

TEST DATA OF DPG750

(200V INPUT)

AC-DC Front End Module
March.8. 2010

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Tatsuya Mano Design Manager

Prepared by : Satoshi Uetani
Satoshi Uetani Design Engineer

COSEL CO.,LTD.



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(Final Page 20)

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Model	DPG750		
Item	Input Current (by Load Power)		
Object			
1. Graph		Temperature 25°C Testing Circuitry Figure A	
<p>Legend:</p> <ul style="list-style-type: none"> Input Volt. 170V (solid line with triangles) Input Volt. 200V (dashed line with squares) Input Volt. 264V (dash-dot line with circles) <p>Note: Slanted line shows the range of the rated load current.</p>		2. Values	
Load Power [W]	Input Current [A]		
	Input Volt. 170[V]	Input Volt. 200[V]	Input Volt. 264[V]
0	0.30	0.35	0.46
50	0.47	0.47	0.53
150	1.03	0.91	0.83
300	1.93	1.66	1.39
450	2.84	2.42	1.99
600	3.75	3.18	2.60
750	4.64	3.94	3.21
825	5.10	4.32	3.52
--	-	-	-
--	-	-	-
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Note: Slanted line shows the range of the rated load current.

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Item	Efficiency (by Input Voltage)	Testing Circuitry	Figure A																																
Object																																			
1.Graph		2.Values																																	
