

# TEST DATA OF FETA2500B-36

Regulated DC Power Supply  
August 8, 2013

Approved by : Koji Todo  
Koji Todo Design Manager

Prepared by : Ryo Matsushima  
Ryo Matsushima Design Engineer

**COSEL CO.,LTD.**

## CONTENTS

1. Input Current (by Load Current) . . . . .	1
2. Input Power (by Load Current) . . . . .	2
3. Efficiency (by Input Voltage) . . . . .	3
4. Efficiency (by Load Current) . . . . .	4
5. Power Factor (by Input Voltage) . . . . .	5
6. Power Factor (by Load Current) . . . . .	6
7. Inrush Current . . . . .	7
8. Leakage Current . . . . .	8
9. Line Regulation . . . . .	9
10. Load Regulation . . . . .	10
11. Dynamic Load Response . . . . .	11
12. Ripple Voltage (by Load Current) . . . . .	12
13. Ripple-Noise . . . . .	13
14. Ripple Voltage (by Ambient Temperature) . . . . .	14
15. Ambient Temperature Drift . . . . .	15
16. Output Voltage Accuracy . . . . .	16
17. Time Lapse Drift . . . . .	17
18. Rise and Fall Time . . . . .	18
19. Hold-Up Time . . . . .	19
20. Instantaneous Interruption Compensation . . . . .	20
21. Minimum Input Voltage for Regulated Output Voltage . . . . .	21
22. Overcurrent Protection . . . . .	22
23. Overvoltage Protection . . . . .	23
24. Figure of Testing Circuitry . . . . .	24

(Final Page 24)

Model	FETA2500B-36	Temperature 25°C Testing Circuitry Figure A																																																				
Item	Input Current (by Load Current)																																																					
Object	_____																																																					
1.Graph	<p style="text-align: center;"> <span style="color: black;">—△—</span> Input Volt. 170V  <span style="color: gray;">---□---</span> Input Volt. 200V  <span style="color: gray;">---○---</span> Input Volt. 264V         </p> <table border="1"> <caption>Data points estimated from the graph</caption> <thead> <tr> <th>Load Current [A]</th> <th>Input Current [A] (170V)</th> <th>Input Current [A] (200V)</th> <th>Input Current [A] (264V)</th> </tr> </thead> <tbody> <tr><td>0.0</td><td>0.310</td><td>0.340</td><td>0.420</td></tr> <tr><td>8.0</td><td>2.096</td><td>1.824</td><td>1.516</td></tr> <tr><td>16.0</td><td>3.880</td><td>3.339</td><td>2.668</td></tr> <tr><td>24.0</td><td>5.680</td><td>4.860</td><td>3.804</td></tr> <tr><td>32.0</td><td>7.540</td><td>6.420</td><td>4.970</td></tr> <tr><td>40.0</td><td>9.430</td><td>8.010</td><td>6.150</td></tr> <tr><td>48.0</td><td>11.420</td><td>9.660</td><td>7.380</td></tr> <tr><td>55.0</td><td>13.150</td><td>11.110</td><td>8.440</td></tr> <tr><td>60.5</td><td>14.550</td><td>12.260</td><td>9.290</td></tr> </tbody> </table>	Load Current [A]	Input Current [A] (170V)	Input Current [A] (200V)	Input Current [A] (264V)	0.0	0.310	0.340	0.420	8.0	2.096	1.824	1.516	16.0	3.880	3.339	2.668	24.0	5.680	4.860	3.804	32.0	7.540	6.420	4.970	40.0	9.430	8.010	6.150	48.0	11.420	9.660	7.380	55.0	13.150	11.110	8.440	60.5	14.550	12.260	9.290													
Load Current [A]	Input Current [A] (170V)	Input Current [A] (200V)	Input Current [A] (264V)																																																			
0.0	0.310	0.340	0.420																																																			
8.0	2.096	1.824	1.516																																																			
16.0	3.880	3.339	2.668																																																			
24.0	5.680	4.860	3.804																																																			
32.0	7.540	6.420	4.970																																																			
40.0	9.430	8.010	6.150																																																			
48.0	11.420	9.660	7.380																																																			
55.0	13.150	11.110	8.440																																																			
60.5	14.550	12.260	9.290																																																			
2.Values																																																						
	<table border="1"> <thead> <tr> <th rowspan="2">Load Current [A]</th> <th colspan="3">Input Current [A]</th> </tr> <tr> <th>Input Volt. 170[V]</th> <th>Input Volt. 200[V]</th> <th>Input Volt. 264[V]</th> </tr> </thead> <tbody> <tr><td>0.0</td><td>0.310</td><td>0.340</td><td>0.420</td></tr> <tr><td>8.0</td><td>2.096</td><td>1.824</td><td>1.516</td></tr> <tr><td>16.0</td><td>3.880</td><td>3.339</td><td>2.668</td></tr> <tr><td>24.0</td><td>5.680</td><td>4.860</td><td>3.804</td></tr> <tr><td>32.0</td><td>7.540</td><td>6.420</td><td>4.970</td></tr> <tr><td>40.0</td><td>9.430</td><td>8.010</td><td>6.150</td></tr> <tr><td>48.0</td><td>11.420</td><td>9.660</td><td>7.380</td></tr> <tr><td>55.0</td><td>13.150</td><td>11.110</td><td>8.440</td></tr> <tr><td>60.5</td><td>14.550</td><td>12.260</td><td>9.290</td></tr> <tr><td>--</td><td>-</td><td>-</td><td>-</td></tr> <tr><td>--</td><td>-</td><td>-</td><td>-</td></tr> </tbody> </table>			Load Current [A]	Input Current [A]			Input Volt. 170[V]	Input Volt. 200[V]	Input Volt. 264[V]	0.0	0.310	0.340	0.420	8.0	2.096	1.824	1.516	16.0	3.880	3.339	2.668	24.0	5.680	4.860	3.804	32.0	7.540	6.420	4.970	40.0	9.430	8.010	6.150	48.0	11.420	9.660	7.380	55.0	13.150	11.110	8.440	60.5	14.550	12.260	9.290	--	-	-	-	--	-	-	-
Load Current [A]	Input Current [A]																																																					
	Input Volt. 170[V]	Input Volt. 200[V]	Input Volt. 264[V]																																																			
0.0	0.310	0.340	0.420																																																			
8.0	2.096	1.824	1.516																																																			
16.0	3.880	3.339	2.668																																																			
24.0	5.680	4.860	3.804																																																			
32.0	7.540	6.420	4.970																																																			
40.0	9.430	8.010	6.150																																																			
48.0	11.420	9.660	7.380																																																			
55.0	13.150	11.110	8.440																																																			
60.5	14.550	12.260	9.290																																																			
--	-	-	-																																																			
--	-	-	-																																																			

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

Model	FETA2500B-36	Temperature	25°C																																																			
Item	Input Power (by Load Current)	Testing Circuitry	Figure A																																																			
Object	—	—	—																																																			
1.Graph		2.Values																																																				
<p>The graph plots Input Power [W] on the Y-axis against Load Current [A] on the X-axis. Three data series are shown for different input voltages: 170V (solid line with triangle markers), 200V (dashed line with square markers), and 264V (dash-dot line with circle markers). All curves show a linear increase in power with load current. A slanted line is drawn across the graph, starting from approximately (0, 200) and ending at (60, 2800), indicating the range of the rated load current.</p>		<table border="1"> <thead> <tr> <th rowspan="2">Load Current [A]</th> <th colspan="3">Input Power [W]</th> </tr> <tr> <th>Input Volt. 170[V]</th> <th>Input Volt. 200[V]</th> <th>Input Volt. 264[V]</th> </tr> </thead> <tbody> <tr> <td>0.0</td><td>18</td><td>19</td><td>19</td></tr> <tr> <td>8.0</td><td>339</td><td>338</td><td>338</td></tr> <tr> <td>16.0</td><td>643</td><td>640</td><td>638</td></tr> <tr> <td>24.0</td><td>952</td><td>947</td><td>944</td></tr> <tr> <td>32.0</td><td>1271</td><td>1264</td><td>1256</td></tr> <tr> <td>40.0</td><td>1594</td><td>1584</td><td>1572</td></tr> <tr> <td>48.0</td><td>1931</td><td>1915</td><td>1900</td></tr> <tr> <td>55.0</td><td>2227</td><td>2206</td><td>2184</td></tr> <tr> <td>60.5</td><td>2462</td><td>2438</td><td>2412</td></tr> <tr> <td>--</td><td>-</td><td>-</td><td>-</td></tr> <tr> <td>--</td><td>-</td><td>-</td><td>-</td></tr> </tbody> </table>		Load Current [A]	Input Power [W]			Input Volt. 170[V]	Input Volt. 200[V]	Input Volt. 264[V]	0.0	18	19	19	8.0	339	338	338	16.0	643	640	638	24.0	952	947	944	32.0	1271	1264	1256	40.0	1594	1584	1572	48.0	1931	1915	1900	55.0	2227	2206	2184	60.5	2462	2438	2412	--	-	-	-	--	-	-	-
Load Current [A]	Input Power [W]																																																					
	Input Volt. 170[V]	Input Volt. 200[V]	Input Volt. 264[V]																																																			
0.0	18	19	19																																																			
8.0	339	338	338																																																			
16.0	643	640	638																																																			
24.0	952	947	944																																																			
32.0	1271	1264	1256																																																			
40.0	1594	1584	1572																																																			
48.0	1931	1915	1900																																																			
55.0	2227	2206	2184																																																			
60.5	2462	2438	2412																																																			
--	-	-	-																																																			
--	-	-	-																																																			

