

TEST DATA OF PDA30F-12

Regulated DC Power Supply
November 24, 2023

Approved by : Tetsukazu Okamoto
Design Manager

Prepared by : Takaaki Sekiguchi
Design Engineer

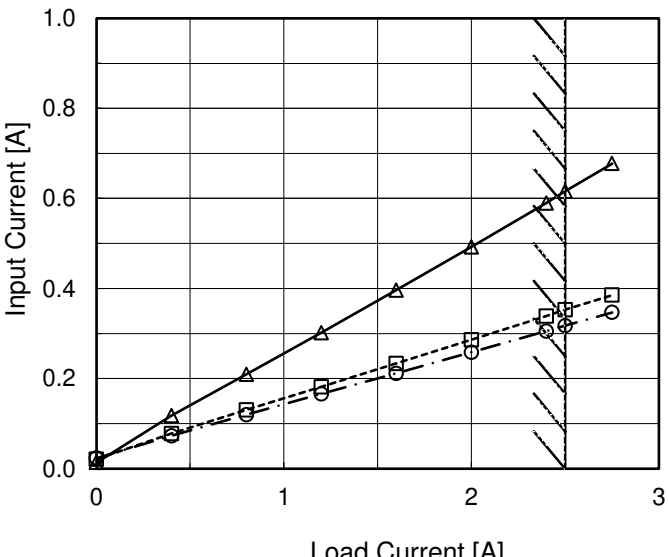
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(Final Page 15)