<p>The graph plots Efficiency [%] on the y-axis (50 to 100) against Input Voltage [V] on the x-axis (140 to 300). Two data series are shown: Load 50% (dashed line with square markers) and Load 100% (solid line with triangle markers). Both series show efficiency remaining high (above 90%) across the entire input voltage range. A slanted line on the graph indicates the rated input voltage range.</p>		<table border="1"> <thead> <tr> <th rowspan="2">Input Voltage [V]</th> <th colspan="2">Efficiency [%]</th> </tr> <tr> <th>Load 50%</th> <th>Load 100%</th> </tr> </thead> <tbody> <tr><td>150</td><td>96.1</td><td>96.1</td></tr> <tr><td>170</td><td>96.3</td><td>96.6</td></tr> <tr><td>180</td><td>96.5</td><td>96.7</td></tr> <tr><td>200</td><td>96.7</td><td>97.1</td></tr> <tr><td>220</td><td>96.9</td><td>97.3</td></tr> <tr><td>240</td><td>97.1</td><td>97.4</td></tr> <tr><td>255</td><td>97.2</td><td>97.4</td></tr> <tr><td>264</td><td>97.2</td><td>97.5</td></tr> <tr><td>280</td><td>98.2</td><td>98.0</td></tr> </tbody> </table>		Input Voltage [V]	Efficiency [%]		Load 50%	Load 100%	150	96.1	96.1	170	96.3	96.6	180	96.5	96.7	200	96.7	97.1	220	96.9	97.3	240	97.1	97.4	255	97.2	97.4	264	97.2	97.5	280	98.2	98.0
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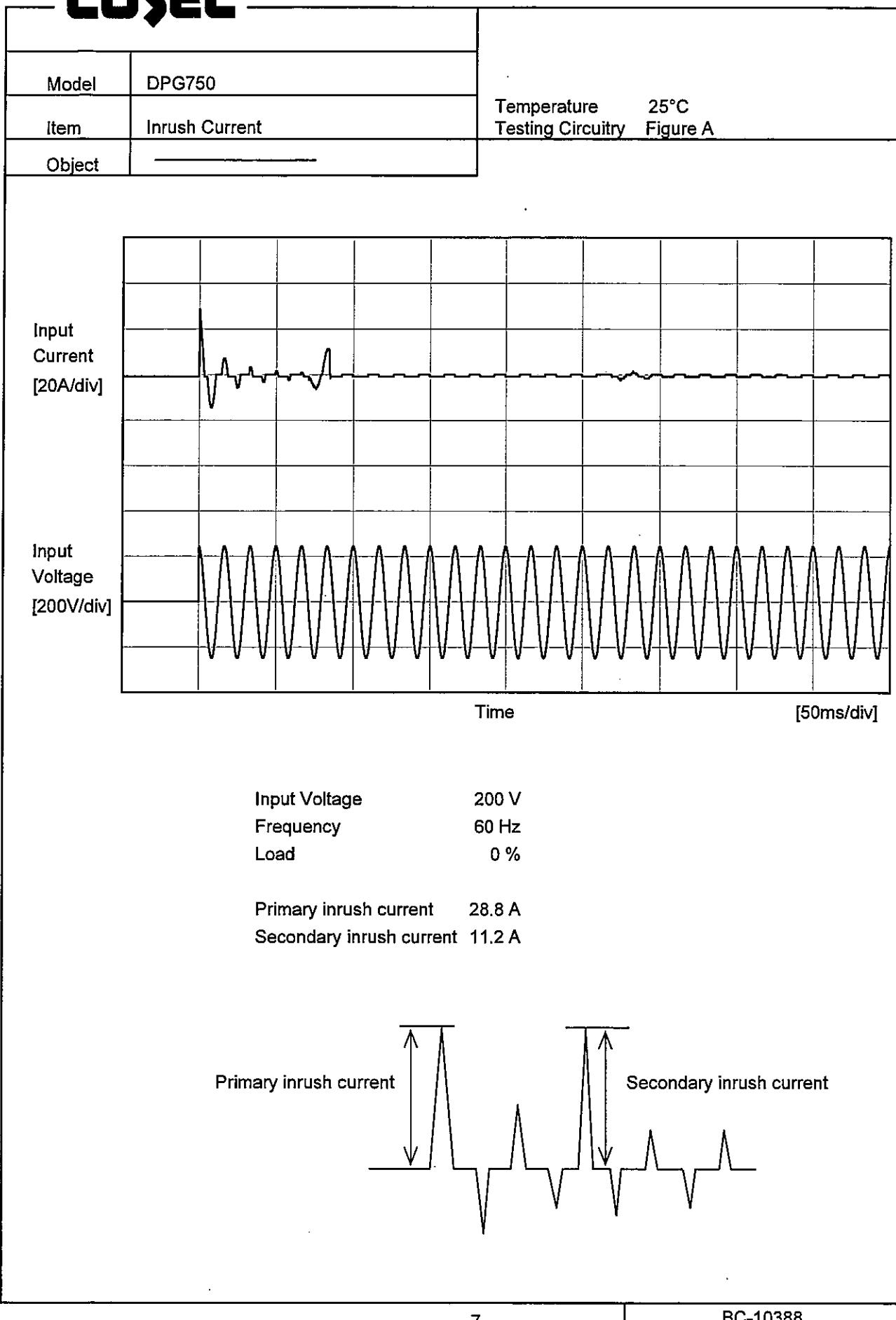
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Model	DPG750	Temperature Testing Circuitry	25°C Figure B
Item	Leakage Current		
Object	<hr/>		

1. Results

Standards	Leakage Current [mA]		
	Input Volt. 85 [V]	Input Volt. 100 [V]	Input Volt. 132 [V]
(A)DEN-AN	-	-	-
(B)IEC60950-1	-	-	-

Standards	Leakage Current [mA]		
	Input Volt. 170 [V]	Input Volt. 230 [V]	Input Volt. 264 [V]
(B)IEC60950-1	0.25	0.31	0.42

