



# TEST DATA OF LCA30S-24 (100V INPUT)

Regulated DC Power Supply

Date : Aug. 4. 1999

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**コーセル株式会社**

**COSEL CO., LTD.**

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Model	LCA30S-24	
Item	Line Regulation  静的入力変動	
Object	+24.0V1.3A	
1. Graph	<div><div><div>□</div>Load 50%</div><div><div>△</div>Load 100%</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></di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Model		LCA30S-24		Temperature		25°C																																																								
Item		Input Current (by Load Current) 入力電流 (負荷特性)		Testing Circuitry		Figure A																																																								
Output																																																														
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<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>Input Current [A]</div><div>1</div><div>0.8</div><div>0.6</div><div>0.4</div><div>0.2</div><div>0</div></div><div><div>0</div><div>0.5</div><div>1</div><div>1.5</div><div>2</div></div><div>Load Current [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></div>				<table><tr><th rowspan="2">Load Current [A]</th><th colspan="3">Input Current [A]</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>0.061</td><td>0.064</td><td>0.049</td></tr><tr><td>0.20</td><td>0.173</td><td>0.165</td><td>0.157</td></tr><tr><td>0.40</td><td>0.282</td><td>0.259</td><td>0.229</td></tr><tr><td>0.60</td><td>0.389</td><td>0.351</td><td>0.302</td></tr><tr><td>0.80</td><td>0.497</td><td>0.444</td><td>0.376</td></tr><tr><td>1.00</td><td>0.604</td><td>0.536</td><td>0.447</td></tr><tr><td>1.20</td><td>0.712</td><td>0.630</td><td>0.521</td></tr><tr><td>1.30</td><td>0.766</td><td>0.677</td><td>0.558</td></tr><tr><td>1.43</td><td>0.837</td><td>0.739</td><td>0.605</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 Current [A]			Input Volt. 85[V]	Input Volt. 100[V]	Input Volt. 132[V]	0.00	0.061	0.064	0.049	0.20	0.173	0.165	0.157	0.40	0.282	0.259	0.229	0.60	0.389	0.351	0.302	0.80	0.497	0.444	0.376	1.00	0.604	0.536	0.447	1.20	0.712	0.630	0.521	1.30	0.766	0.677	0.558	1.43	0.837	0.739	0.605	—	—	—	—	—	—	—	—	—	—	—	—
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**COSEL**

Model		LCA30S-24	
Item		Efficiency 効率	
Object			

1. Graph

□

Load 50%

△

Load 100%

Efficiency [%]

86

82

78

74

70

66

62

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]	Efficiency [%]	
	Load 50%	Load 100%
75	80.3	81.1
80	80.2	81.9
85	79.9	82.3
90	79.4	82.3
100	78.6	82.6
110	77.5	82.5
120	76.1	82.1
132	74.4	81.8
140	73.2	81.2

**COSEL**

Model		LCA30S-24		Temperature		25℃																																																								
Item		Efficiency (by Load Current) 効率（負荷電流特性）		Testing Circuitry		Figure A																																																								
Output		_____																																																												
1. Graph				2. Values																																																										
<div><div>—△—</div>Input Volt. 85V</div> <div><div>—□—</div>Input Volt. 100V</div> <div><div>—○—</div>Input Volt. 132V</div> <div><p>Efficiency [%]</p><p>Load Current [A]</p><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">Efficiency [%]</th></tr><tr><th>Input Volt. 85[V]</th><th>Input Volt. 100[V]</th><th>Input Volt. 132[V]</th></tr><tr><td>0.20</td><td>66.4</td><td>62.5</td><td>53.3</td></tr><tr><td>0.40</td><td>75.1</td><td>73.1</td><td>67.4</td></tr><tr><td>0.60</td><td>79.0</td><td>77.7</td><td>73.2</td></tr><tr><td>0.80</td><td>81.0</td><td>80.3</td><td>77.2</td></tr><tr><td>1.00</td><td>81.7</td><td>81.5</td><td>79.6</td></tr><tr><td>1.20</td><td>82.0</td><td>82.3</td><td>81.2</td></tr><tr><td>1.30</td><td>82.1</td><td>82.5</td><td>81.7</td></tr><tr><td>1.43</td><td>82.0</td><td>82.6</td><td>82.2</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]	Efficiency [%]			Input Volt. 85[V]	Input Volt. 100[V]	Input Volt. 132[V]	0.20	66.4	62.5	53.3	0.40	75.1	73.1	67.4	0.60	79.0	77.7	73.2	0.80	81.0	80.3	77.2	1.00	81.7	81.5	79.6	1.20	82.0	82.3	81.2	1.30	82.1	82.5	81.7	1.43	82.0	82.6	82.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Load Current [A]	Efficiency [%]																																																													
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**COSEL**

