

TEST DATA OF GHA700F-30-J1

Regulated DC Power Supply
February 1, 2023

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Design Manager

Prepared by : Kasumi Izumi
Design Engineer

COSEL CO.,LTD.

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Model		GHA700F-30-J1		Temperature 25°C																																																				
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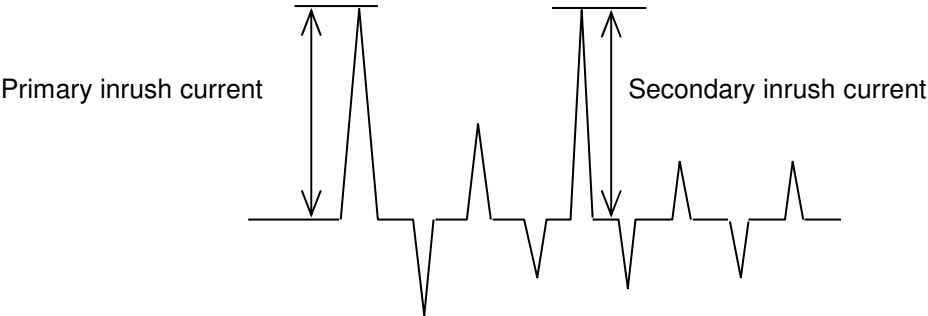
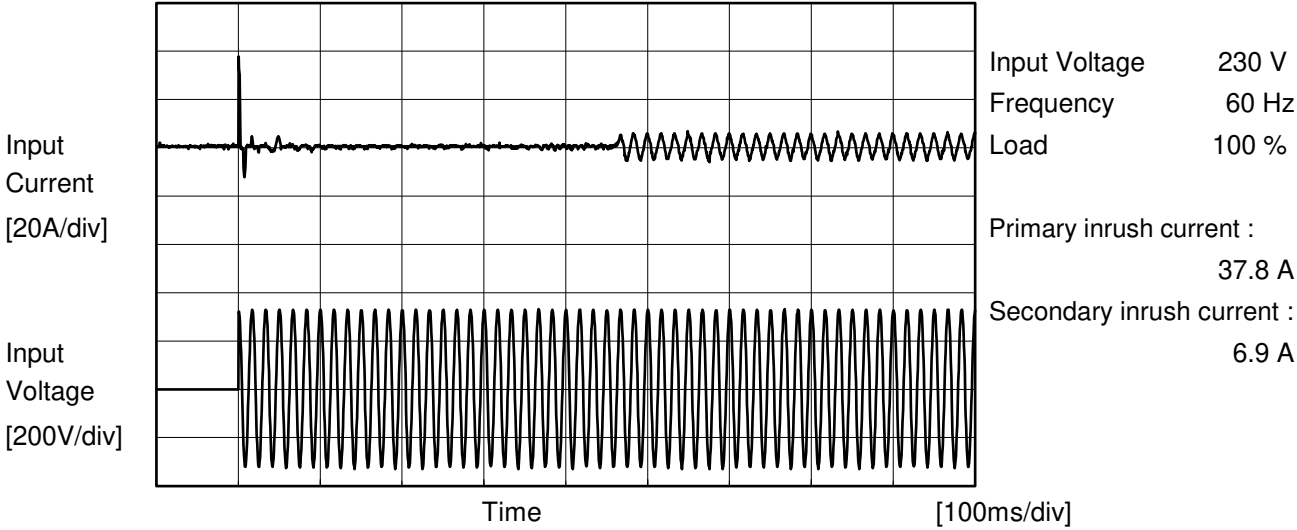
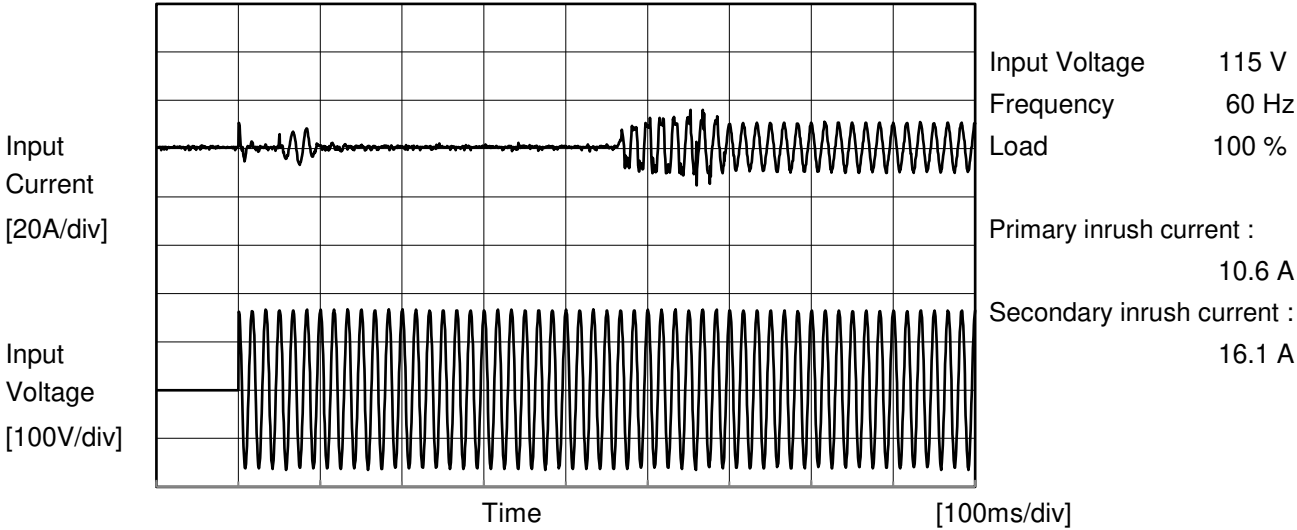
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Model		GHA700F-30-J1	
Item		Inrush Current	Temperature 25°C Testing Circuitry Figure A
Object			





