



TEST DATA OF LEA100F-24 (100V INPUT)

Regulated DC Power Supply

Date : Feb. 9. 1999

Approved by : T. Watamake
Design Manager

Prepared by : T. Minura
Design Engineer

コーセル株式会社
COSEL CO., LTD.

CONTENTS

1. Line Regulation	1
静的入力変動	
2. Input Current (by Load Current)	2
入力電流 (負荷特性)	
3. Input Power (by Load Current)	3
入力電力 (負荷特性)	
4. Efficiency (by Input Voltage)	4
効率 (入力電圧特性)	
5. Efficiency (by Load Current)	5
効率 (負荷特性)	
6. Power Factor (by Input Voltage)	6
力率 (入力電圧特性)	
7. Power Factor (by Load Current)	7
力率 (負荷特性)	
8. Hold-Up Time	8
出力保持時間	
9. Instantaneous Interruption Compensation	9
瞬時停電保障	
10. Load Regulation	10
静的負荷変動	
11. Ripple Voltage (by Load Current)	11
リップル電圧 (負荷特性)	
12. Ripple-Noise	12
リップルノイズ	
13. Overcurrent Protection	13
過電流保護	
14. Overvoltage Protection	14
過電圧保護	
15. Inrush Current	15
突入電流	
16. Dynamic Load Responce	16
動的負荷変動	
17. Rise and Fall Time	17
立上り、立下がり時間	
18. Ambient Temperature Drift	18
周囲温度変動	
19. Minimum Input Voltage for Regulated Output Voltage	19
最低レギュレーション電圧	
20. Ripple Voltage (by Ambient Temperature)	20
リップル電圧 (周囲温度特性)	
21. Time Lapse Drift	21
経時ドリフト	
22. Output Voltage Accuracy	22
定電圧精度	
23. Harmonic Current	23
高調波電流	
24. Condensation	25
結露特性	
25. Leakage Current	26
漏洩電流	
26. Line Noise Tolerance	27
入力雑音耐量	
27. Conducted Emission	28
雑音端子電圧	
28. Figure of Testing Circuitry	29
測定回路図	

COSEL

Model		LEA100F-24	Temperature Testing Circuitry	25℃ Figure A
Item		Line Regulation 静的入力変動		
Object		+24V4.3A		

1. Graph

□----- Load 50%

△----- Load 100%

Output Voltage [V]

24.32

24.30

24.28

24.26

24.24

24.22

24.20

0

0

80

90

100

110

120

130

140

150

Input Voltage [V]

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]	Load 50%	Load 100%
	Output Volt. [V]	Output Volt. [V]
75	24.249	24.246
80	24.249	24.246
85	24.249	24.246
90	24.249	24.246
100	24.249	24.246
110	24.249	24.246
120	24.249	24.246
132	24.249	24.246
140	24.249	24.246

COSEL

Model		LEA100F-24		Temperature Testing Circuitry	25℃ Figure A
Item		Input Current (by Load Current) 入力電流 (負荷特性)			
Output		_____			

1. Graph

—△—

—□—

—○—

Input Volt. 85V

Input Volt. 100V

Input Volt. 132V

[A]

2

1.5

1

0.5

0

0

1

2

3

4

5

Input Current

Load Current

[A]

Load Current [A]	Input Current 85V [A]	Input Current 100V [A]	Input Current 132V [A]
0.00	0.086	0.078	0.071
0.80	0.379	0.324	0.254
1.60	0.640	0.544	0.417
2.40	0.898	0.760	0.579
3.20	1.164	0.984	0.745
4.00	1.432	1.209	0.913
4.30	1.530	1.291	0.973
4.73	1.681	1.414	1.064
—	—	—	—
—	—	—	—
—	—	—	—
—	—	—	—

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]	Input Current [A]		
	Input Volt. 85[V]	Input Volt. 100[V]	Input Volt. 132[V]
0.00	0.086	0.078	0.071
0.80	0.379	0.324	0.254
1.60	0.640	0.544	0.417
2.40	0.898	0.760	0.579
3.20	1.164	0.984	0.745
4.00	1.432	1.209	0.913
4.30	1.530	1.291	0.973
4.73	1.681	1.414	1.064
—	—	—	—
—	—	—	—
—	—	—	—
—	—	—	—

COSEL

Model		LEA100F-24		Temperature		25℃																																																								
Item		Input Power (by Load Current) 入力電力 (負荷特性)		Testing Circuitry		Figure A																																																								
Output		_____																																																												
1. Graph				2. Values																																																										
<div><div><div>—△—</div><div>---□---</div><div>---○---</div></div><div>Input Volt. 85V</div><div>Input Volt. 100V</div><div>Input Volt. 132V</div></div> <div><p>Note: Slanted line shows the range of the rated load current</p><p>(注) 斜線は定格負荷電流範囲を示す。</p></div>				<table><tr><th rowspan="2">Load Current [A]</th><th colspan="3">Input Power [W]</th></tr><tr><th>Input Volt. 85[V]</th><th>Input Volt. 100[V]</th><th>Input Volt. 132[V]</th></tr><tr><td>0.00</td><td>5.63</td><td>5.70</td><td>5.86</td></tr><tr><td>0.80</td><td>30.10</td><td>29.83</td><td>29.52</td></tr><tr><td>1.60</td><td>52.36</td><td>51.89</td><td>51.20</td></tr><tr><td>2.40</td><td>74.60</td><td>73.90</td><td>72.80</td></tr><tr><td>3.20</td><td>97.40</td><td>96.40</td><td>95.00</td></tr><tr><td>4.00</td><td>120.30</td><td>119.00</td><td>117.50</td></tr><tr><td>4.30</td><td>128.70</td><td>127.30</td><td>125.40</td></tr><tr><td>4.73</td><td>141.50</td><td>139.80</td><td>137.60</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]	Input Power [W]			Input Volt. 85[V]	Input Volt. 100[V]	Input Volt. 132[V]	0.00	5.63	5.70	5.86	0.80	30.10	29.83	29.52	1.60	52.36	51.89	51.20	2.40	74.60	73.90	72.80	3.20	97.40	96.40	95.00	4.00	120.30	119.00	117.50	4.30	128.70	127.30	125.40	4.73	141.50	139.80	137.60	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Load Current [A]	Input Power [W]																																																													
	Input Volt. 85[V]	Input Volt. 100[V]	Input Volt. 132[V]																																																											
0.00	5.63	5.70	5.86																																																											
0.80	30.10	29.83	29.52																																																											
1.60	52.36	51.89	51.20																																																											
2.40	74.60	73.90	72.80																																																											
3.20	97.40	96.40	95.00																																																											
4.00	120.30	119.00	117.50																																																											
4.30	128.70	127.30	125.40																																																											
4.73	141.50	139.80	137.60																																																											
—	—	—	—																																																											
—	—	—	—																																																											
—	—	—	—																																																											
—	—	—	—																																																											

COSEL

Model		LEA100F-24	Temperature 25°C Testing Circuitry Figure A
Item		Efficiency (by Input Voltage) 効率 (入力電圧特性)	
Object			2. Values
1. Graph			

Load 50%
 Load 100%

Efficiency [%]

Input Voltage [V]

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。

Input Voltage [V]	Load 50% Efficiency [%]	Load 100% Efficiency [%]
75	77.2	80.1
80	77.4	80.7
85	77.6	81.2
90	77.9	81.7
100	78.2	82.2
110	78.5	82.6
120	78.8	83.0
132	79.1	83.3
140	79.3	83.5

COSEL

Model	LEA100F-24	Temperature	25°C
Item	Efficiency (by Load Current) 効率 (負荷電流特性)	Testing Circuitry	Figure A
Output	_____		

1. Graph

—△— Input Volt. 85V
 - - -□- - - Input Volt. 100V
 - - -○- - - Input Volt. 132V

Efficiency [%]

Load Current [A]

2. Values

Load Current [A]	Efficiency [%]		
	Input Volt. 85[V]	Input Volt. 100[V]	Input Volt. 132[V]
0.80	64.3	64.9	65.6
1.60	74.1	74.8	75.9
2.40	77.7	78.5	79.7
3.20	79.8	80.6	81.8
4.00	80.9	81.8	82.9
4.30	81.2	82.2	83.3
4.73	81.4	82.4	83.5
—	—	—	—
—	—	—	—
—	—	—	—
—	—	—	—
—	—	—	—