2. Condition

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

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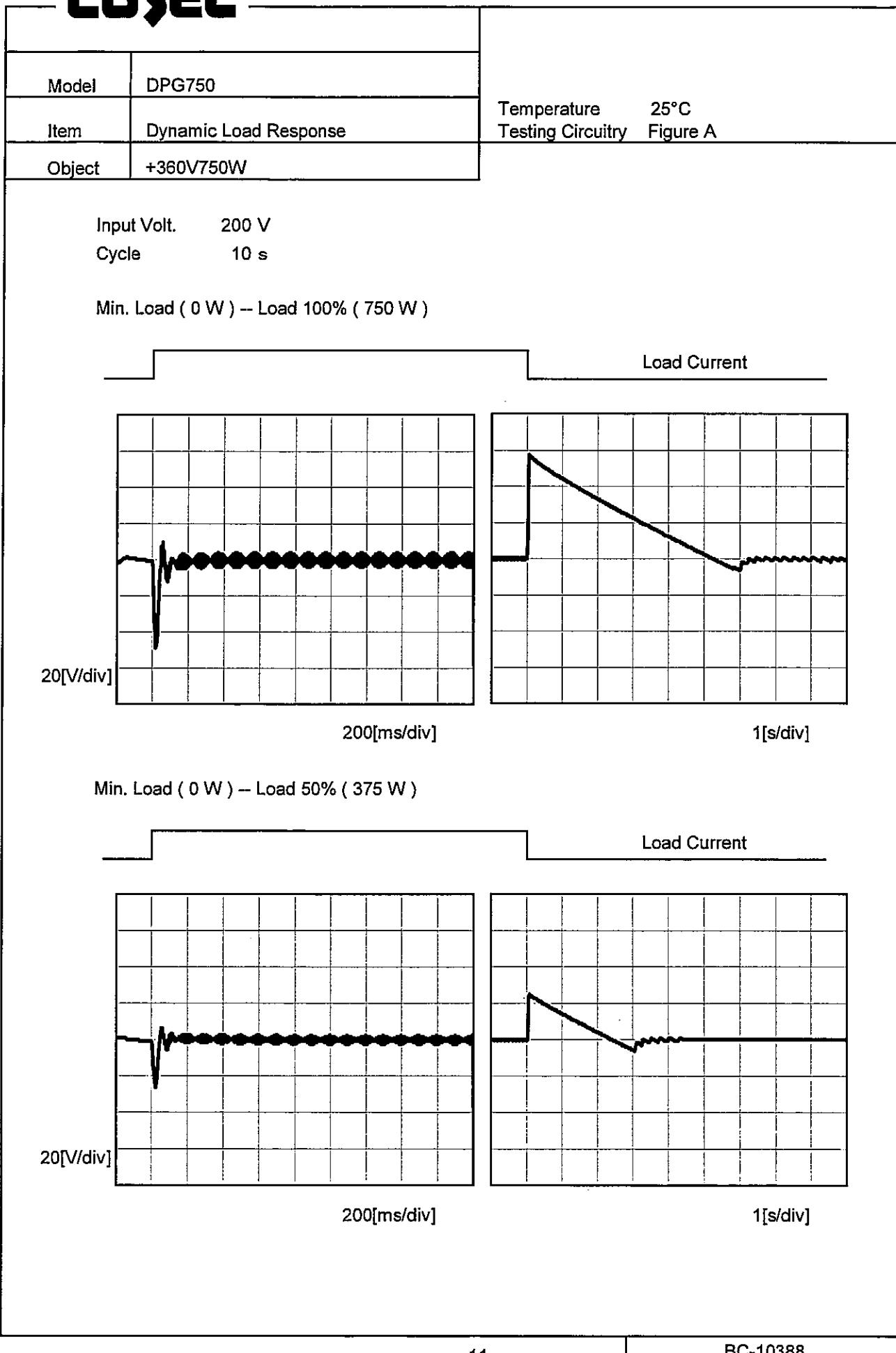
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Note: Slanted line shows the range of the rated input voltage.