		Temperature 25°C Testing Circuitry Figure C
Model	GHA700F-30-J1	
Item	Leakage Current	
Object	_____	

1.Results

[mA]

Standards	Testing Circuitry	Measuring Method	Input Volt.			Note
			100 [V]	240 [V]	264 [V]	
DEN-AN	Figure C-1	Both phases	0.06	0.15	0.17	Operation
		One of phases	0.09	0.24	0.26	Stand by
IEC62368-1	Figure C-2	Both phases	0.06	0.15	0.17	Operation
		One of phases	0.09	0.24	0.25	Stand by
	Figure C-3	Both phases	0.06	0.15	0.17	Operation
		One of phases	0.09	0.23	0.26	Stand by
IEC60601-1	Figure C-4	Both phases	0.06	0.15	0.17	Operation
		One of phases	0.09	0.24	0.26	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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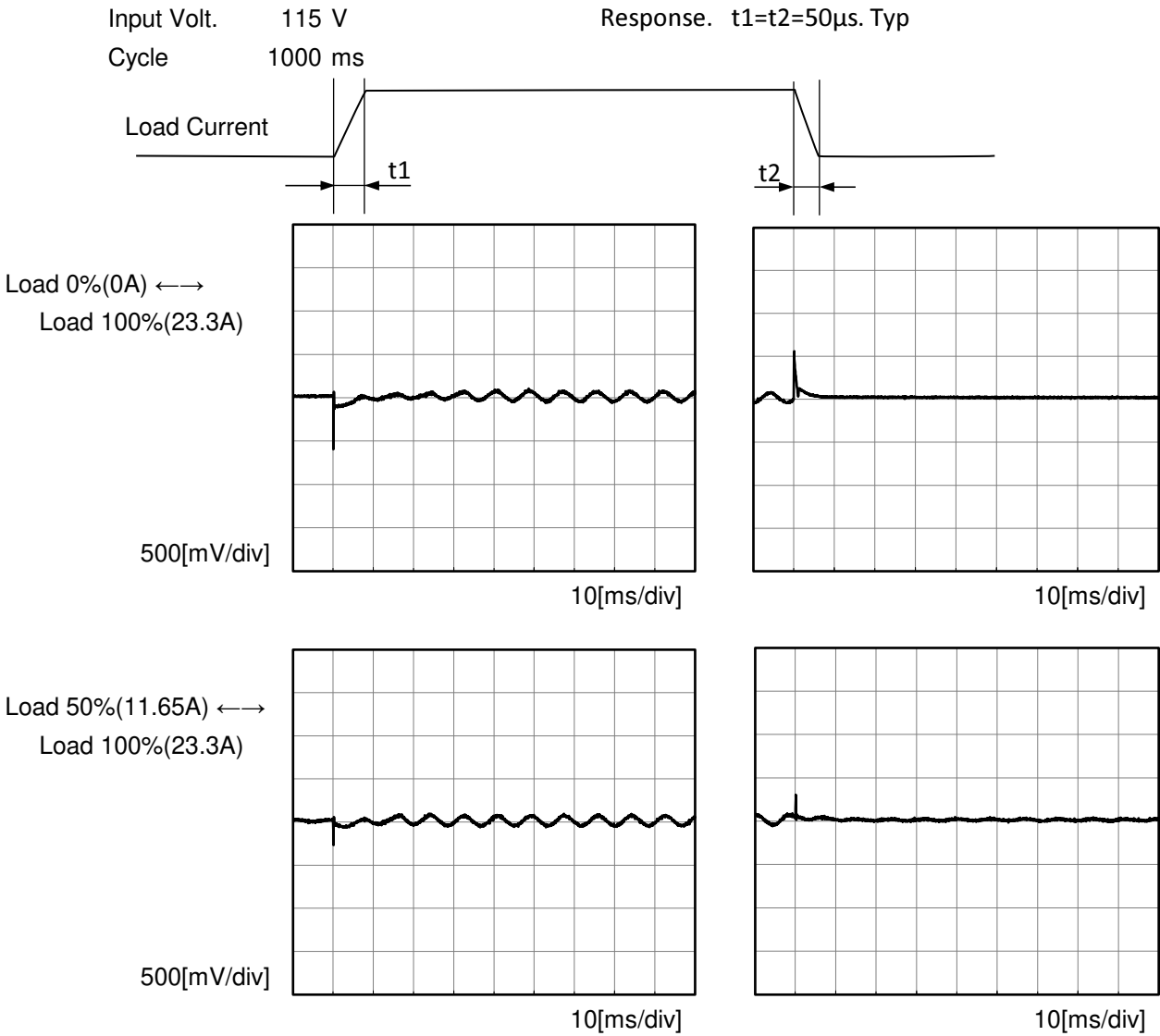
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Item		Line Regulation	
Object		+30V23.3A	
1.Graph		<div><div><div><div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><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></div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COSEL

Model	GHA700F-30-J1																																																					
Item	Load Regulation	Temperature	25°C																																																			
Object	+30V23.3A	Testing Circuitry	Figure A																																																			
1.Graph		2.Values																																																				
