

COSEL

TEST DATA OF VAF1024
(100V INPUT)

Regulated DC Power Supply

Nov. 9, 1999

Approved by : M. Nakata
Design Manager

Prepared by : T. Yamashina
Design Engineer

コーセル株式会社
COSEL CO., LTD.



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COSSEL

Model	VAF1024	Temperature	25°C																														
Item	Line Regulation 静的入力変動	Testing Circuitry	Figure A																														
Object	+24.0V 0.45A																																
1. Graph	<p>Legend: Load 50% (Open Square), Load 100% (Open Triangle)</p>																																
<p>2. Values</p> <table border="1"> <thead> <tr> <th rowspan="2">Input Voltage [V]</th> <th colspan="2">Output Voltage [V]</th> </tr> <tr> <th>Load 50%</th> <th>Load 100%</th> </tr> </thead> <tbody> <tr><td>75</td><td>23.863</td><td>23.861</td></tr> <tr><td>80</td><td>23.864</td><td>23.862</td></tr> <tr><td>85</td><td>23.865</td><td>23.862</td></tr> <tr><td>90</td><td>23.865</td><td>23.863</td></tr> <tr><td>100</td><td>23.865</td><td>23.863</td></tr> <tr><td>110</td><td>23.865</td><td>23.864</td></tr> <tr><td>120</td><td>23.866</td><td>23.864</td></tr> <tr><td>132</td><td>23.866</td><td>23.864</td></tr> <tr><td>140</td><td>23.866</td><td>23.865</td></tr> </tbody> </table>		Input Voltage [V]	Output Voltage [V]		Load 50%	Load 100%	75	23.863	23.861	80	23.864	23.862	85	23.865	23.862	90	23.865	23.863	100	23.865	23.863	110	23.865	23.864	120	23.866	23.864	132	23.866	23.864	140	23.866	23.865
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Note: Slanted line shows the range of the rated input voltage.

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1. Graph	<p>Graph showing Input Current [A] vs Load Current [A] for VAF1024 at 25°C. The graph plots Input Current against Load Current for three input voltages: 85V (triangles), 100V (squares), and 132V (circles). A slanted line indicates the rated load current range.</p> <table border="1"> <thead> <tr> <th>Load Current [A]</th> <th>Input Volt. 85V [A]</th> <th>Input Volt. 100V [A]</th> <th>Input Volt. 132V [A]</th> </tr> </thead> <tbody> <tr><td>0.000</td><td>0.016</td><td>0.017</td><td>0.017</td></tr> <tr><td>0.080</td><td>0.066</td><td>0.060</td><td>0.053</td></tr> <tr><td>0.160</td><td>0.111</td><td>0.100</td><td>0.085</td></tr> <tr><td>0.240</td><td>0.152</td><td>0.138</td><td>0.115</td></tr> <tr><td>0.320</td><td>0.195</td><td>0.174</td><td>0.145</td></tr> <tr><td>0.400</td><td>0.236</td><td>0.210</td><td>0.173</td></tr> <tr><td>0.450</td><td>0.262</td><td>0.232</td><td>0.191</td></tr> <tr><td>0.495</td><td>0.286</td><td>0.251</td><td>0.207</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. 85V [A]	Input Volt. 100V [A]	Input Volt. 132V [A]	0.000	0.016	0.017	0.017	0.080	0.066	0.060	0.053	0.160	0.111	0.100	0.085	0.240	0.152	0.138	0.115	0.320	0.195	0.174	0.145	0.400	0.236	0.210	0.173	0.450	0.262	0.232	0.191	0.495	0.286	0.251	0.207	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
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110	0.49	0.55																																
120	0.48	0.54																																
132	0.46	0.52																																
140	0.45	0.51																																
<p>Note: Slanted line shows the range of the rated input voltage.</p> <p>(注)斜線は定格入力電圧範囲を示す。</p>																																		

