



# TEST DATA OF LEP100F-24 (200V INPUT)

Regulated DC Power Supply  
Oct.17. 2002

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コーセル株式会社  
COSEL CO.,LTD.

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(Final Page 30)

# COSEL

Model	LEP100F-24																																		
Item	Line Regulation 静的入力変動	Temperature	25℃																																
Object	+24V4.2A	Testing Circuitry	Figure A																																
1. Graph		2. Values																																	
<div><div><div>---□---</div><div>Load 50%</div></div><div><div>—△—</div><div>Load 100%</div></div></div> <table><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>150</td><td>24.079</td><td>24.078</td></tr><tr><td>160</td><td>24.079</td><td>24.078</td></tr><tr><td>170</td><td>24.079</td><td>24.078</td></tr><tr><td>180</td><td>24.079</td><td>24.078</td></tr><tr><td>200</td><td>24.080</td><td>24.079</td></tr><tr><td>220</td><td>24.080</td><td>24.079</td></tr><tr><td>240</td><td>24.080</td><td>24.079</td></tr><tr><td>264</td><td>24.080</td><td>24.079</td></tr><tr><td>280</td><td>24.080</td><td>24.079</td></tr></tbody></table>		Input Voltage [V]	Output Voltage [V]		Load 50%	Load 100%	150	24.079	24.078	160	24.079	24.078	170	24.079	24.078	180	24.079	24.078	200	24.080	24.079	220	24.080	24.079	240	24.080	24.079	264	24.080	24.079	280	24.080	24.079		
Input Voltage [V]	Output Voltage [V]																																		
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240	24.080	24.079																																	
264	24.080	24.079																																	
280	24.080	24.079																																	
Note: Slanted line shows the range of the rated input voltage.  (注) 斜線は定格入力電圧範囲を示す。																																			

# COSEL

Model		LEP100F-24	
Item		Input Current (by Load Current) 入力電流 (負荷特性)	
Object			

1. Graph

—△—

Input Volt. 170V

---□---

Input Volt. 200V

---○---

Input Volt. 264V

Input Current [A]

1.0

0.8

0.6

0.4

0.2

0.0

0.0

1.0

2.0

3.0

4.0

5.0

Load Current [A]

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。

Load Current [A]	Input Current [A]		
	Input Volt. 170[V]	Input Volt. 200[V]	Input Volt. 264[V]
0.00	0.060	0.061	0.066
0.80	0.209	0.186	0.160
1.60	0.335	0.294	0.242
2.40	0.461	0.400	0.322
3.20	0.586	0.506	0.402
4.00	0.712	0.612	0.482
4.20	0.743	0.638	0.502
4.62	0.810	0.696	0.544
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# COSEL

Model		LEP100F-24	
Item		Input Power (by Load Current) 入力電力 (負荷特性)	
Object		_____	
1. Graph		2. Values	

—△—

Input Volt. 170V

---□---

Input Volt. 200V

---○---

Input Volt. 264V

Input Power [W]

</

# COSEL

Model		LEP100F-24																																	
Item		Efficiency (by Input Voltage) 効率（入力電圧特性）																																	
Object																																			
1. Graph		2. Values																																	
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# COSEL

Model		LEP100F-24		Temperature		25℃																																																				
Item		Efficiency (by Load Current) 効率 (負荷特性)		Testing Circuitry		Figure A																																																				
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<div><div><div>—△—</div><div>---□---</div><div>---○---</div></div><div>Input Volt. 170V</div><div>Input Volt. 200V</div><div>Input Volt. 264V</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. 170[V]</th><th>Input Volt. 200[V]</th><th>Input Volt. 264[V]</th></tr><tr><td>0.00</td><td>—</td><td>—</td><td>—</td></tr><tr><td>0.80</td><td>64.4</td><td>64.6</td><td>64.7</td></tr><tr><td>1.60</td><td>75.0</td><td>75.5</td><td>75.9</td></tr><tr><td>2.40</td><td>78.9</td><td>79.5</td><td>80.6</td></tr><tr><td>3.20</td><td>81.2</td><td>81.7</td><td>82.7</td></tr><tr><td>4.00</td><td>82.5</td><td>83.1</td><td>84.1</td></tr><tr><td>4.20</td><td>82.7</td><td>83.3</td><td>84.3</td></tr><tr><td>4.62</td><td>82.9</td><td>83.7</td><td>84.7</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. 170[V]	Input Volt. 200[V]	Input Volt. 264[V]	0.00	—	—	—	0.80	64.4	64.6	64.7	1.60	75.0	75.5	75.9	2.40	78.9	79.5	80.6	3.20	81.2	81.7	82.7	4.00	82.5	83.1	84.1	4.20	82.7	83.3	84.3	4.62	82.9	83.7	84.7	--	—	—	—	--	—	—	—	--	—	—	—
Load Current [A]	Efficiency [%]																																																									
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(注) 斜線は定格負荷電流範囲を示す。																																																										

# COSEL

Model

LEP100F-24

Item

Power Factor (by Input Voltage)  
力率 (入力電圧特性)

Object

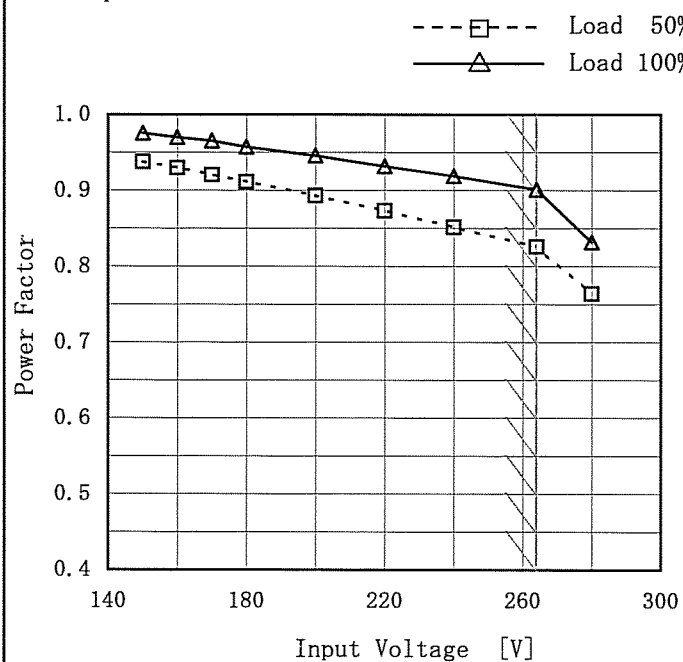
Temperature

25°C

Testing Circuitry

Figure A

## 1. Graph



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

(注) 斜線は定格入力電圧範囲を示す。

## 2. Values

Input Voltage [V]	Power Factor	
	Load 50%	Load 100%
150	0.938	0.975
160	0.930	0.970
170	0.920	0.965
180	0.911	0.957
200	0.893	0.946
220	0.873	0.932
240	0.852	0.919
264	0.826	0.901
280	0.764	0.832

