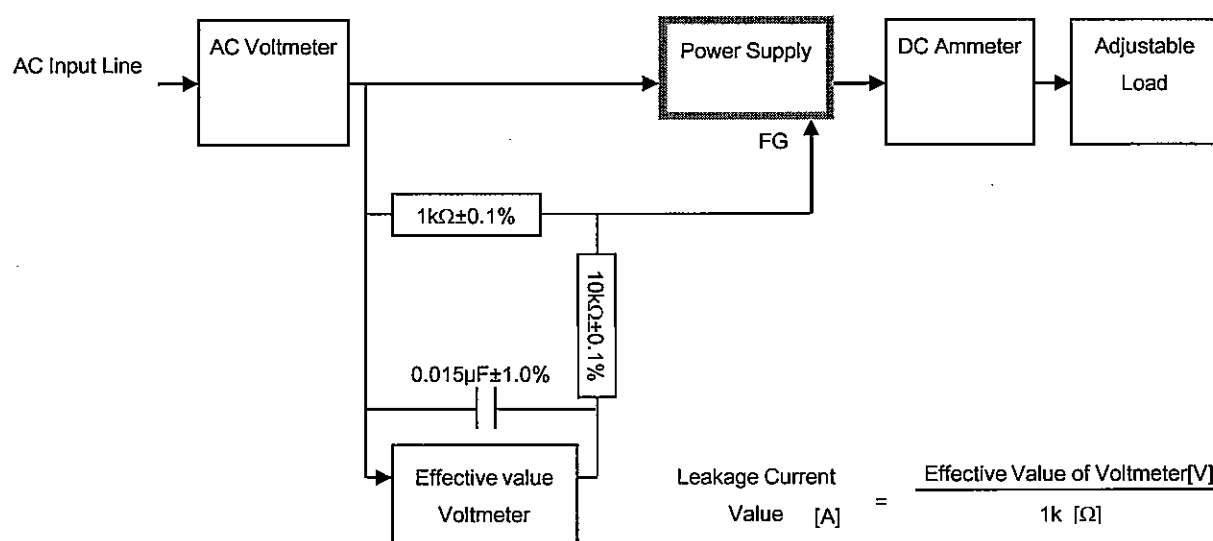


Figure B (IEC60601-1)