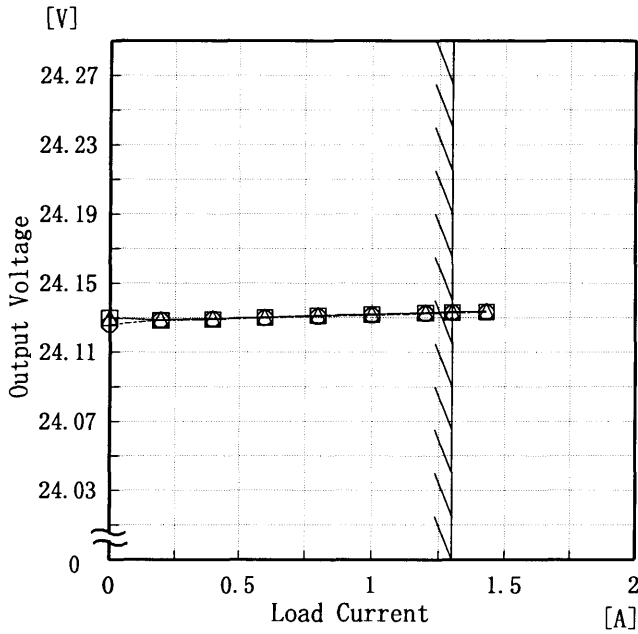
Model		LCA30S-24		Temperature		25°C																																	
Item		Hold-Up Time 出力保持時間		Testing Circuitry		Figure A																																	
Object		+24.0V 1.3A																																					
1. Graph				2. Values																																			
<div><div><div>□</div><div>Load 50%</div></div><div><div>△</div><div>Load 100%</div></div></div> <div><div>Hold-Up Time [mS]</div><div><div><div>1000</div><div>100</div><div>10</div><div>1</div></div><div><div>08090100110120130140150</div><div>Input Voltage [V]</div></div></div></div>				<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>75</td><td>42</td><td>18</td></tr><tr><td>80</td><td>48</td><td>21</td></tr><tr><td>85</td><td>54</td><td>24</td></tr><tr><td>90</td><td>61</td><td>27</td></tr><tr><td>100</td><td>77</td><td>35</td></tr><tr><td>110</td><td>93</td><td>44</td></tr><tr><td>120</td><td>111</td><td>54</td></tr><tr><td>132</td><td>135</td><td>67</td></tr><tr><td>140</td><td>152</td><td>76</td></tr></table>				Input Voltage [V]	Hold-Up Time [mS]		Load 50%	Load 100%	75	42	18	80	48	21	85	54	24	90	61	27	100	77	35	110	93	44	120	111	54	132	135	67	140	152	76
Input Voltage [V]	Hold-Up Time [mS]																																						
	Load 50%	Load 100%																																					
75	42	18																																					
80	48	21																																					
85	54	24																																					
90	61	27																																					
100	77	35																																					
110	93	44																																					
120	111	54																																					
132	135	67																																					
140	152	76																																					
<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		LCA30S-24		Temperature		25℃																																																				
Item		Instantaneous Interruption Compensation 瞬時停電保障		Testing Circuitry		Figure A																																																				
Object		+24.0V1.3A																																																								
1. Graph				2. Values																																																						
<div><div>△</div>Input Volt. 85 V</div> <div><div>□</div>Input Volt. 100 V</div> <div><div>○</div>Input Volt. 132 V</div> <div><div>Instantaneous Compensation Time [mS]</div><div><div>1000</div><div>100</div><div>10</div><div>1</div><div>0</div><div>0.5</div><div>1</div><div>1.5</div><div>Load Current [A]</div></div></div>				<table><tr><th rowspan="2">Load Current [A]</th><th colspan="3">Time [mS]</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>—</td><td>—</td><td>—</td></tr><tr><td>0.20</td><td>163</td><td>223</td><td>372</td></tr><tr><td>0.40</td><td>84</td><td>118</td><td>207</td></tr><tr><td>0.60</td><td>55</td><td>79</td><td>142</td></tr><tr><td>0.80</td><td>39</td><td>57</td><td>107</td></tr><tr><td>1.00</td><td>29</td><td>44</td><td>85</td></tr><tr><td>1.20</td><td>22</td><td>34</td><td>69</td></tr><tr><td>1.30</td><td>18</td><td>30</td><td>62</td></tr><tr><td>1.43</td><td>14</td><td>23</td><td>55</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. 85[V]	Input Volt. 100[V]	Input Volt. 132[V]	0.00	—	—	—	0.20	163	223	372	0.40	84	118	207	0.60	55	79	142	0.80	39	57	107	1.00	29	44	85	1.20	22	34	69	1.30	18	30	62	1.43	14	23	55	—	—	—	—	—	—	—	—
Load Current [A]	Time [mS]																																																									
	Input Volt. 85[V]	Input Volt. 100[V]	Input Volt. 132[V]																																																							
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0.40	84	118	207																																																							
0.60	55	79	142																																																							
0.80	39	57	107																																																							
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**COSEL**

Model		LCA30S-24		Temperature		25℃																																																
Item		Load Regulation 静的負荷変動		Testing Circuitry		Figure A																																																
Object		+24.0V1.3A																																																				
1. Graph				2. Values																																																		
<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> 				<table><tr><th rowspan="2">Load Current [A]</th><th colspan="3">Output Voltage [V]</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>24.130</td><td>24.130</td><td>24.126</td></tr><tr><td>0.20</td><td>24.129</td><td>24.128</td><td>24.129</td></tr><tr><td>0.40</td><td>24.130</td><td>24.129</td><td>24.129</td></tr><tr><td>0.60</td><td>24.130</td><td>24.130</td><td>24.130</td></tr><tr><td>0.80</td><td>24.131</td><td>24.131</td><td>24.131</td></tr><tr><td>1.00</td><td>24.132</td><td>24.132</td><td>24.132</td></tr><tr><td>1.20</td><td>24.133</td><td>24.133</td><td>24.132</td></tr><tr><td>1.30</td><td>24.133</td><td>24.133</td><td>24.133</td></tr><tr><td>1.43</td><td>24.134</td><td>24.133</td><td>24.133</td></tr><tr><td>—</td><td>—</td><td>—</td><td>—</td></tr></table>				Load Current [A]	Output Voltage [V]			Input Volt. 85[V]	Input Volt. 100[V]	Input Volt. 132[V]	0.00	24.130	24.130	24.126	0.20	24.129	24.128	24.129	0.40	24.130	24.129	24.129	0.60	24.130	24.130	24.130	0.80	24.131	24.131	24.131	1.00	24.132	24.132	24.132	1.20	24.133	24.133	24.132	1.30	24.133	24.133	24.133	1.43	24.134	24.133	24.133	—	—	—	—
Load Current [A]	Output Voltage [V]																																																					
	Input Volt. 85[V]	Input Volt. 100[V]	Input Volt. 132[V]																																																			
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0.60	24.130	24.130	24.130																																																			
0.80	24.131	24.131	24.131																																																			
1.00	24.132	24.132	24.132																																																			
1.20	24.133	24.133	24.132																																																			
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(注)斜線は定格負荷電流範囲を示す。																																																						

# COSEL

Model

LCA30S-24

Item

Ripple Voltage (by Load Current)  
リップル電圧(負荷電流特性)