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

**COSEL**

Model	FETA2500B-36	Temperature	25°C																												
Item	Efficiency (by Input Voltage)	Testing Circuitry	Figure A																												
Object	—																														
1. Graph		2. Values																													
<p>The graph plots Efficiency [%] on the y-axis (72 to 100) against Input Voltage [V] on the x-axis (140 to 300). Two data series are shown: Load 50% (dashed line with square markers) and Load 100% (solid line with triangle markers). Both series show a slight upward trend. A slanted line on the graph indicates the rated input voltage range.</p> <table border="1"> <thead> <tr> <th>Input Voltage [V]</th> <th>Efficiency Load 50% [%]</th> <th>Efficiency Load 100% [%]</th> </tr> </thead> <tbody> <tr><td>170</td><td>90.9</td><td>88.9</td></tr> <tr><td>180</td><td>91.2</td><td>89.2</td></tr> <tr><td>200</td><td>91.4</td><td>89.7</td></tr> <tr><td>220</td><td>91.7</td><td>90.1</td></tr> <tr><td>230</td><td>91.8</td><td>90.2</td></tr> <tr><td>240</td><td>91.9</td><td>90.3</td></tr> <tr><td>264</td><td>92.0</td><td>90.6</td></tr> <tr><td>--</td><td>-</td><td>-</td></tr> <tr><td>--</td><td>-</td><td>-</td></tr> </tbody> </table>		Input Voltage [V]	Efficiency Load 50% [%]	Efficiency Load 100% [%]	170	90.9	88.9	180	91.2	89.2	200	91.4	89.7	220	91.7	90.1	230	91.8	90.2	240	91.9	90.3	264	92.0	90.6	--	-	-	--	-	-
Input Voltage [V]	Efficiency Load 50% [%]	Efficiency Load 100% [%]																													
170	90.9	88.9																													
180	91.2	89.2																													
200	91.4	89.7																													
220	91.7	90.1																													
230	91.8	90.2																													
240	91.9	90.3																													
264	92.0	90.6																													
--	-	-																													
--	-	-																													
<p>Note: Slanted line shows the range of the rated input voltage.</p>																															

**COSEL**

Model	FETA2500B-36	Temperature	25°C																																																			
Item	Efficiency (by Load Current)	Testing Circuitry	Figure A																																																			
Object	_____																																																					
1.Graph		2.Values																																																				
<p>The graph shows efficiency increasing from approximately 85% at 10A to about 92% at 20A, then slightly decreasing to around 88% at 60A. Three curves are shown for different input voltages: 170V (triangles), 200V (squares), and 264V (circles). A slanted line on the right side of the graph indicates the rated load current range.</p>		<table border="1"> <thead> <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> </thead> <tbody> <tr><td>0.0</td><td>-</td><td>-</td><td>-</td></tr> <tr><td>8.0</td><td>85.9</td><td>86.1</td><td>86.2</td></tr> <tr><td>16.0</td><td>90.1</td><td>90.5</td><td>90.8</td></tr> <tr><td>24.0</td><td>91.0</td><td>91.5</td><td>91.8</td></tr> <tr><td>32.0</td><td>90.8</td><td>91.3</td><td>91.9</td></tr> <tr><td>40.0</td><td>90.4</td><td>91.0</td><td>91.7</td></tr> <tr><td>48.0</td><td>89.5</td><td>90.2</td><td>91.0</td></tr> <tr><td>55.0</td><td>88.9</td><td>89.7</td><td>90.6</td></tr> <tr><td>60.5</td><td>88.4</td><td>89.3</td><td>90.2</td></tr> <tr><td>--</td><td>-</td><td>-</td><td>-</td></tr> <tr><td>--</td><td>-</td><td>-</td><td>-</td></tr> </tbody> </table>		Load Current [A]	Efficiency [%]			Input Volt. 170[V]	Input Volt. 200[V]	Input Volt. 264[V]	0.0	-	-	-	8.0	85.9	86.1	86.2	16.0	90.1	90.5	90.8	24.0	91.0	91.5	91.8	32.0	90.8	91.3	91.9	40.0	90.4	91.0	91.7	48.0	89.5	90.2	91.0	55.0	88.9	89.7	90.6	60.5	88.4	89.3	90.2	--	-	-	-	--	-	-	-
Load Current [A]	Efficiency [%]																																																					
	Input Volt. 170[V]	Input Volt. 200[V]	Input Volt. 264[V]																																																			
0.0	-	-	-																																																			
8.0	85.9	86.1	86.2																																																			
16.0	90.1	90.5	90.8																																																			
24.0	91.0	91.5	91.8																																																			
32.0	90.8	91.3	91.9																																																			
40.0	90.4	91.0	91.7																																																			
48.0	89.5	90.2	91.0																																																			
55.0	88.9	89.7	90.6																																																			
60.5	88.4	89.3	90.2																																																			
--	-	-	-																																																			
--	-	-	-																																																			
Note: Slanted line shows the range of the rated load current.																																																						

**COSEL**

Model	FETA2500B-36	Temperature Testing Circuitry 25°C Figure A																																
Item	Power Factor (by Input Voltage)																																	
Object	_____																																	
1. Graph																																		
<p>Legend:</p> <ul style="list-style-type: none"> <li>Load 50% (dashed line with squares)</li> <li>Load 100% (solid line with triangles)</li> </ul> <p>Input Voltage [V]</p>																																		
2. Values																																		
<table border="1"> <thead> <tr> <th rowspan="2">Input Voltage [V]</th> <th colspan="2">Power Factor</th> </tr> <tr> <th>Load 50%</th> <th>Load 100%</th> </tr> </thead> <tbody> <tr> <td>170</td><td>0.990</td><td>0.997</td> </tr> <tr> <td>180</td><td>0.986</td><td>0.995</td> </tr> <tr> <td>200</td><td>0.979</td><td>0.993</td> </tr> <tr> <td>220</td><td>0.970</td><td>0.990</td> </tr> <tr> <td>230</td><td>0.966</td><td>0.988</td> </tr> <tr> <td>240</td><td>0.962</td><td>0.987</td> </tr> <tr> <td>264</td><td>0.948</td><td>0.981</td> </tr> <tr> <td>--</td><td>-</td><td>-</td> </tr> <tr> <td>--</td><td>-</td><td>-</td> </tr> </tbody> </table>			Input Voltage [V]	Power Factor		Load 50%	Load 100%	170	0.990	0.997	180	0.986	0.995	200	0.979	0.993	220	0.970	0.990	230	0.966	0.988	240	0.962	0.987	264	0.948	0.981	--	-	-	--	-	-
Input Voltage [V]	Power Factor																																	
	Load 50%	Load 100%																																
170	0.990	0.997																																
180	0.986	0.995																																
200	0.979	0.993																																
220	0.970	0.990																																
230	0.966	0.988																																
240	0.962	0.987																																
264	0.948	0.981																																
--	-	-																																
--	-	-																																
<p>Note: Slanted line shows the range of the rated input voltage.</p>																																		