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Model		PDA30F-12		Temperature 25°C																																																				
Item		Input Current (by Load Current)		Testing Circuitry Figure A																																																				
Object		_____																																																						
1.Graph		<div><div>—△—</div>Input Volt. 100V</div> <div><div>---□---</div>Input Volt. 200V</div> <div><div>---○---</div>Input Volt. 230V</div>		2.Values																																																				
<div><div><div>Input Current [A]</div><div></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>0.00</td><td>0.014</td><td>0.021</td><td>0.024</td></tr><tr><td>0.40</td><td>0.118</td><td>0.078</td><td>0.073</td></tr><tr><td>0.80</td><td>0.210</td><td>0.131</td><td>0.120</td></tr><tr><td>1.20</td><td>0.302</td><td>0.182</td><td>0.166</td></tr><tr><td>1.60</td><td>0.397</td><td>0.234</td><td>0.212</td></tr><tr><td>2.00</td><td>0.492</td><td>0.286</td><td>0.258</td></tr><tr><td>2.40</td><td>0.590</td><td>0.339</td><td>0.305</td></tr><tr><td>2.50</td><td>0.616</td><td>0.353</td><td>0.318</td></tr><tr><td>2.75</td><td>0.678</td><td>0.385</td><td>0.347</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]	0.00	0.014	0.021	0.024	0.40	0.118	0.078	0.073	0.80	0.210	0.131	0.120	1.20	0.302	0.182	0.166	1.60	0.397	0.234	0.212	2.00	0.492	0.286	0.258	2.40	0.590	0.339	0.305	2.50	0.616	0.353	0.318	2.75	0.678	0.385	0.347	--	-	-	-	--	-	-	-		
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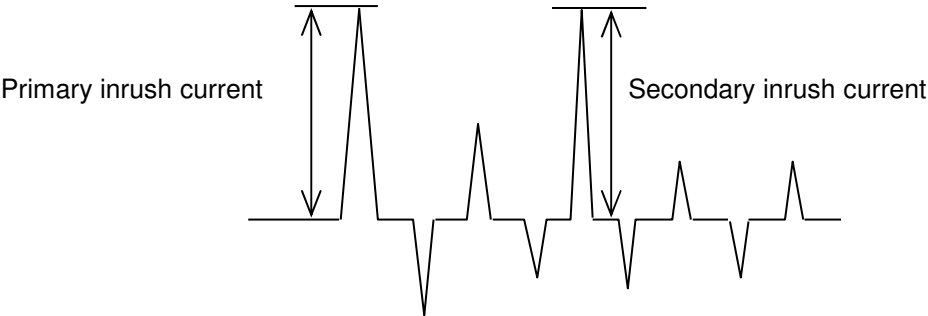
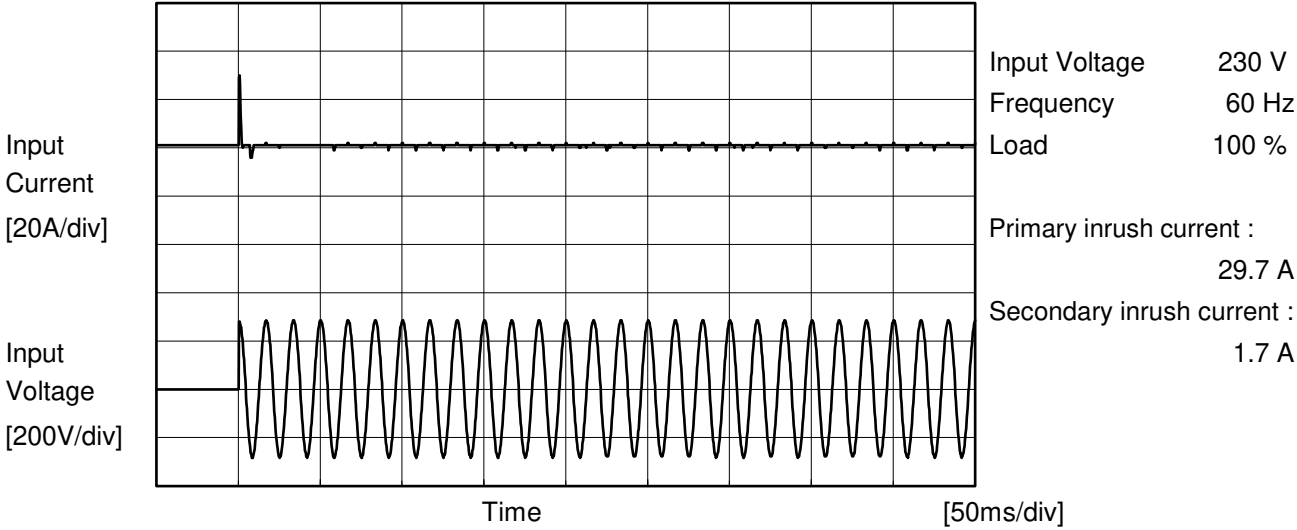
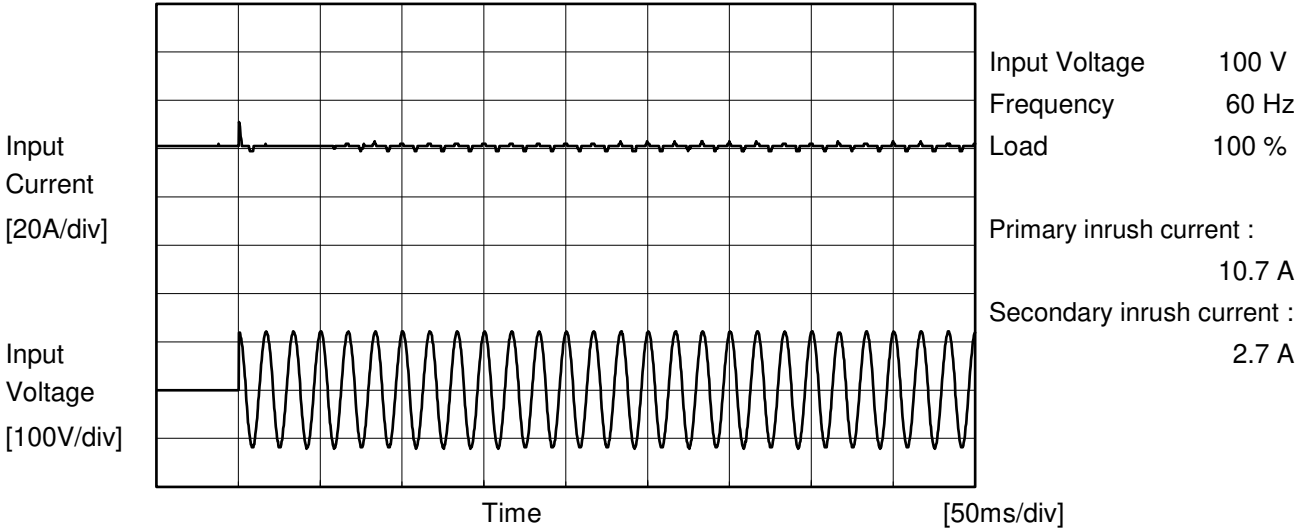
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Model	PDA30F-12	Temperature 25°C Testing Circuitry Figure A	
Item	Inrush Current		
Object	_____		