<div><div><div><div><div></div><div></div></div><div></div></div><div><div><div></div><div></div></div><div></div></div><div><div><div></div><div></div></div><div></div></div></div><div><div>Input Volt. 100V</div><div>Input Volt. 115V</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">Load Current [A]</th><th colspan="3">Output Voltage [V]</th></tr><tr><th>Input Volt. 100[V]</th><th>Input Volt. 115[V]</th><th>Input Volt. 230[V]</th></tr><tr><td>0.0</td><td>30.289</td><td>30.289</td><td>30.289</td></tr><tr><td>5.0</td><td>30.286</td><td>30.287</td><td>30.287</td></tr><tr><td>10.0</td><td>30.285</td><td>30.285</td><td>30.285</td></tr><tr><td>15.0</td><td>30.284</td><td>30.284</td><td>30.284</td></tr><tr><td>20.0</td><td>30.283</td><td>30.283</td><td>30.283</td></tr><tr><td>23.3</td><td>-</td><td>30.282</td><td>30.282</td></tr><tr><td>25.7</td><td>-</td><td>30.281</td><td>30.282</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]	Output Voltage [V]			Input Volt. 100[V]	Input Volt. 115[V]	Input Volt. 230[V]	0.0	30.289	30.289	30.289	5.0	30.286	30.287	30.287	10.0	30.285	30.285	30.285	15.0	30.284	30.284	30.284	20.0	30.283	30.283	30.283	23.3	-	30.282	30.282	25.7	-	30.281	30.282	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Load Current [A]	Output Voltage [V]																																																					
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Item	Ripple-Noise	Temperature	25°C																																																			
Object	+30V23.3A	Testing Circuitry	Figure B																																																			
1.Graph																																																						
<div><div>Input Voltage230V</div><div>Load100%</div></div>																																																						