COSEL

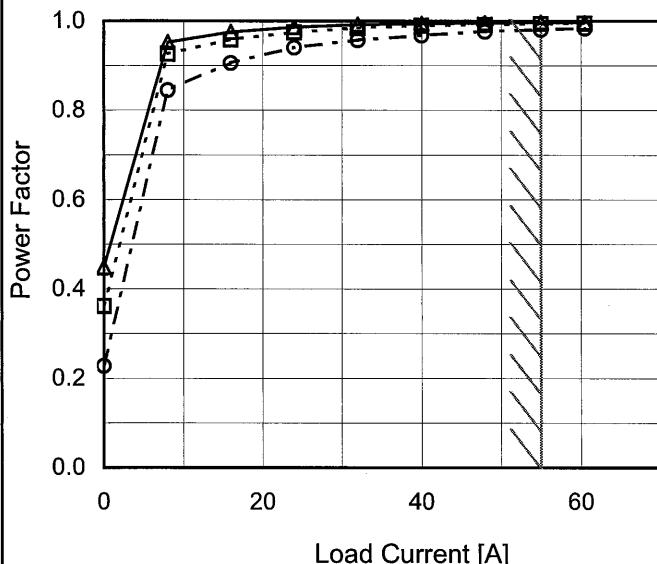
Model FETA2500B-36

Item Power Factor (by Load Current)

Object \_\_\_\_\_

## 1. Graph

—△— Input Volt. 170V  
 -□--- Input Volt. 200V  
 -○--- Input Volt. 264V



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

Temperature 25°C  
 Testing Circuitry Figure A

## 2. Values

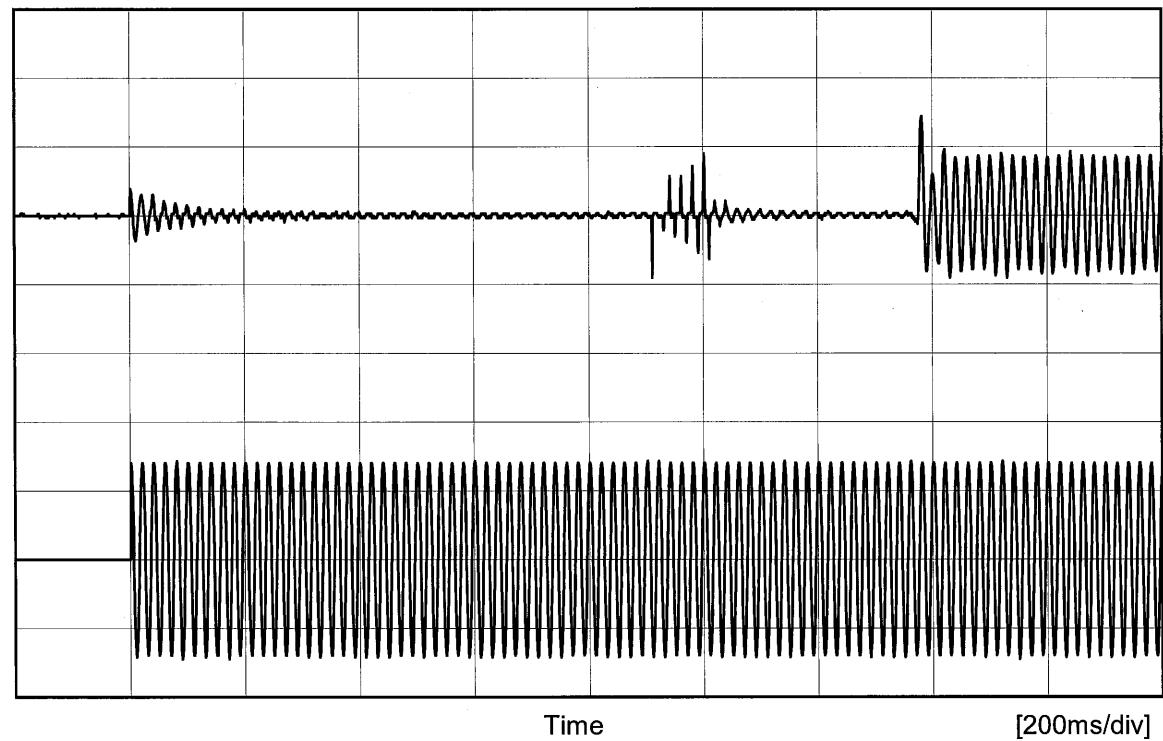
Load Current [A]	Power Factor		
	Input Volt. 170[V]	Input Volt. 200[V]	Input Volt. 264[V]
0.0	0.345	0.275	0.167
8.0	0.952	0.926	0.845
16.0	0.976	0.958	0.906
24.0	0.987	0.974	0.940
32.0	0.992	0.984	0.957
40.0	0.994	0.989	0.968
48.0	0.995	0.992	0.976
55.0	0.997	0.993	0.980
60.5	0.996	0.994	0.984
--	-	-	-
--	-	-	-

COSEL

Model FETA2500B-36

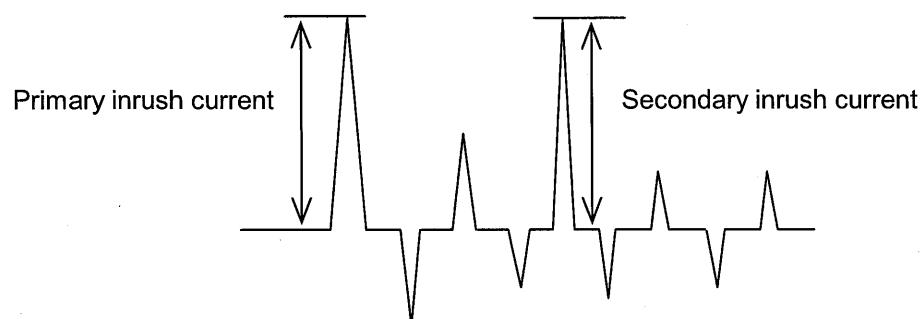
Item Inrush Current

Object

Temperature 25°C  
Testing Circuitry Figure AInput  
Current  
[20A/div]

Input Voltage	200 V
Frequency	50 Hz
Load	100 %

Primary inrush current	7.8 A
Secondary inrush current	28.8 A





Model	FETA2500B-36	Temperature	25°C
Item	Leakage Current	Testing Circuitry	Figure B
Object	<hr/>		

### 1. Results

[mA]

Standards		Input Volt.			Note
		200 [V]	240 [V]	264 [V]	
DEN-AN	Both phases	-	-	-	Operation
	One of phases	-	-	-	Stand by
IEC60950-1	Both phases	0.61	0.73	0.81	Operation
	One of phases	1.06	1.30	1.43	Stand by

The value for "One of phases" is the reference value only.