Model		PDA30F-12	Temperature 25°C Testing Circuitry Figure C
Item		Leakage Current	
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	0.16	0.41	0.43	Operation
		One of phases	0.24	0.60	0.63	Stand by
IEC62368-1	Figure C-2	Both phases	0.16	0.40	0.42	Operation
		One of phases	0.24	0.59	0.62	Stand by
	Figure C-3	Both phases	0.16	0.40	0.42	Operation
		One of phases	0.24	0.59	0.62	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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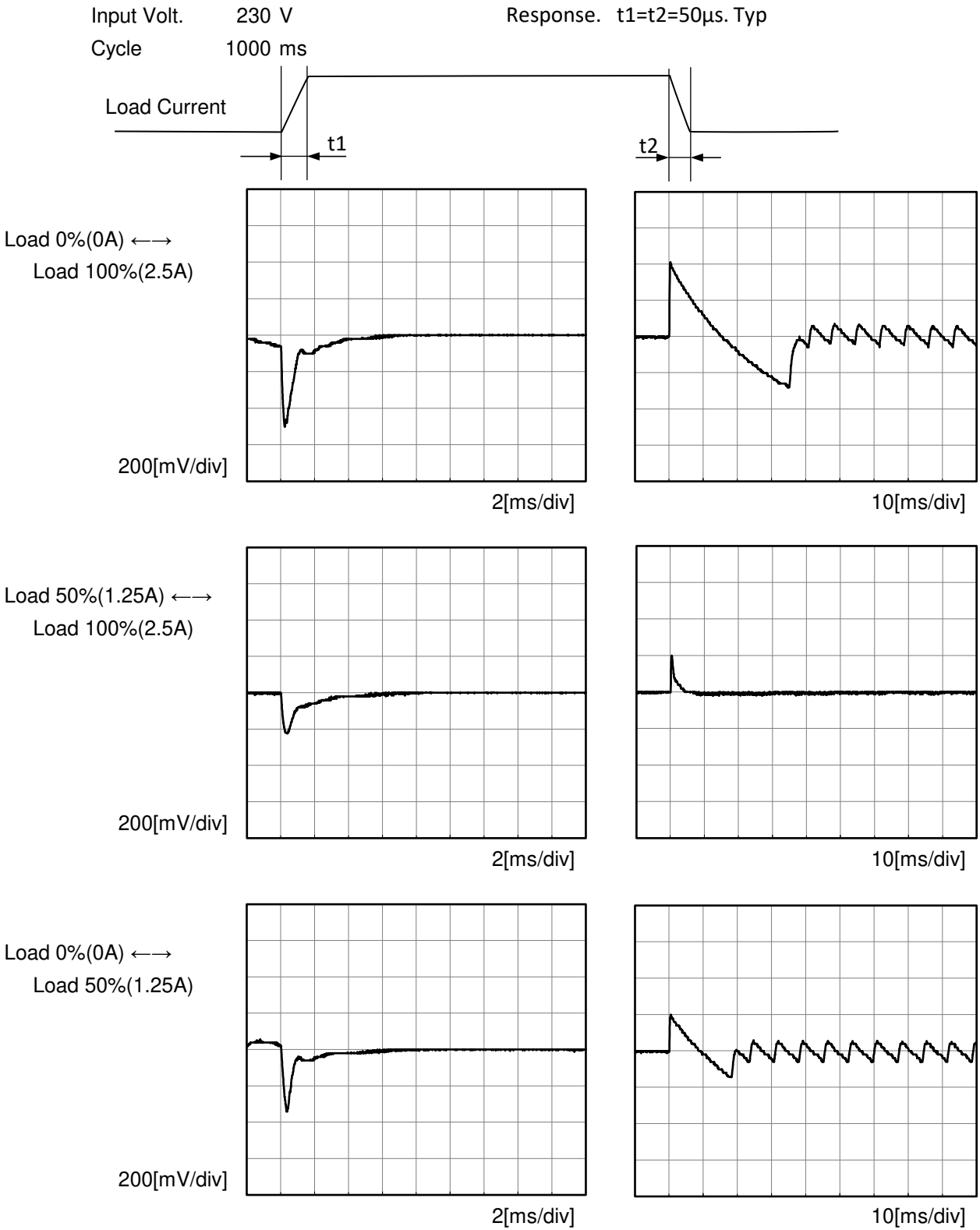
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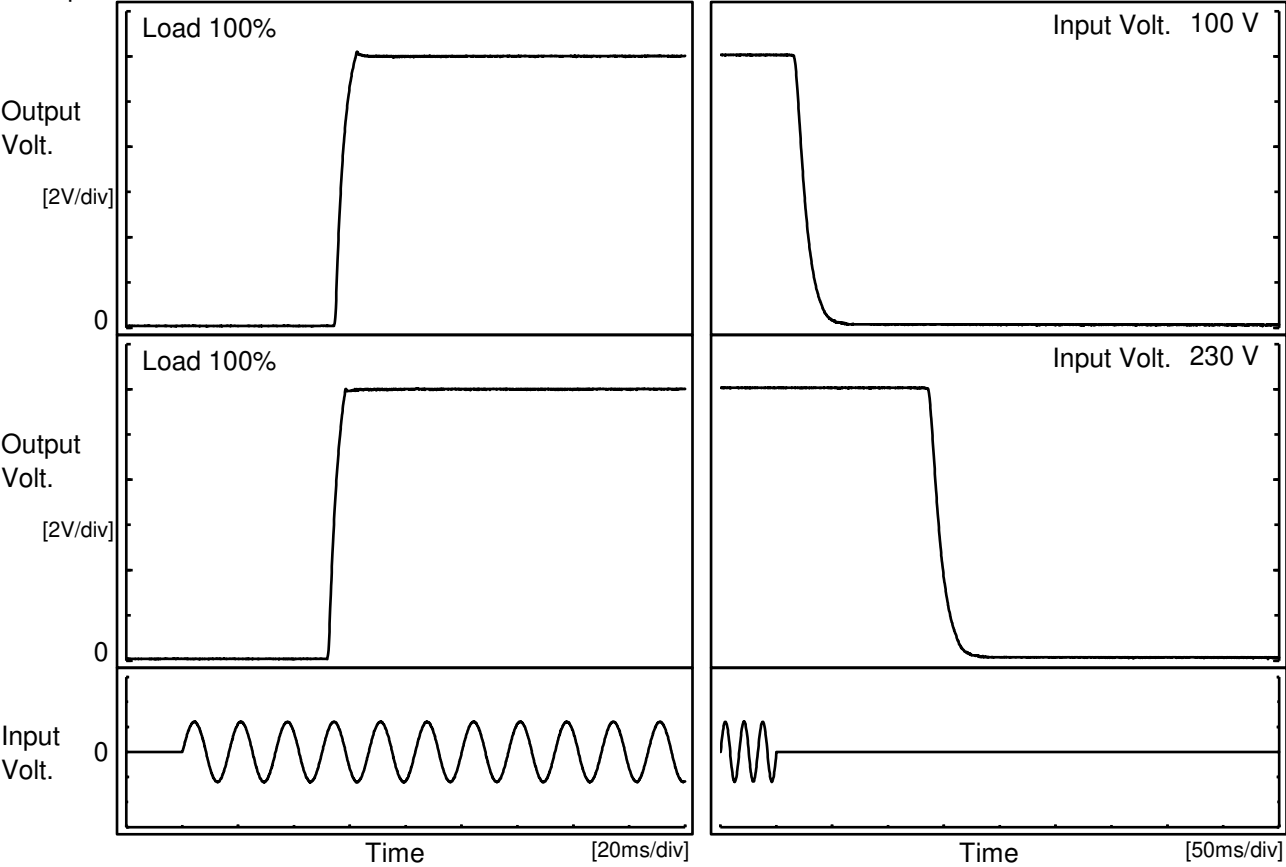
Model		PDA30F-12	Temperature 25°C Testing Circuitry Figure A
Item		Dynamic Load Response	
Object		+12V2.5A	