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。

COSEL

Model		LEA100F-24		Temperature 25℃ Testing Circuitry Figure A																																
Item		Power Factor (by Input Voltage) 力率 (入力電圧特性)																																		
Object																																				
1. Graph																																				
<div><div><div><div></div><div>load 50%</div></div><div><div></div><div>load 100%</div></div></div><div>Power Factor</div><div>Input Voltage [V]</div></div> <table><tr><th>Input Voltage [V]</th><th>load 50% Power Factor</th><th>load 100% Power Factor</th></tr><tr><td>75</td><td>0.98</td><td>1.00</td></tr><tr><td>80</td><td>0.98</td><td>1.00</td></tr><tr><td>85</td><td>0.97</td><td>0.99</td></tr><tr><td>90</td><td>0.97</td><td>0.99</td></tr><tr><td>100</td><td>0.97</td><td>0.99</td></tr><tr><td>110</td><td>0.96</td><td>0.99</td></tr><tr><td>120</td><td>0.95</td><td>0.98</td></tr><tr><td>132</td><td>0.94</td><td>0.98</td></tr><tr><td>140</td><td>0.94</td><td>0.98</td></tr></table> <div>Note: Slanted line shows the range of the rated input voltage.</div> <div>(注)斜線は定格入力電圧範囲を示す。</div>					Input Voltage [V]	load 50% Power Factor	load 100% Power Factor	75	0.98	1.00	80	0.98	1.00	85	0.97	0.99	90	0.97	0.99	100	0.97	0.99	110	0.96	0.99	120	0.95	0.98	132	0.94	0.98	140	0.94	0.98		
Input Voltage [V]	load 50% Power Factor	load 100% Power Factor																																		
75	0.98	1.00																																		
80	0.98	1.00																																		
85	0.97	0.99																																		
90	0.97	0.99																																		
100	0.97	0.99																																		
110	0.96	0.99																																		
120	0.95	0.98																																		
132	0.94	0.98																																		
140	0.94	0.98																																		
2. Values																																				
<table><tr><th rowspan="2">Input Voltage [V]</th><th>load 50%</th><th>load 100%</th></tr><tr><th>Power Factor</th><th>Power Factor</th></tr><tr><td>75</td><td>0.98</td><td>1.00</td></tr><tr><td>80</td><td>0.98</td><td>1.00</td></tr><tr><td>85</td><td>0.97</td><td>0.99</td></tr><tr><td>90</td><td>0.97</td><td>0.99</td></tr><tr><td>100</td><td>0.97</td><td>0.99</td></tr><tr><td>110</td><td>0.96</td><td>0.99</td></tr><tr><td>120</td><td>0.95</td><td>0.98</td></tr><tr><td>132</td><td>0.94</td><td>0.98</td></tr><tr><td>140</td><td>0.94</td><td>0.98</td></tr></table>					Input Voltage [V]	load 50%	load 100%	Power Factor	Power Factor	75	0.98	1.00	80	0.98	1.00	85	0.97	0.99	90	0.97	0.99	100	0.97	0.99	110	0.96	0.99	120	0.95	0.98	132	0.94	0.98	140	0.94	0.98
Input Voltage [V]	load 50%	load 100%																																		
	Power Factor	Power Factor																																		
75	0.98	1.00																																		
80	0.98	1.00																																		
85	0.97	0.99																																		
90	0.97	0.99																																		
100	0.97	0.99																																		
110	0.96	0.99																																		
120	0.95	0.98																																		
132	0.94	0.98																																		
140	0.94	0.98																																		

BC-3166

COSEL

Model		LEA100F-24	Temperature 25℃ Testing Circuitry Figure A																															
Item		Hold-Up Time 出力保持時間																																
Object		+24V4.3A																																
1. Graph		<div><div><div>—△—</div><div>Load 50%</div></div><div><div>- -□- -</div><div>Load 100%</div></div></div> <div><div>Hold-Up Time [mS]</div><div><div>1000</div><div>100</div><div>10</div><div>1</div></div><div><div>0</div><div>80</div><div>90</div><div>100</div><div>110</div><div>120</div><div>130</div><div>140</div><div>150</div></div><div>Input Voltage [V]</div></div>	2. Values																															
		<table><tr><th rowspan="2">Input Voltage [V]</th><th>Load 50%</th><th>Load 100%</th></tr><tr><th>Hold-Up Time [mS]</th><th>Hold-Up Time [mS]</th></tr><tr><td>75</td><td>—</td><td>—</td></tr><tr><td>80</td><td>62</td><td>24</td></tr><tr><td>85</td><td>63</td><td>26</td></tr><tr><td>90</td><td>65</td><td>27</td></tr><tr><td>100</td><td>67</td><td>29</td></tr><tr><td>110</td><td>69</td><td>31</td></tr><tr><td>120</td><td>70</td><td>32</td></tr><tr><td>132</td><td>71</td><td>33</td></tr><tr><td>140</td><td>72</td><td>33</td></tr></table>		Input Voltage [V]	Load 50%	Load 100%	Hold-Up Time [mS]	Hold-Up Time [mS]	75	—	—	80	62	24	85	63	26	90	65	27	100	67	29	110	69	31	120	70	32	132	71	33	140	72
Input Voltage [V]	Load 50%	Load 100%																																
	Hold-Up Time [mS]	Hold-Up Time [mS]																																
75	—	—																																
80	62	24																																
85	63	26																																
90	65	27																																
100	67	29																																
110	69	31																																
120	70	32																																
132	71	33																																
140	72	33																																
<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>																																		

COSEL

Model	LEA100F-24	Temperature	25°C
Item	Instantaneous Interruption Compensation 瞬時停電保障	Testing Circuitry	Figure A
Object	+24V4.3A		

1. Graph

—△— Input Volt. 85 V
- - -□- - - Input Volt. 100 V
- - -○- - - Input Volt. 132 V

Instantaneous Compensation Time [mS]

Load Current [A]

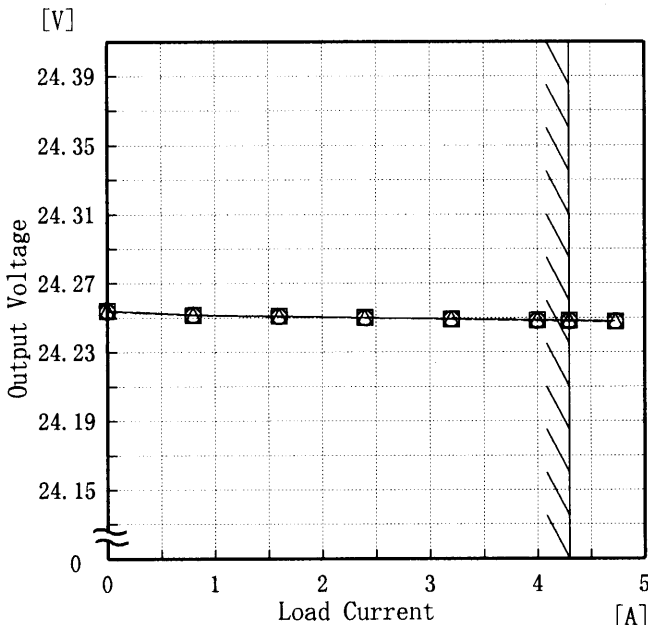
2. Values

Load Current [A]	Input Volt. 85[V]	Input Volt. 100[V]	Input Volt. 132[V]
	Time [mS]		
0.00	—	—	—
0.80	153	162	172
1.60	70	79	88
2.40	44	50	56
3.20	33	37	42
4.00	26	30	34
4.30	24	27	30
4.73	21	23	26
—	—	—	—
—	—	—	—
—	—	—	—

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 load current.