Temperature

25°C

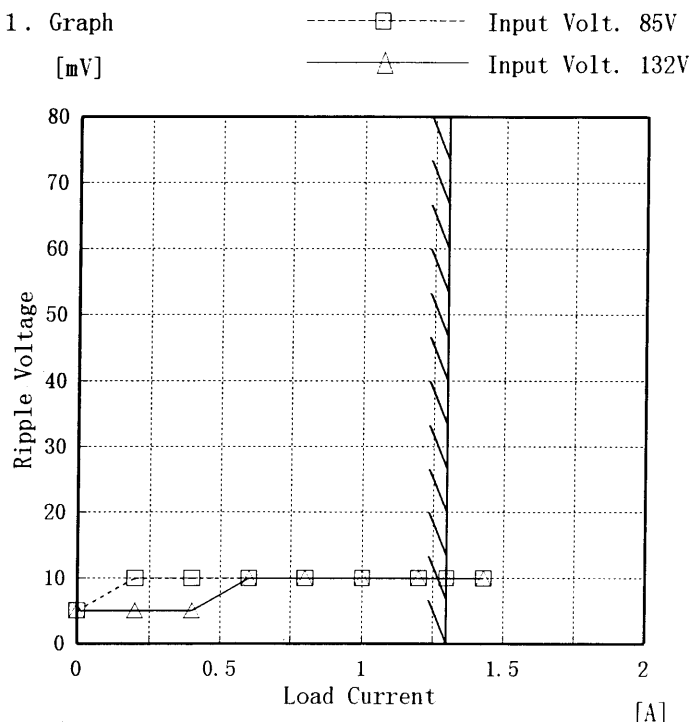
Testing Circuitry

Figure A

Object

+24.0V 1.3A

## 1. Graph



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

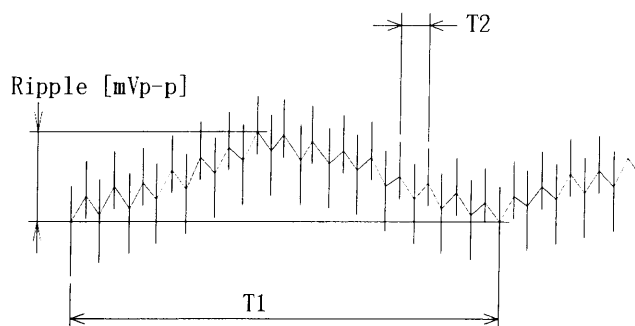


Fig. Complex Ripple Wave Form

図 リップル波形詳細図

## 2. Values

Load Current [A]	Input Volt. 85 [V]	Input Volt. 132 [V]
	Ripple Output Volt. [mV]	Ripple Output Volt. [mV]
0.00	5	5
0.20	10	5
0.40	10	5
0.60	10	10
0.80	10	10
1.00	10	10
1.20	10	10
1.30	10	10
1.43	10	10
—	—	—
—	—	—

# COSEL

Model		LCA30S-24	
Item		Ripple-Noise   リップルノイズ	
Object		+24.0V1.3A	

1. Graph

-----□-----

Input Volt. 85V

-----△-----

Input Volt. 132V

[mV]

100

90

80

70

60

50

40

30

20

10

0

Ripple-Noise

[mV]

0

0.5

1

1.5

2

Load Current

[A]

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

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

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。

T1: Due to AC Input Line

入力商用周期

T2: Due to Switching

スイッチング周期

T2

Ripple-Noise

[mVp-p]

T1

Fig. Complex Ripple Wave Form

図   リップル波形詳細図

Temperature	25℃
Testing Circuitry	Figure A

2. Values

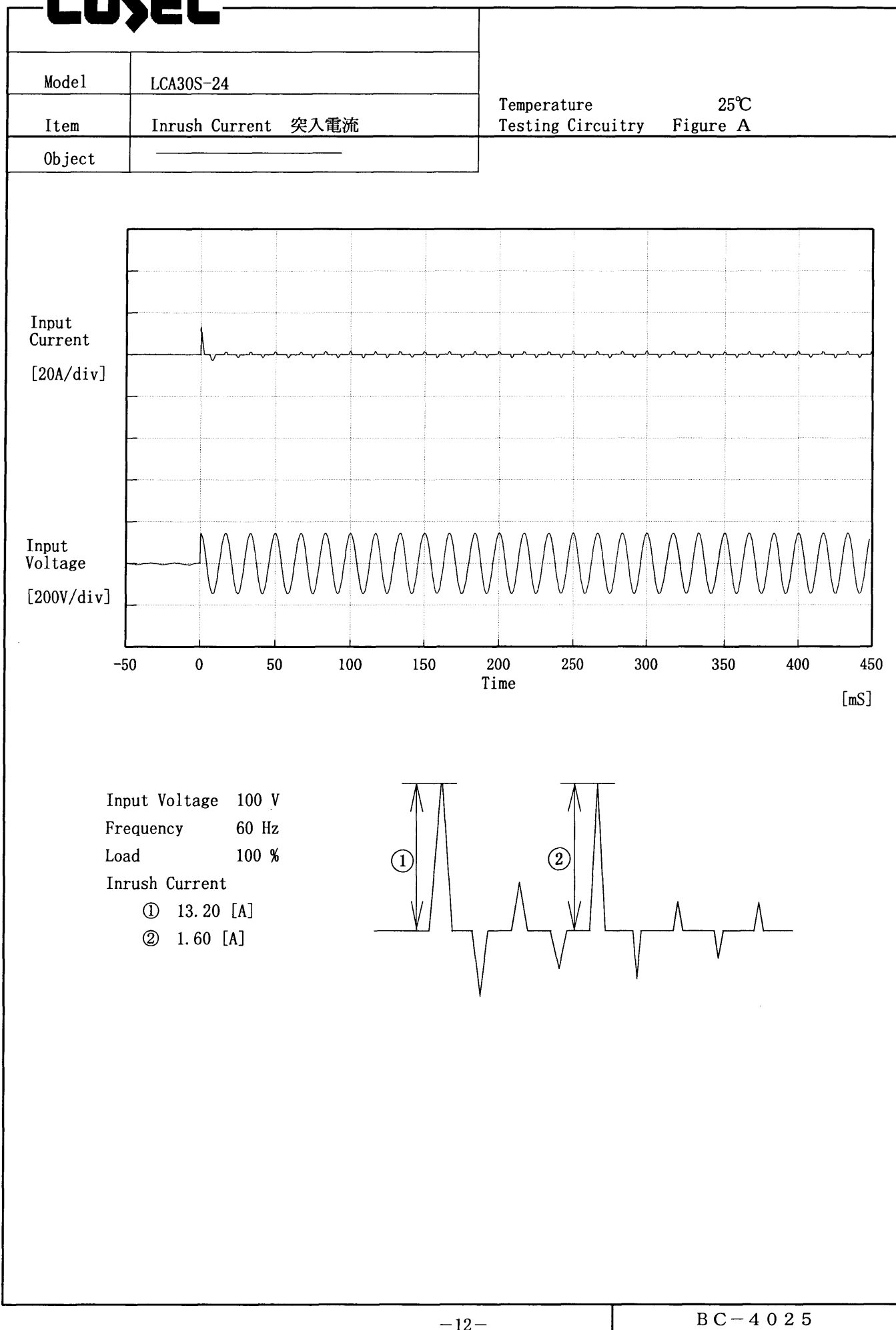
Load current [A]	Input Volt. 85 [V]	Input Volt. 132 [V]
	Ripple-Noise [mV]	Ripple-Noise [mV]
0.00	10	10
0.20	15	10
0.40	15	10
0.60	15	15
0.80	15	15
1.00	15	15
1.20	15	15
1.30	15	15
1.43	15	15
—	—	—
—	—	—

