

TEST DATA OF DBS700B36

Regulated DC Power Supply
Nov 11, 2008

Approved by : Tatuya Mamo
Tatuya Mamo Design Manager

Prepared by : Sho Furukawa
Sho Furukawa Design Engineer

COSEL CO.,LTD.

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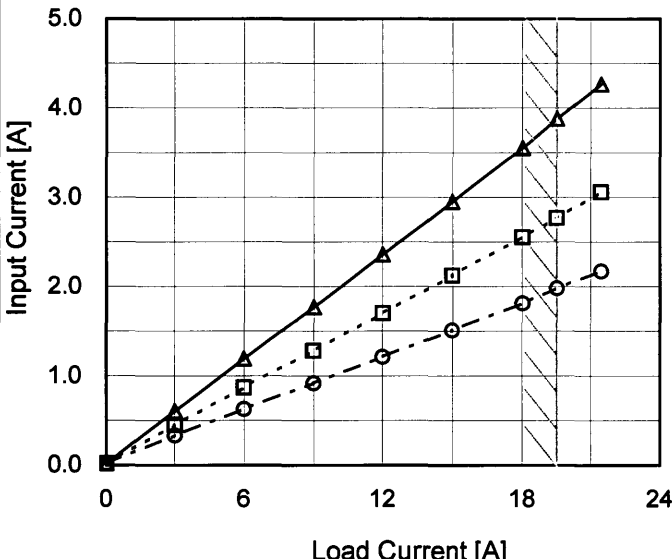
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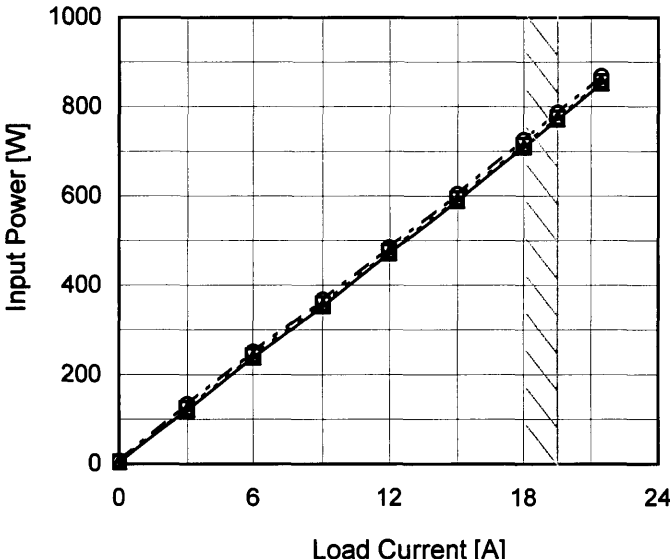
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<div><div><div>—△—</div><div>Input Volt. 200V</div></div><div><div>---□---</div><div>Input Volt. 280V</div></div><div><div>---○---</div><div>Input Volt. 400V</div></div></div> <table><tr><th rowspan="2">Load Current [A]</th><th colspan="3">Output Voltage [V]</th></tr><tr><th>Input Volt. 200[V]</th><th>Input Volt. 280[V]</th><th>Input Volt. 400[V]</th></tr><tr><td>0.00</td><td>36.071</td><td>36.071</td><td>36.071</td></tr><tr><td>3.00</td><td>36.068</td><td>36.055</td><td>36.039</td></tr><tr><td>6.00</td><td>36.055</td><td>36.047</td><td>36.032</td></tr><tr><td>9.00</td><td>36.050</td><td>36.042</td><td>36.031</td></tr><tr><td>12.00</td><td>36.044</td><td>36.035</td><td>36.023</td></tr><tr><td>15.00</td><td>36.039</td><td>36.025</td><td>36.017</td></tr><tr><td>18.00</td><td>36.035</td><td>36.020</td><td>36.010</td></tr><tr><td>19.50</td><td>36.032</td><td>36.018</td><td>36.003</td></tr><tr><td>21.45</td><td>36.027</td><td>36.015</td><td>36.000</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]	Output Voltage [V]			Input Volt. 200[V]	Input Volt. 280[V]	Input Volt. 400[V]	0.00	36.071	36.071	36.071	3.00	36.068	36.055	36.039	6.00	36.055	36.047	36.032	9.00	36.050	36.042	36.031	12.00	36.044	36.035	36.023	15.00	36.039	36.025	36.017	18.00	36.035	36.020	36.010	19.50	36.032	36.018	36.003	21.45	36.027	36.015	36.000	--	-	-	-	--	-	-	-		
Load Current [A]	Output Voltage [V]																																																					
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Note: Slanted line shows the range of the rated load current.																																																						

