



# TEST DATA OF LDA300W-3 (200V INPUT)

Regulated DC Power Supply  
Dec. 7. 2001

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**コーセル株式会社**  
**COSEL CO.,LTD.**

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Model	LDA300W-3																																															
Item	Line Regulation 静的入力変動	Temperature	25℃																																													
Object	+3V60A	Testing Circuitry	Figure A																																													
1. Graph		2. Values																																														
<div><div>---□---</div><div>Load 50%</div></div> <div><div>—△—</div><div>Load 100%</div></div> <table><thead><tr><th>Input Voltage [V]</th><th>Output Voltage [V] (Load 50%)</th><th>Output Voltage [V] (Load 100%)</th></tr></thead><tbody><tr><td>150</td><td>3.025</td><td>3.007</td></tr><tr><td>160</td><td>3.026</td><td>3.007</td></tr><tr><td>170</td><td>3.026</td><td>3.007</td></tr><tr><td>180</td><td>3.026</td><td>3.007</td></tr><tr><td>190</td><td>3.026</td><td>3.007</td></tr><tr><td>200</td><td>3.026</td><td>3.007</td></tr><tr><td>210</td><td>3.026</td><td>3.007</td></tr><tr><td>220</td><td>3.026</td><td>3.007</td></tr><tr><td>230</td><td>3.026</td><td>3.007</td></tr><tr><td>240</td><td>3.026</td><td>3.007</td></tr><tr><td>250</td><td>3.026</td><td>3.007</td></tr><tr><td>260</td><td>3.026</td><td>3.007</td></tr><tr><td>270</td><td>3.026</td><td>3.007</td></tr><tr><td>280</td><td>3.026</td><td>3.007</td></tr></tbody></table>		Input Voltage [V]	Output Voltage [V] (Load 50%)	Output Voltage [V] (Load 100%)	150	3.025	3.007	160	3.026	3.007	170	3.026	3.007	180	3.026	3.007	190	3.026	3.007	200	3.026	3.007	210	3.026	3.007	220	3.026	3.007	230	3.026	3.007	240	3.026	3.007	250	3.026	3.007	260	3.026	3.007	270	3.026	3.007	280	3.026	3.007		
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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。																																																

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Model		LDA300W-3	
Item		Efficiency (by Input Voltage) 効率（入力電圧特性）	
Object			
1. Graph		2. Values	

---

□

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Load 50%

---

△

---

Load 100%

Efficiency [%]

86

82

78

74

70

66

62

58

140

180

220

260

300

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]	Efficiency [%]	
	Load 50%	Load 100%
150	76.9	73.0
160	76.9	73.0
170	76.9	73.3
180	76.2	73.3
200	75.6	73.6
220	75.0	73.6
240	74.3	73.6
264	73.7	73.3
280	72.0	73.3

# COSEL

Model		LDA300W-3		Temperature		25℃																																																				
Item		Efficiency (by Load Current) 効率（負荷特性）		Testing Circuitry		Figure A																																																				
Object		_____																																																								
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<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>Efficiency [%]</div> <div>Load Current [A]</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 [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</td><td>—</td><td>—</td><td>—</td></tr><tr><td>10</td><td>72.1</td><td>68.8</td><td>64.4</td></tr><tr><td>20</td><td>75.7</td><td>74.8</td><td>71.3</td></tr><tr><td>30</td><td>76.2</td><td>76.2</td><td>73.7</td></tr><tr><td>40</td><td>75.9</td><td>75.4</td><td>74.5</td></tr><tr><td>50</td><td>74.9</td><td>74.9</td><td>74.2</td></tr><tr><td>60</td><td>73.3</td><td>73.6</td><td>73.3</td></tr><tr><td>66</td><td>72.3</td><td>73.1</td><td>72.8</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	—	—	—	10	72.1	68.8	64.4	20	75.7	74.8	71.3	30	76.2	76.2	73.7	40	75.9	75.4	74.5	50	74.9	74.9	74.2	60	73.3	73.6	73.3	66	72.3	73.1	72.8	--	—	—	—	--	—	—	—	--	—	—	—
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# COSEL