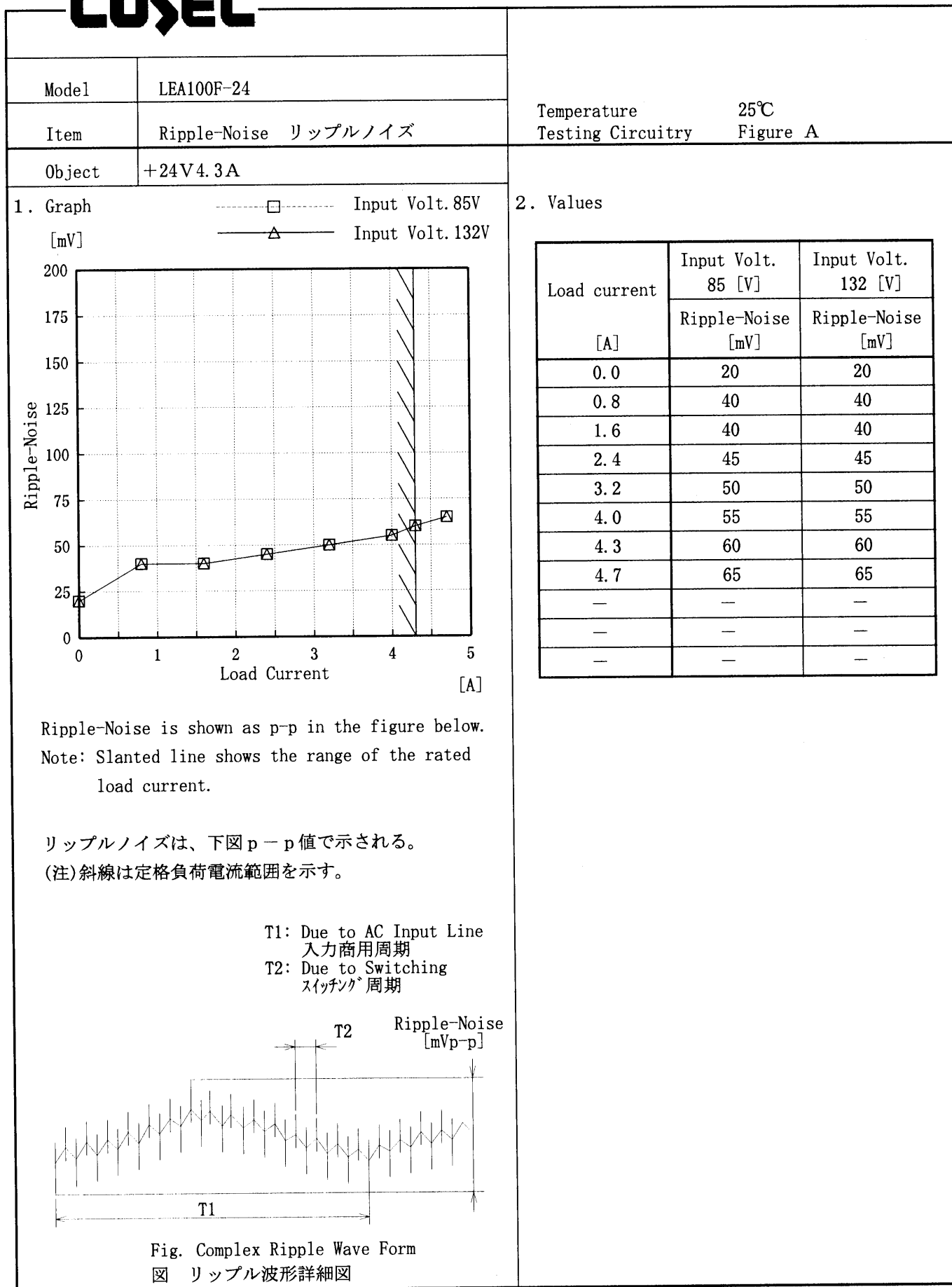
瞬時停電保障時間とは、出力電圧が定電圧精度の規格範囲を保持している瞬時停電時間をいう。
(注)斜線は定格負荷電流範囲を示す。

COSEL

Model		LEA100F-24		Temperature		25℃																																																				
Item		Load Regulation 静的負荷変動		Testing Circuitry		Figure A																																																				
Object		+24V4.3A																																																								
1. Graph				2. Values																																																						
<div><div><div>—△—</div><div>---□---</div><div>---○---</div></div><div>Input Volt. 85V</div><div>Input Volt. 100V</div><div>Input Volt. 132V</div></div> <div><div><div>Output Voltage</div><div>[V]</div><div>24.39</div><div>24.35</div><div>24.31</div><div>24.27</div><div>24.23</div><div>24.19</div><div>24.15</div><div>0</div></div><div><div>0</div><div>1</div><div>2</div><div>3</div><div>4</div><div>5</div></div><div><div>Load Current</div><div>[A]</div></div></div>  <div>Note: Slanted line shows the range of the rated load current.</div> <div>(注)斜線は定格負荷電流範囲を示す。</div>				<table><tr><th rowspan="2">Load Current</th><th>Input Volt.</th><th>Input Volt.</th><th>Input Volt.</th></tr><tr><th>85[V]</th><th>100[V]</th><th>132[V]</th></tr><tr><th>Output Volt. [V]</th><th>Output Volt. [V]</th><th>Output Volt. [V]</th><th>Output Volt. [V]</th></tr><tr><td>0.00</td><td>24.254</td><td>24.254</td><td>24.254</td></tr><tr><td>0.80</td><td>24.252</td><td>24.252</td><td>24.252</td></tr><tr><td>1.60</td><td>24.251</td><td>24.251</td><td>24.251</td></tr><tr><td>2.40</td><td>24.250</td><td>24.250</td><td>24.250</td></tr><tr><td>3.20</td><td>24.249</td><td>24.249</td><td>24.249</td></tr><tr><td>4.00</td><td>24.249</td><td>24.249</td><td>24.248</td></tr><tr><td>4.30</td><td>24.248</td><td>24.248</td><td>24.248</td></tr><tr><td>4.73</td><td>24.248</td><td>24.248</td><td>24.248</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	Input Volt.	Input Volt.	Input Volt.	85[V]	100[V]	132[V]	Output Volt. [V]	Output Volt. [V]	Output Volt. [V]	Output Volt. [V]	0.00	24.254	24.254	24.254	0.80	24.252	24.252	24.252	1.60	24.251	24.251	24.251	2.40	24.250	24.250	24.250	3.20	24.249	24.249	24.249	4.00	24.249	24.249	24.248	4.30	24.248	24.248	24.248	4.73	24.248	24.248	24.248	—	—	—	—	—	—	—	—
Load Current	Input Volt.	Input Volt.	Input Volt.																																																							
	85[V]	100[V]	132[V]																																																							
Output Volt. [V]	Output Volt. [V]	Output Volt. [V]	Output Volt. [V]																																																							
0.00	24.254	24.254	24.254																																																							
0.80	24.252	24.252	24.252																																																							
1.60	24.251	24.251	24.251																																																							
2.40	24.250	24.250	24.250																																																							
3.20	24.249	24.249	24.249																																																							
4.00	24.249	24.249	24.248																																																							
4.30	24.248	24.248	24.248																																																							
4.73	24.248	24.248	24.248																																																							
—	—	—	—																																																							
—	—	—	—																																																							

- 11 -

COSEL



COSEL

Model		LEA100F-24		Temperature 25℃ Testing Circuitry Figure A																																																												
Item		Overcurrent Protection 過電流保護																																																														
Object		+24V4.3A																																																														
1. Graph				2. Values																																																												
<div><div><div></div><div>[V]</div></div><div><div></div><div>Output Voltage</div></div></div> <div><div></div><div>40.0</div></div> <div><div></div><div>30.0</div></div> <div><div></div><div>20.0</div></div> <div><div></div><div>10.0</div></div> <div><div></div><div>0.0</div></div> <div><div></div><div>0</div></div> <div><div></div><div>2</div></div> <div><div></div><div>4</div></div> <div><div></div><div>6</div></div> <div><div></div><div>Load Current</div></div> <div><div></div><div>[A]</div></div> <div><div><div></div><div>Input Volt. 85 V</div></div><div><div></div><div>Input Volt. 100 V</div></div><div><div></div><div>Input Volt. 132 V</div></div></div> <div><div></div><div>Note: Slanted line shows the range of the rated load current.</div></div> <div><div></div><div>(注)斜線は定格負荷電流範囲を示す。</div></div> <div><div></div><div>16.8V以下は間欠状態。</div></div>				<table><tr><th rowspan="2">Output Voltage [V]</th><th>Input Volt. 85[V]</th><th>Input Volt. 100[V]</th><th>Input Volt. 132[V]</th></tr><tr><th>Load Current [A]</th><th>Load Current [A]</th><th>Load Current [A]</th></tr><tr><td>24.00</td><td>5.43</td><td>5.45</td><td>5.47</td></tr><tr><td>22.80</td><td>5.50</td><td>5.49</td><td>5.48</td></tr><tr><td>21.60</td><td>5.49</td><td>5.50</td><td>5.49</td></tr><tr><td>19.20</td><td>5.46</td><td>5.45</td><td>5.45</td></tr><tr><td>16.80</td><td>5.47</td><td>5.48</td><td>5.50</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]	Input Volt. 85[V]	Input Volt. 100[V]	Input Volt. 132[V]	Load Current [A]	Load Current [A]	Load Current [A]	24.00	5.43	5.45	5.47	22.80	5.50	5.49	5.48	21.60	5.49	5.50	5.49	19.20	5.46	5.45	5.45	16.80	5.47	5.48	5.50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Output Voltage [V]	Input Volt. 85[V]	Input Volt. 100[V]	Input Volt. 132[V]																																																													
	Load Current [A]	Load Current [A]	Load Current [A]																																																													
24.00	5.43	5.45	5.47																																																													
22.80	5.50	5.49	5.48																																																													
21.60	5.49	5.50	5.49																																																													
19.20	5.46	5.45	5.45																																																													
16.80	5.47	5.48	5.50																																																													
—	—	—	—																																																													
—	—	—	—																																																													
—	—	—	—																																																													
—	—	—	—																																																													
—	—	—	—																																																													
—	—	—	—																																																													
—	—	—	—																																																													
—	—	—	—																																																													

Input Volt. 85 V

Input Volt. 100 V

Input Volt. 132 V

COSEL

Model		LEA100F-24	
Item		Overvoltage Protection 過電圧保護	
Object		+24V4.3A	

1. Graph

△

Input Volt. 85 V

□

Input Volt. 100 V

○

Input Volt. 132 V

[V]