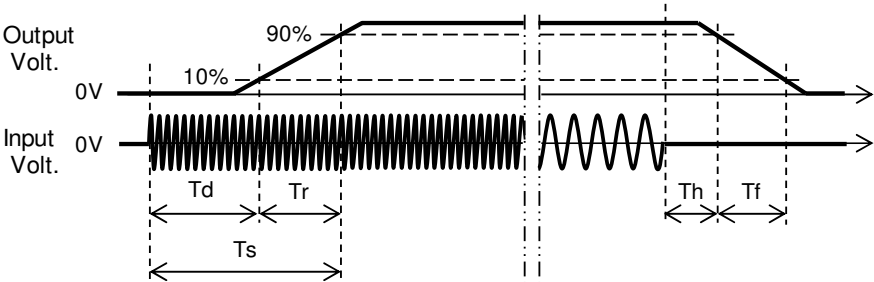
Model		PDA30F-12	Temperature 25°C Testing Circuitry Figure A
Item		Rise and Fall Time	
Object		+12V2.5A	

1.Graph



2.Values

		[ms]				
Input Volt.	Time	Td	Tr	Ts	Th	Tf
100 V		55.2	5.1	60.3	26.0	20.3
230 V		52.8	4.5	57.3	186.0	21.5



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Model		PDA30F-12	Temperature25°C Testing CircuitryFigure A
Item		Hold-Up Time	
Object		+12V2.5A	
1.Graph		<div><div><div><div></div><div></div></div><div><div></div><div></div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></di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COSEL

Model	PDA30F-12																																																					
Item	Instantaneous Interruption Compensation	Temperature	25°C																																																			
Object	+12V2.5A	Testing Circuitry	Figure A																																																			
1.Graph		2.Values																																																				
<div><div>—△— Input Volt. 100V</div><div>---□--- Input Volt. 200V</div><div>-·-○-·- Input Volt. 230V</div></div> <p>Instantaneous Compensation Time [ms]</p> <p>Load Current [A]</p> <p>Note: Slanted line shows the range of the rated load current.</p>		<table><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><tr><td>0.00</td><td>-</td><td>-</td><td>-</td></tr><tr><td>0.40</td><td>205</td><td>866</td><td>1156</td></tr><tr><td>0.80</td><td>101</td><td>447</td><td>596</td></tr><tr><td>1.20</td><td>64</td><td>301</td><td>406</td></tr><tr><td>1.60</td><td>46</td><td>223</td><td>303</td></tr><tr><td>2.00</td><td>34</td><td>176</td><td>239</td></tr><tr><td>2.40</td><td>27</td><td>144</td><td>196</td></tr><tr><td>2.50</td><td>25</td><td>138</td><td>188</td></tr><tr><td>2.75</td><td>22</td><td>123</td><td>169</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]	Time [ms]			Input Volt. 100[V]	Input Volt. 200[V]	Input Volt. 230[V]	0.00	-	-	-	0.40	205	866	1156	0.80	101	447	596	1.20	64	301	406	1.60	46	223	303	2.00	34	176	239	2.40	27	144	196	2.50	25	138	188	2.75	22	123	169	--	-	-	-	--	-	-	-
Load Current [A]	Time [ms]																																																					
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2.75	22	123	169																																																			
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COSEL

Model		PDA30F-12	
Item		Overcurrent Protection	
Object		+12V2.5A	
1.Graph		2.Values	

Input Volt. 100V

Input Volt. 230V

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

Overcurrent protection is Hiccup mode.