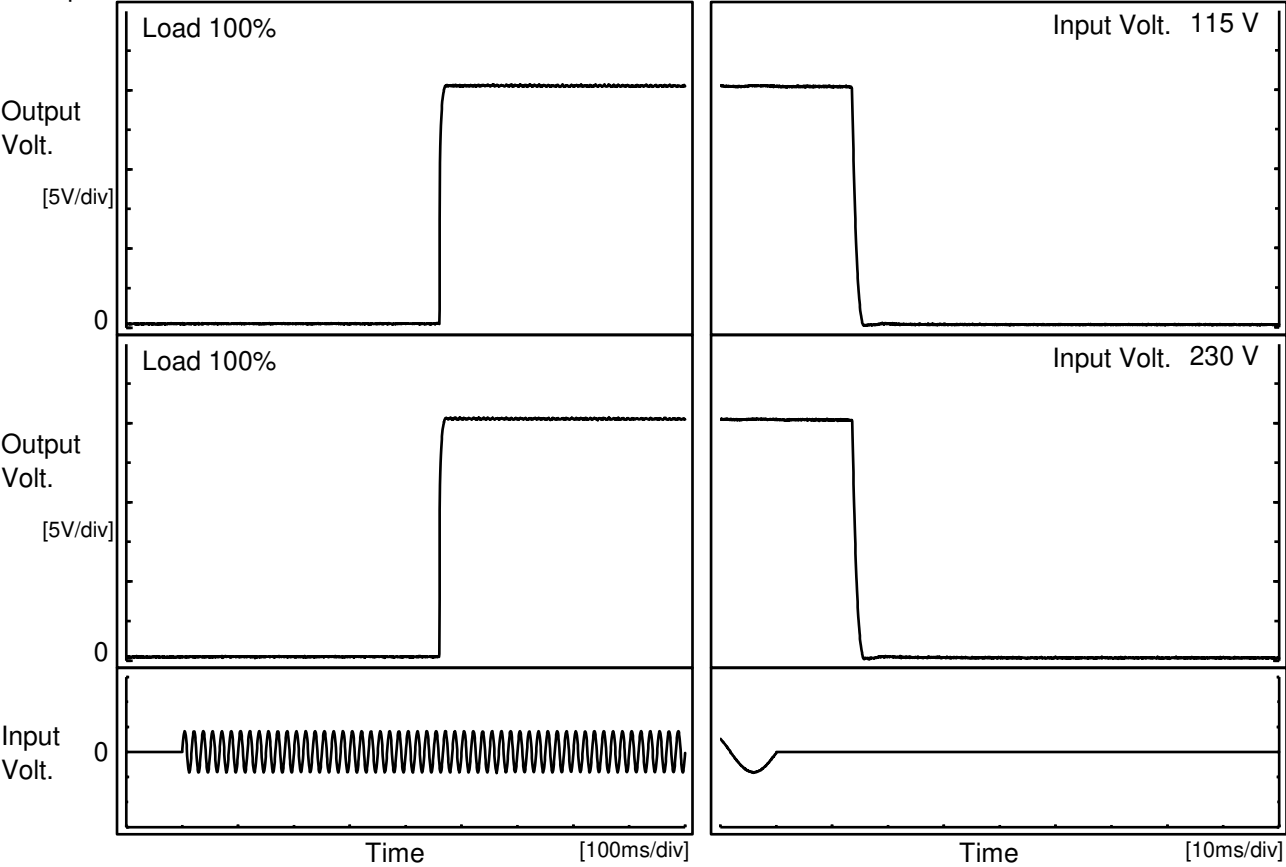
Model		GHA700F-30-J1	Temperature 25°C Testing Circuitry Figure A
Item		Dynamic Load Response	
Object		+30V23.3A	