Model	LDA300W-3																																		
Item	Hold-Up Time 出力保持時間	Temperature	25℃																																
Object	+3V60A	Testing Circuitry	Figure A																																
1. Graph		2. Values																																	
<div><div>---□--- Load 50%</div><div>—△— Load 100%</div></div> <div>Hold-Up Time [mS]</div> <div>Input Voltage [V]</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>150</td><td>65</td><td>29</td></tr><tr><td>160</td><td>77</td><td>35</td></tr><tr><td>170</td><td>89</td><td>41</td></tr><tr><td>180</td><td>103</td><td>48</td></tr><tr><td>200</td><td>132</td><td>62</td></tr><tr><td>220</td><td>164</td><td>79</td></tr><tr><td>240</td><td>198</td><td>96</td></tr><tr><td>264</td><td>244</td><td>119</td></tr><tr><td>280</td><td>277</td><td>135</td></tr></table>		Input Voltage [V]	Hold-Up Time [mS]		Load 50%	Load 100%	150	65	29	160	77	35	170	89	41	180	103	48	200	132	62	220	164	79	240	198	96	264	244	119	280	277	135
Input Voltage [V]	Hold-Up Time [mS]																																		
	Load 50%	Load 100%																																	
150	65	29																																	
160	77	35																																	
170	89	41																																	
180	103	48																																	
200	132	62																																	
220	164	79																																	
240	198	96																																	
264	244	119																																	
280	277	135																																	
<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>																																			

Model	LDA300W-3		
Item	Instantaneous Interruption Compensation 瞬時停電保障	Temperature	25℃
Object	+3V60A	Testing Circuitry	Figure A
1. Graph		2. Values	

△

Input Volt. 170V

□

Input Volt. 200V

○

Input Volt. 264V

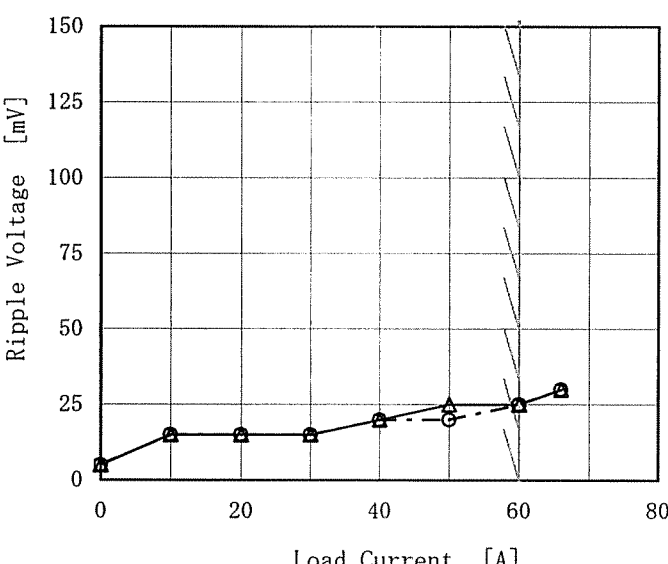
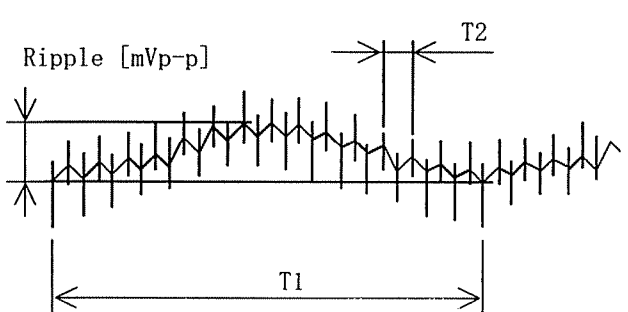
Instantaneous Compensation Time [mS]

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Model		LDA300W-3		Temperature		25℃																																																
Item		Load Regulation 静的負荷変動		Testing Circuitry		Figure A																																																
Object		+3V60A																																																				
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Load Current [A]	Output Voltage [V]																																																					
	Input Volt. 170[V]	Input Volt. 200[V]	Input Volt. 264[V]																																																			
0	3.044	3.044	3.044																																																			
10	3.038	3.038	3.038																																																			
20	3.031	3.031	3.032																																																			
30	3.025	3.025	3.025																																																			
40	3.019	3.019	3.019																																																			
50	3.012	3.013	3.013																																																			
60	3.006	3.006	3.006																																																			
66	3.002	3.002	3.002																																																			
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# COSEL