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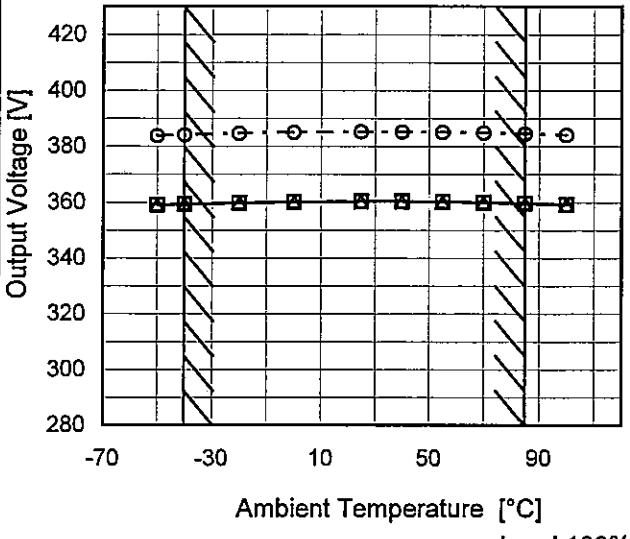
Note: Slanted line shows the range of the rated load current.

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Model	DPG750																																						
Item	Ripple Voltage (by Load Current)	Temperature 25°C Testing Circuitry Figure A																																					
Object	+360V750W																																						
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<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>																																							
<p style="text-align: center;">T1: Due to AC Input Line T2: Due to Switching</p>																																							
<p style="text-align: center;">Fig. Complex Ripple Wave Form</p>																																							

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Model	DPG750	Testing Circuitry Figure A		
Item	Ambient Temperature Drift			
Object	+360V 750W	2.Values		
1.Graph	<p style="text-align: center;"> —▲— Input Volt. 170V ---□--- Input Volt. 200V ---○--- Input Volt. 264V </p>  <p style="text-align: center;">Output Voltage [V]</p> <p style="text-align: center;">Ambient Temperature [°C]</p> <p style="text-align: center;">Load 100%</p>			
Note:	Slanted line shows the range of the rated ambient temperature.			



Model	DPG750	Testing Circuitry Figure A
Item	Output Voltage Accuracy	
Object	+360V 750W	