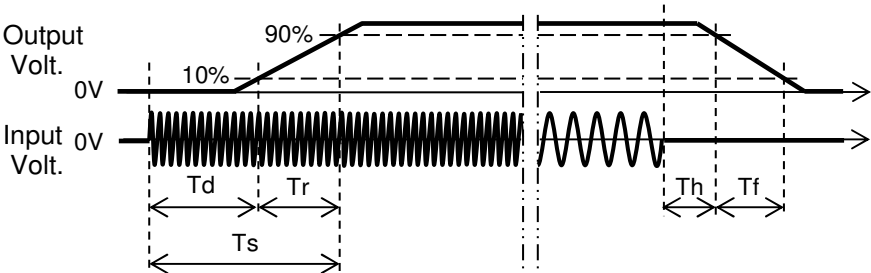
Model		GHA700F-30-J1	Temperature 25°C Testing Circuitry Figure A
Item		Rise and Fall Time	
Object		+30V23.3A	

1.Graph



2.Values

		[ms]				
Input Volt.	Time	Td	Tr	Ts	Th	Tf
115 V		461.0	3.5	464.5	13.6	1.3
230 V		460.5	3.5	464.0	13.7	1.2





Model		GHA700F-30-J1	Temperature 25°C Testing Circuitry Figure A																																
Item		Hold-Up Time																																	
Object		+30V23.3A																																	
1.Graph			2.Values																																
<div><div>---□--- Load 50%</div><div>—△— Load 100%</div></div> <p>Hold-Up Time [ms]</p> <p>Input Voltage [V]</p>																																			
			<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>85</td><td>27</td><td>14 ※1</td></tr><tr><td>100</td><td>27</td><td>14 ※2</td></tr><tr><td>115</td><td>27</td><td>14</td></tr><tr><td>200</td><td>27</td><td>13</td></tr><tr><td>230</td><td>27</td><td>14</td></tr><tr><td>264</td><td>27</td><td>14</td></tr><tr><td>280</td><td>27</td><td>14</td></tr><tr><td>--</td><td>-</td><td>-</td></tr><tr><td>--</td><td>-</td><td>-</td></tr></table>	Input Voltage [V]	Hold-Up Time [ms]		Load 50%	Load 100%	85	27	14 ※1	100	27	14 ※2	115	27	14	200	27	13	230	27	14	264	27	14	280	27	14	--	-	-	--	-	-
Input Voltage [V]	Hold-Up Time [ms]																																		
	Load 50%	Load 100%																																	
85	27	14 ※1																																	
100	27	14 ※2																																	
115	27	14																																	
200	27	13																																	
230	27	14																																	
264	27	14																																	
280	27	14																																	
--	-	-																																	
--	-	-																																	
			※1 : Load 75%																																
			※2 : Load 87.5%																																
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.																																			