COSEL

Model	DBS700B36	Temperature	25°C
Item	Dynamic Load Response	Testing Circuitry	Figure A
Object	+36V19.5A		

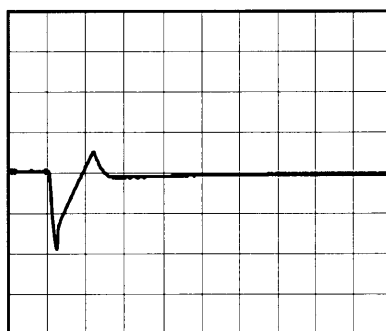
Input Volt. 280 V
Cycle 1000 ms

Load Current 19.5A / 50 μ s

Min. Load (0A) \longleftrightarrow

Load 100% (19.5A)

500 mV/div



500 μ s/div

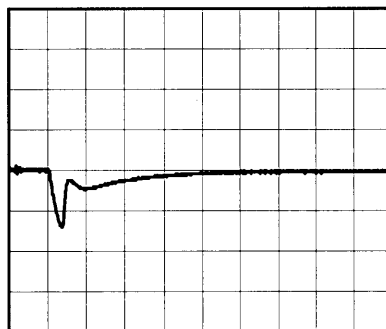


10ms/div

Min. Load (0A) \longleftrightarrow

Load 50% (9.75A)

500 mV/div



500 μ s/div

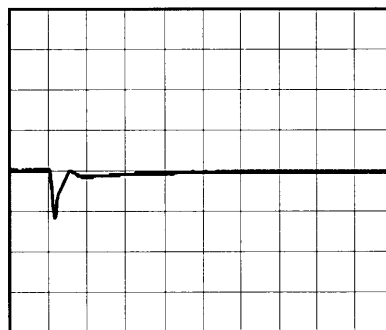


10ms/div

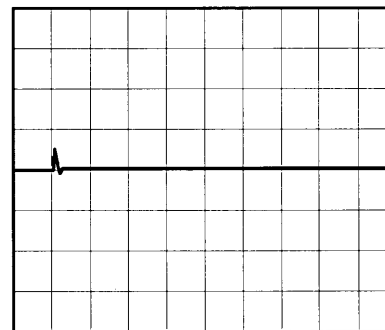
Load 10% (1.95A) \longleftrightarrow

Load 100% (19.5A)