Operating Point

34.02

33.02

32.02

31.02

30.02

29.02

28.02

0

-30

-10

10

30

50

70

Ambient Temperature

[°C]

Load 0%

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

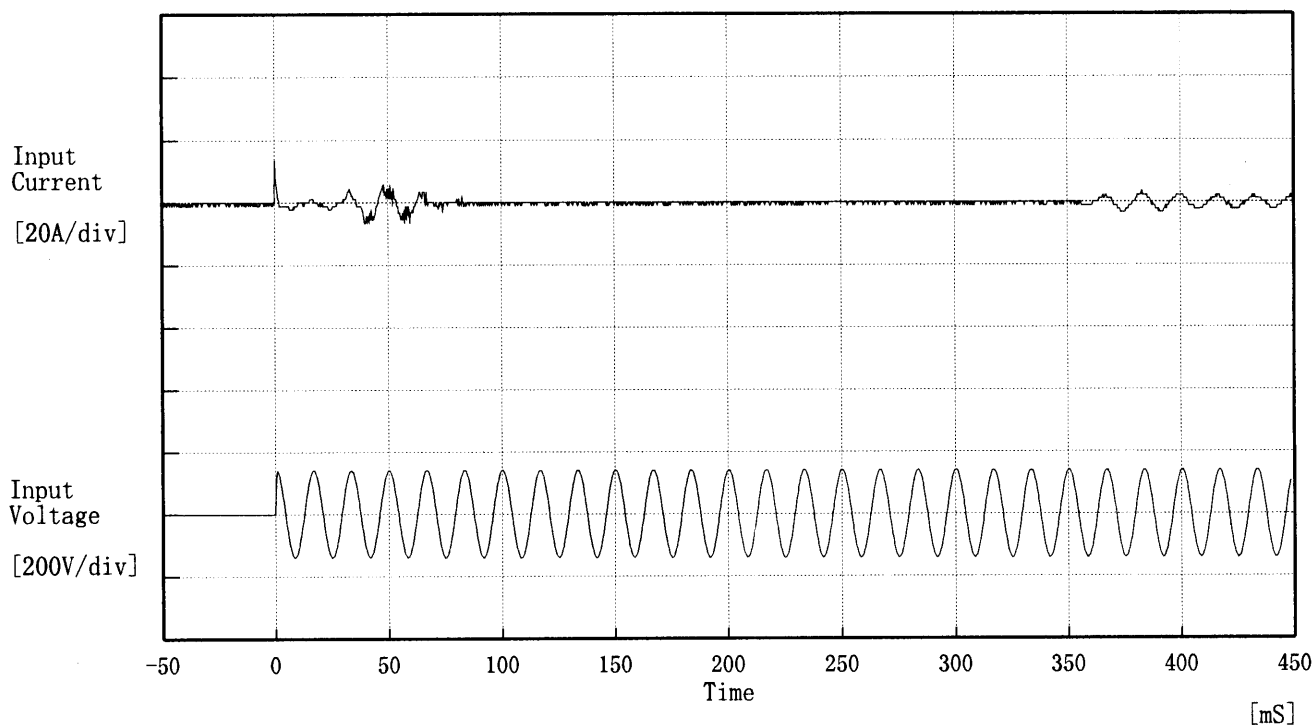
(注)斜線は定格周囲温度範囲を示す。

Ambient Temp. [°C]	Input Volt. 85[V]	Input Volt. 100[V]	Input Volt. 132[V]
	Operating Point [V]		
-20	29.7	29.7	29.7
-10	29.9	29.9	29.9
0	30.1	30.1	30.1
10	30.3	30.3	30.3
20	30.5	30.5	30.5
25	30.6	30.6	30.6
30	30.7	30.7	30.7
40	30.9	30.9	30.9
50	31.1	31.1	31.1
60	31.3	31.3	31.3
—	—	—	—

2. Values

COSEL

Model	LEA100F-24	Temperature 25°C Testing Circuitry Figure A
Item	Inrush Current 突入電流	
Object		



Input Voltage 100 V

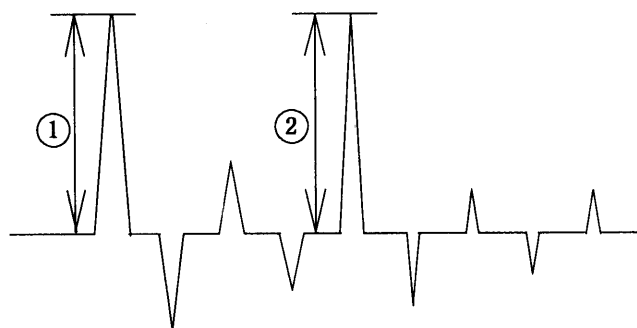
Frequency 60 Hz

Load 100 %

Inrush Current

① 13.50 [A]

② 6.69 [A]



COSEL

Model	LEA100F-24	Temperature 25°C Testing Circuitry Figure A
Item	Dynamic Load Responce 動的負荷変動	
Object	+24V4.3A	

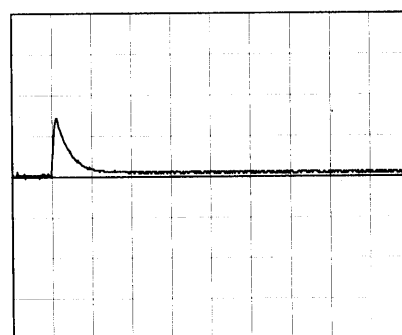
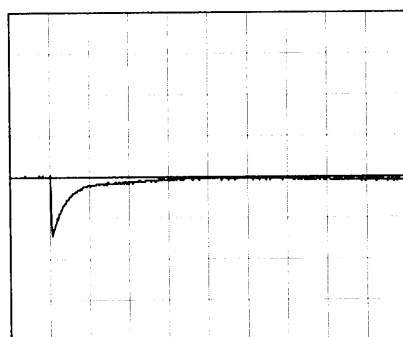
Input Volt. 100 V

Cycle 1000 mS

Load Current

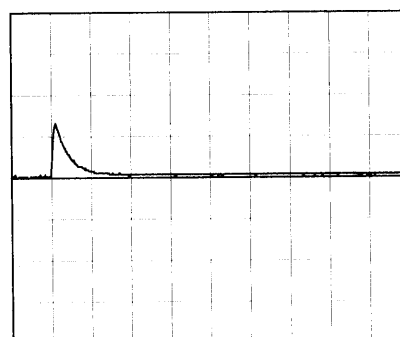
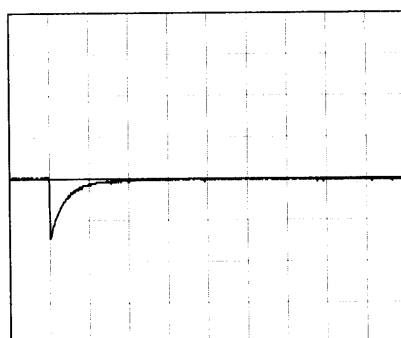
Min. Load ↔