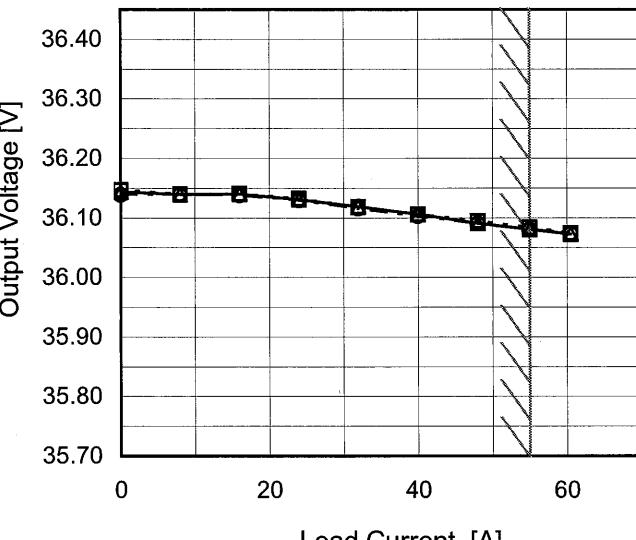
### 2. Condition

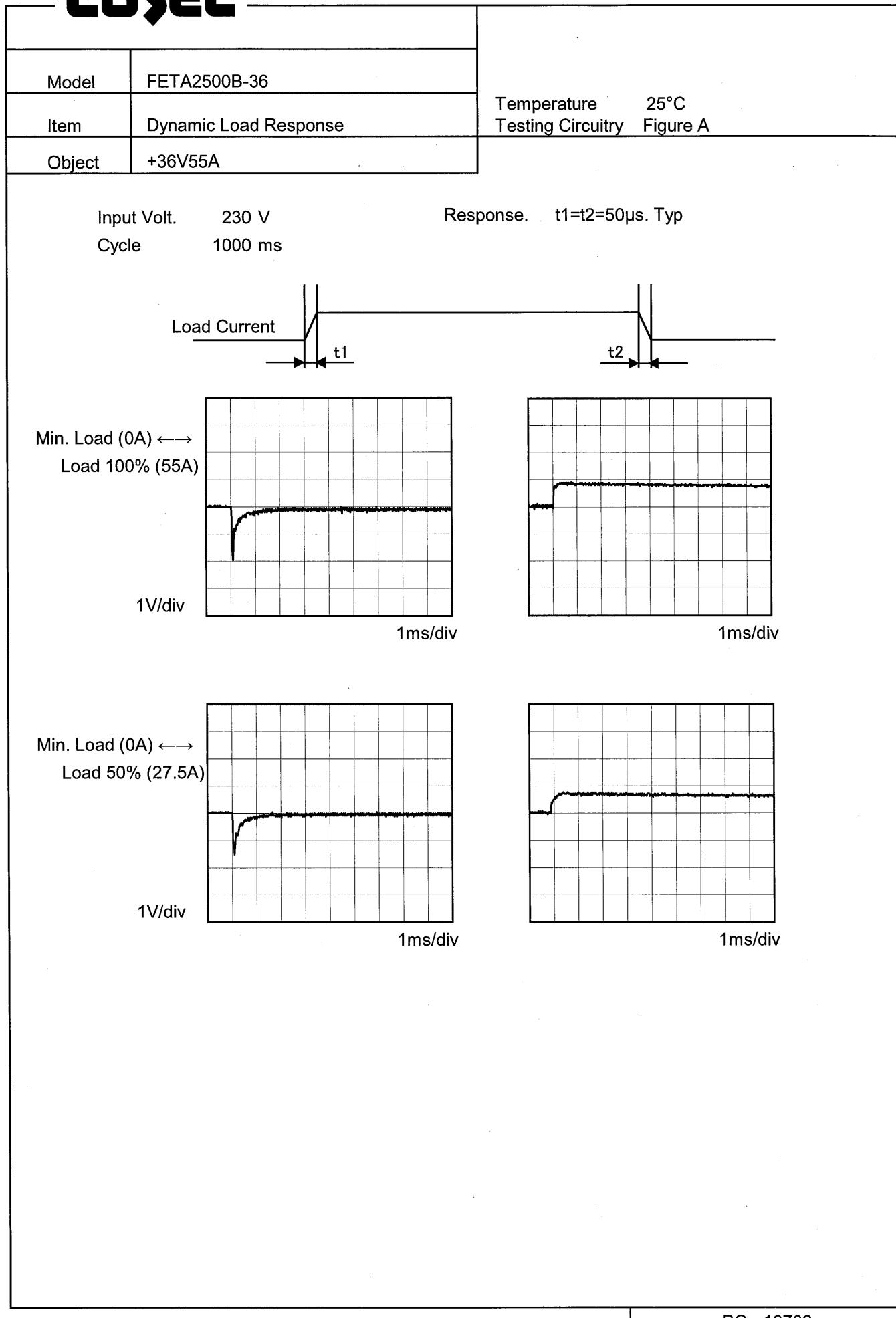
Leakage current value is concluded after measuring both phases of AC input and by choosing the larger one.

**COSEL**

Model	FETA2500B-36																																	
Item	Line Regulation	Temperature      25°C Testing Circuitry      Figure A																																
Object	+36V55A																																	
1. Graph																																		
<p>Output Voltage [V]</p> <p>Input Voltage [V]</p> <p>Legend: --- □--- Load 50% —△— Load 100%</p>																																		
<p>Note: Slanted line shows the range of the rated input voltage.</p>																																		
2. Values																																		
<table border="1"> <thead> <tr> <th rowspan="2">Input Voltage [V]</th> <th colspan="2">Output Voltage [V]</th> </tr> <tr> <th>Load 50%</th> <th>Load 100%</th> </tr> </thead> <tbody> <tr> <td>170</td> <td>36.115</td> <td>36.077</td> </tr> <tr> <td>180</td> <td>36.116</td> <td>36.077</td> </tr> <tr> <td>200</td> <td>36.117</td> <td>36.078</td> </tr> <tr> <td>220</td> <td>36.118</td> <td>36.079</td> </tr> <tr> <td>230</td> <td>36.117</td> <td>36.081</td> </tr> <tr> <td>240</td> <td>36.118</td> <td>36.081</td> </tr> <tr> <td>264</td> <td>36.118</td> <td>36.082</td> </tr> <tr> <td>--</td> <td>-</td> <td>-</td> </tr> <tr> <td>--</td> <td>-</td> <td>-</td> </tr> </tbody> </table>			Input Voltage [V]	Output Voltage [V]		Load 50%	Load 100%	170	36.115	36.077	180	36.116	36.077	200	36.117	36.078	220	36.118	36.079	230	36.117	36.081	240	36.118	36.081	264	36.118	36.082	--	-	-	--	-	-
Input Voltage [V]	Output Voltage [V]																																	
	Load 50%	Load 100%																																
170	36.115	36.077																																
180	36.116	36.077																																
200	36.117	36.078																																
220	36.118	36.079																																
230	36.117	36.081																																
240	36.118	36.081																																
264	36.118	36.082																																
--	-	-																																
--	-	-																																

**COSEL**

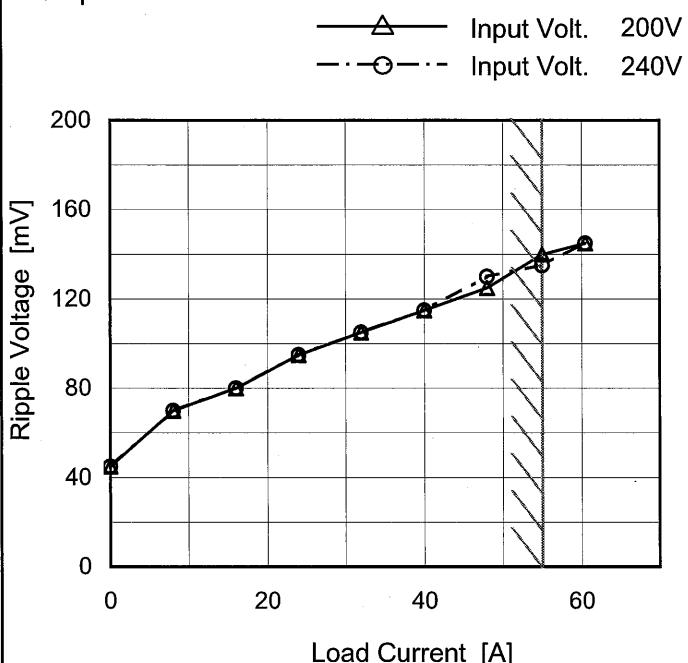
Model	FETA2500B-36	Temperature	25°C																																																			
Item	Load Regulation	Testing Circuitry	Figure A																																																			
Object	+36V55A																																																					
1.Graph	<p style="text-align: center;"> <span style="color: black;">—△—</span> Input Volt. 170V  <span style="color: gray;">---□---</span> Input Volt. 200V  <span style="color: gray;">---○---</span> Input Volt. 264V         </p> 																																																					
2.Values	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="2">Load Current [A]</th> <th colspan="3">Output Voltage [V]</th> </tr> <tr> <th>Input Volt. 170[V]</th> <th>Input Volt. 200[V]</th> <th>Input Volt. 264[V]</th> </tr> </thead> <tbody> <tr> <td>0.0</td><td>36.144</td><td>36.147</td><td>36.139</td></tr> <tr> <td>8.0</td><td>36.140</td><td>36.140</td><td>36.140</td></tr> <tr> <td>16.0</td><td>36.140</td><td>36.140</td><td>36.138</td></tr> <tr> <td>24.0</td><td>36.131</td><td>36.132</td><td>36.130</td></tr> <tr> <td>32.0</td><td>36.119</td><td>36.118</td><td>36.116</td></tr> <tr> <td>40.0</td><td>36.106</td><td>36.106</td><td>36.103</td></tr> <tr> <td>48.0</td><td>36.091</td><td>36.094</td><td>36.090</td></tr> <tr> <td>55.0</td><td>36.081</td><td>36.084</td><td>36.081</td></tr> <tr> <td>60.5</td><td>36.073</td><td>36.074</td><td>36.074</td></tr> <tr> <td>--</td><td>-</td><td>-</td><td>-</td></tr> <tr> <td>--</td><td>-</td><td>-</td><td>-</td></tr> </tbody> </table>			Load Current [A]	Output Voltage [V]			Input Volt. 170[V]	Input Volt. 200[V]	Input Volt. 264[V]	0.0	36.144	36.147	36.139	8.0	36.140	36.140	36.140	16.0	36.140	36.140	36.138	24.0	36.131	36.132	36.130	32.0	36.119	36.118	36.116	40.0	36.106	36.106	36.103	48.0	36.091	36.094	36.090	55.0	36.081	36.084	36.081	60.5	36.073	36.074	36.074	--	-	-	-	--	-	-	-
Load Current [A]	Output Voltage [V]																																																					
	Input Volt. 170[V]	Input Volt. 200[V]	Input Volt. 264[V]																																																			
0.0	36.144	36.147	36.139																																																			
8.0	36.140	36.140	36.140																																																			
16.0	36.140	36.140	36.138																																																			
24.0	36.131	36.132	36.130																																																			
32.0	36.119	36.118	36.116																																																			
40.0	36.106	36.106	36.103																																																			
48.0	36.091	36.094	36.090																																																			
55.0	36.081	36.084	36.081																																																			
60.5	36.073	36.074	36.074																																																			
--	-	-	-																																																			
--	-	-	-																																																			
Note:	Slanted line shows the range of the rated load current.																																																					