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Model	VAF1024	Temperature	25°C																																																							
Item	Power Factor (by Load Current) 力率(負荷特性)	Testing Circuitry	Figure A																																																							
Object	—																																																									
1. Graph	<p>Legend:</p> <ul style="list-style-type: none"> Input Volt. 85V (△) Input Volt. 100V (□) Input Volt. 132V (○) 																																																									
2. Values	<table border="1"> <thead> <tr> <th rowspan="2">Load Current [A]</th> <th colspan="3">Power Factor</th> </tr> <tr> <th>Input Volt. 85[V]</th> <th>Input Volt. 100[V]</th> <th>Input Volt. 132[V]</th> </tr> </thead> <tbody> <tr><td>0.000</td><td>0.35</td><td>0.34</td><td>0.32</td></tr> <tr><td>0.080</td><td>0.46</td><td>0.44</td><td>0.40</td></tr> <tr><td>0.160</td><td>0.51</td><td>0.48</td><td>0.44</td></tr> <tr><td>0.240</td><td>0.54</td><td>0.51</td><td>0.47</td></tr> <tr><td>0.320</td><td>0.57</td><td>0.54</td><td>0.49</td></tr> <tr><td>0.400</td><td>0.59</td><td>0.56</td><td>0.51</td></tr> <tr><td>0.450</td><td>0.60</td><td>0.57</td><td>0.52</td></tr> <tr><td>0.495</td><td>0.61</td><td>0.58</td><td>0.53</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]	Power Factor			Input Volt. 85[V]	Input Volt. 100[V]	Input Volt. 132[V]	0.000	0.35	0.34	0.32	0.080	0.46	0.44	0.40	0.160	0.51	0.48	0.44	0.240	0.54	0.51	0.47	0.320	0.57	0.54	0.49	0.400	0.59	0.56	0.51	0.450	0.60	0.57	0.52	0.495	0.61	0.58	0.53	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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Note: Slanted line shows the range of the rated load current.

(注)斜線は定格負荷電流範囲を示す。

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Model	VAF1024	Temperature	25°C																																
Item	Hold-Up Time 出力保持時間	Testing Circuitry	Figure A																																
Object	+24.0 V 0.45A																																		
1. Graph		2. Values																																	
<p>1. Graph</p> <p>Legend: Load 50% (Squares), Load 100% (Triangles)</p> <p>Y-axis: Hold-up Time [mS] (log scale: 1, 10, 100, 1000)</p> <p>X-axis: Input Voltage [V] (70 to 150)</p>		<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>75</td><td>23</td><td>9</td></tr> <tr><td>80</td><td>26</td><td>11</td></tr> <tr><td>85</td><td>30</td><td>13</td></tr> <tr><td>90</td><td>34</td><td>15</td></tr> <tr><td>100</td><td>43</td><td>19</td></tr> <tr><td>110</td><td>52</td><td>24</td></tr> <tr><td>120</td><td>63</td><td>30</td></tr> <tr><td>132</td><td>76</td><td>37</td></tr> <tr><td>140</td><td>86</td><td>42</td></tr> </tbody> </table>		Input Voltage [V]	Hold-up Time [mS]		Load 50%	Load 100%	75	23	9	80	26	11	85	30	13	90	34	15	100	43	19	110	52	24	120	63	30	132	76	37	140	86	42
Input Voltage [V]	Hold-up Time [mS]																																		
	Load 50%	Load 100%																																	
75	23	9																																	
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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.</p> <p>Note: Slanted line shows the range of the rated input voltage.</p> <p>出力保持時間とは、入力電圧断から出力電圧が、定電圧精度の規格範囲を保持しているところまでの時間。</p> <p>(注)斜線は定格入力電圧範囲を示す。</p>																																			