Model	LDA300W-3		
Item	Ripple Voltage (by Load Current) リップル電圧 (負荷特性)	Temperature	25℃
Object	+3V60A	Testing Circuitry	Figure A
1. Graph		2. Values	
<div><div>—△— Input Volt. 170V - -○- - Input Volt. 264V</div><p>Ripple Voltage 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。</p></div>			
<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></div>			
Fig. Complex Ripple Wave Form 図 リップル波形詳細図			

# COSEL

Model		LDA300W-3	Temperature Testing Circuitry	25℃ Figure A
Item		Ripple-Noise リップルノイズ		
Object		+3V60A		

1. Graph

—△—

Input Volt. 170V

- - ○ - -

Input Volt. 264V

200

175

150

125

100

75

50

25

0

Ripple-Noise [mV]

0

20

40

60

80

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

Ripple-Noise [mVp-p]

T2

T1

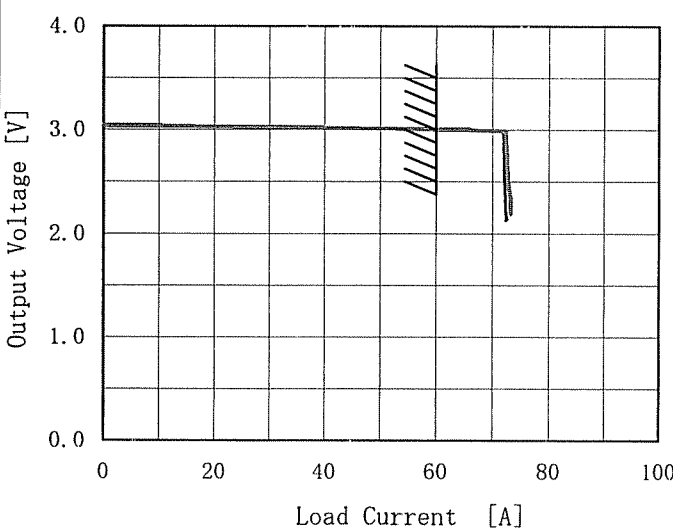
Fig. Complex Ripple Wave Form

図 リップル波形詳細図

2. Values

Load Current [A]	Ripple-Noise [mV]	
	Input Volt. 170 [V]	Input Volt. 264 [V]
0	10	10
10	25	25
20	30	35
30	35	40
40	40	45
50	50	50
60	60	60
66	60	65
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--	—	—