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 : -40 - 85°C

Input Voltage : 170 - 240V

Load Power : 0 - 750W

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

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

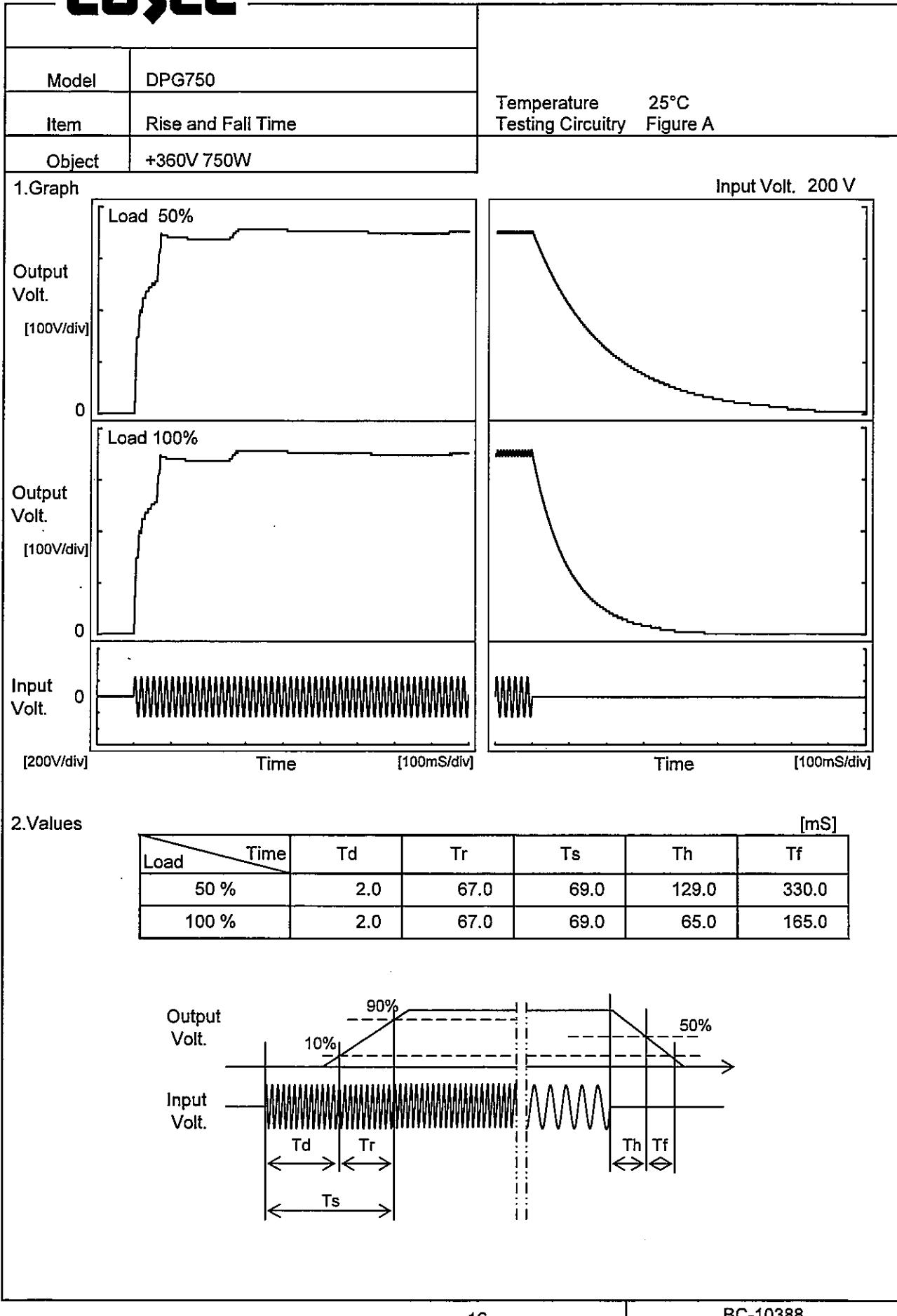
2. Values

Item	Temperature [°C]	Input Voltage[V]	Output		Output Voltage Accuracy	
			Power[W]	Voltage[V]	Value [V]	Ration [%]
Maximum Voltage	25	240	0	360.41	± 0.59	± 0.2
Minimum Voltage	-40	170	750	359.24		

* When the input voltage is more than 240V, the output voltage becomes the value proportional to the input voltage.

COSEL

Model	DPG750	Temperature Testing Circuitry 25°C Figure A																						
Item	Time Lapse Drift																							
Object	+360V 750W																							
1.Graph		2.Values																						
<p>Output Voltage [V]</p> <p>Time [H]</p> <p>Input Volt. 200V 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>359.96</td></tr> <tr><td>0.5</td><td>360.05</td></tr> <tr><td>1.0</td><td>360.05</td></tr> <tr><td>2.0</td><td>360.05</td></tr> <tr><td>3.0</td><td>360.05</td></tr> <tr><td>4.0</td><td>360.05</td></tr> <tr><td>5.0</td><td>360.05</td></tr> <tr><td>6.0</td><td>360.05</td></tr> <tr><td>7.0</td><td>360.05</td></tr> <tr><td>8.0</td><td>360.05</td></tr> </tbody> </table>	Time since start [H]	Output Voltage [V]	0.0	359.96	0.5	360.05	1.0	360.05	2.0	360.05	3.0	360.05	4.0	360.05	5.0	360.05	6.0	360.05	7.0	360.05	8.0	360.05
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Model	DPG750	Testing Circuitry Figure A																																										
Item	Minimum Input Voltage for Regulated Output Voltage																																											
Object	+360V 750W																																											
1.Graph																																												
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COSEL