**COSEL**

COSEL																																																										
Model	LCA30S-24	Temperature 25℃ Testing Circuitry Figure A																																																								
Item	Overcurrent Protection 過電流保護																																																									
Object	+24.0V1.3A																																																									
1. Graph		2. Values																																																								
<div><div><div>-----</div><div>-----</div><div>-----</div></div><div><div>Input Volt. 85 V</div><div>Input Volt. 100 V</div><div>Input Volt. 132 V</div></div></div> <div><div>[V]</div><div>40.0</div><div>30.0</div><div>20.0</div><div>10.0</div><div>0.0</div><div>Output Voltage</div></div> <div><div>00.511.52</div><div>Load Current</div><div>[A]</div></div>		<table><tr><th rowspan="2">Output Voltage [V]</th><th colspan="3">Load Current [A]</th></tr><tr><th>Input Volt. 85[V]</th><th>Input Volt. 100[V]</th><th>Input Volt. 132[V]</th></tr><tr><td>24.00</td><td>1.66</td><td>1.64</td><td>1.63</td></tr><tr><td>22.80</td><td>1.66</td><td>1.65</td><td>1.64</td></tr><tr><td>21.60</td><td>1.67</td><td>1.65</td><td>1.64</td></tr><tr><td>19.20</td><td>1.68</td><td>1.65</td><td>1.63</td></tr><tr><td>16.80</td><td>1.68</td><td>1.64</td><td>1.62</td></tr><tr><td>14.40</td><td>1.66</td><td>1.63</td><td>1.60</td></tr><tr><td>12.00</td><td>1.63</td><td>1.59</td><td>1.57</td></tr><tr><td>9.60</td><td>1.58</td><td>1.53</td><td>1.52</td></tr><tr><td>7.20</td><td>1.48</td><td>1.45</td><td>1.44</td></tr><tr><td>4.80</td><td>1.35</td><td>1.32</td><td>1.33</td></tr><tr><td>2.40</td><td>1.13</td><td>1.12</td><td>1.14</td></tr><tr><td>0.00</td><td>0.85</td><td>0.86</td><td>0.91</td></tr></table>		Output Voltage [V]	Load Current [A]			Input Volt. 85[V]	Input Volt. 100[V]	Input Volt. 132[V]	24.00	1.66	1.64	1.63	22.80	1.66	1.65	1.64	21.60	1.67	1.65	1.64	19.20	1.68	1.65	1.63	16.80	1.68	1.64	1.62	14.40	1.66	1.63	1.60	12.00	1.63	1.59	1.57	9.60	1.58	1.53	1.52	7.20	1.48	1.45	1.44	4.80	1.35	1.32	1.33	2.40	1.13	1.12	1.14	0.00	0.85	0.86	0.91
Output Voltage [V]	Load Current [A]																																																									
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(注)斜線は定格負荷電流範囲を示す。

**COSEL**

**COSEL**

Model	LCA30S-24	Temperature 25°C Testing Circuitry Figure A
Item	Dynamic Load Responce 動的負荷変動	
Object	+24.0V1.3A	

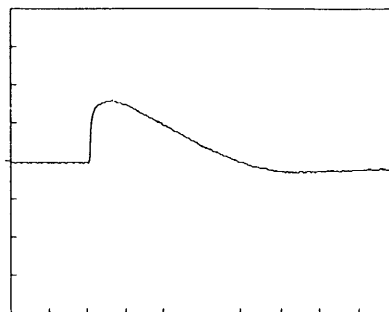
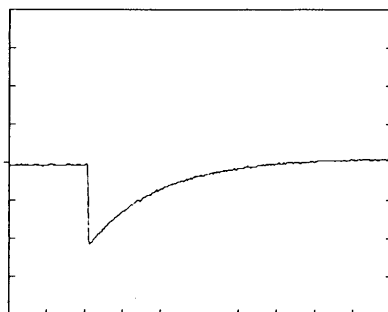
Input Volt. 100 V

Cycle 1000 mS

Load Current

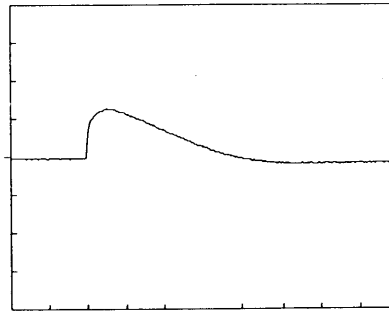
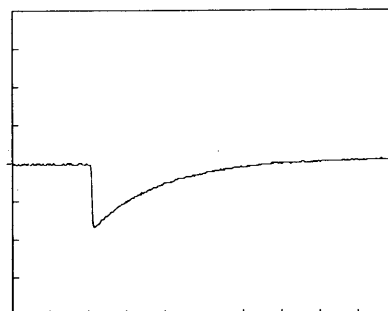
Load 0% ↔