Model		GHA700F-30-J1	Temperature 25°C Testing Circuitry Figure A																																																				
Item		Instantaneous Interruption Compensation																																																					
Object		+30V23.3A																																																					
1.Graph			2.Values																																																				
<div><div><div>—△—</div><div>Input Volt. 100V</div></div><div><div>---□---</div><div>Input Volt. 115V</div></div><div><div>---○---</div><div>Input Volt. 230V</div></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. 115[V]</th><th>Input Volt. 230[V]</th></tr><tr><td>0.0</td><td>-</td><td>-</td><td>-</td></tr><tr><td>5.0</td><td>55</td><td>55</td><td>60</td></tr><tr><td>10.0</td><td>25</td><td>25</td><td>30</td></tr><tr><td>15.0</td><td>18</td><td>18</td><td>19</td></tr><tr><td>20.0</td><td>14</td><td>15</td><td>15</td></tr><tr><td>23.3</td><td>-</td><td>12</td><td>12</td></tr><tr><td>25.7</td><td>-</td><td>12</td><td>11</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]	Time [ms]			Input Volt. 100[V]	Input Volt. 115[V]	Input Volt. 230[V]	0.0	-	-	-	5.0	55	55	60	10.0	25	25	30	15.0	18	18	19	20.0	14	15	15	23.3	-	12	12	25.7	-	12	11	--	-	-	-	--	-	-	-	--	-	-	-	--	-	-	-
Load Current [A]	Time [ms]																																																						
	Input Volt. 100[V]	Input Volt. 115[V]	Input Volt. 230[V]																																																				
0.0	-	-	-																																																				
5.0	55	55	60																																																				
10.0	25	25	30																																																				
15.0	18	18	19																																																				
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25.7	-	12	11																																																				
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Model		GHA700F-30-J1	Testing Circuitry Figure A	
Item		Ambient Temperature Drift		
Object		+30V23.3A		
1.Values Load 100%				
Ambient Temperature[°C]		Output Voltage [V]		
		Input Volt. 100V	Input Volt. 115V	Input Volt. 230V
	-20	30.243	30.246	30.248
	25	30.275	30.276	30.276
	50	30.296	30.296	30.296
Item		Minimum Input Voltage for Regulated Output Voltage	Testing Circuitry Figure A	
Object		+30V23.3A		
1.Values				
Ambient Temperature[°C]		Input Voltage [V]		
		Load 50%	Load 100%	
	-20	76	77	
	25	76	77	
	50	76	78	
Item		Overvoltage Protection	Testing Circuitry Figure A	
Object		+30V23.3A		
1.Values Load 0%				
Ambient Temperature[°C]		Operating Point [V]		
		Input Volt. 115V	Input Volt. 230V	
	-20	39.27	39.27	
	25	39.45	39.45	
	50	39.57	39.57	