Model	DPG750	Testing Circuitry Figure A																																																									
Item	Overtoltage Protection																																																										
Object	+360V750W																																																										
1.Graph	<p style="text-align: center;"> —△— Input Volt. 170V ---□--- Input Volt. 200V ---○--- Input Volt. 264V </p> <p style="text-align: center;">Operating Point [V]</p> <p style="text-align: center;">Ambient Temperature [°C]</p> <p style="text-align: center;">Load 0%</p>	2.Values																																																									
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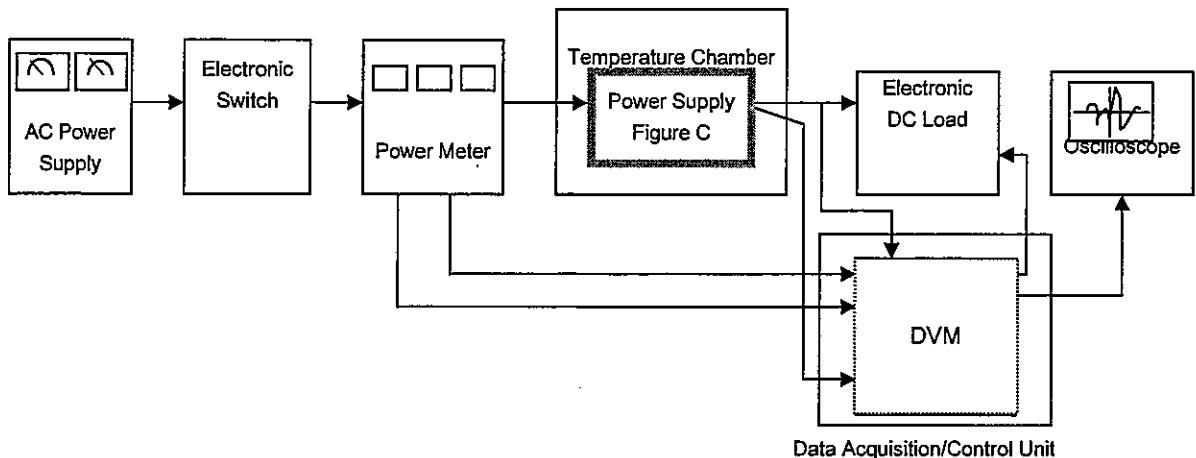


Figure A

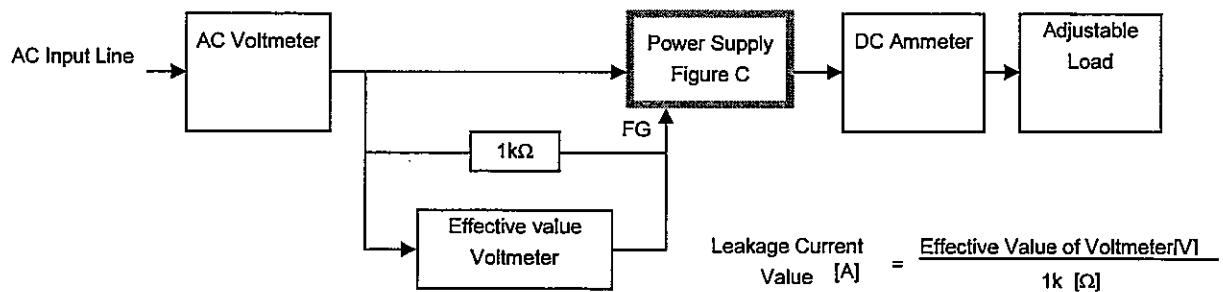


Figure B (DEN-AN)