Load 100 %



Load 0% ↔

Load 50 %



200 mV/div

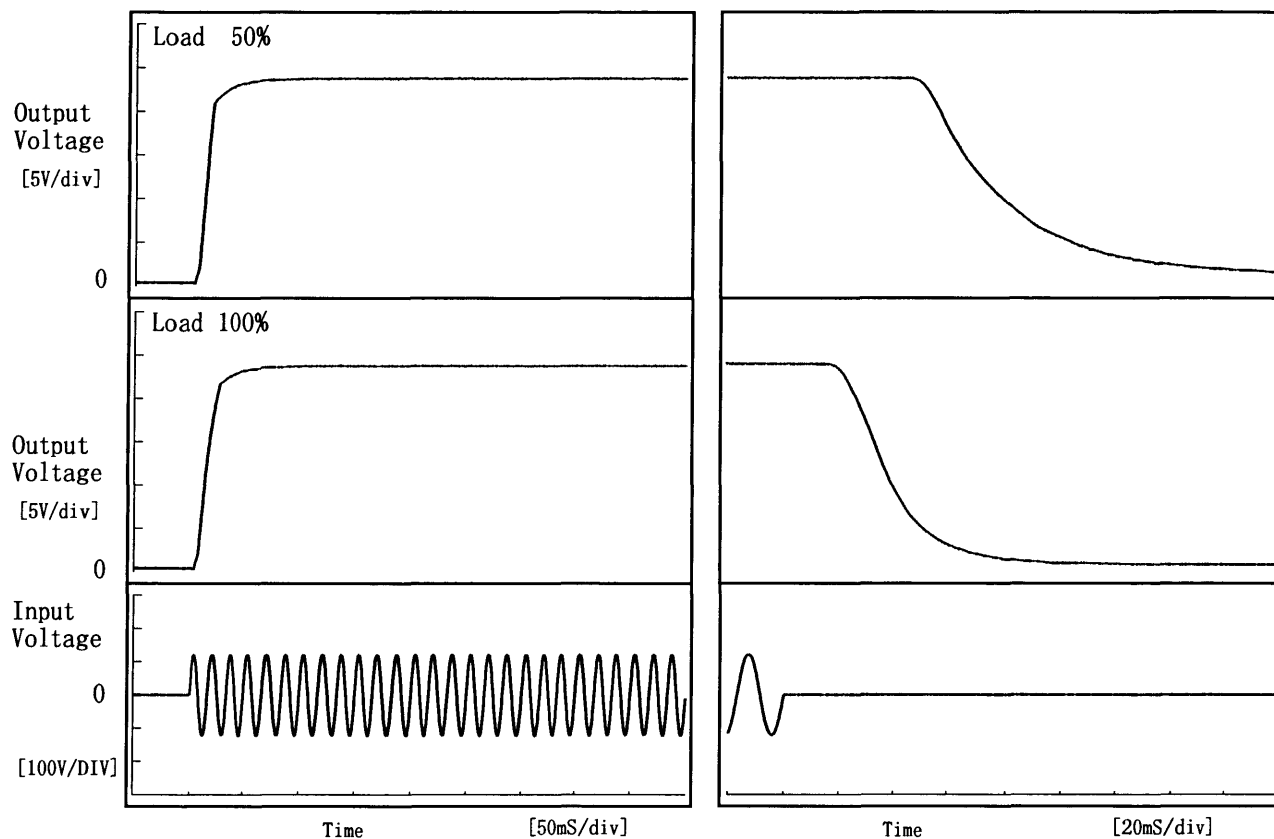
10 mS/div

**COSEL**

Model	LCA30S-24	Temperature	25°C
Item	Rise and Fall Time 立上り、立下り時間	Testing Circuitry	Figure A
Object	+24.0V1.3A		

## 1. Graph

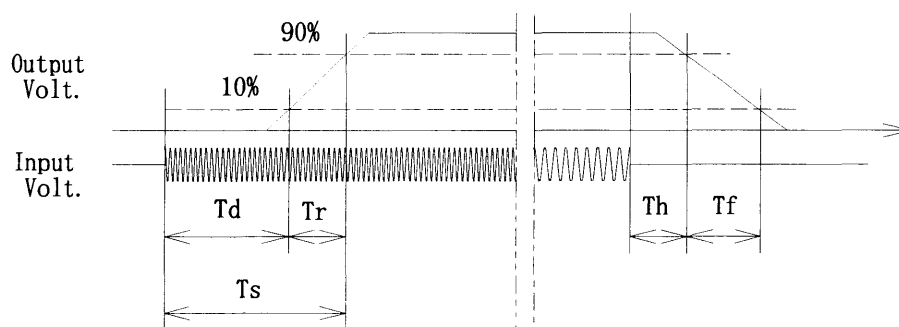
Input Volt. 85 V



## 2. Values

[mS]

Load \ Time	T d	T r	T s	T h	T f
50 %	8.0	18.5	26.5	54.6	83.0
100 %	8.3	19.5	27.8	23.9	41.5





**COSEL**

Model		LCA30S-24		Testing Circuitry    Figure A																																																		
Item		Ambient Temperature Drift 周囲温度変動																																																				
Object		+24.0V 1.3A																																																				
1. Graph		<div><div>—△—</div>Input Volt. 85V</div> <div><div>—□—</div>Input Volt. 100V</div> <div><div>—○—</div>Input Volt. 132V</div>		2. Values																																																		
<div>[V]</div> <div><p>Output Voltage</p><p>Ambient Temperature</p><p>Load    100%</p></div>		<table><tr><th rowspan="2">Temperature [°C]</th><th colspan="3">Output Voltage [V]</th></tr><tr><th>Input Volt. 85[V]</th><th>Input Volt. 100[V]</th><th>Input Volt. 132[V]</th></tr><tr><td>-20</td><td>24.185</td><td>24.185</td><td>24.185</td></tr><tr><td>-10</td><td>24.178</td><td>24.177</td><td>24.177</td></tr><tr><td>0</td><td>24.169</td><td>24.169</td><td>24.168</td></tr><tr><td>10</td><td>24.158</td><td>24.158</td><td>24.157</td></tr><tr><td>20</td><td>24.146</td><td>24.145</td><td>24.144</td></tr><tr><td>25</td><td>24.138</td><td>24.138</td><td>24.137</td></tr><tr><td>30</td><td>24.131</td><td>24.131</td><td>24.130</td></tr><tr><td>40</td><td>24.118</td><td>24.118</td><td>24.117</td></tr><tr><td>50</td><td>24.102</td><td>24.102</td><td>24.101</td></tr><tr><td>60</td><td>24.085</td><td>24.084</td><td>24.084</td></tr><tr><td>—</td><td>—</td><td>—</td><td>—</td></tr></table>		Temperature [°C]	Output Voltage [V]			Input Volt. 85[V]	Input Volt. 100[V]	Input Volt. 132[V]	-20	24.185	24.185	24.185	-10	24.178	24.177	24.177	0	24.169	24.169	24.168	10	24.158	24.158	24.157	20	24.146	24.145	24.144	25	24.138	24.138	24.137	30	24.131	24.131	24.130	40	24.118	24.118	24.117	50	24.102	24.102	24.101	60	24.085	24.084	24.084	—	—	—	—
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Model		LCA30S-24																																						
Item		Minimum Input Voltage for Regulated Output Voltage 最低レギュレーション電圧																																						
Object		+24.0V1.3A																																						
1. Graph		<div> <div>□</div> Load 50% <div>△</div> Load 100% </div> <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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Ambient Temperature [°C]	Input Voltage [V]																																							
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# COSEL