500 mV/div

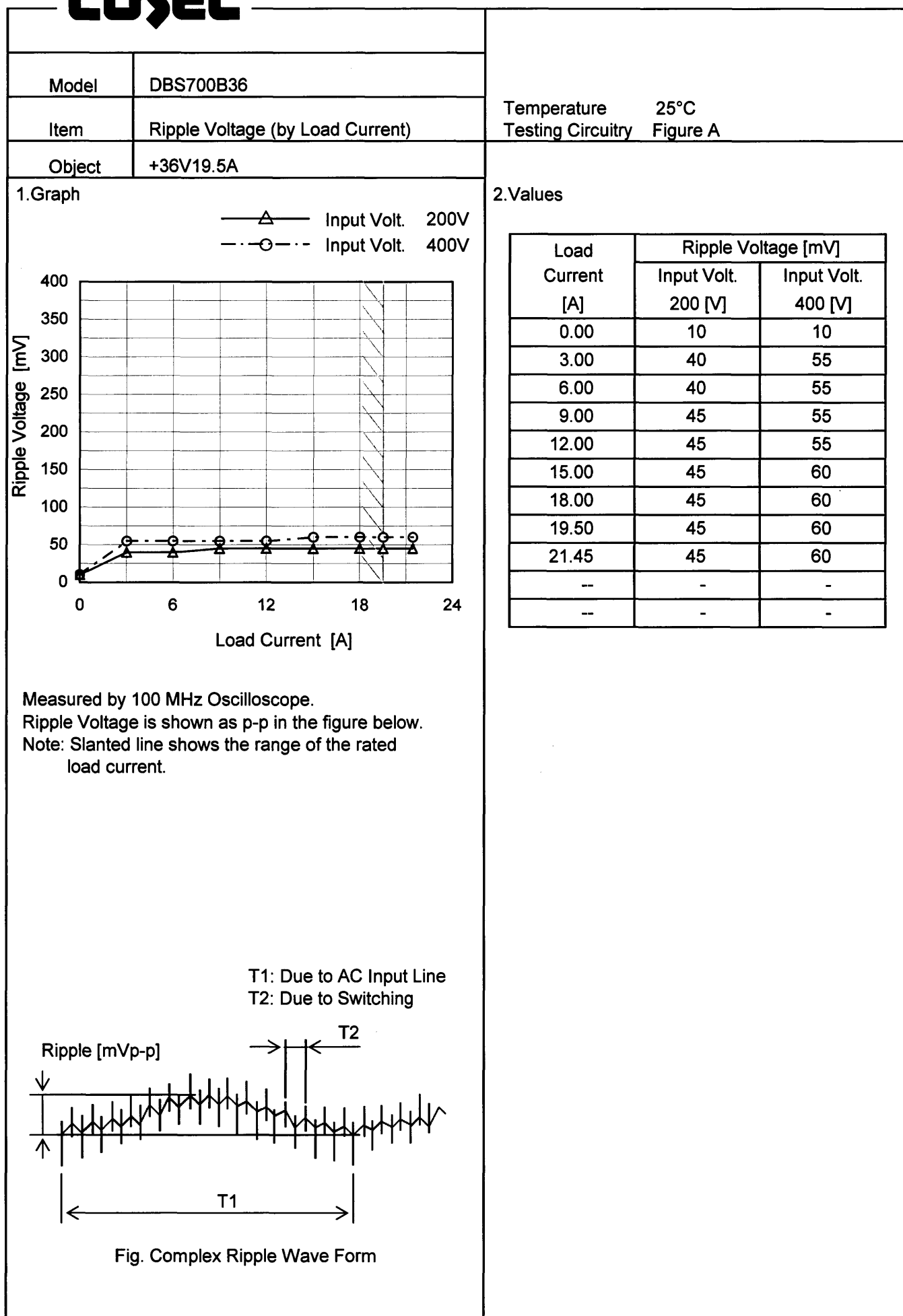


500 μ s/div



10ms/div

COSEL

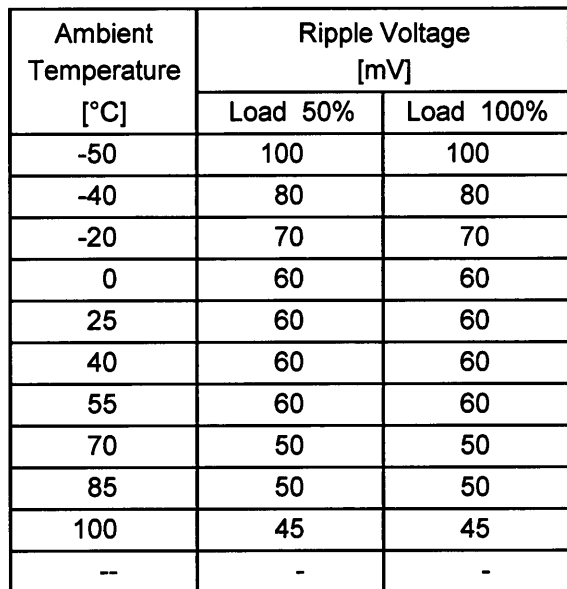


COSEL

Model	DBS700B36																																								
Item	Ripple-Noise	Temperature	25°C																																						
Object	+36V19.5A	Testing Circuitry	Figure A																																						
1.Graph		2.Values																																							
<div><div><div><div></div><div>—△—</div><div>Input Volt. 200V</div></div><div><div></div><div>-○-</div><div>Input Volt. 400V</div></div></div><div></div></div>		<table><tr><th rowspan="2">Load Current [A]</th><th colspan="2">Ripple-Noise [mV]</th></tr><tr><th>Input Volt. 200 [V]</th><th>Input Volt. 400 [V]</th></tr><tr><td>0.00</td><td>25</td><td>25</td></tr><tr><td>3.00</td><td>40</td><td>50</td></tr><tr><td>6.00</td><td>40</td><td>55</td></tr><tr><td>9.00</td><td>45</td><td>55</td></tr><tr><td>12.00</td><td>45</td><td>55</td></tr><tr><td>15.00</td><td>45</td><td>60</td></tr><tr><td>18.00</td><td>45</td><td>60</td></tr><tr><td>19.50</td><td>45</td><td>60</td></tr><tr><td>21.45</td><td>45</td><td>65</td></tr><tr><td>--</td><td>-</td><td>-</td></tr><tr><td>--</td><td>-</td><td>-</td></tr></table>		Load Current [A]	Ripple-Noise [mV]		Input Volt. 200 [V]	Input Volt. 400 [V]	0.00	25	25	3.00	40	50	6.00	40	55	9.00	45	55	12.00	45	55	15.00	45	60	18.00	45	60	19.50	45	60	21.45	45	65	--	-	-	--	-	-
Load Current [A]	Ripple-Noise [mV]																																								
	Input Volt. 200 [V]	Input Volt. 400 [V]																																							
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19.50	45	60																																							
21.45	45	65																																							
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<p>Measured by 100 MHz Oscilloscope. Ripple-Noise is shown as p-p in the figure below. Note: Slanted line shows the range of the rated load current.</p>																																									
<div><div><div><div>T1: Due to AC Input Line</div><div>T2: Due to Switching</div></div><div></div></div></div>																																									
Fig. Complex Ripple Wave Form																																									

[illegible]

2.Values



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

BC-10228

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		Testing Circuitry Figure A
Model	DBS700B36	
Item	Output Voltage Accuracy	
Object	+36V19.5A	

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 : -40 - 100°C

Input Voltage : 200 - 400V

Load Current : 0 - 19.5A

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

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

2. Values

Item	Temperature [°C]	Input Voltage[V]	Output		Output Voltage Accuracy	
			Current[A]	Voltage[V]	Value [mV]	Ration [%]
Maximum Voltage	100	280	0	36.123	±169	±0.5
Minimum Voltage	-40	400	19.5	35.785		