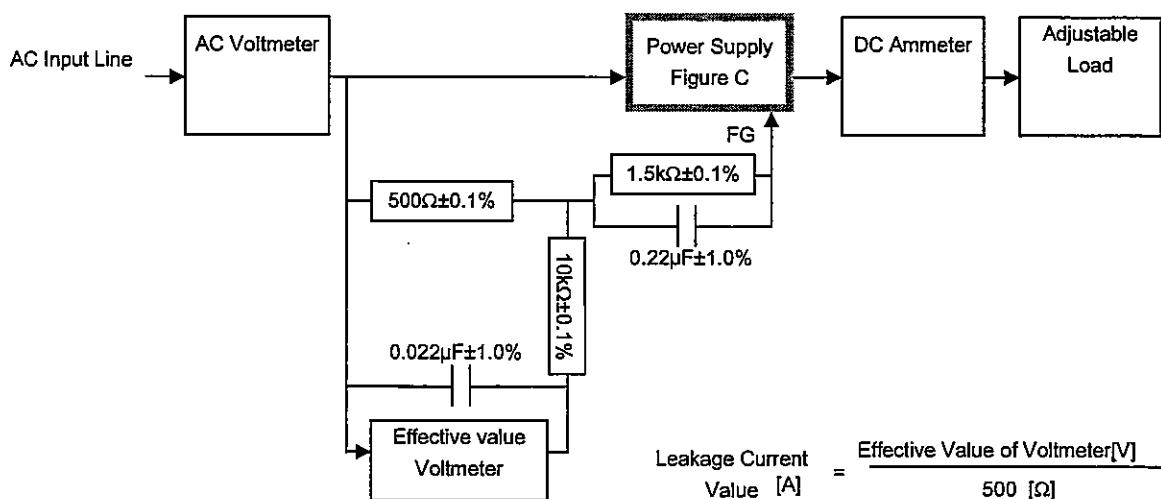


Figure B (IEC60950-1)

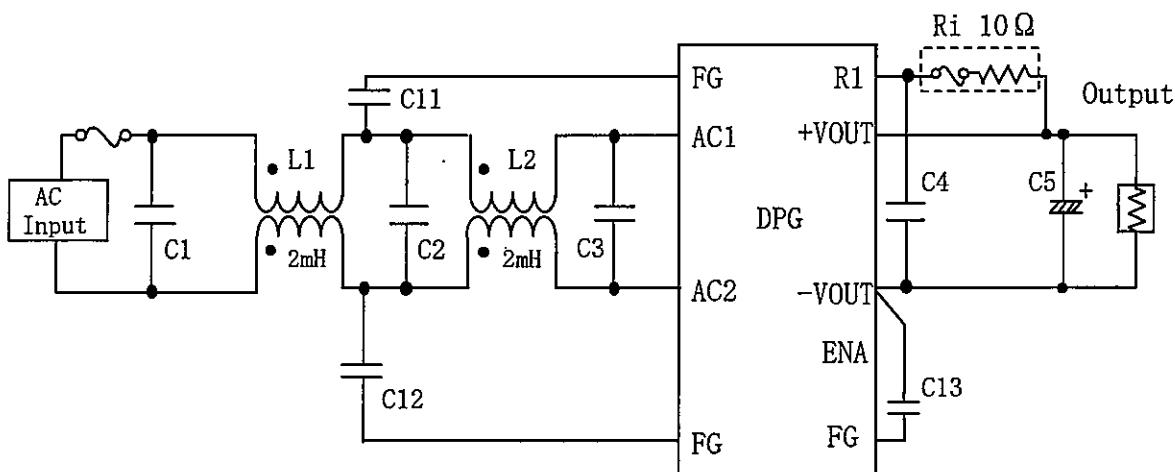
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Figure C

- C1, C2, C4 : 0.68uF 250V Film Capacitor ×2
C3 : 1.0uF 250V Film Capacitor ×2
C5 : 560uF 450V Electrolytic Capacitor
C11, C12, C13 : 2200pF Ceramic Capacitor
L1, L2 : SC-15-200 (NEC TOKIN)