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Model	VAF1024	Temperature	25°C																																																				
Item	Instantaneous Interruption Compensation 瞬時停電保障	Testing Circuitry	Figure A																																																				
Object	+24.0 V 0.45 A																																																						
1. Graph		2. Values																																																					
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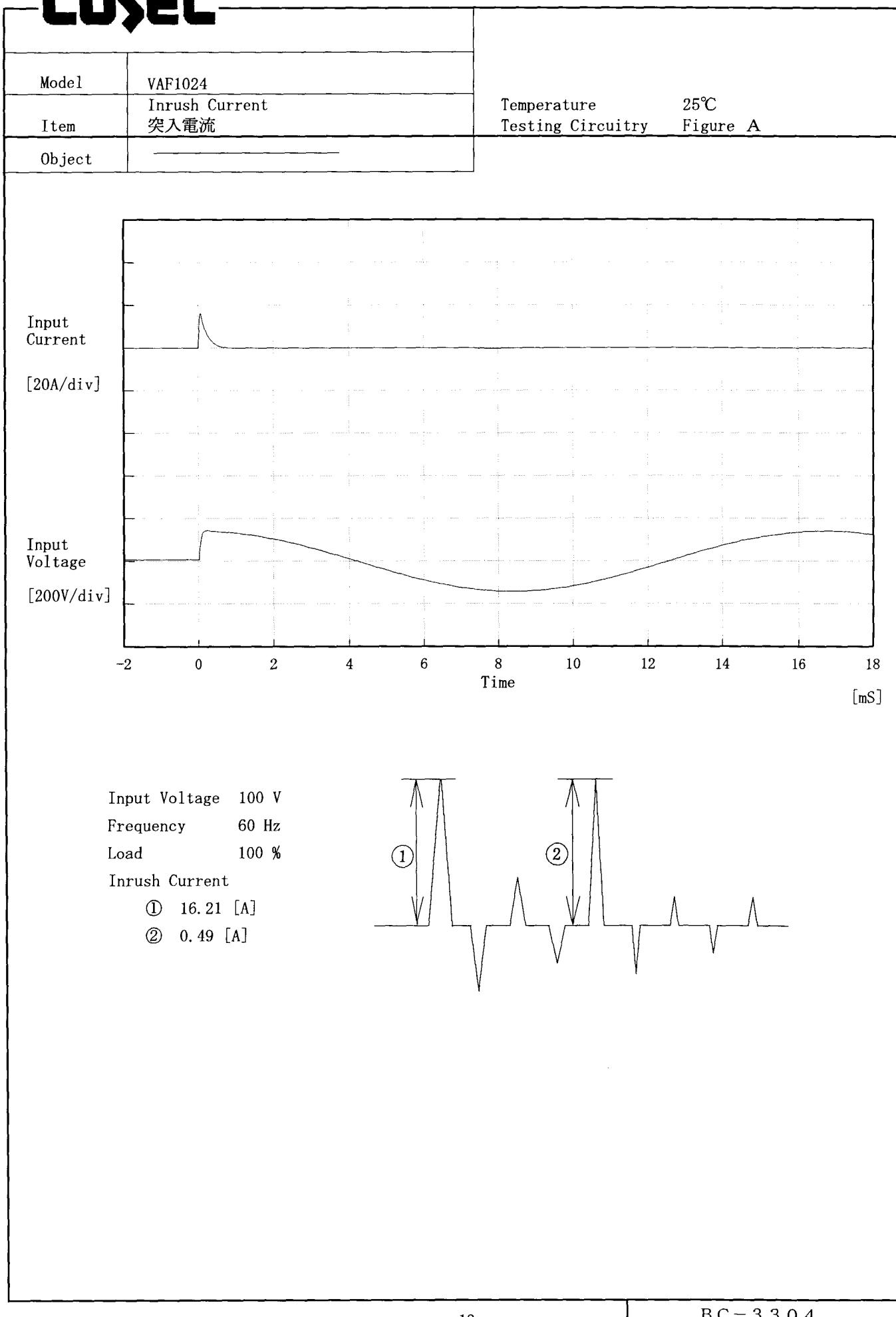
Model	VAF1024	Temperature	25°C																																															
Item	Load Regulation 静的負荷変動	Testing Circuitry	Figure A																																															
Object	+24.0V 0.45A																																																	