Load 100 %



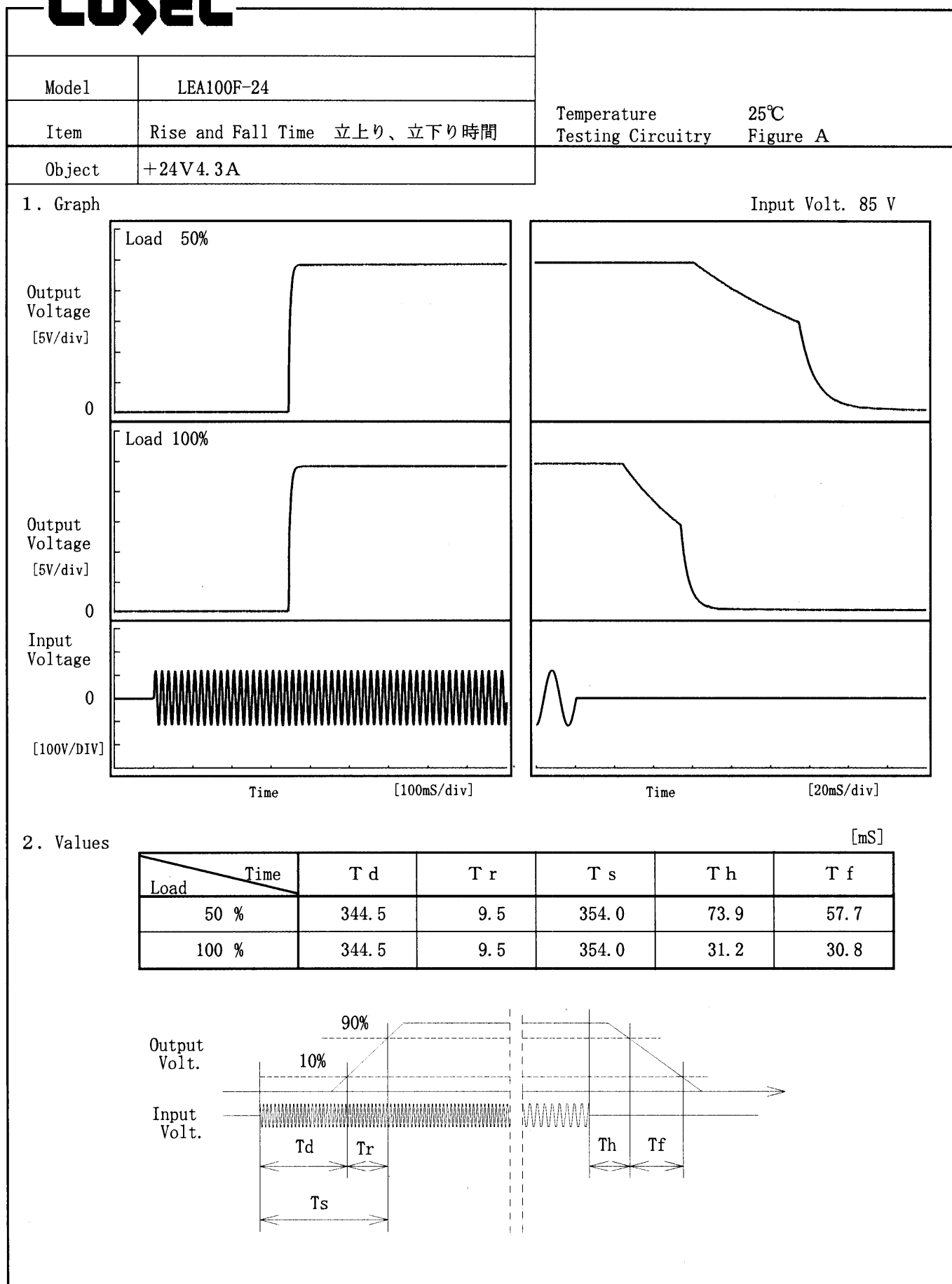
Min. Load ↔

Load 50 %



100 mV/div

10 ms/div

COSEL

COSEL

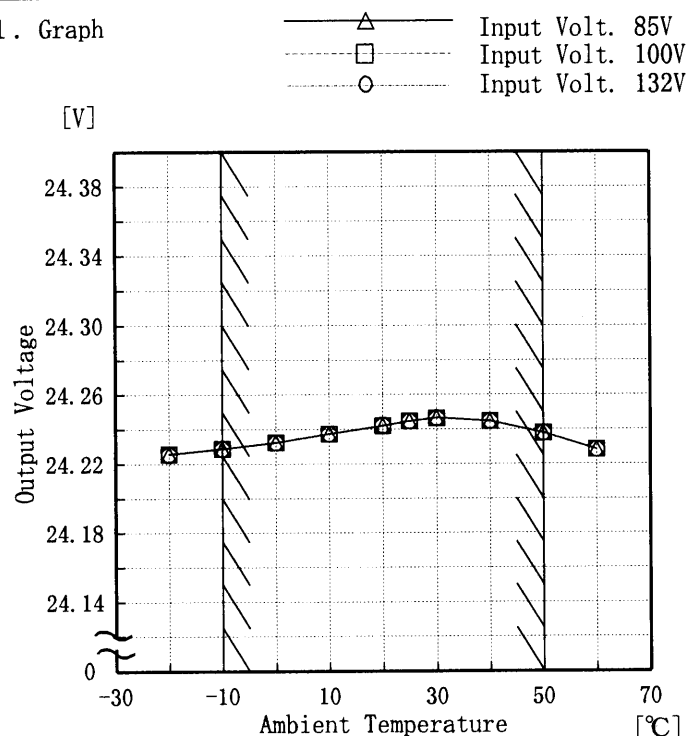
Model LEA100F-24

Item Ambient Temperature Drift
周囲温度変動

Object +24V4.3A

Testing Circuitry Figure A

1. Graph



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。

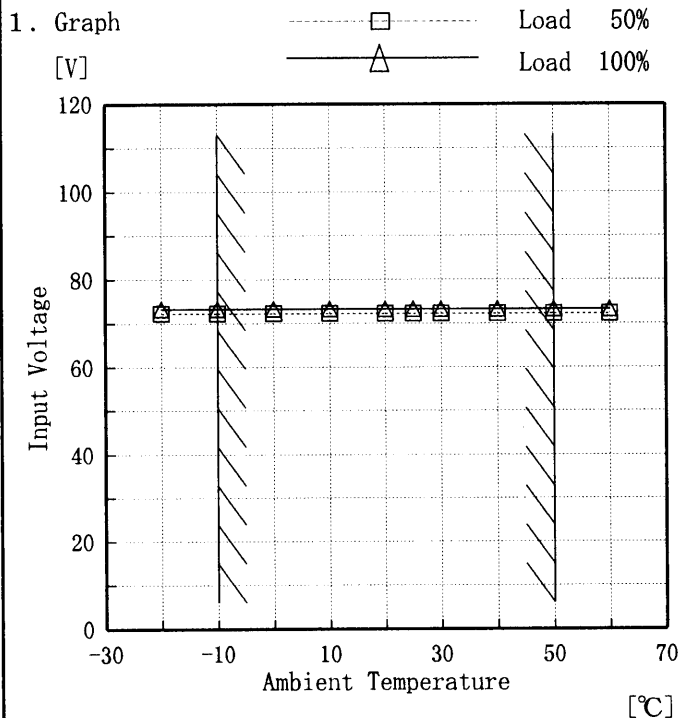
2. Values

Temperature [°C]	Input Volt. 85[V]	Input Volt. 100[V]	Input Volt. 132[V]
	Output Volt. [V]	Output Volt. [V]	Output Volt. [V]
-20	24.226	24.226	24.226
-10	24.229	24.229	24.229
0	24.232	24.232	24.232
10	24.237	24.237	24.237
20	24.242	24.242	24.242
25	24.245	24.245	24.245
30	24.247	24.246	24.246
40	24.245	24.245	24.245
50	24.238	24.238	24.238
60	24.228	24.228	24.228
—	—	—	—

COSEL

Model	LEA100F-24
Item	Minimum Input Voltage for Regulated Output Voltage 最低レギュレーション電圧
Object	+24V4.3A

Testing Circuitry Figure A

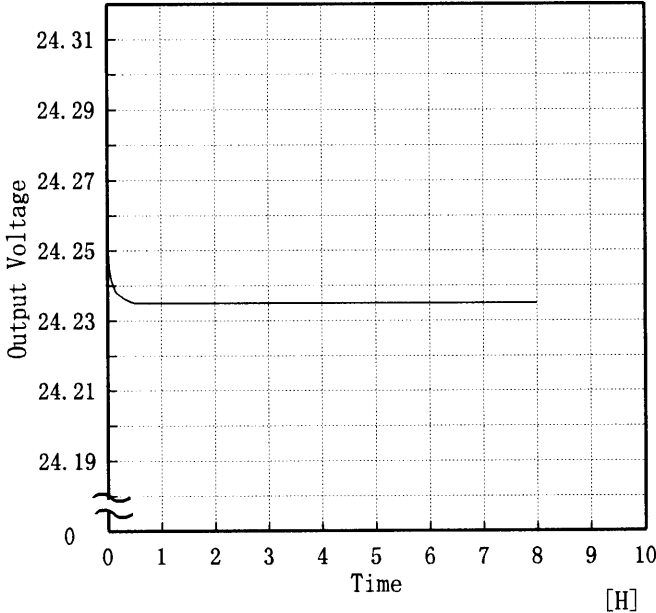


(注) 斜線は定格周囲温度範囲を示す。

2. Values

Ambient Temp. [°C]	Load 50% Input Volt. [V]	Load 100% Input Volt. [V]
-20	72	73
-10	72	73
0	72	73
10	72	73
20	72	73
25	72	73
30	72	73
40	72	73
50	72	73
60	72	73
—	—	—

COSEL

COSEL																								
Model	LEA100F-24	Temperature 25 ℃ Testing Circuitry Figure A																						
Item	Time Lapse Drift 経時ドリフト																							
Object	+24V4.3A																							
1. Graph		2.Values																						
<div>[V]</div> <div></div> <div>Output Voltage [V]</div> <div>Time [H]</div> <div>Input Volt. 100V</div> <div>Load 100%</div>		<table><tr><th>Time since start [H]</th><th>Output Voltage [V]</th></tr><tr><td>0.0</td><td>24.256</td></tr><tr><td>0.5</td><td>24.235</td></tr><tr><td>1.0</td><td>24.235</td></tr><tr><td>2.0</td><td>24.235</td></tr><tr><td>3.0</td><td>24.235</td></tr><tr><td>4.0</td><td>24.235</td></tr><tr><td>5.0</td><td>24.235</td></tr><tr><td>6.0</td><td>24.235</td></tr><tr><td>7.0</td><td>24.235</td></tr><tr><td>8.0</td><td>24.235</td></tr></table>	Time since start [H]	Output Voltage [V]	0.0	24.256	0.5	24.235	1.0	24.235	2.0	24.235	3.0	24.235	4.0	24.235	5.0	24.235	6.0	24.235	7.0	24.235	8.0	24.235
Time since start [H]	Output Voltage [V]																							
0.0	24.256																							
0.5	24.235																							
1.0	24.235																							
2.0	24.235																							
3.0	24.235																							
4.0	24.235																							
5.0	24.235																							
6.0	24.235																							
7.0	24.235																							
8.0	24.235																							