# COSEL

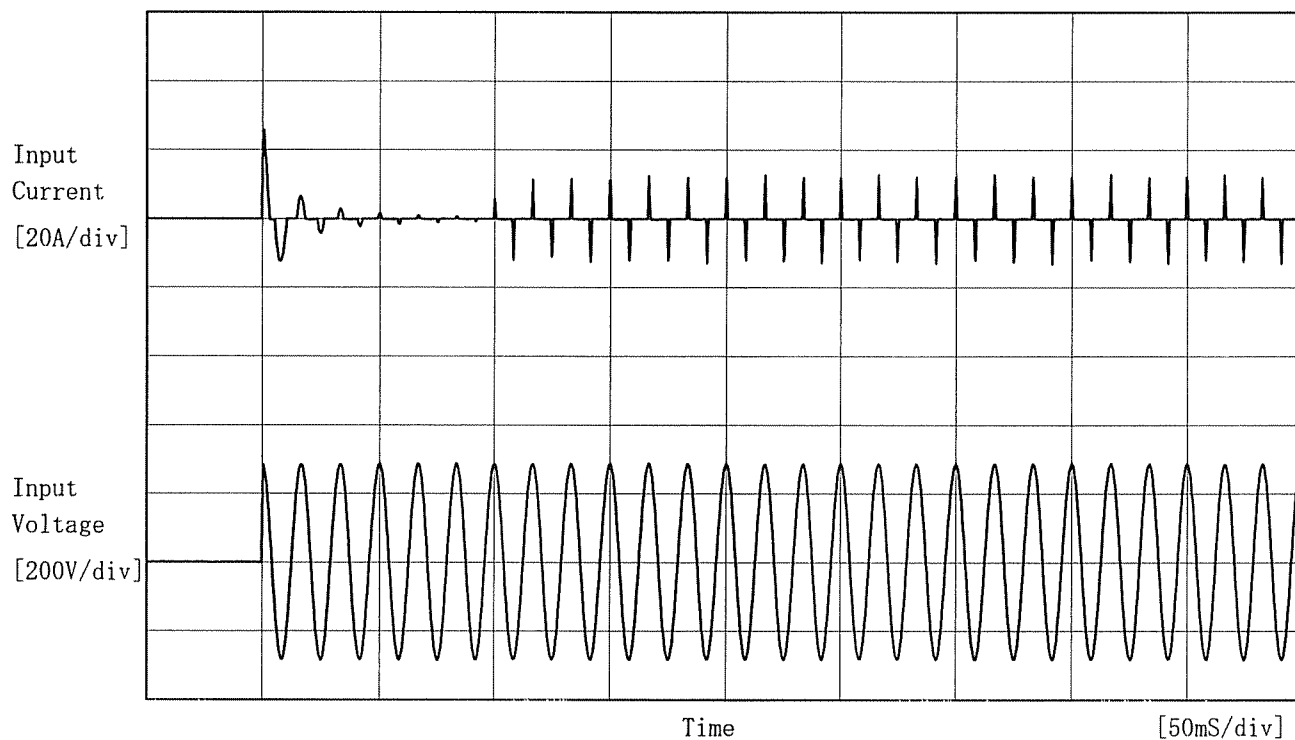
Model		LDA300W-3		Temperature		25℃																																																												
Item		Overcurrent Protection 過電流保護		Testing Circuitry		Figure A																																																												
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# COSEL

Model	LDA300W-3																																																						
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Object	+3V60A																																																						
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>Operating Point [V]</p> <p>Ambient Temperature [°C]</p> <p>Load 0%</p>		<table><tr><th rowspan="2">Ambient Temperature [°C]</th><th colspan="3">Operating Point [V]</th></tr><tr><th>Input Volt. 170[V]</th><th>Input Volt. 200[V]</th><th>Input Volt. 264[V]</th></tr><tr><td>-20</td><td>5.02</td><td>5.02</td><td>5.02</td></tr><tr><td>-10</td><td>5.02</td><td>5.02</td><td>5.02</td></tr><tr><td>0</td><td>4.95</td><td>4.95</td><td>4.95</td></tr><tr><td>10</td><td>4.88</td><td>4.88</td><td>4.88</td></tr><tr><td>20</td><td>4.88</td><td>4.88</td><td>4.88</td></tr><tr><td>25</td><td>4.81</td><td>4.81</td><td>4.81</td></tr><tr><td>30</td><td>4.81</td><td>4.81</td><td>4.81</td></tr><tr><td>40</td><td>4.81</td><td>4.81</td><td>4.81</td></tr><tr><td>50</td><td>4.74</td><td>4.74</td><td>4.74</td></tr><tr><td>60</td><td>4.67</td><td>4.67</td><td>4.67</td></tr><tr><td>--</td><td>—</td><td>—</td><td>—</td></tr></table>			Ambient Temperature [°C]	Operating Point [V]			Input Volt. 170[V]	Input Volt. 200[V]	Input Volt. 264[V]	-20	5.02	5.02	5.02	-10	5.02	5.02	5.02	0	4.95	4.95	4.95	10	4.88	4.88	4.88	20	4.88	4.88	4.88	25	4.81	4.81	4.81	30	4.81	4.81	4.81	40	4.81	4.81	4.81	50	4.74	4.74	4.74	60	4.67	4.67	4.67	--	—	—	—
Ambient Temperature [°C]	Operating Point [V]																																																						
	Input Volt. 170[V]	Input Volt. 200[V]	Input Volt. 264[V]																																																				
-20	5.02	5.02	5.02																																																				
-10	5.02	5.02	5.02																																																				
0	4.95	4.95	4.95																																																				
10	4.88	4.88	4.88																																																				
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25	4.81	4.81	4.81																																																				
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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。																																																							