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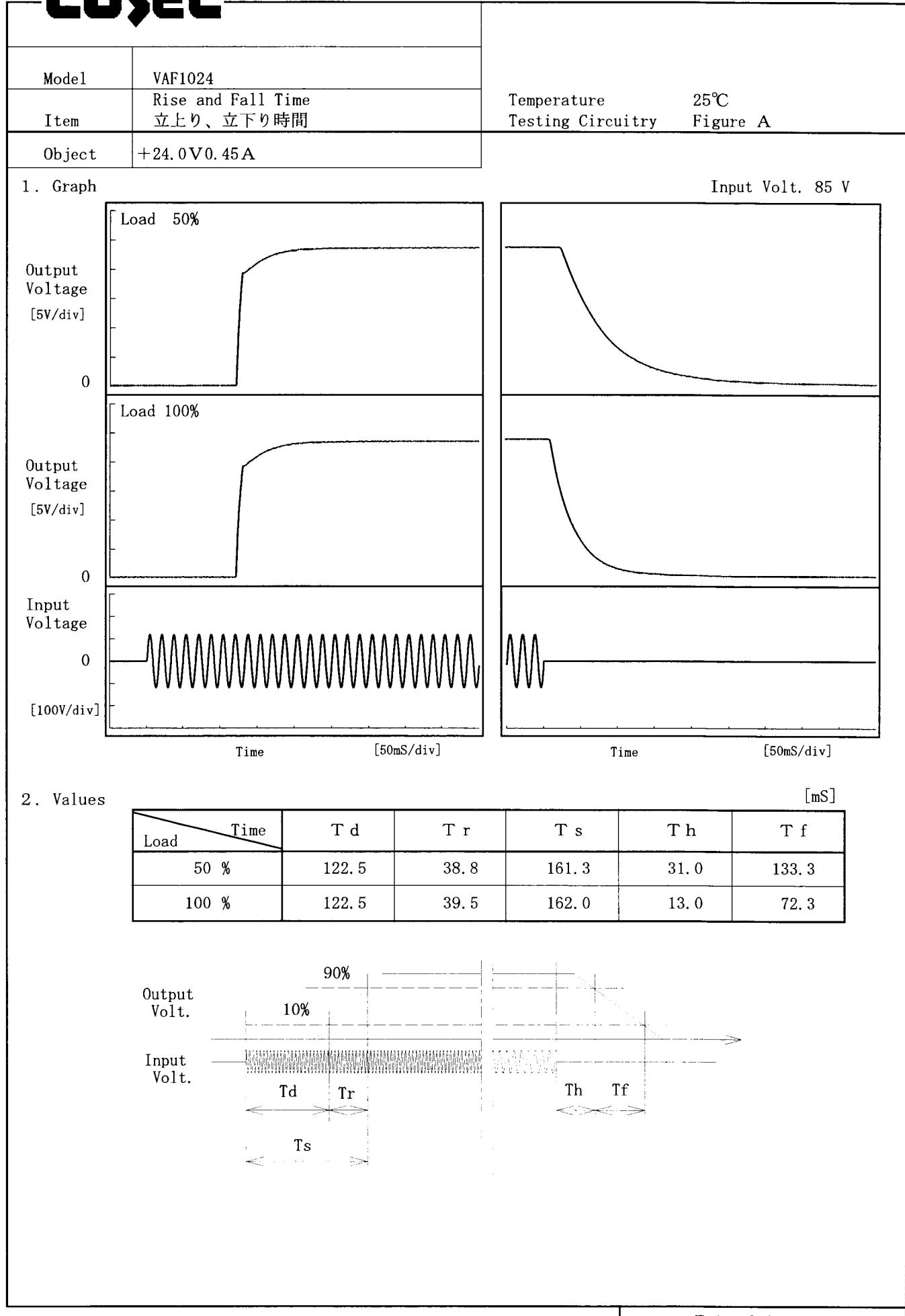
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Model	VAF1024		Temperature Testing Circuitry 25°C Figure A																																																							
Item	Overcurrent Protection 過電流保護																																																									
Object	+24.0V 0.45A																																																									
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<p>Note1: Slanted line shows the range of the rated load current.</p> <p>Note2: The lines shows peak current of intermittent operation of power supply when output voltage drops less than rated voltage value at overcurrent.</p> <p>(注1)斜線は定格負荷電流範囲を示す。</p> <p>(注2)垂下部分は間欠モード時のピーク電流を示す。</p>																																																										