Output Voltage [V]	Load Current [A]	
	Input Volt. 100[V]	Input Volt. 230[V]
12.0	3.04	2.99
11.4	-	-
10.8	-	-
9.6	-	-
8.4	-	-
7.2	-	-
6.0	-	-
4.8	-	-
3.6	-	-
2.4	-	-
1.2	-	-
0.0	-	-

COSEL

		Testing Circuitry Figure A	
Model	PDA30F-12		
Item	Ambient Temperature Drift		
Object	+12V2.5A		
1.Values		Load 100%	
Ambient Temperature [°C]	Output Voltage [V]		
	Input Volt. 100V	Input Volt. 200V	Input Volt. 230V
-10	12.018	12.018	12.018
25	12.067	12.068	12.067
55	12.083	12.084	12.083
Item		Minimum Input Voltage for Regulated Output Voltage	Testing Circuitry Figure A
Object	+12V2.5A		
1.Values			
Ambient Temperature [°C]	Input Voltage [V]		
	Load 50%	Load 100%	
-10	33	51	
25	32	51	
55	32	52	
Item		Overvoltage Protection	Testing Circuitry Figure A
Object	+12V2.5A		
1.Values		Load 0%	
Ambient Temperature [°C]	Operating Point [V]		
	Input Volt. 100V	Input Volt. 230V	
-20	16.04	16.04	
25	16.47	16.47	
55	16.76	16.76	