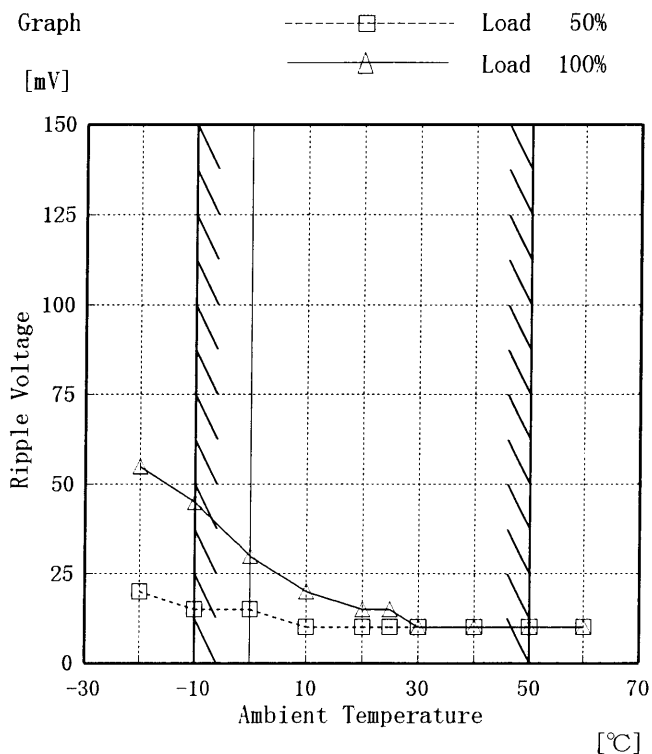
Model LCA30S-24

Item Ripple Voltage (by Ambient Temp.)  
リップル電圧 (周囲温度特性)

Object +24.0V1.3A

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

Ambient Temp. [°C]	Load 50%	Load 100%
	Ripple Output Volt. [mV]	Ripple Output Volt. [mV]
-20	20	55
-10	15	45
0	15	30
10	10	20
20	10	15
25	10	15
30	10	10
40	10	10
50	10	10
60	10	10
—	—	—

# COSEL

COSEL																									
Model	LCA30S-24	Temperature 25℃ Testing Circuitry Figure A																							
Item	Time Lapse Drift 経時ドリフト																								
Object	+24.0V1.3A																								
1. Graph		2.Values																							
<div>[V]</div> <div><p>Output Voltage</p><p>Time [H]</p><p>Input Volt. 100V Load 100%</p></div>		<table><tr><th>Time since start [H]</th><th>Output Voltage [V]</th></tr><tr><td>0.0</td><td>24.150</td></tr><tr><td>0.5</td><td>24.135</td></tr><tr><td>1.0</td><td>24.135</td></tr><tr><td>2.0</td><td>24.135</td></tr><tr><td>3.0</td><td>24.135</td></tr><tr><td>4.0</td><td>24.134</td></tr><tr><td>5.0</td><td>24.134</td></tr><tr><td>6.0</td><td>24.134</td></tr><tr><td>7.0</td><td>24.135</td></tr><tr><td>8.0</td><td>24.134</td></tr></table>		Time since start [H]	Output Voltage [V]	0.0	24.150	0.5	24.135	1.0	24.135	2.0	24.135	3.0	24.135	4.0	24.134	5.0	24.134	6.0	24.134	7.0	24.135	8.0	24.134
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**COSEL**

Model		LCA30S-24	Testing Circuitry Figure A
Item		Output Voltage Accuracy 定電圧精度	
Object		+24.0V1.3A	

## 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 : 0~1.3 A

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

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

## 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 85~132 V

負荷電流 0~1.3 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	-10	85	1.3	24.178	±41	±0.2
Minimum Voltage	50	132	0.0	24.096		

# COSEL

		Testing Circuitry      Figure A
Model	LCA30S-24	
Item	Condensation 結露特性	
Object	+24.0V1.3A	

## 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]	24.132	Input Volt.:100V, Load Current:1.3A
Line Regulation [mV]	3	Input Volt.:85~132V, Load Current:1.3A
Load Regulation [mV]	9	Input Volt.:100V, Load Current:0~1.3A

Model	LCA30S-24	Temperature	25℃
Item	Leakage Current 漏洩電流	Testing Circuitry	Figure B
Object	_____		

## 1. Results

Standards	Leakage Current [mA]		
	Input Volt. 85 [V]	Input Volt. 100 [V]	Input Volt. 132 [V]
(A) DENTORI	0.09	0.11	0.14
(B) IEC60950	0.09	0.11	0.14

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

## 2. Condition

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

交流入力の高相について測定し、その大きい方を漏洩電流測定値とする。

**COSEL**

Model	LCA30S-24	Temperature 25℃ Testing Circuitry Figure C
Item	Line Noise Tolerance 入力雑音耐量	
Object	+24.0V1.3A	

## 1. Results

Pulse Width [ nS ]	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

## 2. Conditions

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



**COSEL**

Model	LCA30S-24	Temperature	25°C
Item	Conducted Emission 雑音端子電圧	Testing Circuitry	Figure D
Object			

## 1. Graph

Remarks

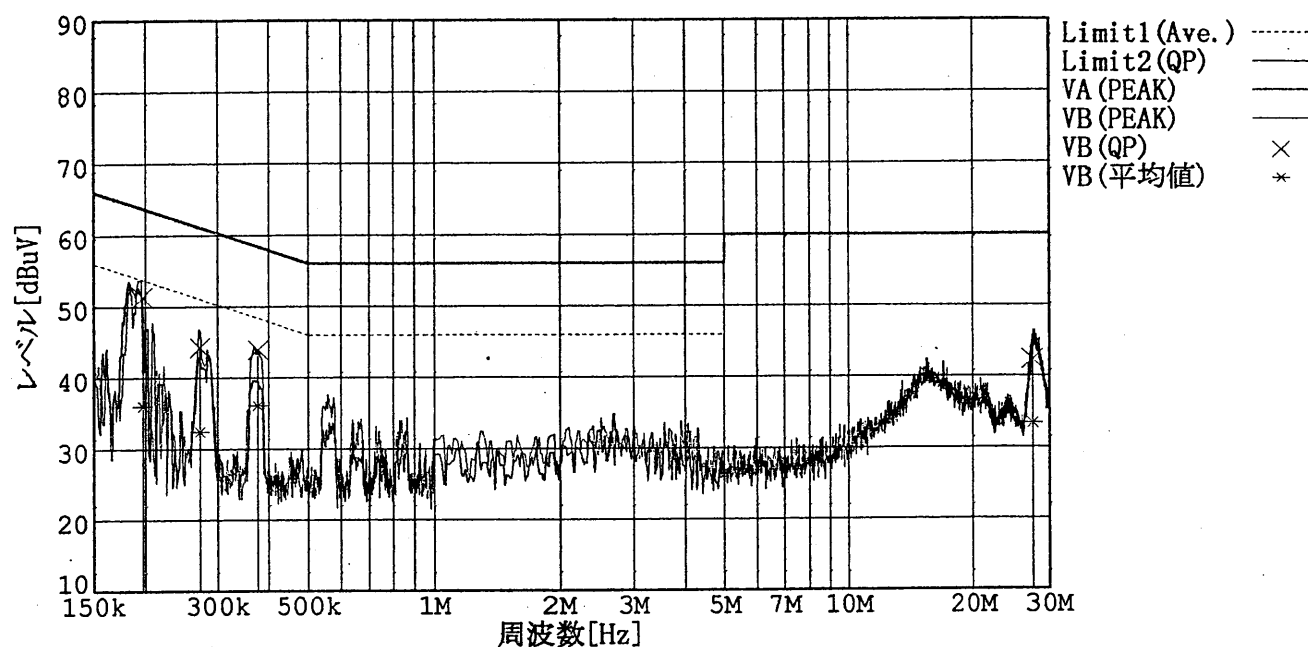
Input Volt. 100 V (VCCI Class B)