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Model	VAF1024	Testing Circuitry Figure A																																																					
Item	Ambient Temperature Drift 周囲温度変動																																																						
Object	+24.0V 0.45A																																																						
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Model	VAF1024																																							
Item	Minimum Input Voltage for Regulated Output Voltage 最低レギュレーション電圧																																							
Object	+24.0V 0.45A																																							
1. Graph																																								
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40	38	54																																						
55	39	56																																						
60	38	56																																						
—	—	—																																						
<p>Note: Slanted line shows the range of the rated ambient temperature.</p> <p>(注)斜線は定格周囲温度範囲を示す。</p>																																								

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Model	VAF1024	Temperature	25°C																						
Item	Time Lapse Drift 経時ドリフト	Testing Circuitry	Figure A																						
Object	+24.0V 0.45A																								
1. Graph																									
<p>[V]</p> <table border="1"> <caption>Data points from Figure A graph</caption> <thead> <tr> <th>Time since start [H]</th> <th>Output Voltage [V]</th> </tr> </thead> <tbody> <tr><td>0.0</td><td>23.852</td></tr> <tr><td>0.5</td><td>23.849</td></tr> <tr><td>1.0</td><td>23.850</td></tr> <tr><td>2.0</td><td>23.850</td></tr> <tr><td>3.0</td><td>23.850</td></tr> <tr><td>4.0</td><td>23.851</td></tr> <tr><td>5.0</td><td>23.851</td></tr> <tr><td>6.0</td><td>23.851</td></tr> <tr><td>7.0</td><td>23.851</td></tr> <tr><td>8.0</td><td>23.850</td></tr> </tbody> </table>			Time since start [H]	Output Voltage [V]	0.0	23.852	0.5	23.849	1.0	23.850	2.0	23.850	3.0	23.850	4.0	23.851	5.0	23.851	6.0	23.851	7.0	23.851	8.0	23.850	
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Model	VAF1024	Testing Circuitry Figure A
Item	Output Voltage Accuracy 定電圧精度	
Object	+24.0V 0.45A	

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 : -10~55 °C

Input Voltage : 85~132 V

Load Current : 0~0.45 A

* Output Voltage Accuracy = ±(Maximum of Output Voltage — Minimum of Output Voltage) / 2

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

1. 定電圧精度

周囲温度、入力電圧、負荷電流を下記仕様内で、任意に変動させたときの出力電圧の変動をいう。

周囲温度 -10~55 °C

入力電圧 85~132 V

負荷電流 0~0.45 A

* 定電圧精度(変動値) = ±(出力電圧の最高値—出力電圧の最低値) / 2

$$* \text{ 定電圧精度(変動率)} = \frac{\text{変動値}}{\text{定格出力電圧}} \times 100$$

2. Values

Item	Temperature [°C]	Input Voltage [V]	Output Current [A]	Output Voltage [V]	Output Voltage Accuracy [mV]	Output Voltage Accuracy(Ration) [%]
Maximum Voltage	25	132	0.00	23.867	±13	±0.1
Minimum Voltage	55	85	0.45	23.842		