**COSEL**

**COSSEL**

Model	FETA2500B-36
Item	Ripple Voltage (by Load Current)
Object	+36V55A

## 1.Graph



Measured by 500 MHz Oscilloscope.

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

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

Temperature 25°C  
Testing Circuitry Figure C

## 2.Values

Load Current [A]	Ripple Voltage [mV]	
	Input Volt. 200 [V]	Input Volt. 240 [V]
0.0	45	45
8.0	70	70
16.0	80	80
24.0	95	95
32.0	105	105
40.0	115	115
48.0	125	130
55.0	140	135
60.5	145	145
--	-	-
--	-	-

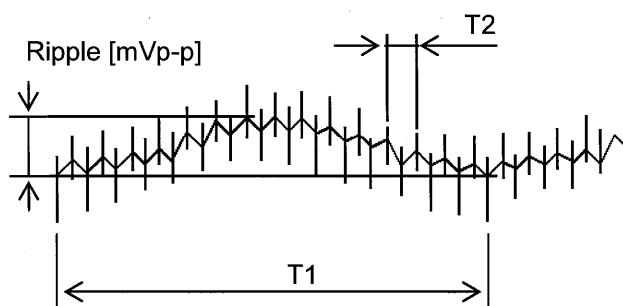
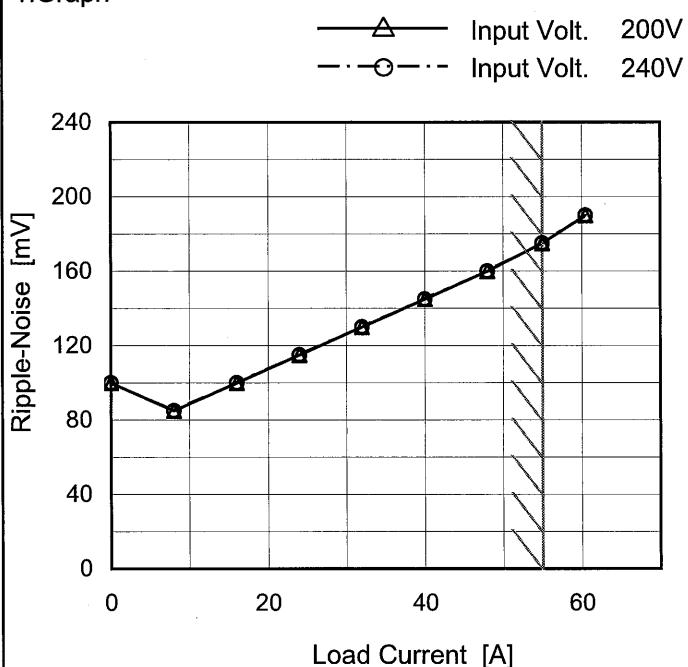
T1: Due to AC Input Line  
T2: Due to Switching

Fig. Complex Ripple Wave Form

**COSSEL**

Model	FETA2500B-36
Item	Ripple-Noise
Object	+36V55A

## 1.Graph



Measured by 500 MHz Oscilloscope.

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

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

Temperature 25°C  
Testing Circuitry Figure C

## 2.Values

Load Current [A]	Ripple-Noise [mV]	
	Input Volt. 200 [V]	Input Volt. 240 [V]
0.0	100	100
8.0	85	85
16.0	100	100
24.0	115	115
32.0	130	130
40.0	145	145
48.0	160	160
55.0	175	175
60.5	190	190
--	-	-
--	-	-

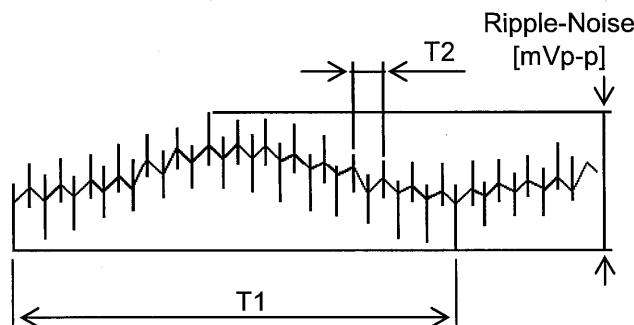
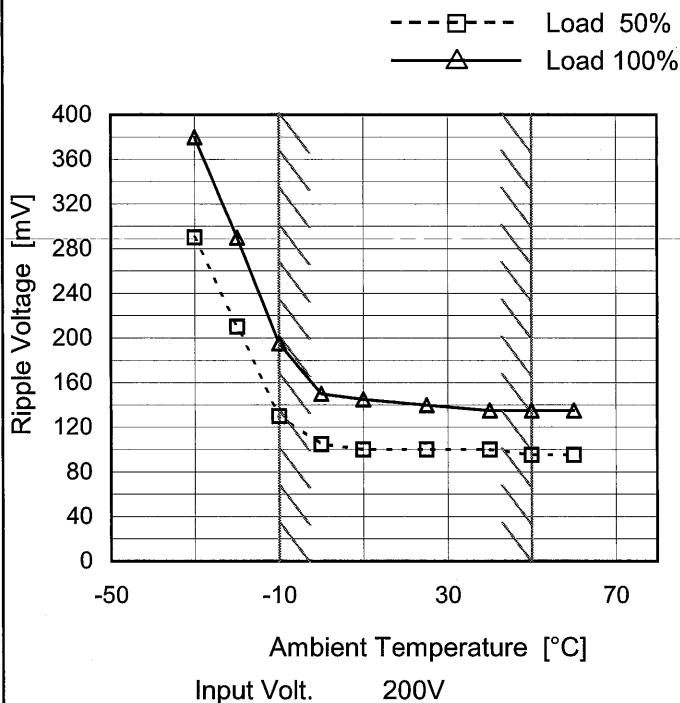
T1: Due to AC Input Line  
T2: Due to Switching

Fig. Complex Ripple Wave Form

# COSEL

Model	FETA2500B-36
Item	Ripple Voltage (by Ambient Temp.)
Object	+36V55A

## 1. Graph



Measured by 500 MHz Oscilloscope.