COSEL

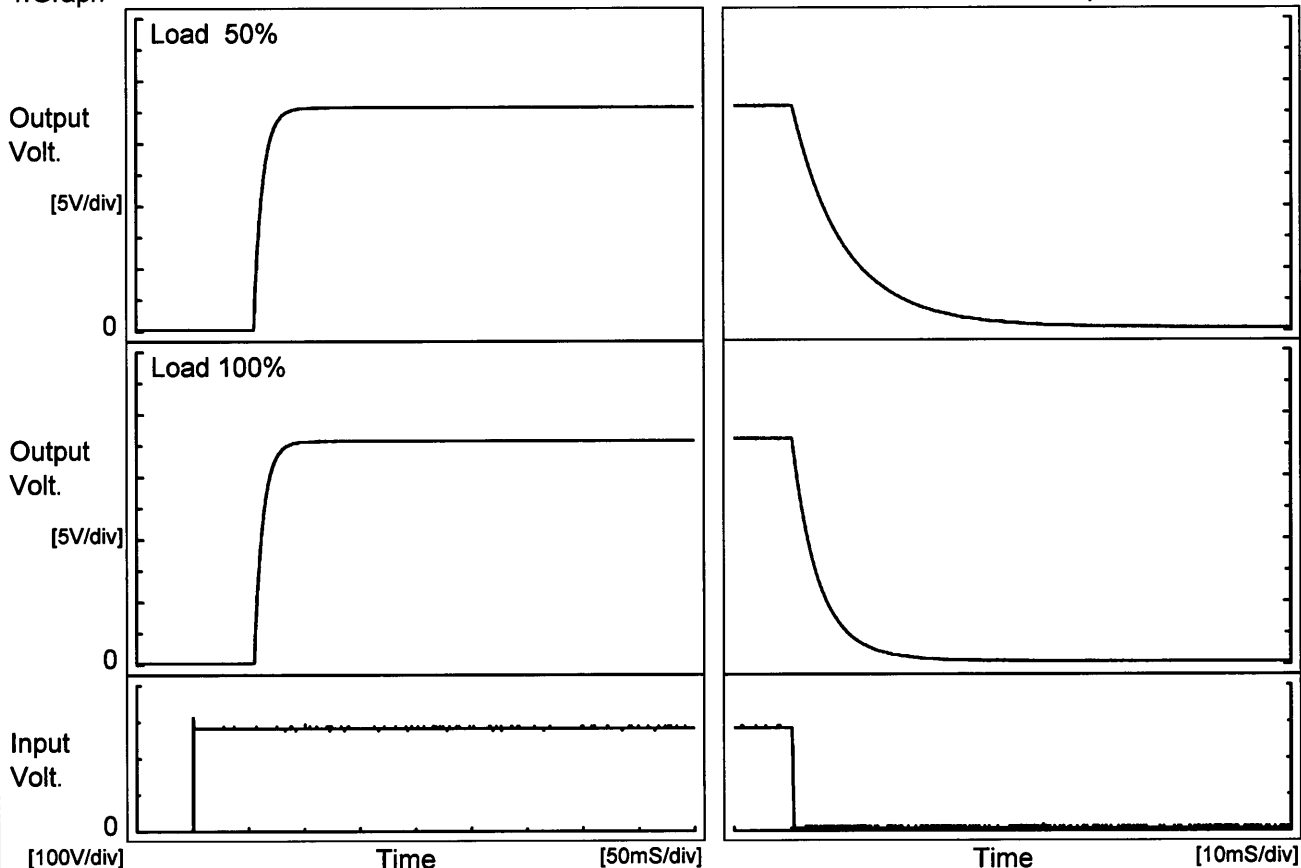
Model	DBS700B36	Temperature 25°C Testing Circuitry Figure A	
Item	Time Lapse Drift		
Object	+36V19.5A		
1.Graph		2.Values	
<div><div><div>Output Voltage 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COSEL

Model	DBS700B36	Temperature 25°C Testing Circuitry Figure A
Item	Rise and Fall Time	
Object	+36V19.5A	

1.Graph

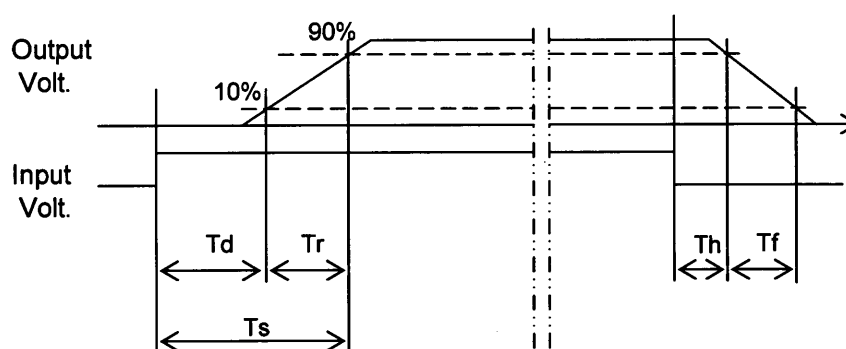
Input Volt. 280 V



2.Values

[mS]