- 13 -

BC-11957

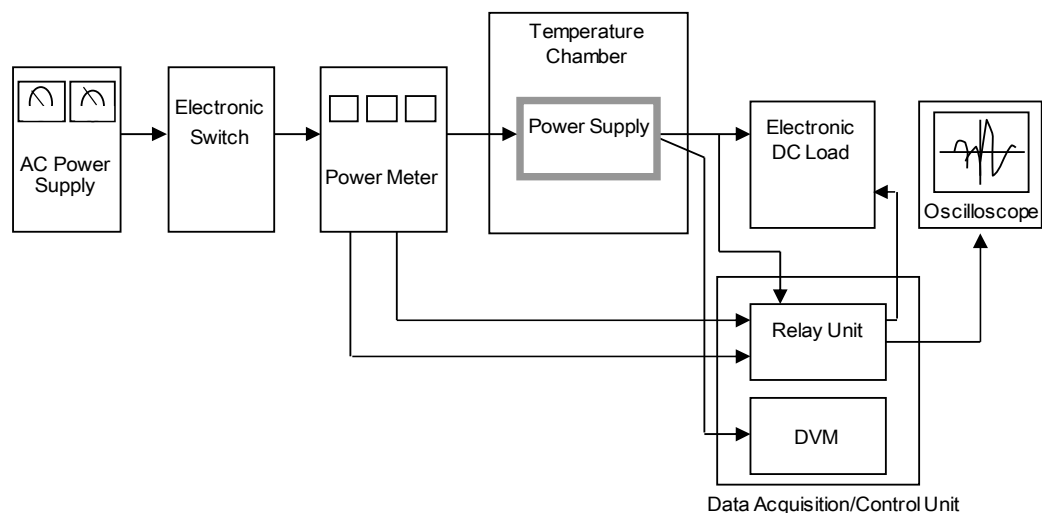


Figure A

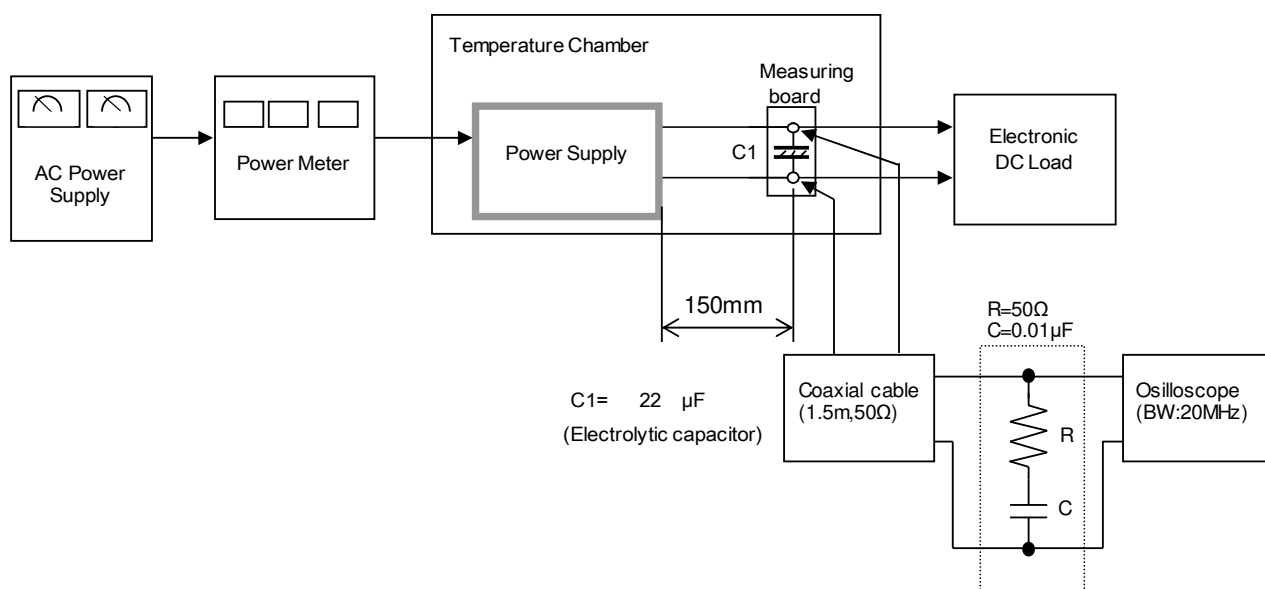


Figure B

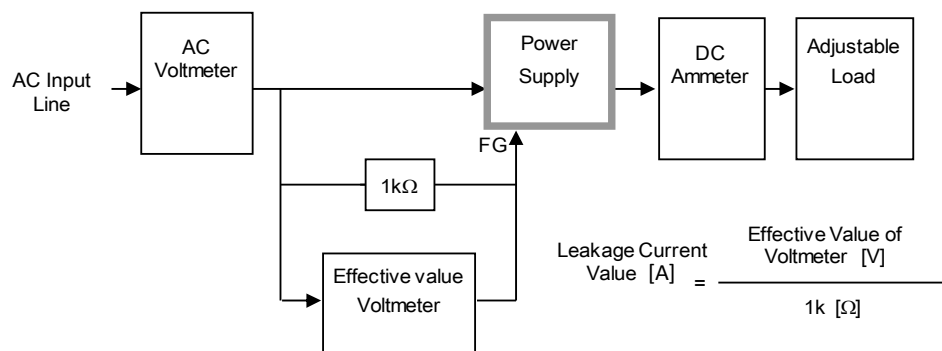


Figure C-1 (DEN-AN)