COSEL

Model	LEA100F-24	Testing Circuitry Figure A
Item	Output Voltage Accuracy 定電圧精度	
Object	+24V4.3A	

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 : 85~132 V

Load Current : 0.00~4.30 A

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

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

定電圧精度

周囲温度、入力電圧、負荷を下記仕様内で、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 : 85~132 V

負荷電流 : 0.00~4.30 A

* 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) = $\frac{\text{変動値}}{\text{定格出力電圧}} \times 100$

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	24.254	±13	±0.1
Minimum Voltage	-10	132	4.30	24.229		

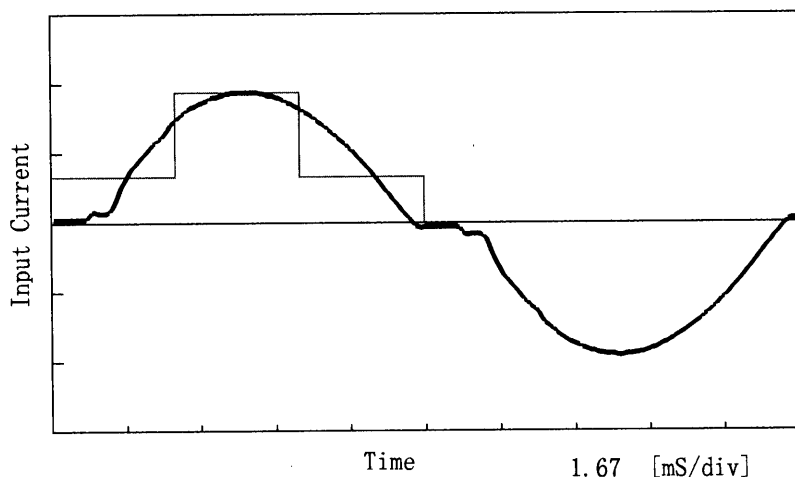
COSEL

Model	LEA100F-24	Temperature	25°C
Item	Harmonic Current 高調波電流	Testing Circuitry	Figure E
Object			

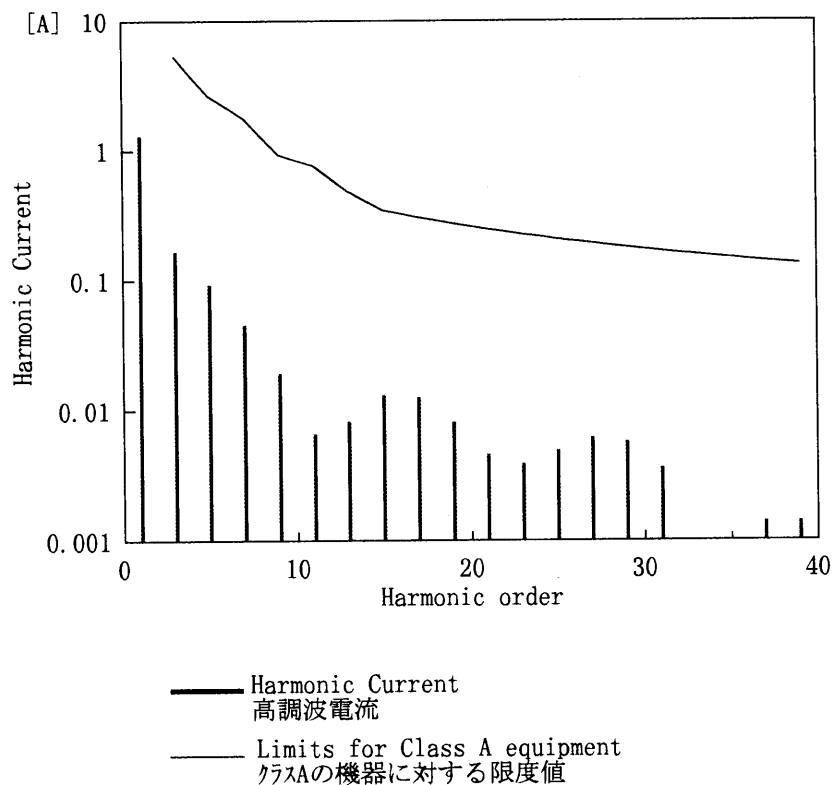
1. Input Current Waveform

— 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

1 A/div



2. Harmonic Current



Conditions	Values
Input Voltage [V]	99.9
Input Current [A]	1.316
Active Power [W]	130
Apparent Power [VA]	131.5
Frequency [Hz]	60
Power Factor	0.989
Output Power [W]	103.2

Harmonics order 高調波次数	Limits 限度値 [A]	Values 測定値 [A]
1	—	1.30140
2	—	0.00050
3	5.29530	0.16690
4	—	0.00030
5	2.62462	0.09320
6	—	0.00010
7	1.77277	0.04560
8	—	0.00010
9	0.92092	0.01930
10	—	0.00010
11	0.75976	0.00660
12	—	0.00010
13	0.48348	0.00820
14	—	0.00010
15	0.34535	0.01310
16	—	0.00000
17	0.30472	0.01250
18	—	0.00000
19	0.27264	0.00810
20	—	0.00000
21	0.24668	0.00460
22	—	0.00010
23	0.22523	0.00390
24	—	0.00000
25	0.20721	0.00490
26	—	0.00000
27	0.19186	0.00620
28	—	0.00000
29	0.17863	0.00570
30	—	0.00000
31	0.16710	0.00360
32	—	0.00000
33	0.15698	0.00090
34	—	0.00000
35	0.14801	0.00090
36	—	0.00000
37	0.14000	0.00140
38	—	0.00010
39	0.13283	0.00140
40	—	0.00000

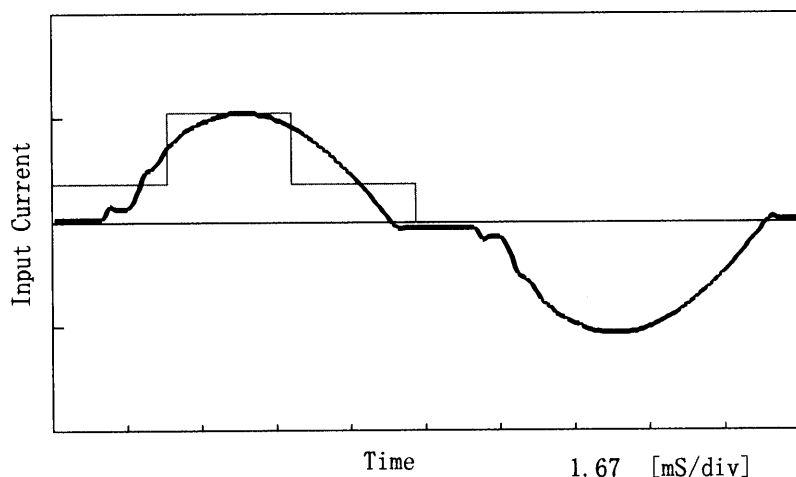
COSEL

Model	LEA100F-24	Temperature	25°C
Item	Harmonic Current 高調波電流	Testing Circuitry	Figure E
Object	_____		

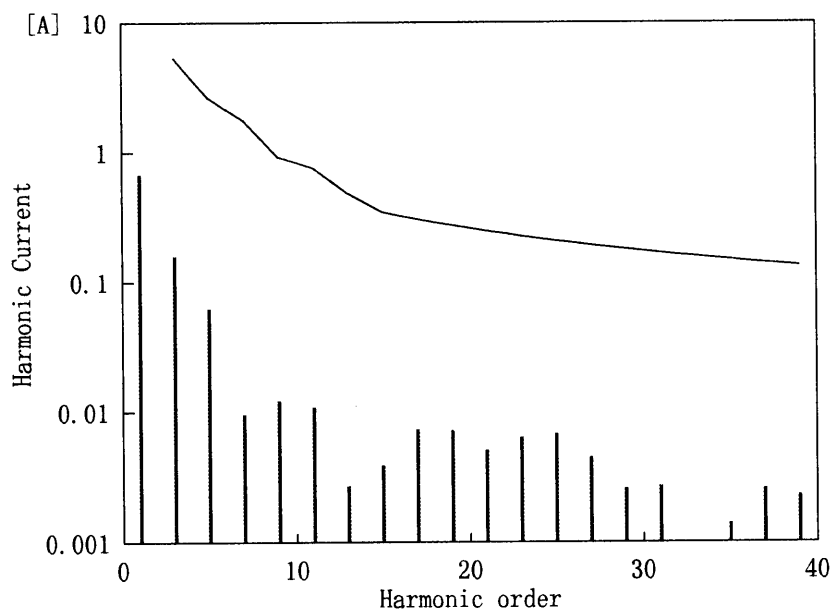
1. Input Current Waveform

— 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

1 A/div



2. Harmonic Current



— Harmonic Current
 高調波電流
 — Limits for Class A equipment
 クラスAの機器に対する限度値

Conditions	Values
Input Voltage [V]	100.1
Input Current [A]	0.698
Active Power [W]	67.6
Apparent Power [VA]	69.9
Frequency [Hz]	60
Power Factor	0.967
Output Power [W]	51.6