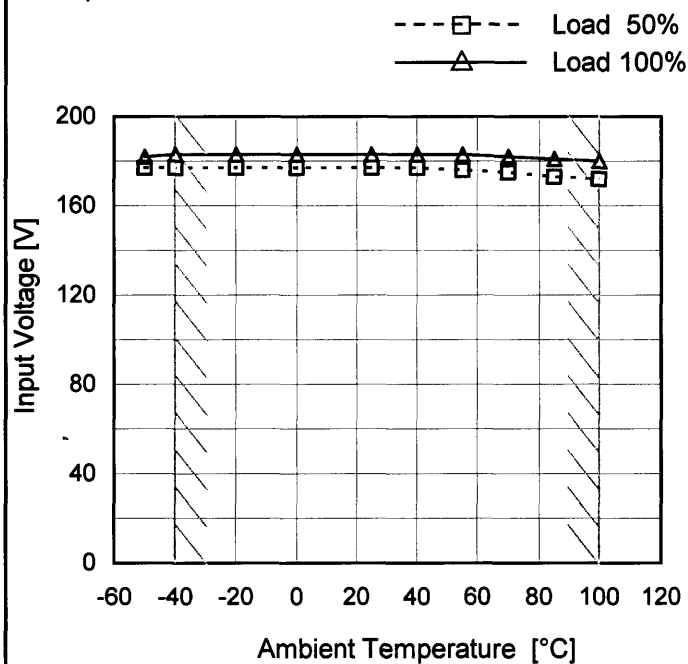
Load \ Time	Td	Tr	Ts	Th	Tf
50 %	55.8	17.5	73.3	1.0	22.5
100 %	56.0	17.5	73.5	0.6	11.2



COSEL

Model	DBS700B36
Item	Minimum Input Voltage for Regulated Output Voltage
Object	+36V19.5A

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%
-50	177	182
-40	177	183
-20	177	183
0	177	183
25	177	183
40	177	183
55	176	183
70	175	182
85	173	181
100	172	180
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BC-10228