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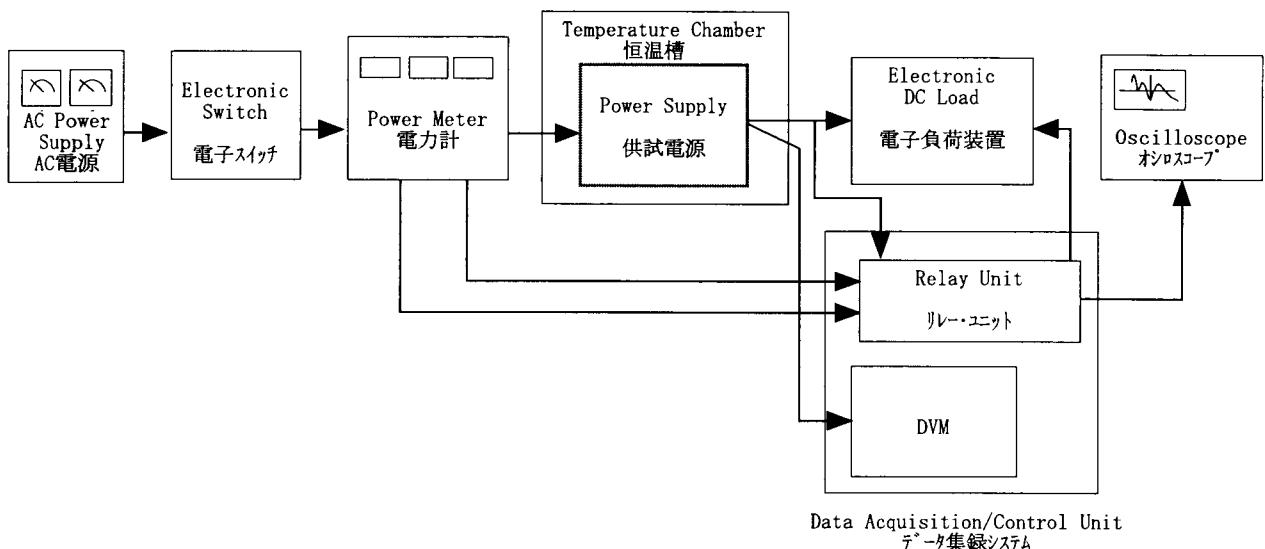


Figure A

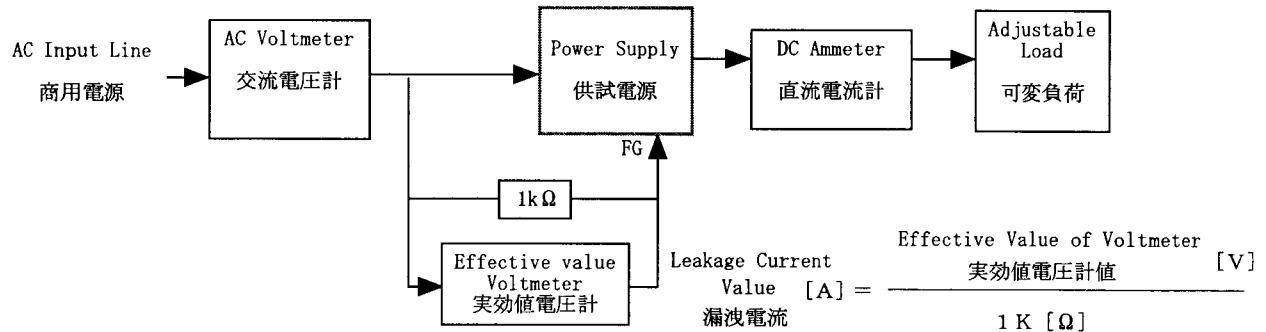


Figure B (DENTORI)