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

Testing Circuitry Figure C

## 2. Values

Ambient Temperature [°C]	Ripple Voltage [mV]	
	Load 50%	Load 100%
-30	290	380
-20	210	290
-10	130	195
0	105	150
10	100	145
25	100	140
40	100	135
50	95	135
60	95	135
--	-	-
--	-	-

Model	FETA2500B-36	Testing Circuitry Figure A		
Item	Ambient Temperature Drift			
Object	+36V55A			
1.Graph	<p style="text-align: center;"> <span style="color: black;">△</span> Input Volt. 170V  <span style="color: gray;">□</span> Input Volt. 200V  <span style="color: red;">○</span> Input Volt. 264V         </p> <p style="text-align: center;">Output Voltage [V]</p> <p style="text-align: center;">Ambient Temperature [°C]</p> <p style="text-align: center;">Load 100%</p>	2.Values		
Ambient Temperature [°C]	Output Voltage [V]			
	Input Volt. 170[V]	Input Volt. 200[V]	Input Volt. 264[V]	
-30	35.852	35.853	35.854	
-20	35.861	35.865	35.869	
-10	35.883	35.884	35.888	
0	36.043	36.043	36.048	
10	35.921	35.921	35.922	
25	36.076	36.076	36.079	
40	36.084	36.083	36.085	
50	36.083	36.082	36.081	
60	36.078	36.076	36.073	
--	-	-	-	
--	-	-	-	

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



Model	FETA2500B-36	Testing Circuitry Figure A
Item	Output Voltage Accuracy	
Object	+36V55A	

### 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 - 55A

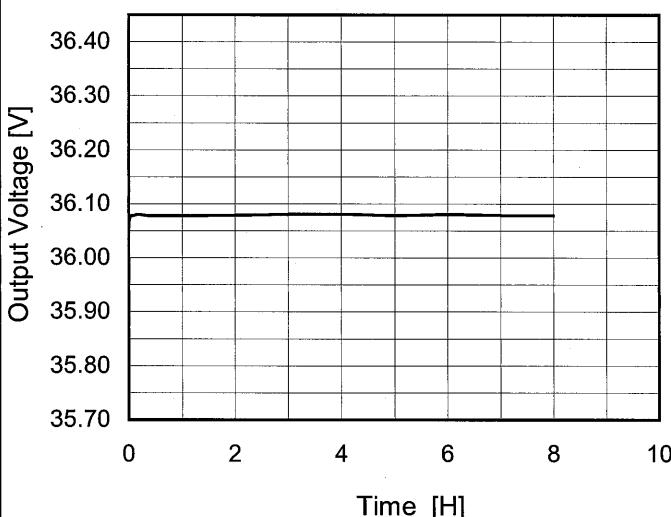
\* Output Voltage Accuracy =  $\pm(\text{Maximum of Output Voltage} - \text{Minimum of Output Voltage}) / 2$

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

### 2. Values

Item	Temperature [°C]	Input Voltage[V]	Output		Output Voltage Accuracy	
			Current[A]	Voltage[V]	Value [mV]	Ration [%]
Maximum Voltage	50	200	0	36.149	±133	±0.4
Minimum Voltage	-10	170	55	35.883		

**COSEL**

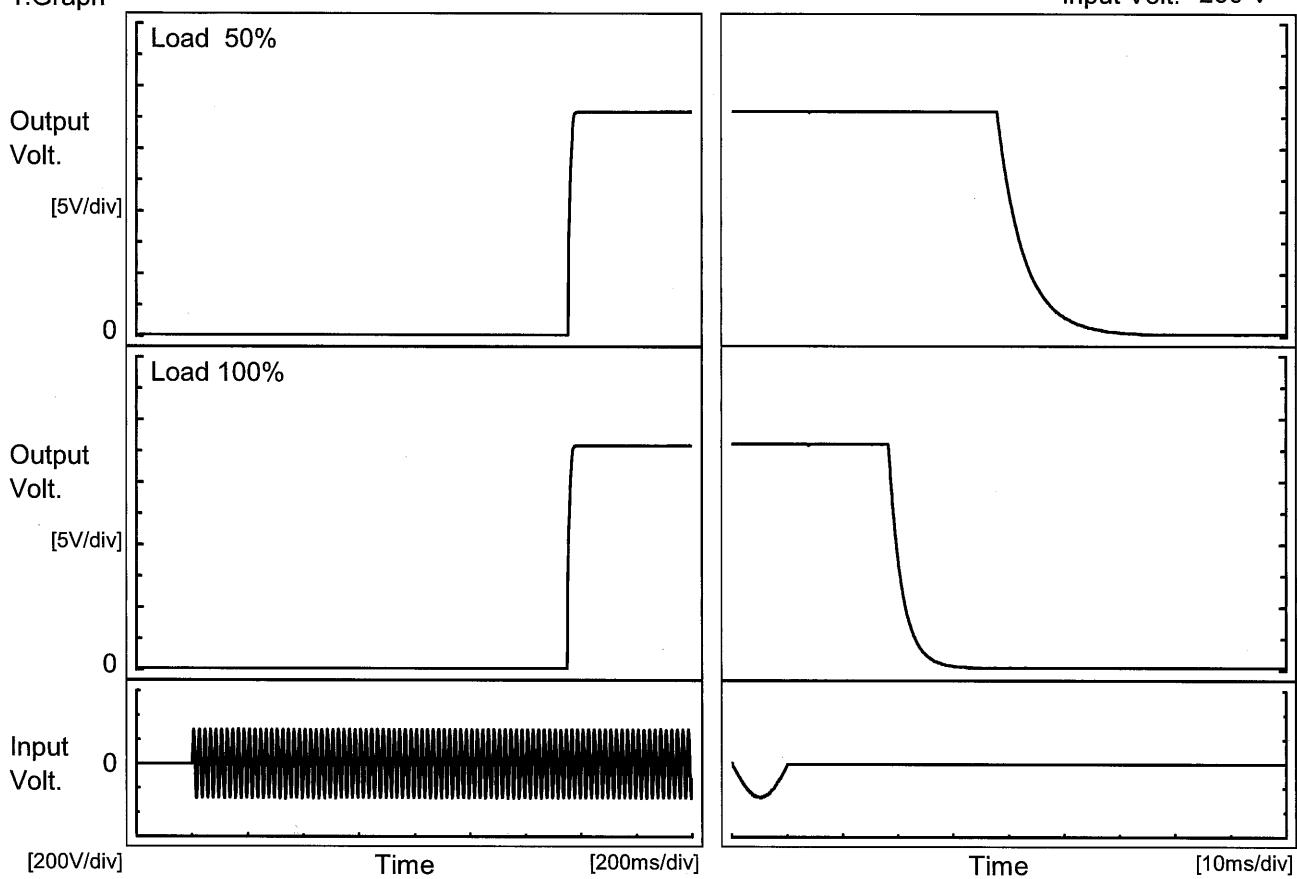
Model	FETA2500B-36	Temperature	25°C																						
Item	Time Lapse Drift	Testing Circuitry	Figure A																						
Object	+36V55A																								
1.Graph			2.Values																						
 <p>Output Voltage [V]</p> <p>Time [H]</p> <p>Input Volt. 200V Load 100%</p>			<table border="1"> <thead> <tr> <th>Time since start [H]</th> <th>Output Voltage [V]</th> </tr> </thead> <tbody> <tr><td>0.0</td><td>36.058</td></tr> <tr><td>0.5</td><td>36.078</td></tr> <tr><td>1.0</td><td>36.078</td></tr> <tr><td>2.0</td><td>36.079</td></tr> <tr><td>3.0</td><td>36.081</td></tr> <tr><td>4.0</td><td>36.082</td></tr> <tr><td>5.0</td><td>36.078</td></tr> <tr><td>6.0</td><td>36.081</td></tr> <tr><td>7.0</td><td>36.079</td></tr> <tr><td>8.0</td><td>36.079</td></tr> </tbody> </table>	Time since start [H]	Output Voltage [V]	0.0	36.058	0.5	36.078	1.0	36.078	2.0	36.079	3.0	36.081	4.0	36.082	5.0	36.078	6.0	36.081	7.0	36.079	8.0	36.079
Time since start [H]	Output Voltage [V]																								
0.0	36.058																								
0.5	36.078																								
1.0	36.078																								
2.0	36.079																								
3.0	36.081																								
4.0	36.082																								
5.0	36.078																								
6.0	36.081																								
7.0	36.079																								
8.0	36.079																								