Harmonics order 高調波次数	Limits 限度値 [A]	Values 測定値 [A]
1	—	0.67600
2	—	0.00060
3	5.28472	0.15930
4	—	0.00010
5	2.61938	0.06280
6	—	0.00010
7	1.76923	0.00960
8	—	0.00000
9	0.91908	0.01220
10	—	0.00000
11	0.75824	0.01090
12	—	0.00000
13	0.48252	0.00270
14	—	0.00010
15	0.34466	0.00390
16	—	0.00010
17	0.30411	0.00730
18	—	0.00010
19	0.27210	0.00720
20	—	0.00010
21	0.24618	0.00510
22	—	0.00000
23	0.22478	0.00640
24	—	0.00010
25	0.20679	0.00680
26	—	0.00010
27	0.19148	0.00450
28	—	0.00010
29	0.17827	0.00260
30	—	0.00010
31	0.16677	0.00270
32	—	0.00000
33	0.15666	0.00100
34	—	0.00000
35	0.14771	0.00140
36	—	0.00010
37	0.13973	0.00260
38	—	0.00000
39	0.13256	0.00230
40	—	0.00010

COSEL

COSEL

		Testing Circuitry Figure A
Model	LEA100F-24	
Item	Condensation 結露特性	
Object	+24V4.3A	

1. Condensation test

Testing procedure is as follows.

① Keeping and cooling the unit in a tank at -10℃ 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℃ 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℃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℃、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]	24.249	Input Volt. : 100V, Load Current:4.3A
Line Regulation [mV]	1	Input Volt. : 85～132V, Load Current:4.3A
Load Regulation [mV]	6	Input Volt. : 100V, Load Current:0.0～4.3A

COSEL

Model	LEA100F-24	Temperature 25℃ Testing Circuitry Figure B
Item	Leakage Current 漏洩電流	
Object		

1. Results

Standards	Leakage Current [mA]		
	Input Volt. 85 [V]	Input Volt. 100 [V]	Input Volt. 132 [V]
(A) DENTORI	0.15	0.18	0.24
(B) IEC60950	0.15	0.18	0.24

2. Condition

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

交流入力 of 両相について測定し、その大きい方を漏洩電流測定値とする。

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

COSEL

Model	LEA100F-24	Temperature 25°C Testing Circuitry Figure C
Item	Line Noise Tolerance 入力雑音耐量	
Object	+24V4.3A	

1. Results

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

Conditions

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

COSEL

Model	LEA100F-24	Temperature	25°C
Item	Conducted Emission 雑音端子電圧	Testing Circuitry	Figure D
Object			

1. Graph

Remarks

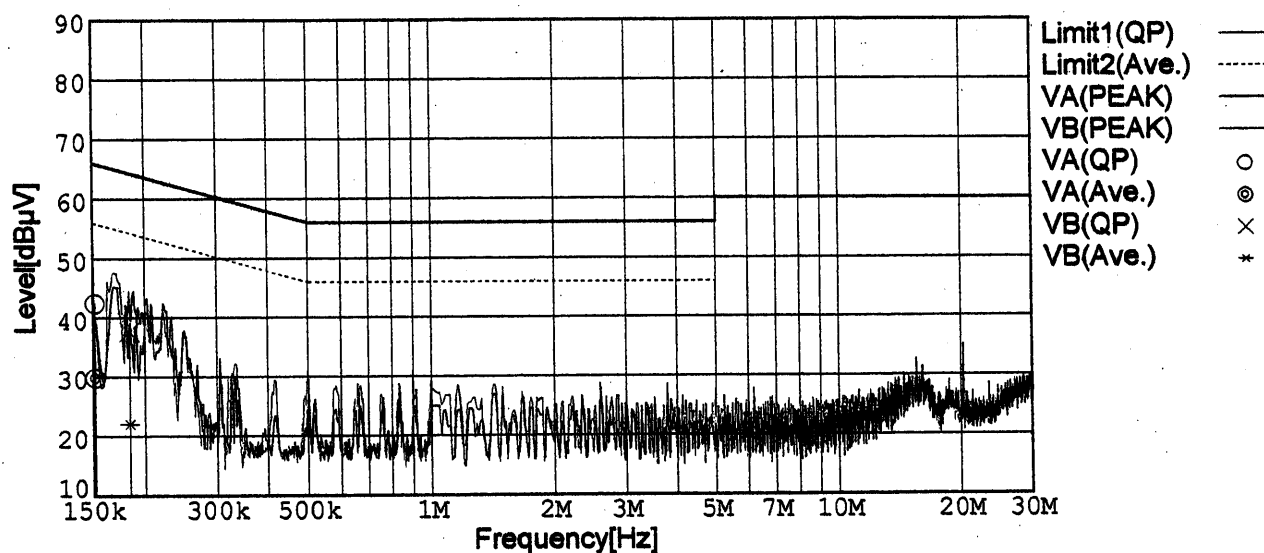
Input Volt. 100V (VCCI Class B)

120V (FCC Class B)

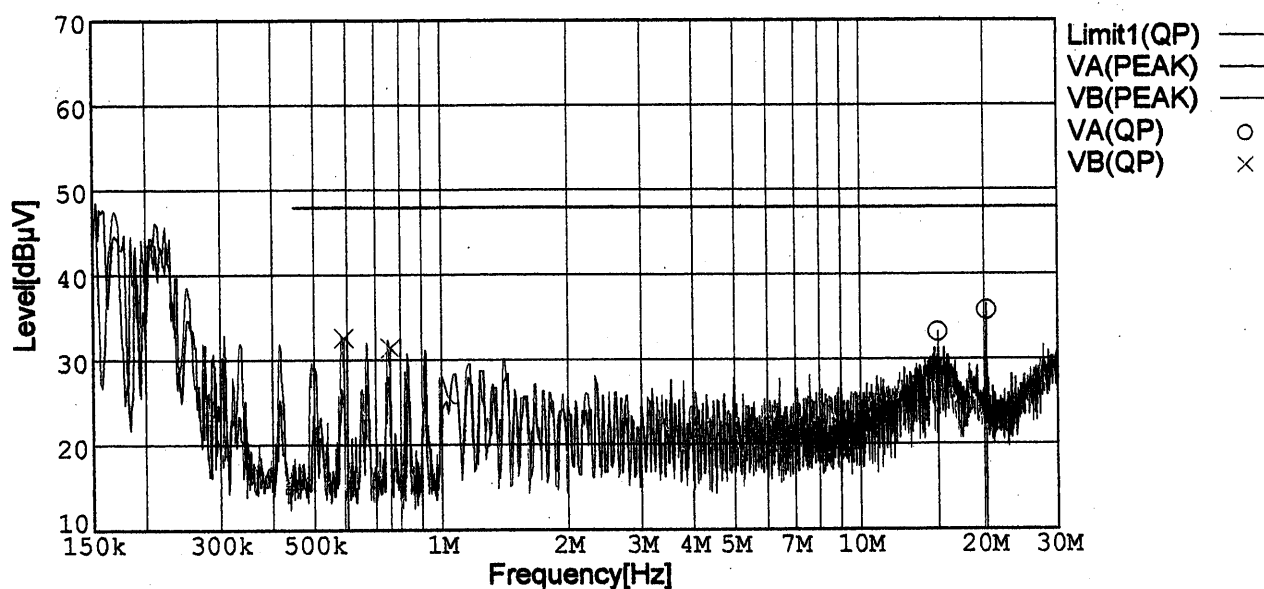
Load 100 %

Limit1: [VCCI] Class B(QP)

Limit2: [VCCI] Class B(Ave.)