# COSEL

Model		LEP100F-24	
Item		Power Factor (by Load Current) 力率 (負荷特性)	
Object			

1. Graph

—△— Input Volt. 170V

---□--- Input Volt. 200V

---○--- Input Volt. 264V

Power Factor

Load Current [A]

Load Current [A]	170V Power Factor	200V Power Factor	264V Power Factor
0.00	0.539	0.471	0.351
0.80	0.837	0.796	0.700
1.60	0.897	0.866	0.792
2.40	0.930	0.903	0.840
3.20	0.948	0.927	0.874
4.00	0.960	0.942	0.896
4.20	0.964	0.945	0.901
4.62	0.969	0.951	0.910
--	--	--	--
--	--	--	--
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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。

2. Values

Load Current [A]	Power Factor		
	Input Volt. 170[V]	Input Volt. 200[V]	Input Volt. 264[V]
0.00	0.539	0.471	0.351
0.80	0.837	0.796	0.700
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--	--	--	--

Model	LEP100F-24																																		
Item	Hold-Up Time 出力保持時間	Temperature	25℃																																
Object	+24V4.2A	Testing Circuitry	Figure A																																
1. Graph		2. Values																																	
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Input Voltage [V]	Hold-Up Time [mS]																																		
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170	84	41																																	
180	85	41																																	
200	86	42																																	
220	87	43																																	
240	88	43																																	
264	89	44																																	
280	89	45																																	
<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> <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範囲を保持しているところまでの時間。 (注) 斜線は定格入力電圧範囲を示す。</p>																																			

# COSEL

Model	LEP100F-24																																																						
Item	Instantaneous Interruption Compensation 瞬時停電保障	Temperature	25℃																																																				
Object	+24V4.2A	Testing Circuitry	Figure A																																																				
1. Graph		2. Values																																																					
<div><div>—△— Input Volt. 170V</div><div>---□--- Input Volt. 200V</div><div>---○--- Input Volt. 264V</div></div> <p>Instantaneous Compensation Time [mS]</p> <p>Load Current [A]</p>		<table><tr><th rowspan="2">Load Current [A]</th><th colspan="3">Time [mS]</th></tr><tr><th>Input Volt. 170[V]</th><th>Input Volt. 200[V]</th><th>Input Volt. 264[V]</th></tr><tr><td>0.00</td><td>—</td><td>—</td><td>—</td></tr><tr><td>0.80</td><td>181</td><td>188</td><td>194</td></tr><tr><td>1.60</td><td>96</td><td>98</td><td>105</td></tr><tr><td>2.40</td><td>57</td><td>64</td><td>71</td></tr><tr><td>3.20</td><td>48</td><td>51</td><td>53</td></tr><tr><td>4.00</td><td>38</td><td>40</td><td>42</td></tr><tr><td>4.20</td><td>36</td><td>38</td><td>40</td></tr><tr><td>4.62</td><td>31</td><td>34</td><td>36</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. 170[V]	Input Volt. 200[V]	Input Volt. 264[V]	0.00	—	—	—	0.80	181	188	194	1.60	96	98	105	2.40	57	64	71	3.20	48	51	53	4.00	38	40	42	4.20	36	38	40	4.62	31	34	36	--	—	—	—	--	—	—	—	--	—	—	—
Load Current [A]	Time [mS]																																																						
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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。																																																							

BC-3453

# COSEL

Model		LEP100F-24	
Item		Ripple Voltage (by Load Current) リップル電圧 (負荷特性)	
Object		+24V4.2A	
1. Graph		2. Values	

—△— Input Volt. 170V  
- - ○ - - Input Volt. 264V

Ripple Voltage [mV]

Load Current [A]

Ripple Voltage is shown as p-p in the figure below.

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

リップル電圧は、下図 p - p 値で示される。  
(注) 斜線は定格負荷電流範囲を示す。

T1: Due to AC Input Line  
入力商用周期  
T2: Due to Switching  
スイッチング周期

Ripple [mVp-p]

T1

T2

Fig. Complex Ripple Wave Form  
図 リップル波形詳細図

Load Current [A]	Ripple Voltage [mV]	
	Input Volt. 170 [V]	Input Volt. 264 [V]
0.0	20	20
0.8	40	40
1.7	40	40
2.5	40	40
3.4	40	40
4.2	45	45
4.6	45	45
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— 11 —

BC - 3 4 5 3

# COSEL

Model	LEP100F-24	Temperature 25℃ Testing Circuitry Figure A																																							
Item	Ripple-Noise リップルノイズ																																								
Object	+24V4.2A																																								
1. Graph		2. Values																																							
<div><div>—△— Input Volt. 170V -●- Input Volt. 264V</div><p>Ripple-Noise [mV]</p><p>Load Current [A]</p></div> <p>Ripple-Noise is shown as p-p in the figure below. Note: Slanted line shows the range of the rated load current.</p> <p>リップルノイズは、下図 p-p 値で示される。 (注) 斜線は定格負荷電流範囲を示す。</p> <div><div>T1: Due to AC Input Line 入力商用周期 T2: Due to Switching スイッチング周期</div><p>Fig. Complex Ripple Wave Form 図 リップル波形詳細図</p></div>		<table><tr><th rowspan="2">Load Current [A]</th><th colspan="2">Ripple-Noise [mV]</th></tr><tr><th>Input Volt. 170 [V]</th><th>Input Volt. 264 [V]</th></tr><tr><td>0.0</td><td>30</td><td>30</td></tr><tr><td>0.8</td><td>60</td><td>60</td></tr><tr><td>1.7</td><td>65</td><td>65</td></tr><tr><td>2.5</td><td>65</td><td>65</td></tr><tr><td>3.4</td><td>70</td><td>70</td></tr><tr><td>4.2</td><td>80</td><td>80</td></tr><tr><td>4.6</td><td>85</td><td>85</td></tr><tr><td>---</td><td>---</td><td>---</td></tr><tr><td>---</td><td>---</td><td>---</td></tr><tr><td>---</td><td>---</td><td>---</td></tr><tr><td>---</td><td>---</td><td>---</td></tr></table>		Load Current [A]	Ripple-Noise [mV]		Input Volt. 170 [V]	Input Volt. 264 [V]	0.0	30	30	0.8	60	60	1.7	65	65	2.5	65	65	3.4	70	70	4.2	80	80	4.6	85	85	---	---	---	---	---	---	---	---	---	---	---	---
Load Current [A]	Ripple-Noise [mV]																																								
	Input Volt. 170 [V]	Input Volt. 264 [V]																																							
0.0	30	30																																							
0.8	60	60																																							
1.7	65	65																																							
2.5	65	65																																							
3.4	70	70																																							
4.2	80	80																																							
4.6	85	85																																							
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BC-3453