**COSEL**

Model	FETA2500B-36
Item	Rise and Fall Time
Object	+36V55A

Temperature 25°C  
Testing Circuitry Figure A

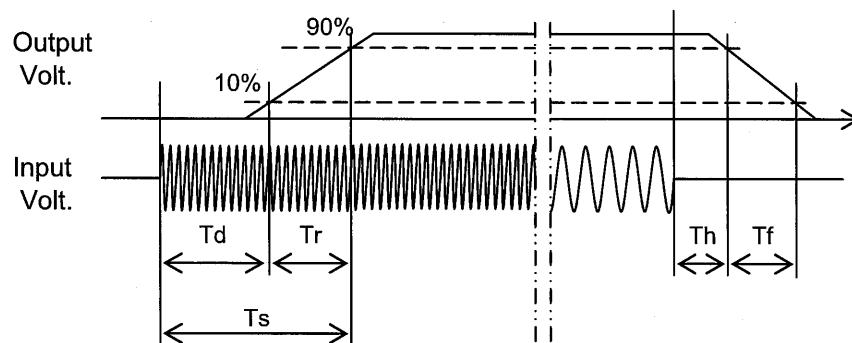
## 1. Graph



## 2. Values

[ms]

Load	Time	Td	Tr	Ts	Th	Tf
50 %		1356.0	15.0	1371.0	38.3	10.7
100 %		1352.0	14.0	1366.0	18.6	5.3



**COSEL**

Model	FETA2500B-36	Temperature	25°C																																
Item	Hold-Up Time	Testing Circuitry	Figure A																																
Object	+36V55A																																		
1. Graph			2. Values																																
			<table border="1"> <thead> <tr> <th rowspan="2">Input Voltage [V]</th> <th colspan="2">Hold-Up Time [ms]</th> </tr> <tr> <th>Load 50%</th> <th>Load 100%</th> </tr> </thead> <tbody> <tr><td>170</td><td>38</td><td>18</td></tr> <tr><td>180</td><td>38</td><td>18</td></tr> <tr><td>200</td><td>38</td><td>18</td></tr> <tr><td>220</td><td>38</td><td>19</td></tr> <tr><td>230</td><td>38</td><td>19</td></tr> <tr><td>240</td><td>38</td><td>19</td></tr> <tr><td>264</td><td>38</td><td>19</td></tr> <tr><td>--</td><td>-</td><td>-</td></tr> <tr><td>--</td><td>-</td><td>-</td></tr> </tbody> </table>	Input Voltage [V]	Hold-Up Time [ms]		Load 50%	Load 100%	170	38	18	180	38	18	200	38	18	220	38	19	230	38	19	240	38	19	264	38	19	--	-	-	--	-	-
Input Voltage [V]	Hold-Up Time [ms]																																		
	Load 50%	Load 100%																																	
170	38	18																																	
180	38	18																																	
200	38	18																																	
220	38	19																																	
230	38	19																																	
240	38	19																																	
264	38	19																																	
--	-	-																																	
--	-	-																																	

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.

# COSEL

Model	FETA2500B-36																																																					
Item	Instantaneous Interruption Compensation	Temperature Testing Circuitry	25°C Figure A																																																			
Object	+36V55A																																																					
1. Graph																																																						
<p>Legend:</p> <ul style="list-style-type: none"> <li>Input Volt. 170V</li> <li>Input Volt. 200V</li> <li>Input Volt. 264V</li> </ul>																																																						
2. Values																																																						
<table border="1"> <thead> <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> </thead> <tbody> <tr> <td>0.0</td><td>-</td><td>-</td><td>-</td></tr> <tr> <td>8.0</td><td>124</td><td>125</td><td>131</td></tr> <tr> <td>16.0</td><td>64</td><td>64</td><td>64</td></tr> <tr> <td>24.0</td><td>43</td><td>43</td><td>43</td></tr> <tr> <td>32.0</td><td>31</td><td>32</td><td>32</td></tr> <tr> <td>40.0</td><td>25</td><td>25</td><td>25</td></tr> <tr> <td>48.0</td><td>18</td><td>19</td><td>21</td></tr> <tr> <td>55.0</td><td>17</td><td>17</td><td>18</td></tr> <tr> <td>60.5</td><td>16</td><td>16</td><td>17</td></tr> <tr> <td>--</td><td>-</td><td>-</td><td>-</td></tr> <tr> <td>--</td><td>-</td><td>-</td><td>-</td></tr> </tbody> </table>				Load Current [A]	Time [ms]			Input Volt. 170[V]	Input Volt. 200[V]	Input Volt. 264[V]	0.0	-	-	-	8.0	124	125	131	16.0	64	64	64	24.0	43	43	43	32.0	31	32	32	40.0	25	25	25	48.0	18	19	21	55.0	17	17	18	60.5	16	16	17	--	-	-	-	--	-	-	-
Load Current [A]	Time [ms]																																																					
	Input Volt. 170[V]	Input Volt. 200[V]	Input Volt. 264[V]																																																			
0.0	-	-	-																																																			
8.0	124	125	131																																																			
16.0	64	64	64																																																			
24.0	43	43	43																																																			
32.0	31	32	32																																																			
40.0	25	25	25																																																			
48.0	18	19	21																																																			
55.0	17	17	18																																																			
60.5	16	16	17																																																			
--	-	-	-																																																			
--	-	-	-																																																			
<p>Note: Slanted line shows the range of the rated load current.</p>																																																						

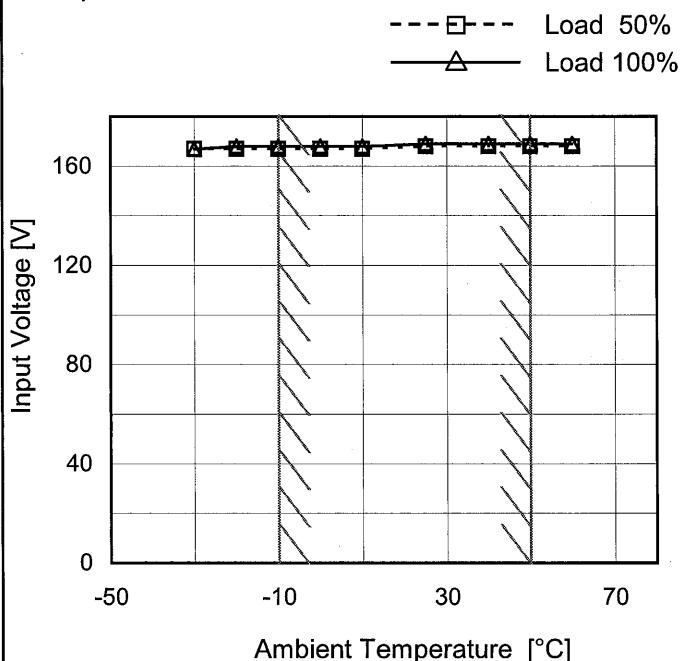
# COSEL

Model FETA2500B-36

Item Minimum Input Voltage  
for Regulated Output Voltage

Object +36V55A

1. Graph



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

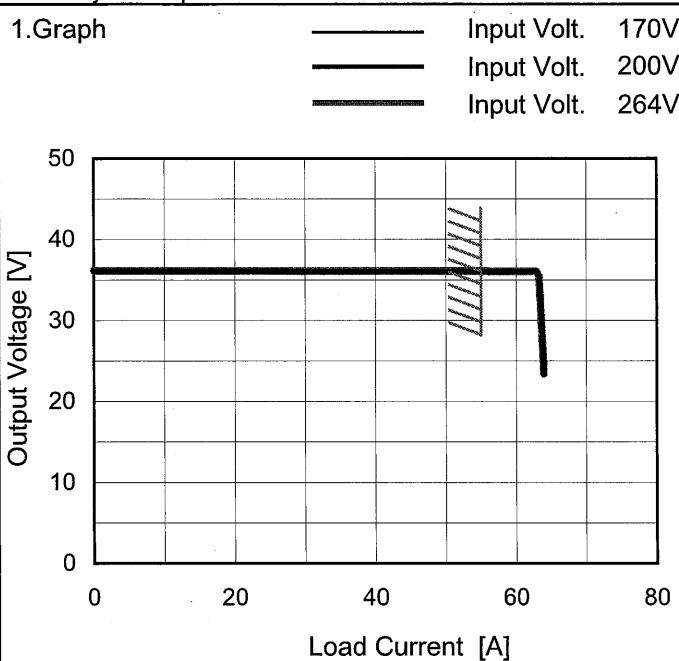
Testing Circuitry Figure A

2. Values

Ambient Temperature [°C]	Input Voltage [V]	
	Load 50%	Load 100%
-30	167	167
-20	167	168
-10	167	168
0	167	168
10	167	168
25	168	169
40	168	169
50	168	169
60	168	169
--	-	-
--	-	-