COSEL

Model

DBS700B36

Item

Overvoltage Protection

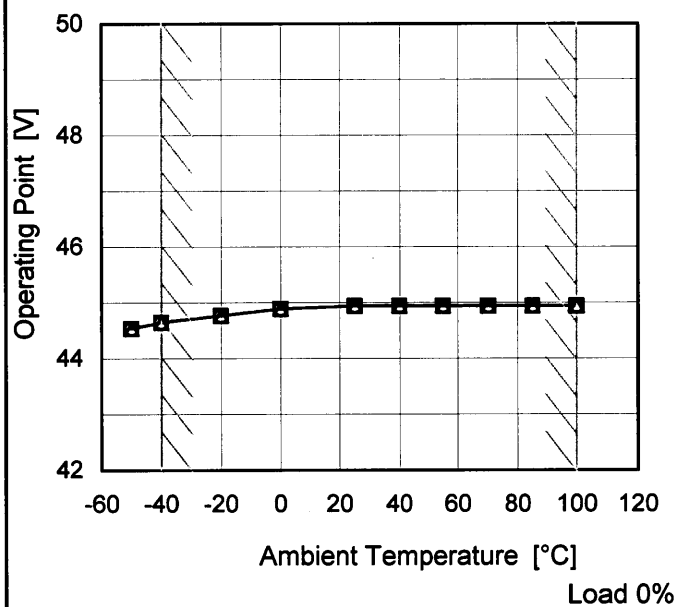
Object

+36V19.5A

Testing Circuitry Figure A

1. Graph

—△— Input Volt. 200V
 ---□--- Input Volt. 280V
 -·-○-·- Input Volt. 400V



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

2. Values

Ambient Temperature [°C]	Operating Point [V]		
	Input Volt. 200[V]	Input Volt. 280[V]	Input Volt. 400[V]
-50	44.54	44.54	44.54
-40	44.65	44.65	44.65
-20	44.77	44.77	44.77
0	44.89	44.89	44.89
25	44.94	44.94	44.94
40	44.94	44.94	44.94
55	44.94	44.94	44.94
70	44.94	44.94	44.94
85	44.94	44.94	44.94
100	44.94	44.94	44.94
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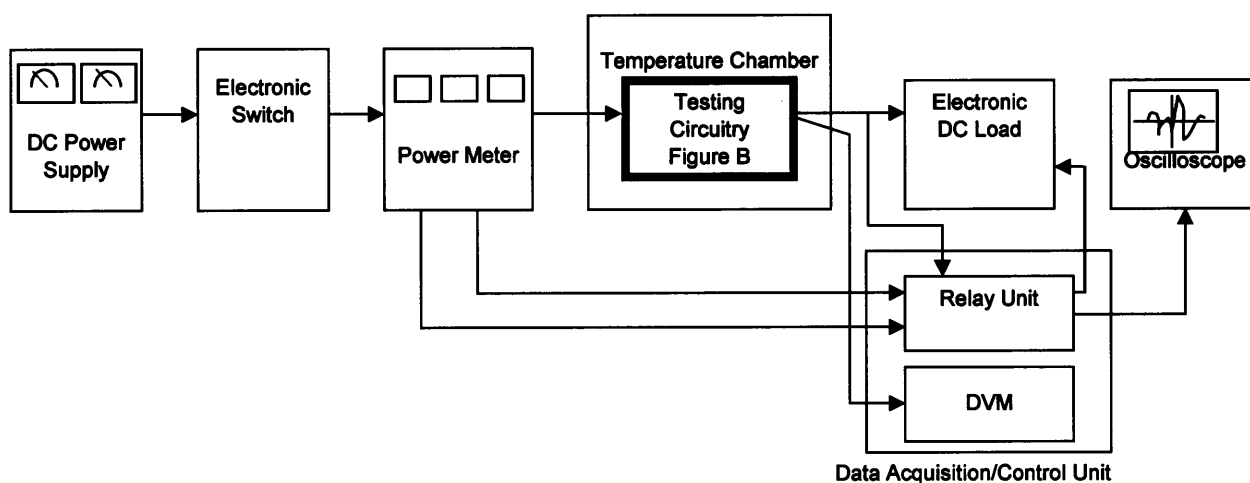


Figure A

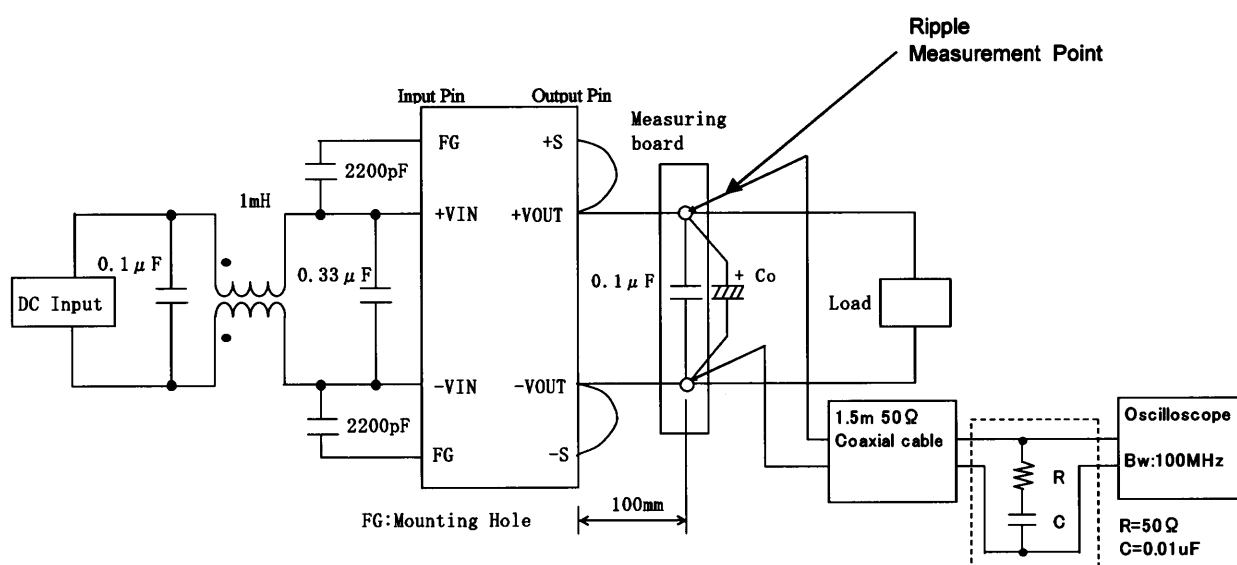


Figure B

Co[μF]	
Base plate temperature: Tc=-20℃~+100℃	Base plate temperature: Tc=-40℃~+100℃
2200	2200 × 3