# COSEL

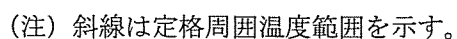
Model	LEP100F-24																																																													
Item	Overcurrent Protection 過電流保護	Temperature	25℃																																																											
Object	+24V4.2A	Testing Circuitry	Figure A																																																											
1. Graph		2. Values																																																												
<div><div></div>Input Volt. 170V</div> <div><div></div>Input Volt. 200V</div> <div><div></div>Input Volt. 264V</div> <p>Output Voltage [V]</p> <p>Load Current [A]</p> <p>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。</p> <p>Intermittent operation occurs when the output voltage is from 16.8V to 0V. 16.8V～0V間は、間欠モードとなる。</p>		<table><tr><th rowspan="2">Output Voltage [V]</th><th colspan="3">Load Current [A]</th></tr><tr><th>Input Volt. 170[V]</th><th>Input Volt. 200[V]</th><th>Input Volt. 264[V]</th></tr><tr><td>24.0</td><td>8.81</td><td>8.83</td><td>8.83</td></tr><tr><td>22.8</td><td>8.84</td><td>8.85</td><td>8.85</td></tr><tr><td>21.6</td><td>8.87</td><td>8.88</td><td>8.87</td></tr><tr><td>19.2</td><td>8.87</td><td>8.88</td><td>8.87</td></tr><tr><td>16.8</td><td>8.72</td><td>8.72</td><td>8.72</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><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>		Output Voltage [V]	Load Current [A]			Input Volt. 170[V]	Input Volt. 200[V]	Input Volt. 264[V]	24.0	8.81	8.83	8.83	22.8	8.84	8.85	8.85	21.6	8.87	8.88	8.87	19.2	8.87	8.88	8.87	16.8	8.72	8.72	8.72	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Output Voltage [V]	Load Current [A]																																																													
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22.8	8.84	8.85	8.85																																																											
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16.8	8.72	8.72	8.72																																																											
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Testing Circuitry	Figure A
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	Input Volt. 170V
	Input Volt. 200V
	Input Volt. 264V



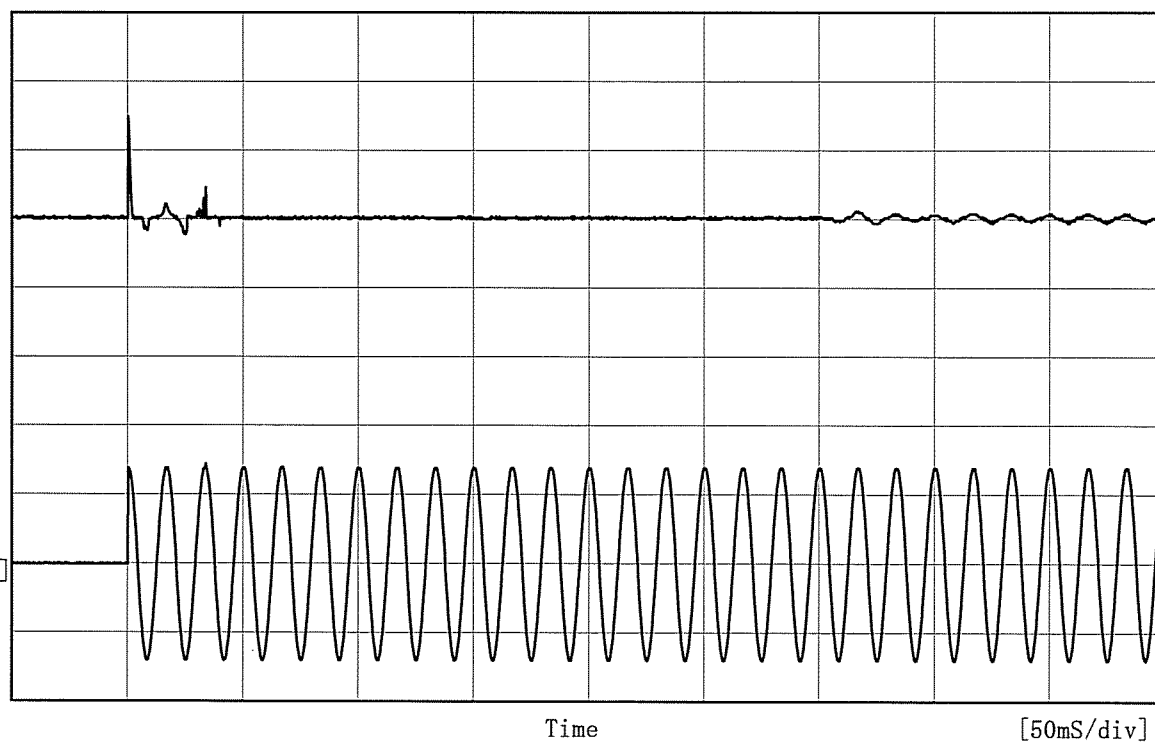
Ambient Temperature [°C]	Operating Point [V]		
	Input Volt. 170[V]	Input Volt. 200[V]	Input Volt. 264[V]
-20	30.22	30.22	30.22
-10	30.45	30.45	30.45
0	30.63	30.63	30.63
10	30.86	30.86	30.86
25	31.14	31.14	31.14
40	31.44	31.44	31.44
45	31.61	31.61	31.61
50	31.61	31.61	31.61
60	31.85	31.85	31.85
70	32.03	32.03	32.03
—	—	—	—

**COSEL**

Model	LEP100F-24		
Item	Inrush Current 突入電流	Temperature	25°C
		Testing Circuitry	Figure A
Object	_____		

Input  
Current  
[20A/div]

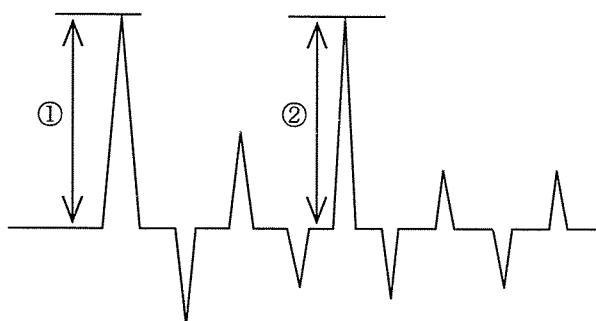
Input  
Voltage  
[200V/div]



Input Voltage    200 V  
Frequency        60 Hz  
Load              100 %  
Inrush Current

①    29.8 [A]

②    9.2 [A]





Model	LEP100F-24	Temperature 25°C Testing Circuitry Figure A	
Item	Dynamic Load Response 動的負荷変動		
Object	+24V4.2A		

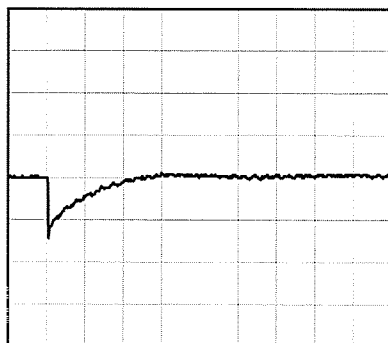
Input Volt. 200 V  
Cycle 1000 ms

Load Current

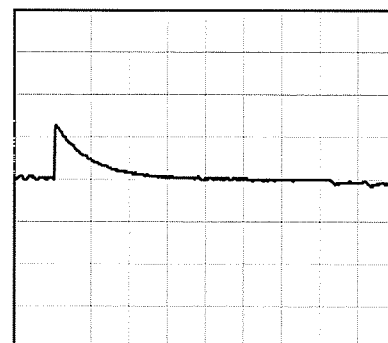


Min. Load (0A)  $\longleftrightarrow$   
Load 100% (4.2A)