- 13 -

BC-11909

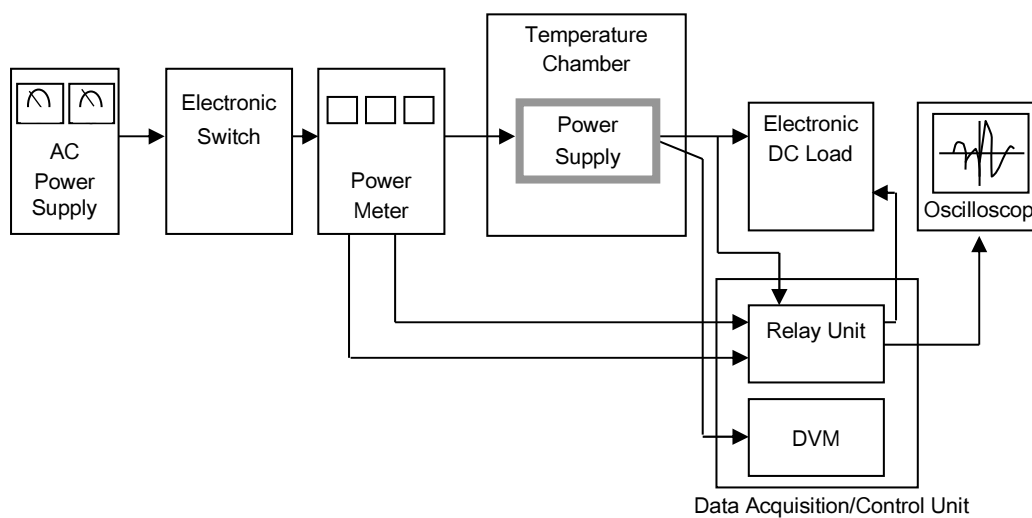


Figure A

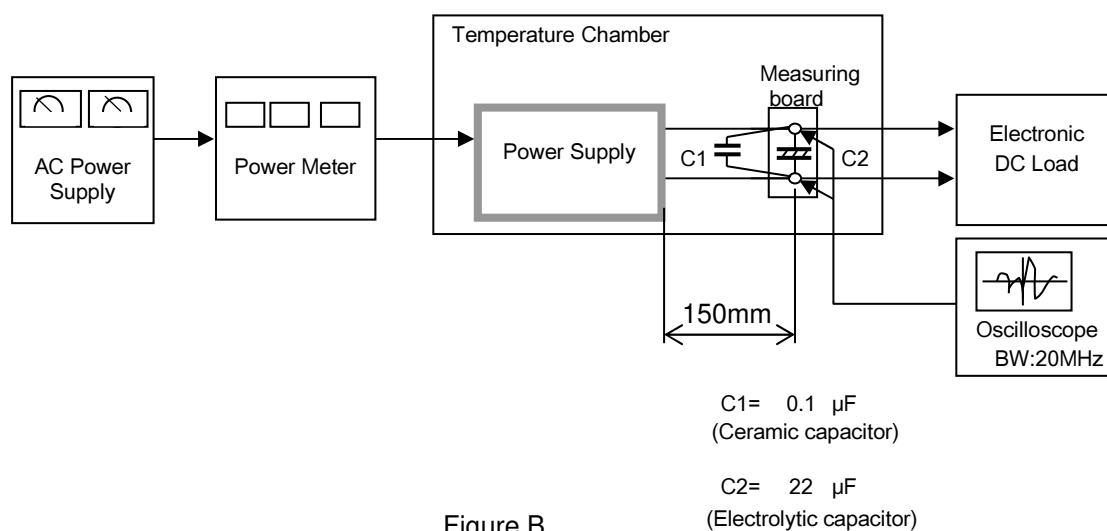


Figure B

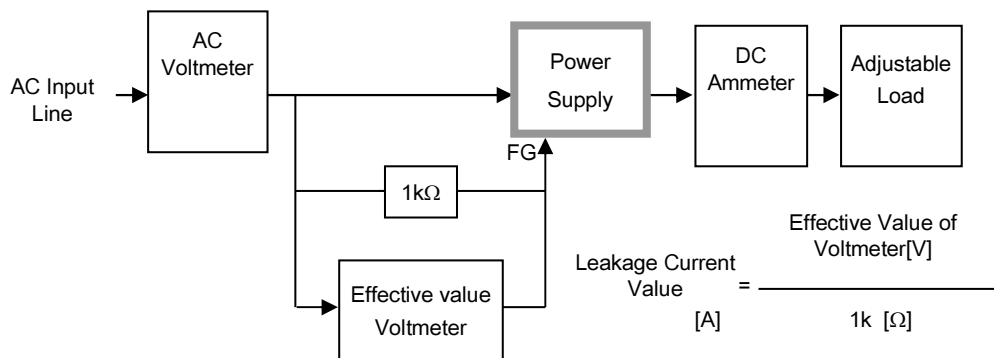


Figure C-1 (DEN-AN)

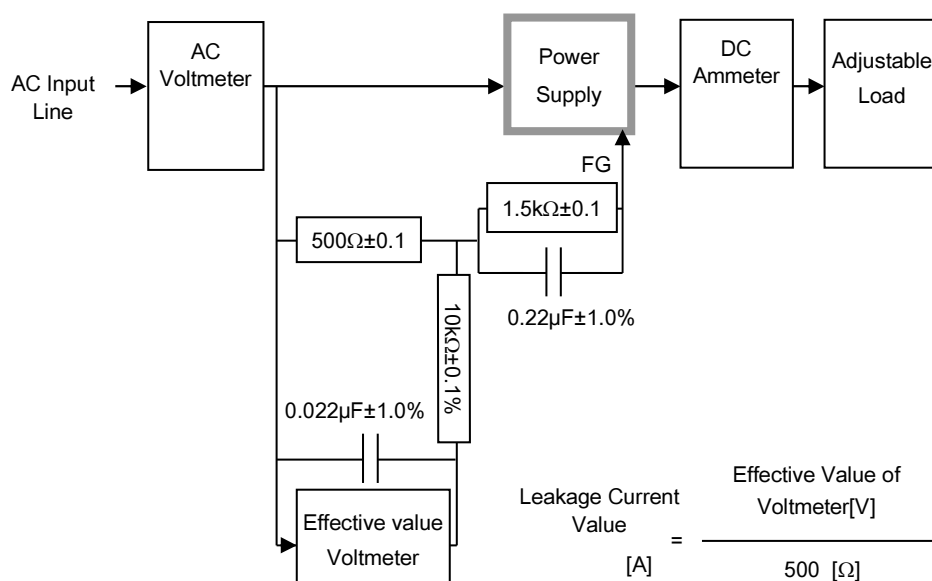


Figure C-2 (IEC62368-1 refer to IEC60990 Fig.4)