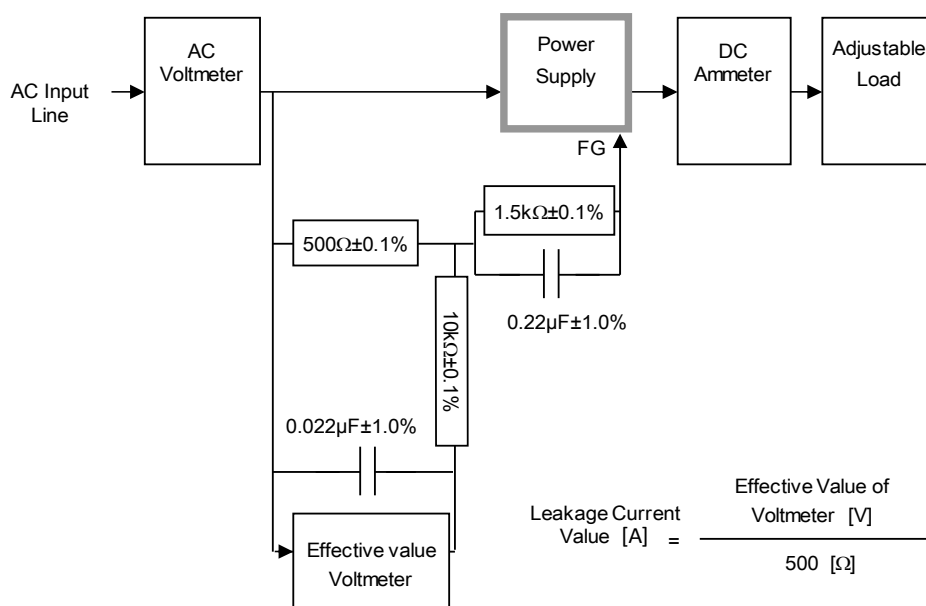


Figure C-2 (IEC62368-1 refer to IEC60990 Fig.4)

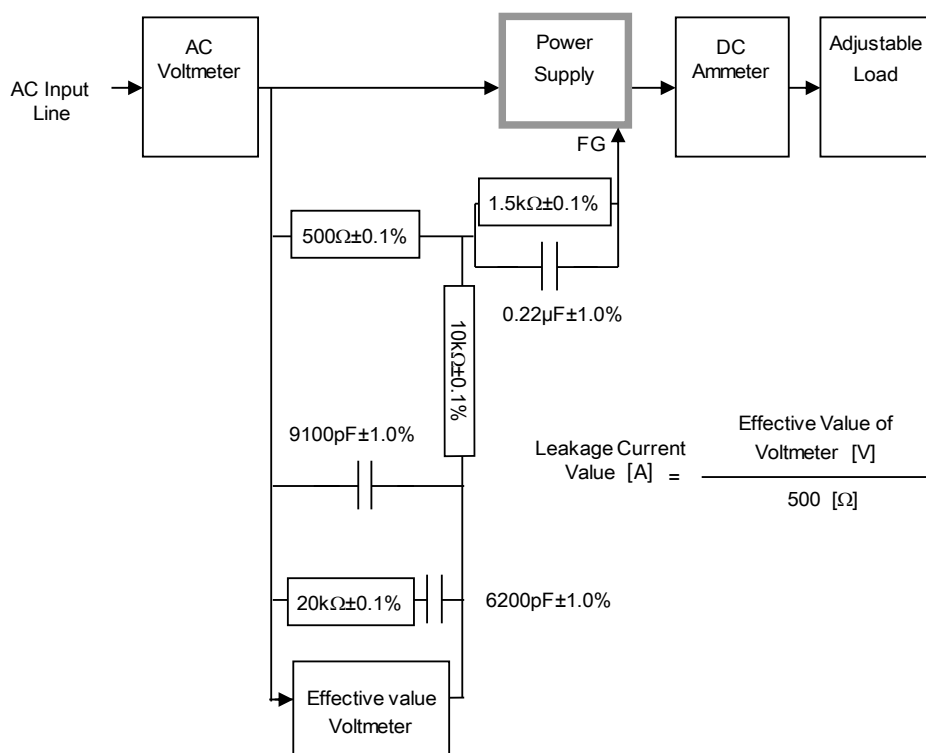


Figure C-3 (IEC62368-1 refer to IEC60990 Fig.5)