120 V (FCC Class B)

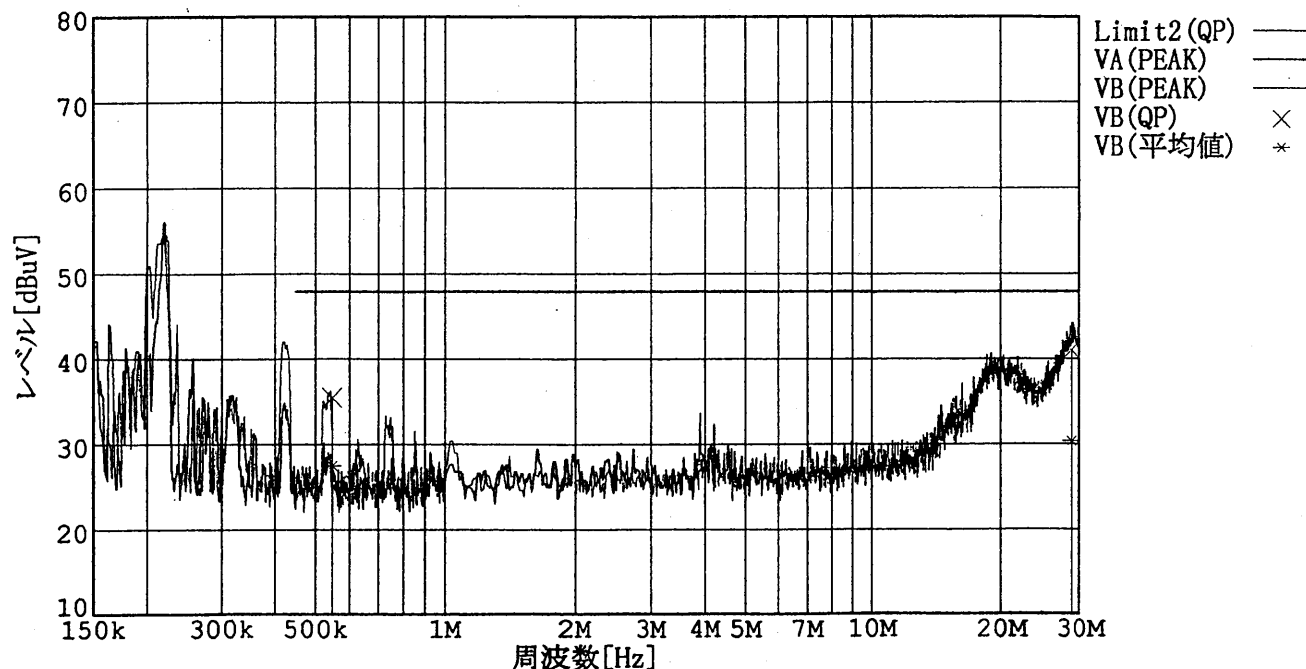
Load 100 %

規格1: [VCCI] Class B(平均値)

規格2: [VCCI] Class B(QP)



規格2: [FCC Part15] Class B



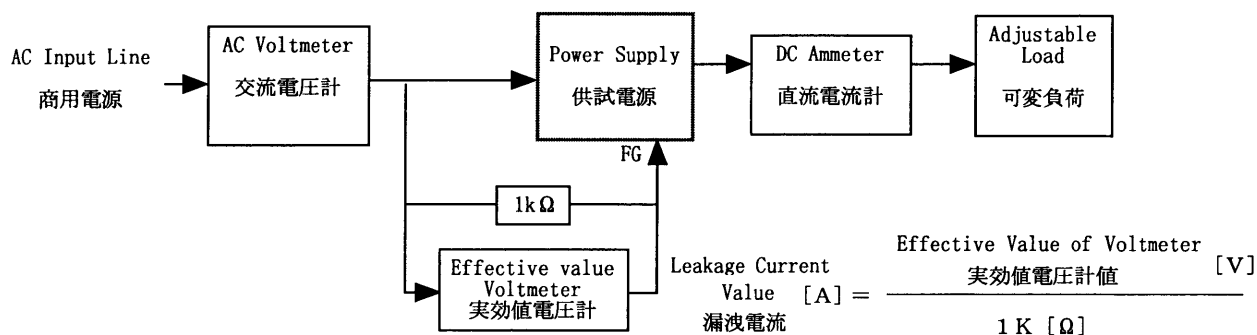
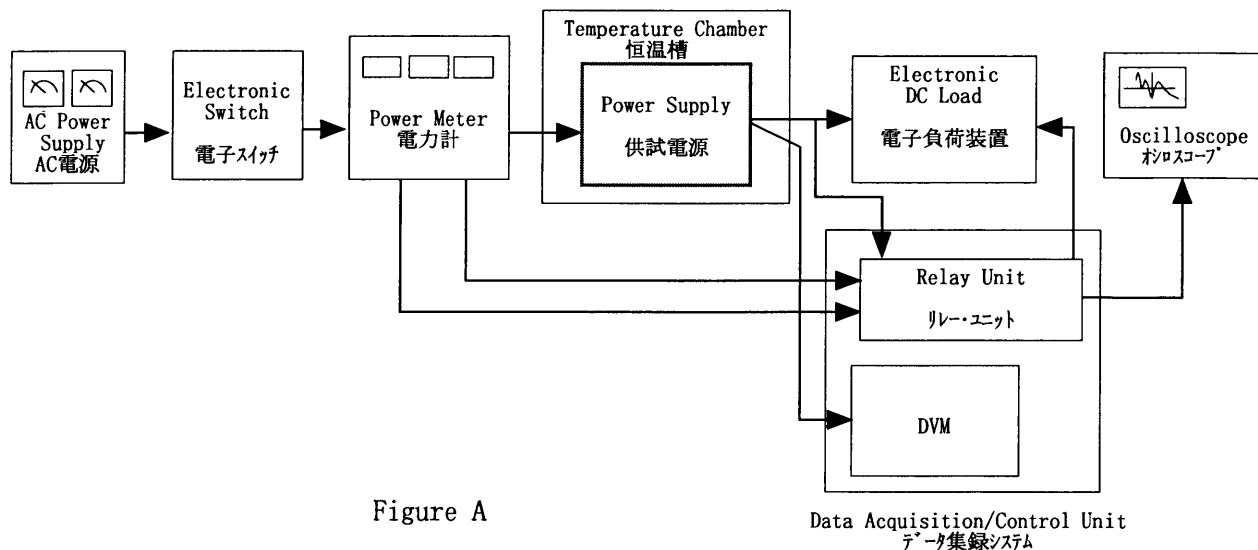