# COSEL

Model	FETA2500B-36
Item	Overcurrent Protection
Object	+36V55A



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

Temperature 25°C  
Testing Circuitry Figure A

## 2.Values

Output Voltage [V]	Load Current [A]		
	Input Volt. 170[V]	Input Volt. 200[V]	Input Volt. 264[V]
34.2	63.24	63.39	63.37
32.4	63.32	63.47	63.44
28.8	63.55	63.68	63.66
25.2	63.74	63.86	63.86
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-

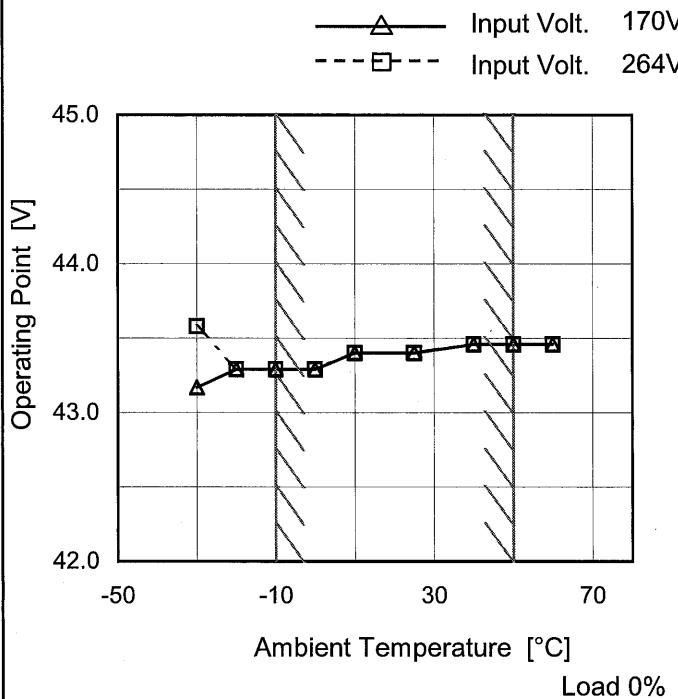
# COSEL

Model FETA2500B-36

Item Overvoltage Protection

Object +36V55A

1. Graph



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

Testing Circuitry Figure A

2. Values

Ambient Temperature [°C]	Operating Point [V]	
	Input Volt. 170[V]	Input Volt. 264[V]
-30	43.17	43.58
-20	43.29	43.29
-10	43.29	43.29
0	43.29	43.29
10	43.40	43.40
25	43.40	43.40
40	43.46	43.46
50	43.46	43.46
60	43.46	43.46
--	-	-
--	-	-

COSEL

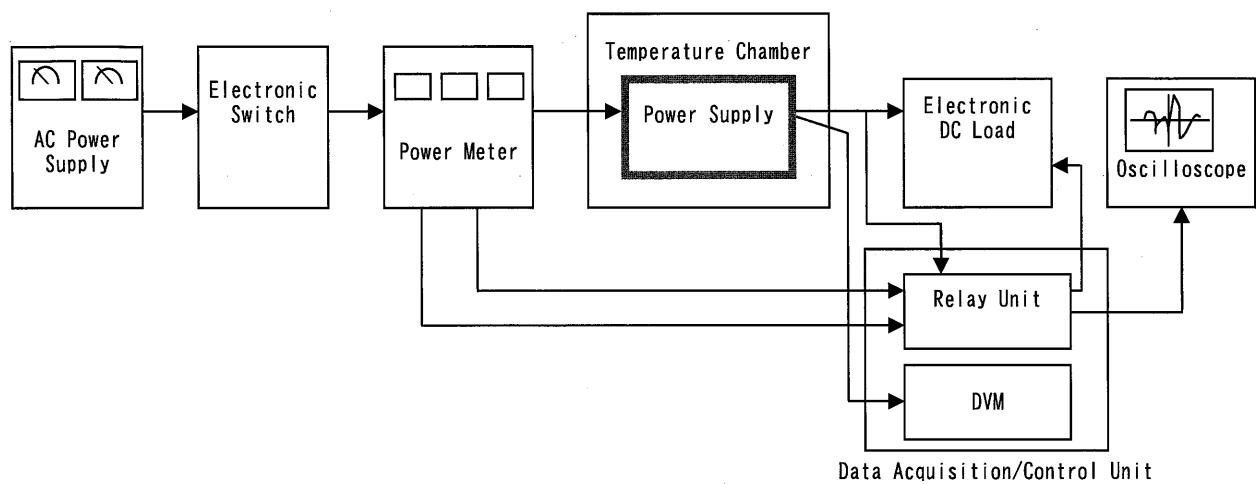


Figure A

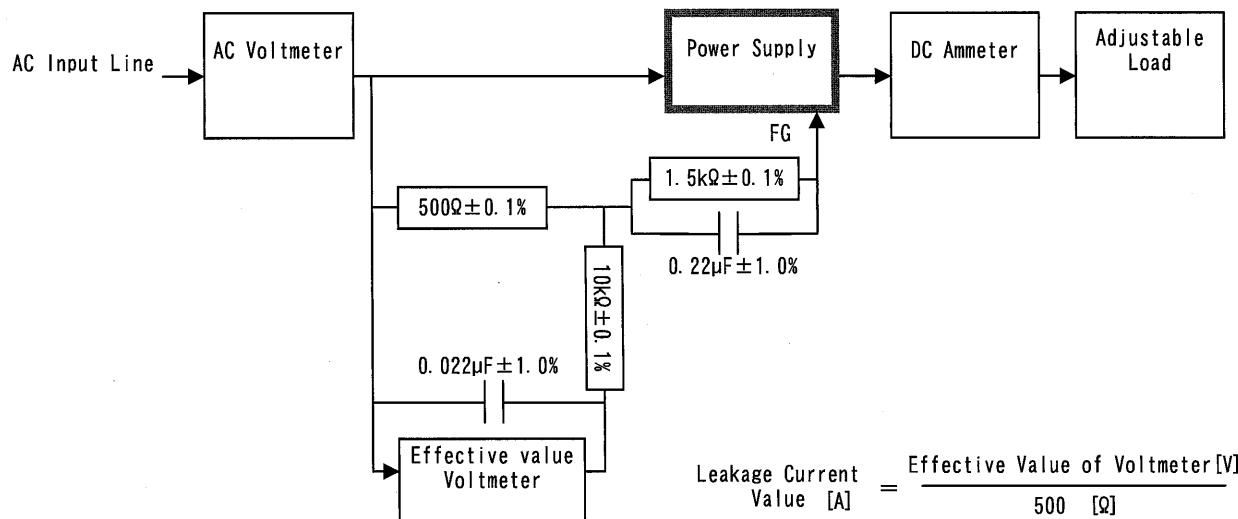


Figure B ( IEC60950-1 )

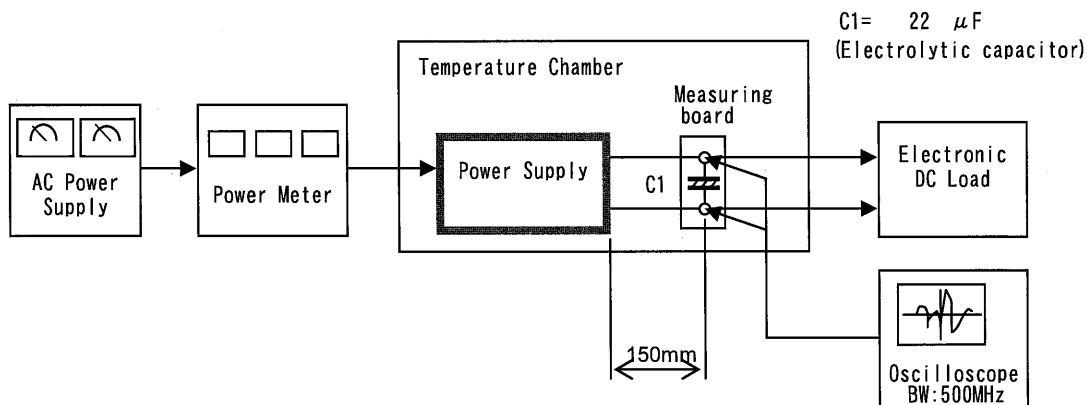


Figure C