100 mV/div



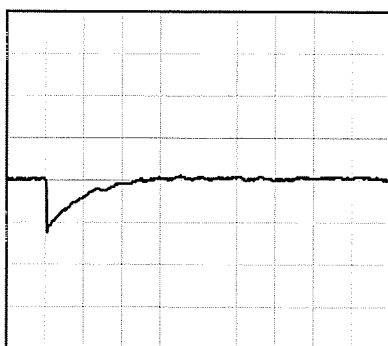
10 ms/div



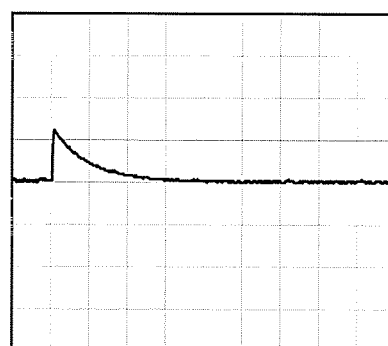
10 ms/div

Min. Load (0A)  $\longleftrightarrow$   
Load 50% (2.1A)

100 mV/div



10 ms/div



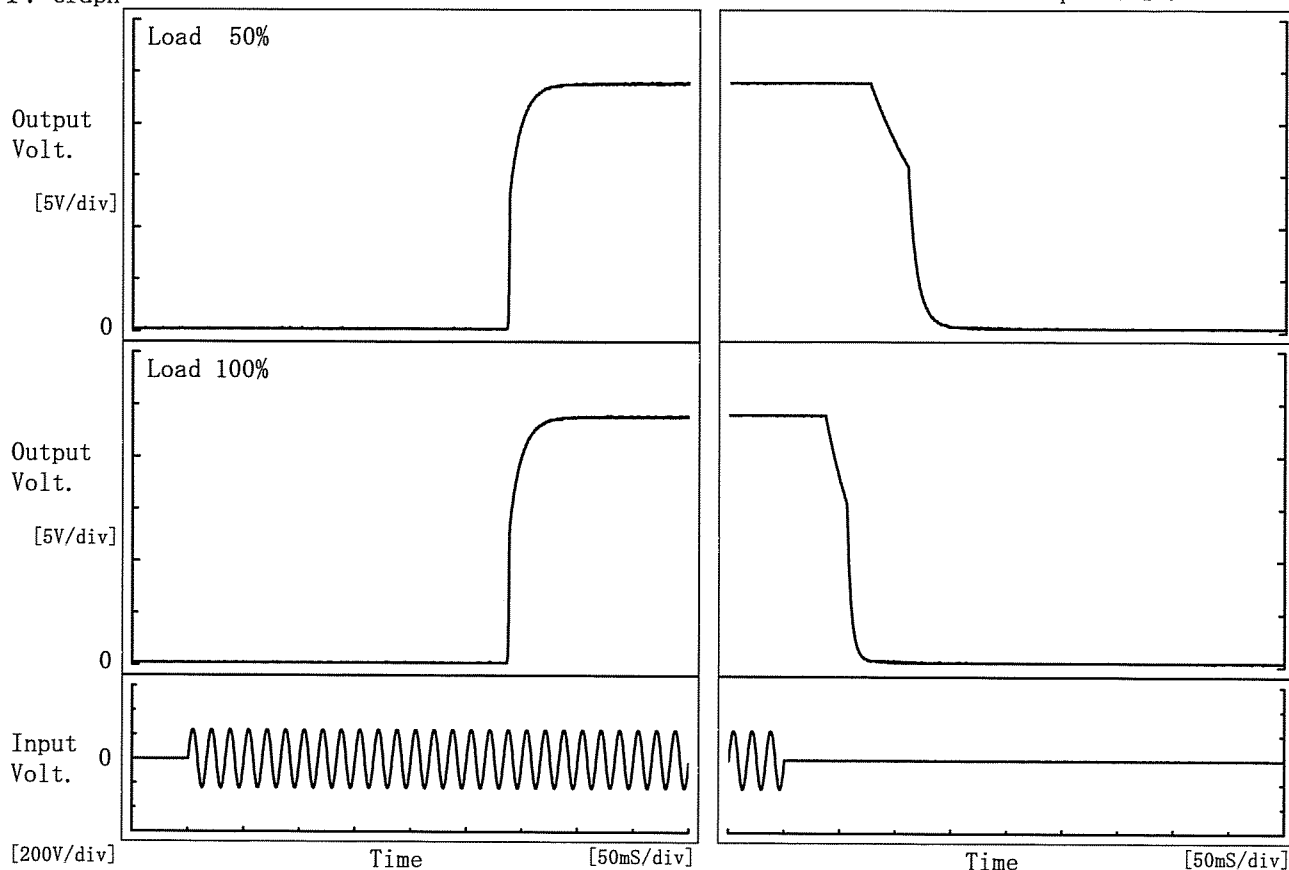
10 ms/div

# COSEL

Model	LEP100F-24	Temperature	25°C
Item	Rise and Fall Time 立上り、立下り時間	Testing Circuitry	Figure A
Object	+24V4.2A		

## 1. Graph

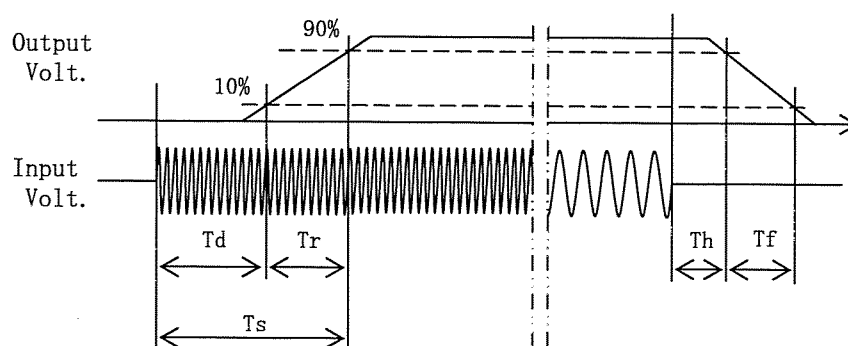
Input Volt. 170 V



## 2. Values

[mS]

Load \ Time	T d	T r	T s	T h	T f
50 %	287.3	19.0	306.3	83.5	42.3
100 %	287.3	19.5	306.8	40.8	23.5



Model	LEP100F-24			
Item	Ambient Temperature Drift 周囲温度変動		Testing Circuitry      Figure A	
Object	+24V4.2A			
1. Graph		2. Values		
<div><div><div>—△—</div><div>Input Volt. 170V</div></div><div><div>---□---</div><div>Input Volt. 200V</div></div><div><div>---○---</div><div>Input Volt. 264V</div></div></div> <div><div><div>Output Voltage [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><div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# COSEL

Model		LEP100F-24	
Item		Minimum Input Voltage for Regulated Output Voltage 最低レギュレーション電圧	
Object		+24V4.2A	
1. Graph		2. Values	