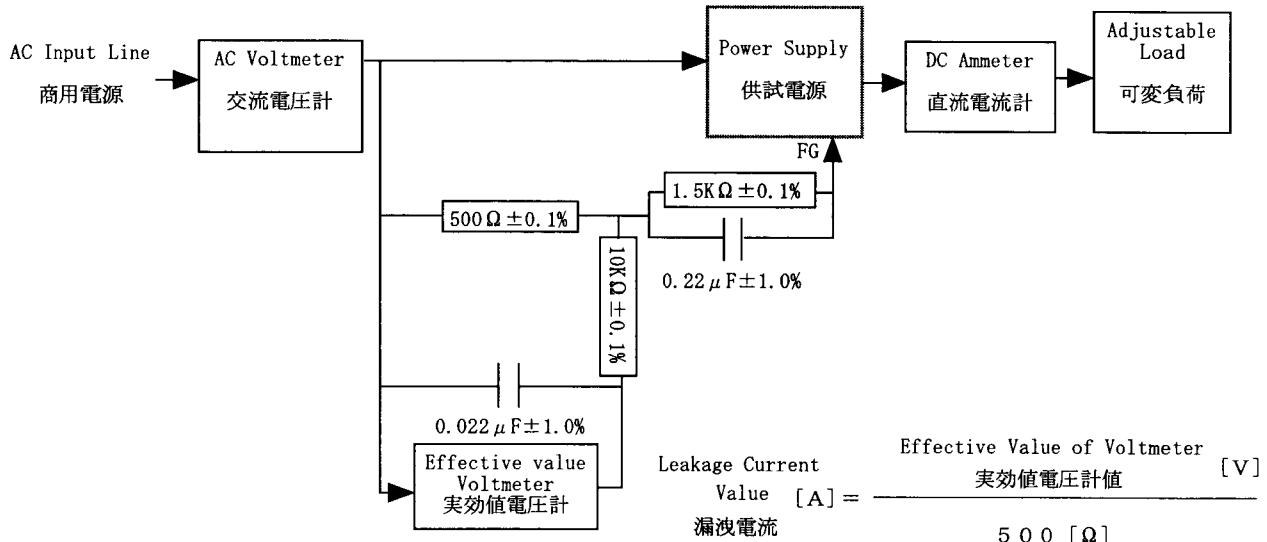


Figure B (IEC60950)

COSEL

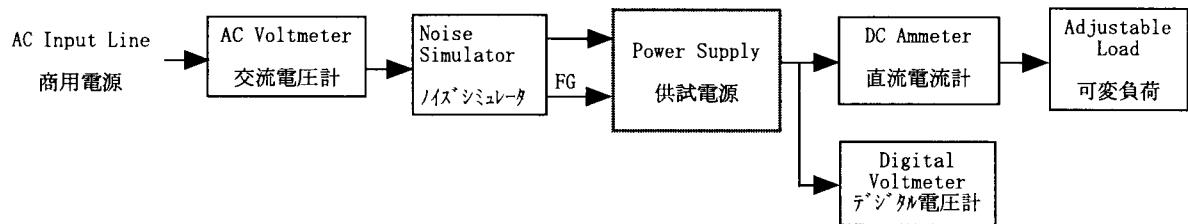


Figure C

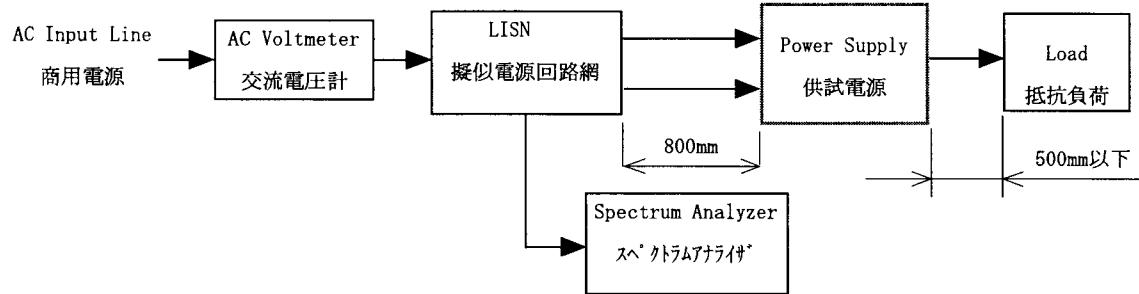


Figure D

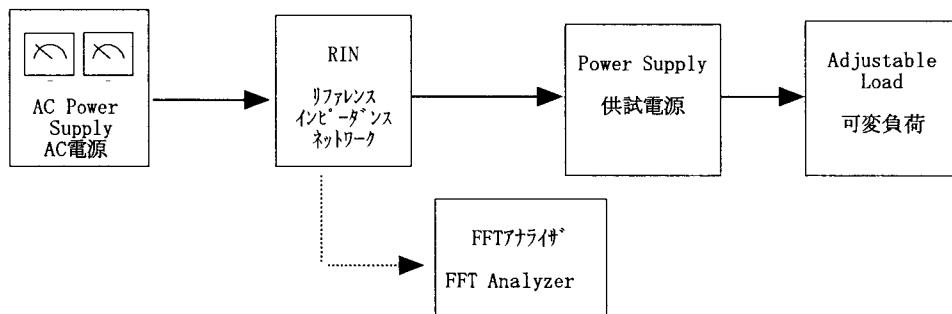


Figure E