Figure B (DENTORI)

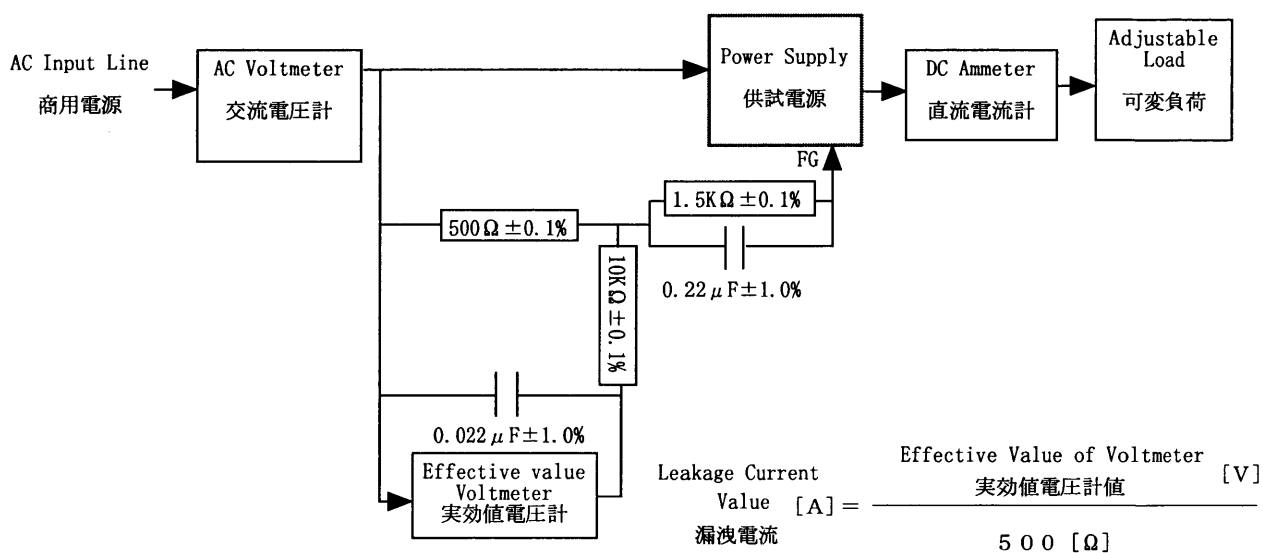


Figure B (IEC 60950)

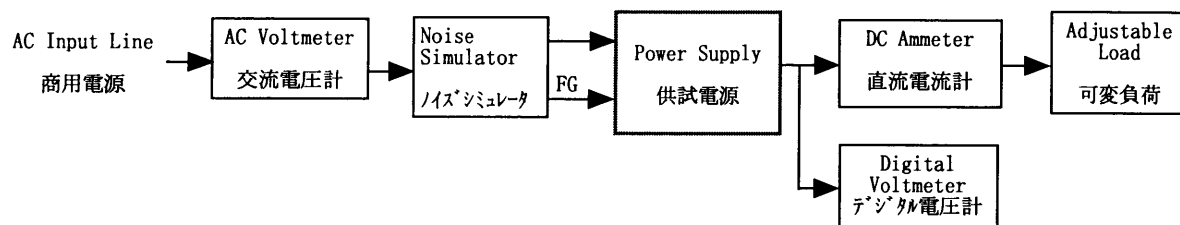


Figure C

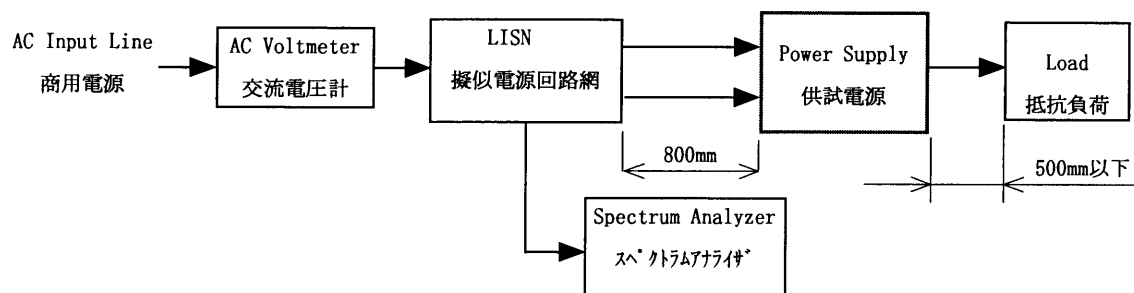


Figure D

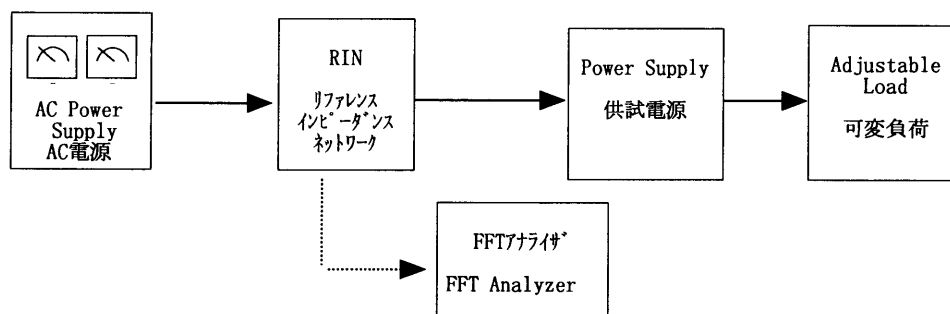


Figure E