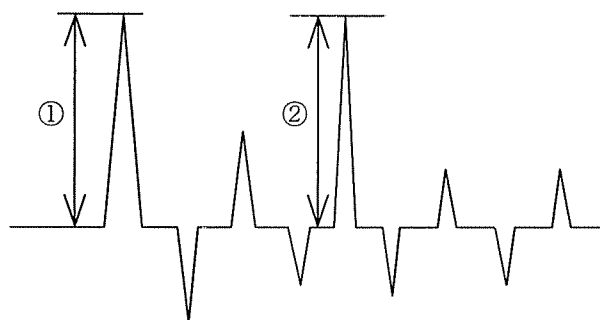
# COSEL

Model	LDA300W-3	Temperature 25°C Testing Circuitry Figure A
Item	Inrush Current 突入電流	
Object	_____	



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

- ① 25.7 [A]
- ② 13.1 [A]

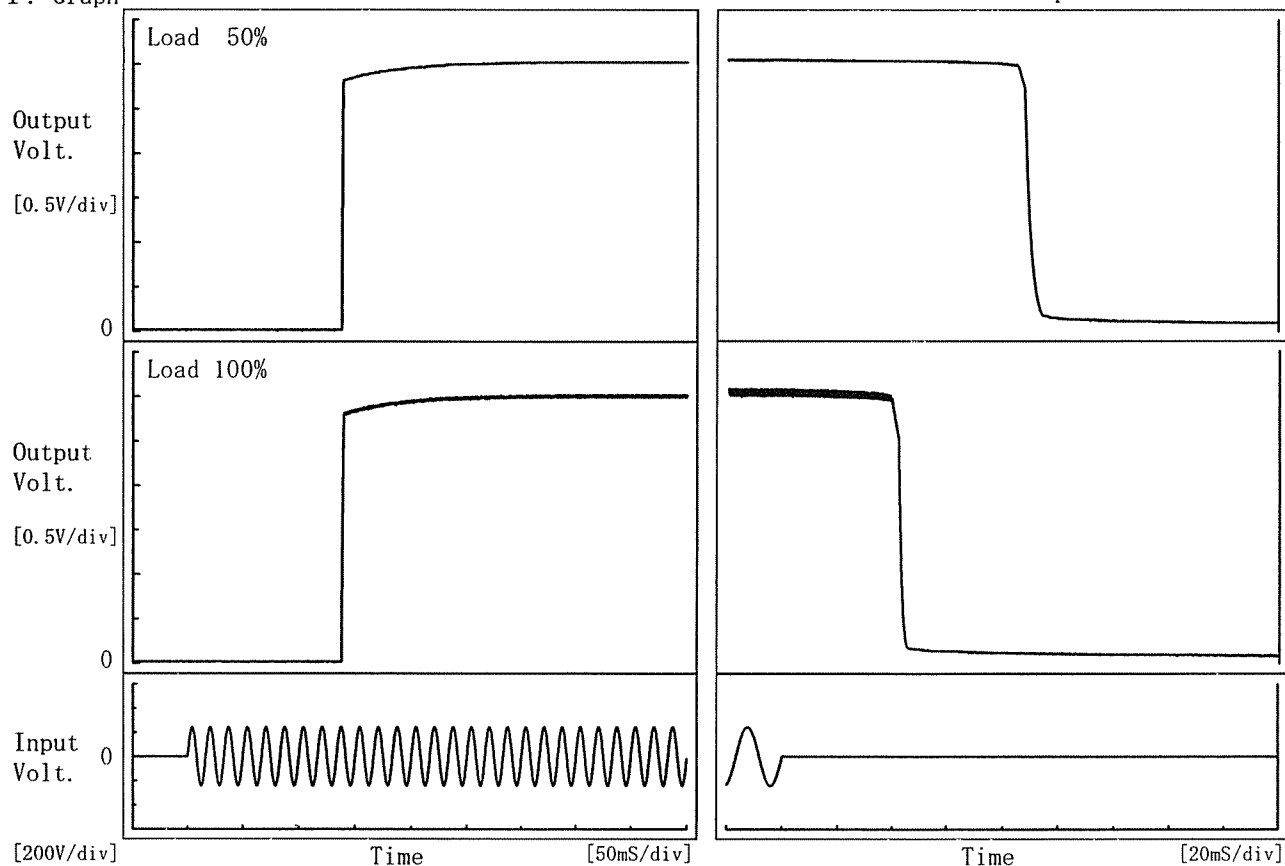


**COSEL**

Model	LDA300W-3	Temperature	25°C
Item	Rise and Fall Time 立上り、立下り時間	Testing Circuitry	Figure A
Object	+3V60A		

## 1. Graph

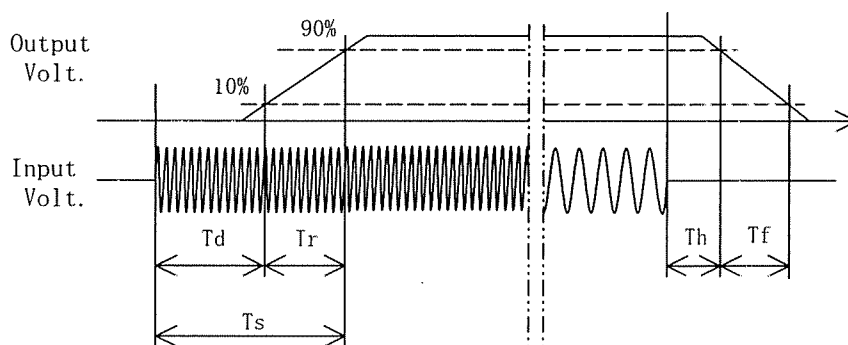
Input Volt. 170 V



## 2. Values

[mS]

Load \ Time	T d	T r	T s	T h	T f
50 %	138.0	1.3	139.3	87.8	4.9
100 %	138.0	1.8	139.8	40.5	3.6



Testing Circuitry Figure A

## 2. Values

Ambient Temperature [°C]	Output Voltage [V]		
	Input Volt. 170[V]	Input Volt. 200[V]	Input Volt. 264[V]
-20	3.012	3.012	3.012
-10	3.011	3.011	3.011
0	3.009	3.009	3.009
10	3.008	3.008	3.008
20	3.006	3.006	3.006
25	3.006	3.006	3.006
30	3.005	3.005	3.005
40	3.003	3.003	3.003
50	3.001	3.001	3.001
60	2.999	2.999	2.999
--	—	—	—

(注) 斜線は定格周囲温度範囲を示す。

# COSEL

Model		LDA300W-3
Item		Minimum Input Voltage for Regulated Output Voltage 最低レギュレーション電圧