---□---

Load 50%

—△—

Load 100%

Ambient Temperature [°C]	Input Voltage [V]	
	Load 50%	Load 100%
-20	63	64
-10	63	64
0	63	64
10	63	64
25	63	64
40	63	64
45	63	64
50	63	64
60	63	64
70	63	64
--	—	—

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

(注) 斜線は定格周囲温度範囲を示す。

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BC-3453

# COSEL

Model		LEP100F-24																																		
Item		Ripple Voltage (by Ambient Temp.) リップル電圧 (周囲温度特性)																																		
Object		+24V4.2A																																		
1. Graph																																				
<div><div>---□--- Load 50%</div><div>—△— Load 100%</div></div> <table border="1"><caption>Graph Data (Approximate)</caption><thead><tr><th>Ambient Temperature [°C]</th><th>Ripple Voltage [mV] (Load 50%)</th><th>Ripple Voltage [mV] (Load 100%)</th></tr></thead><tbody><tr><td>-20</td><td>80</td><td>95</td></tr><tr><td>-10</td><td>70</td><td>75</td></tr><tr><td>0</td><td>60</td><td>65</td></tr><tr><td>10</td><td>55</td><td>60</td></tr><tr><td>25</td><td>40</td><td>45</td></tr><tr><td>40</td><td>40</td><td>45</td></tr><tr><td>45</td><td>40</td><td>45</td></tr><tr><td>50</td><td>35</td><td>40</td></tr><tr><td>60</td><td>35</td><td>40</td></tr><tr><td>70</td><td>30</td><td>35</td></tr></tbody></table> <p>Input Volt. 200V</p>				Ambient Temperature [°C]	Ripple Voltage [mV] (Load 50%)	Ripple Voltage [mV] (Load 100%)	-20	80	95	-10	70	75	0	60	65	10	55	60	25	40	45	40	40	45	45	40	45	50	35	40	60	35	40	70	30	35
Ambient Temperature [°C]	Ripple Voltage [mV] (Load 50%)	Ripple Voltage [mV] (Load 100%)																																		
-20	80	95																																		
-10	70	75																																		
0	60	65																																		
10	55	60																																		
25	40	45																																		
40	40	45																																		
45	40	45																																		
50	35	40																																		
60	35	40																																		
70	30	35																																		
Note: Slanted line shows the range of the rated ambient temperature.																																				
(注) 斜線は定格周囲温度範囲を示す。																																				
2. Values																																				
Ambient Temperature [°C]		Ripple Voltage [mV]																																		
		Load 50%	Load 100%																																	
-20		80	95																																	
-10		70	75																																	
0		60	65																																	
10		55	60																																	
25		40	45																																	
40		40	45																																	
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50		35	40																																	
60		35	40																																	
70		30	35																																	
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— 20 —

BC-3453

# COSEL

Model	LEP100F-24		
Item	Time Lapse Drift 経時ドリフト	Temperature	25℃
Object	+24V4.2A	Testing Circuitry	Figure A
1. Graph		2. Values	
<div><div>Output Voltage [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></di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Model		LEP100F-24	Testing Circuitry    Figure A
Item		Output Voltage Accuracy 定電圧精度	
Object		+24V4.2A	

## 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 : 170 ~ 264V

Load Current : 0 ~ 4.2A

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

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

## 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 ~ 50°C

入力電圧 : 170 ~ 264V

負荷電流 : 0 ~ 4.2A

\* 定電圧精度(変動値) =  $\pm (\text{出力電圧の最高値} - \text{出力電圧の最低値}) / 2$

\* 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		Output Voltage Accuracy	
			Current[A]	Voltage[V]	Value [mV]	Ration [%]
Maximum Voltage	-10	264	0	24.142	±30	±0.1
Minimum Voltage	50	170	0	24.083		

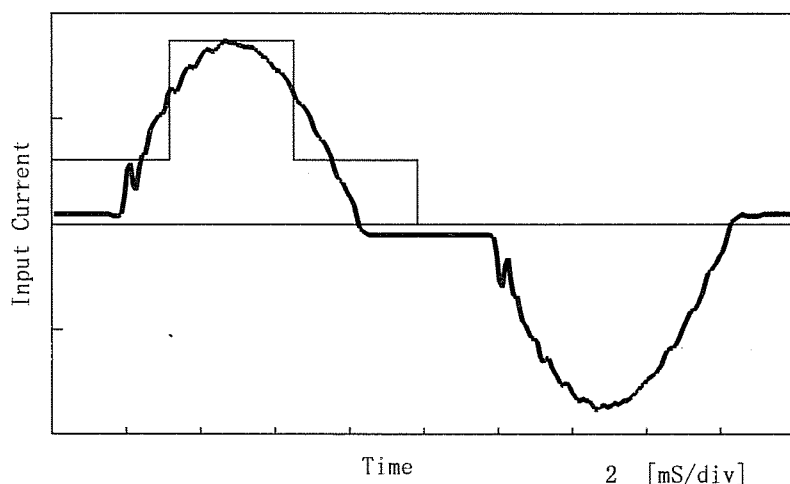
# COSEL

Model	LEP100F-24	Temperature	25°C
Item	Harmonic Current 高調波電流	Testing Circuitry	Figure E
Object			

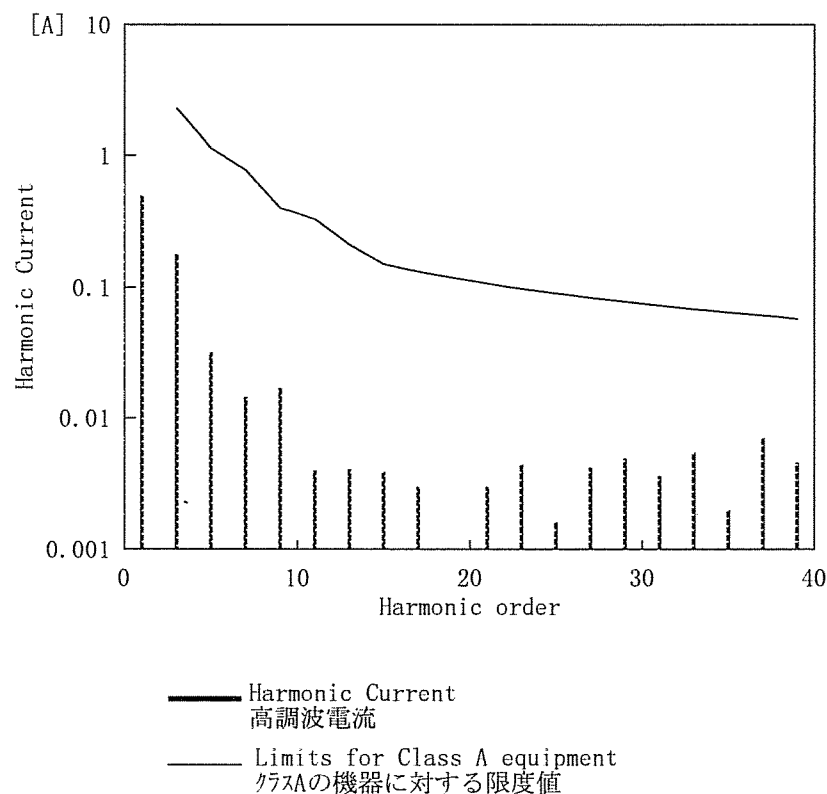
## 1. Input Current Waveform

— Input Current  
 — Envelope of the input current to classify equipment as Class D  
 クラスDの機器を決定するための入力電流包絡線