Limit1: [FCC Part15] Class B



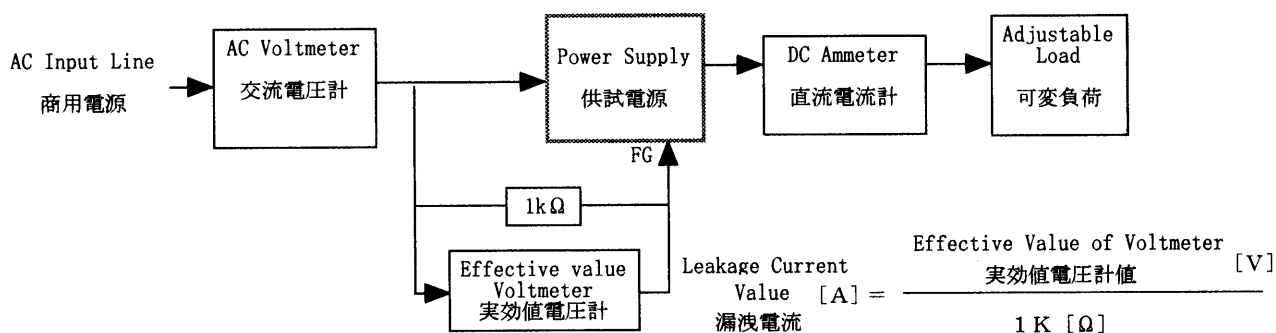
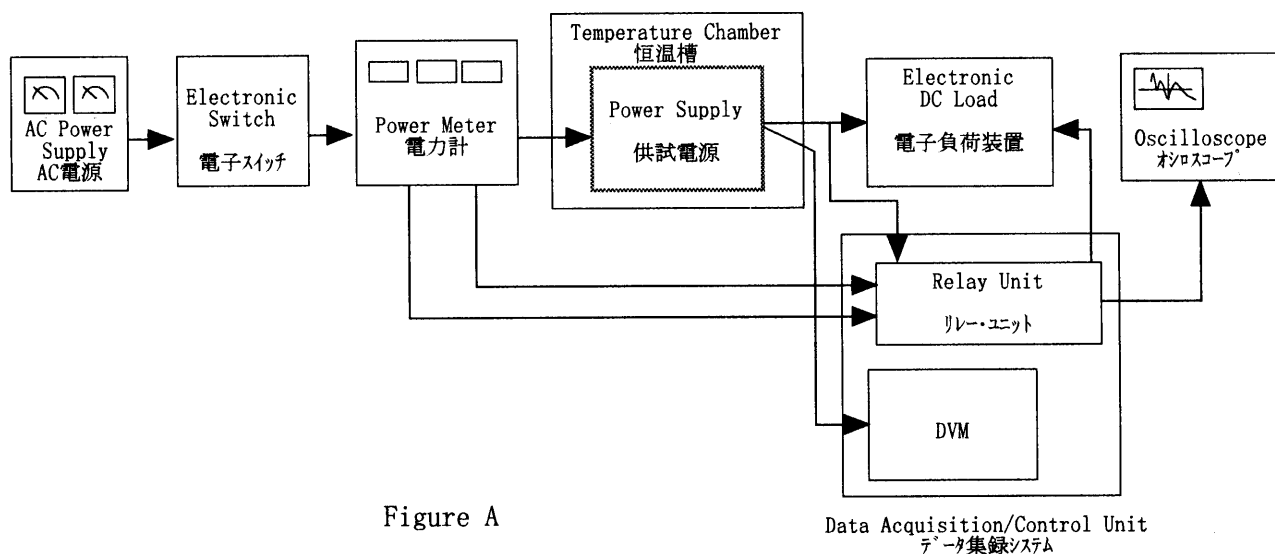


Figure B (DENTORI)

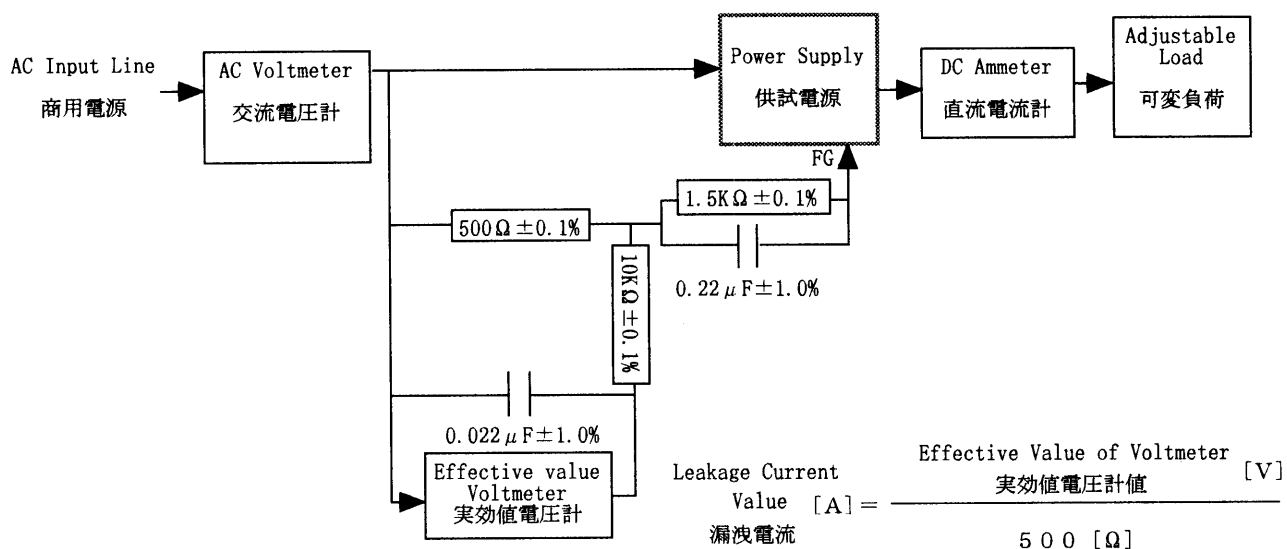


Figure B (IEC60950)

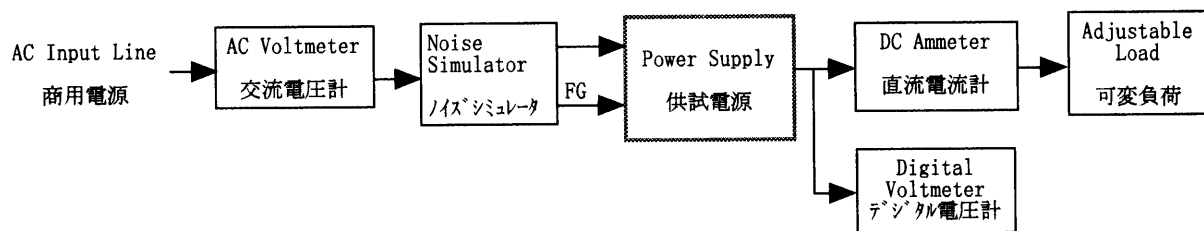


Figure C

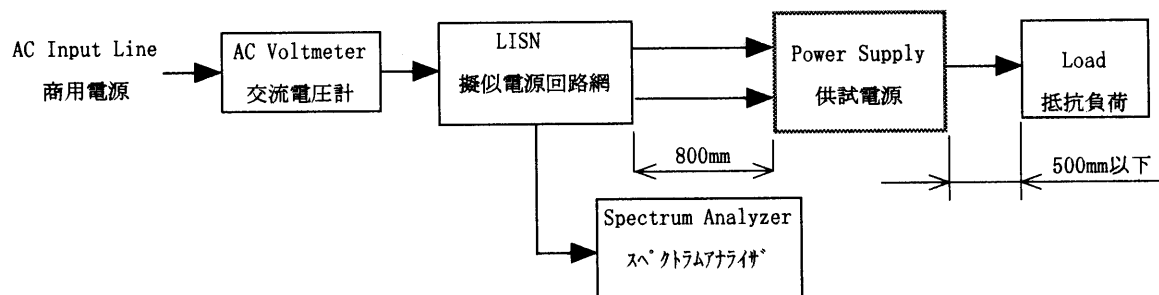


Figure D

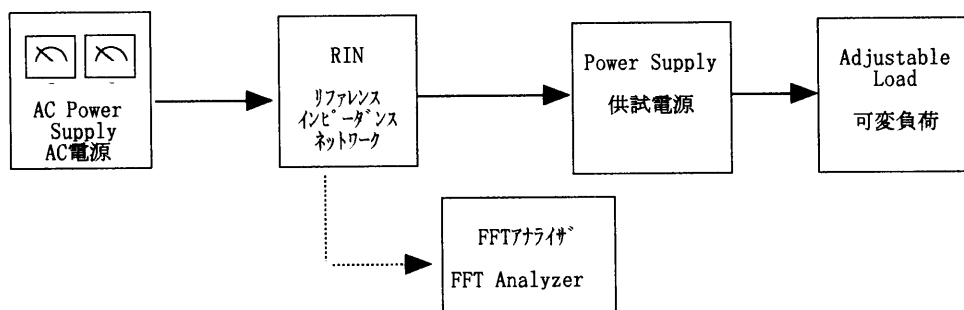


Figure E