Object		+3V60A
1. Graph		
<div><div>---□--- Load 50%</div><div>—△— Load 100%</div></div> <p>Input Voltage [V]</p> <p>Ambient Temperature [°C]</p>		
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]	Input Voltage [V]	
	Load 50%	Load 100%
-20	47	55
-10	46	55
0	46	55
10	46	54
20	46	54
25	46	54
30	46	54
40	45	54
50	45	54
60	45	54
--	—	—

— 14 —

BC-1016



# COSEL

Model		LDA300W-3	
Item		Ripple Voltage (by Ambient Temp.) リップル電圧 (周囲温度特性)	
Object		+3V60A	
1. Graph		2. Values	

---□---

Load 50%

—△—

Load 100%

150

125

100

75

50

25

0

Ripple Voltage [mV]



Model		LDA300W-3	Testing Circuitry    Figure A
Item		Output Voltage Accuracy 定電圧精度	
Object		+3V60A	

### 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 ~ 40°C

Input Voltage : 170 ~ 264V

Load Current : 0 ~ 60A

\* 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 ~ 40°C

入力電圧 : 170 ~ 264V

負荷電流 : 0 ~ 60A

\* 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	170	0	3.045	±22	±0.7
Minimum Voltage	40	264	60	3.002		

**COSEL**