0.5 A/div



## 2. Harmonic Current



Conditions	Values
Input Voltage [V]	231
Input Current [A]	0.53
Active Power [W]	113.2
Apparent Power [VA]	122.4
Frequency [Hz]	50
Power Factor	0.925
Output Power [W]	100.8

Harmonics order 高調波次数	Limits 限度値 [A]	Values 測定値 [A]
1	—	0.49680
2	—	0.00020
3	2.29004	0.17870
4	—	0.00010
5	1.13506	0.03190
6	—	0.00000
7	0.76667	0.01450
8	—	0.00000
9	0.39827	0.01680
10	—	0.00010
11	0.32857	0.00400
12	—	0.00010
13	0.20909	0.00410
14	—	0.00010
15	0.14935	0.00390
16	—	0.00000
17	0.13178	0.00300
18	—	0.00010
19	0.11791	0.00080
20	—	0.00010
21	0.10668	0.00300
22	—	0.00010
23	0.09740	0.00440
24	—	0.00010
25	0.08961	0.00160
26	—	0.00000
27	0.08297	0.00420
28	—	0.00000
29	0.07725	0.00490
30	—	0.00000
31	0.07227	0.00360
32	—	0.00010
33	0.06789	0.00550
34	—	0.00010
35	0.06401	0.00200
36	—	0.00010
37	0.06055	0.00710
38	—	0.00000
39	0.05744	0.00460
40	—	0.00010

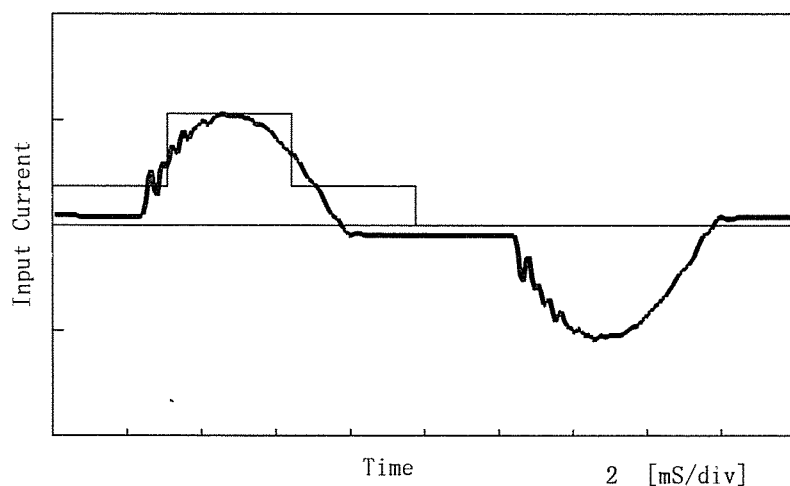
# COSEL

Model	LEP100F-24	Temperature	25°C
Item	Harmonic Current 高調波電流	Testing Circuitry	Figure E
Object			

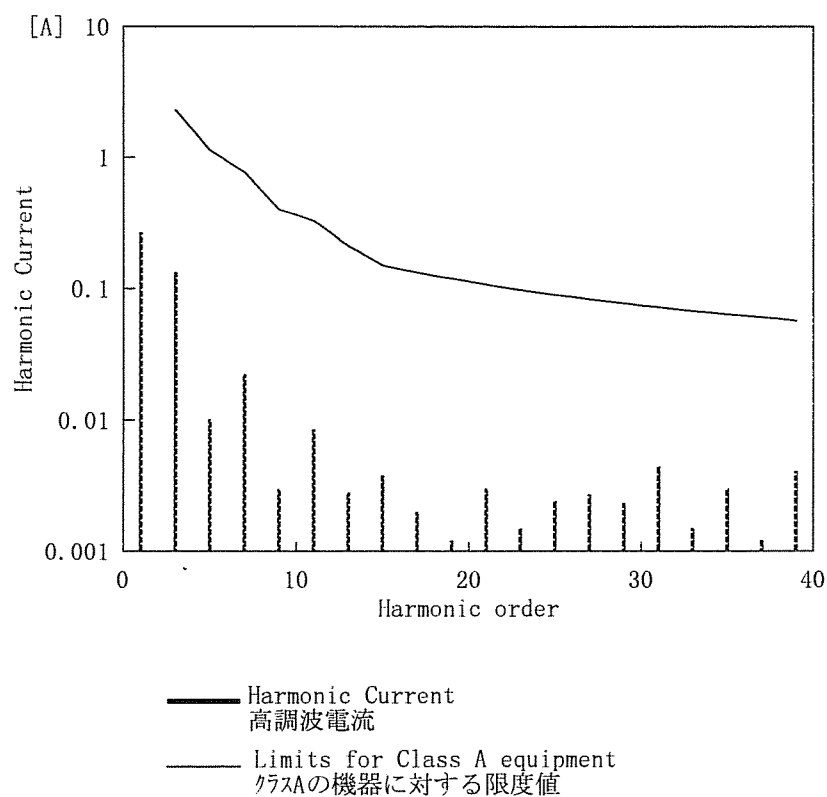
## 1. Input Current Waveform

— Input Current  
— Envelope of the input current to classify equipment as Class D  
クラスDの機器を決定するための入力電流包絡線

0.5 A/div



## 2. Harmonic Current



Conditions	Values
Input Voltage [V]	231.1
Input Current [A]	0.301
Active Power [W]	60.4
Apparent Power[VA]	69.7
Frequency [Hz]	50
Power Factor	0.867
Output Power [W]	50.4

Harmonics order 高調波次数	Limits 限度値 [A]	Values 測定値 [A]
1	—	0.26860
2	—	0.00020
3	2.28905	0.13290
4	—	0.00000
5	1.13457	0.01020
6	—	0.00010
7	0.76633	0.02260
8	—	0.00010
9	0.39810	0.00300
10	—	0.00010
11	0.32843	0.00850
12	—	0.00000
13	0.20900	0.00280
14	—	0.00000
15	0.14929	0.00380
16	—	0.00010
17	0.13172	0.00200
18	—	0.00010
19	0.11786	0.00120
20	—	0.00000
21	0.10663	0.00300
22	—	0.00000
23	0.09736	0.00150
24	—	0.00010
25	0.08957	0.00240
26	—	0.00010
27	0.08294	0.00270
28	—	0.00010
29	0.07722	0.00230
30	—	0.00010
31	0.07224	0.00440
32	—	0.00000
33	0.06786	0.00150
34	—	0.00010
35	0.06398	0.00300
36	—	0.00010
37	0.06052	0.00120
38	—	0.00000
39	0.05742	0.00410
40	—	0.00010

		Testing Circuitry    Figure A
Model	LEP100F-24	
Item	Condense 結露特性	
Object	+24V4.2A	

### 1. Condensation test

Testing procedure is as follows.