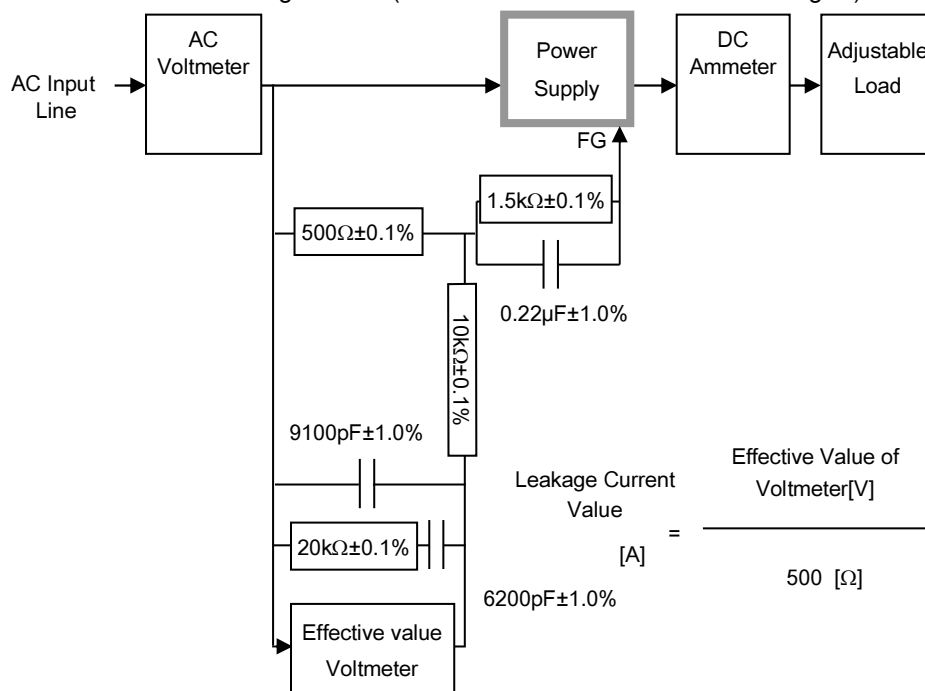


Figure C-3 (IEC62368-1 refer to IEC60990 Fig.5)

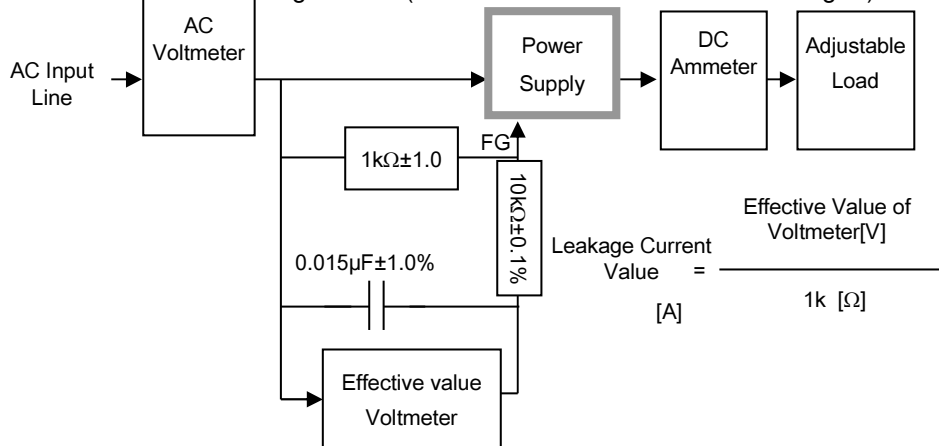


Figure C-4 (IEC60601-1)