- ① Keeping and cooling the unit in a tank at  $-10^{\circ}\text{C}$  for an hour with the input off.
- ② Taking it out of the tank and dewing itself in a room where the temperature is  $25^{\circ}\text{C}$  and the humidity is 40%RH.
- ③ Testing electrical characteristics of the unit to confirm there be no fault.

### 1. 結露特性試験

入力を切った状態で、恒温槽で $-10^{\circ}\text{C}$ に冷却しておき、約1時間後に恒温槽から取り出し、室温 $25^{\circ}\text{C}$ 、湿度40%RHの状態におき結露させ、その電気的特性の測定を行い異常のないことを確認する。

### 2. Values

Item	Data	Testing Conditions
Output Voltage [V]	24.106	Input Volt. : 200V, Load Current. : 4.2A
Line Regulation [mV]	1	Input Volt. : 170~264V, Load Current. : 4.2A
Load Regulation [mV]	1	Input Volt. : 200V, Load Current. : 0~4.2A

Model	LEP100F-24		
Item	Leakage Current 漏洩電流	Temperature	25℃
Object		Testing Circuitry	Figure B

## 1. Results

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

Standards	Leakage Current [mA]		
	Input Volt. 170 [V]	Input Volt. 230 [V]	Input Volt. 264 [V]
(B) IEC60950	0.36	0.42	0.56

## 2. Condition

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

交流入力の一相について測定し、その大きい方を漏洩電流測定値とする。

# COSEL

		Temperature 25°C Testing Circuitry Figure C
Model	LEP100F-24	
Item	Line Noise Tolerance 入力雑音耐量	
Object	+24V4.2A	

## 1. Conditions

- Input Voltage : 200 V
- Pulse Voltage : 2000 V
- Pulse Cycle : 10 mS
- Pulse Input Duration : 1 min. or more
- Load : 100 %

## 2. Results

Pulse Width [nS]	MODE		No protection failure should occur	DC-like Regulation of Output Voltage
		POLARITY	保護回路の誤動作がない	出力電圧の直流的変動
50	COMMON	+	OK	no fluctuation
		—	OK	no fluctuation
	NORMAL	+	OK	no fluctuation
		—	OK	no fluctuation
1000	COMMON	+	OK	no fluctuation
		—	OK	no fluctuation
	NORMAL	+	OK	no fluctuation
		—	OK	no fluctuation

# COSEL

Model	LEP100F-24	Temperature	25°C
Item	Conducted Emission 雑音端子電圧	Testing Circuitry	Figure D
Object	_____		

## 1. Graph

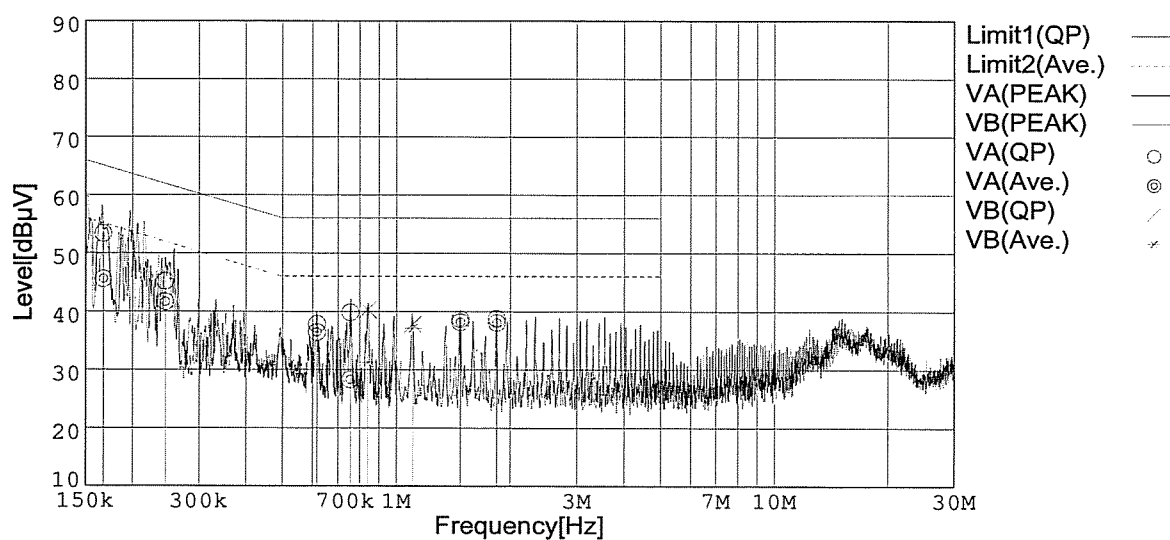
### Remarks

Input Volt. 230V( CISPR Pub22 Class B )

Load 100%

Limit1:[CISPR Pub22] Class B(QP)

Limit2:[CISPR Pub22] Class B(Ave.)



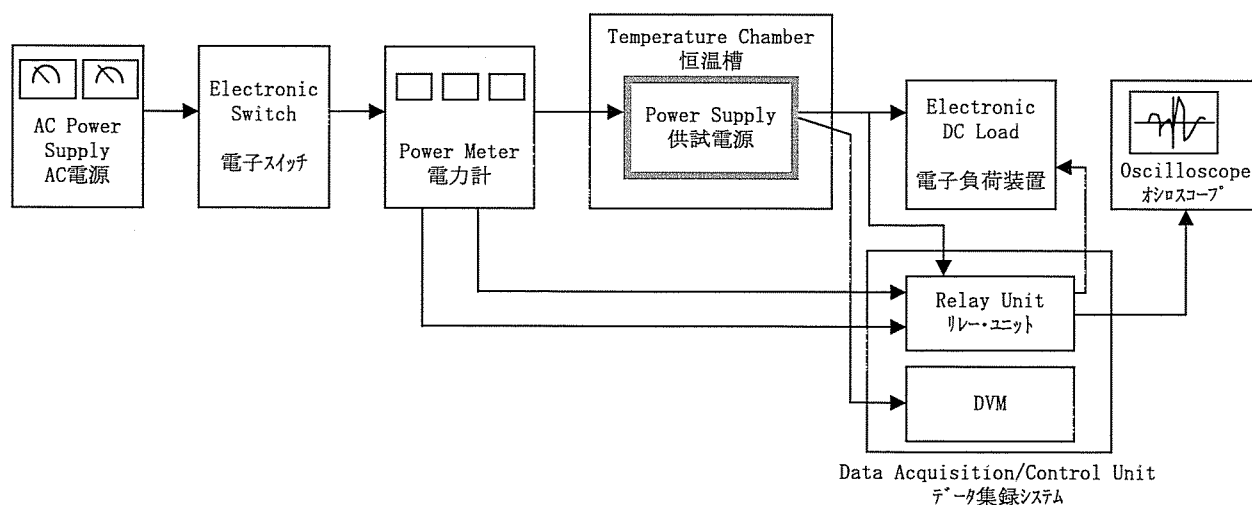


Figure A

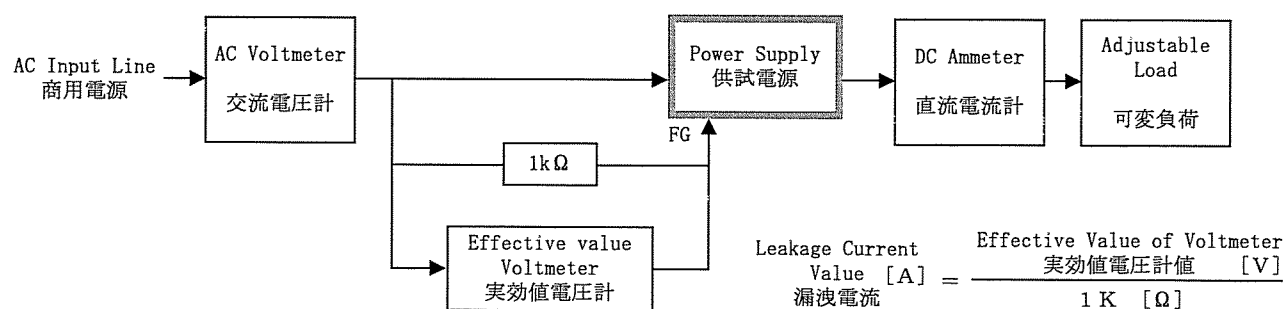


Figure B ( DEN-AN )

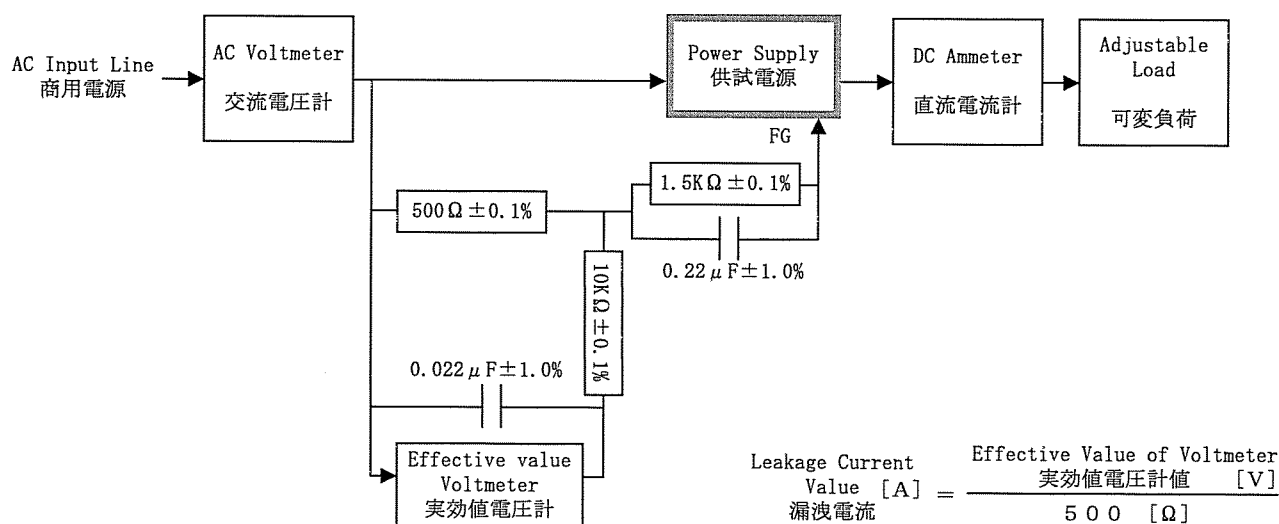


Figure B ( IEC60950 )

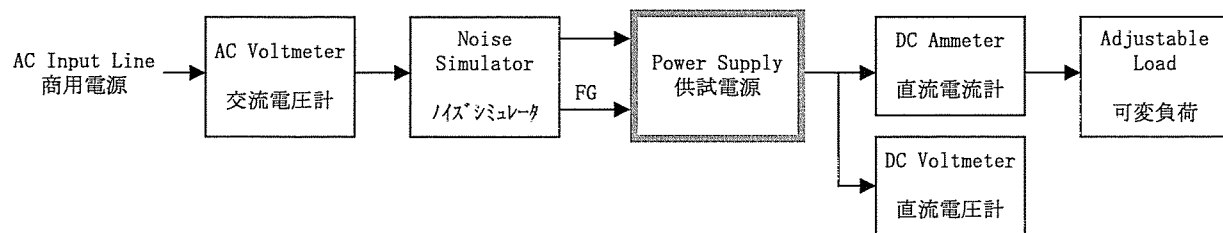


Figure C

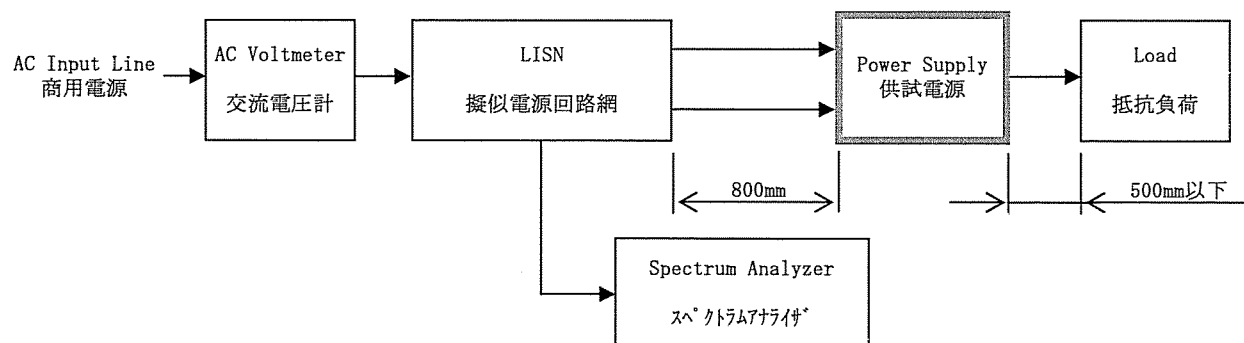


Figure D

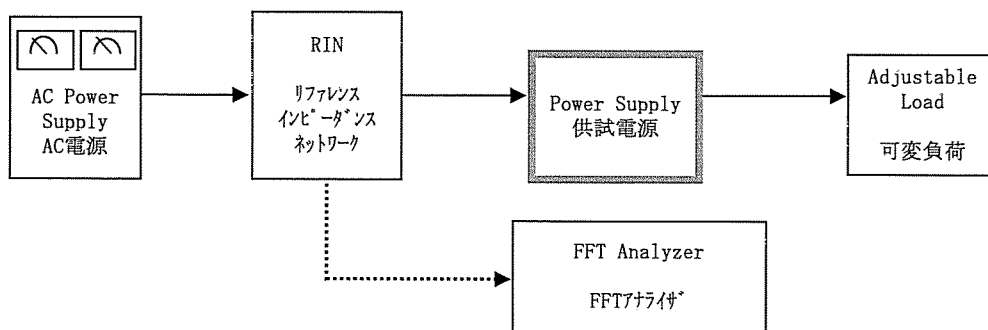


Figure E