



TEST DATA OF CES48015-30

Regulated DC Power Supply
Dec 17, 2007

Approved by: Tatsuya Mano
Tatsuya Mano Design Manager

Prepared by: Hisae Yonezawa
Hisae Yonezawa Design Engineer

COSEL CO.,LTD.



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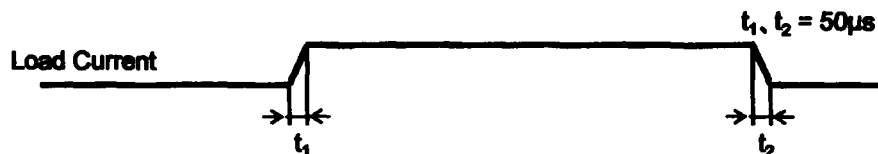


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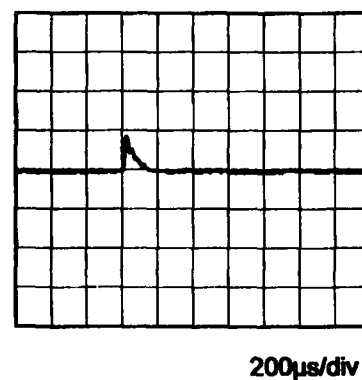
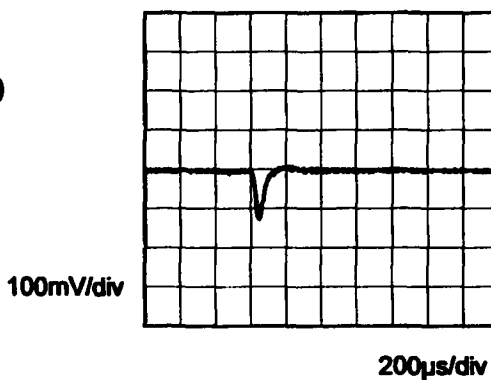
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Item	Dynamic Load Response	
Object	+1.5V30A	

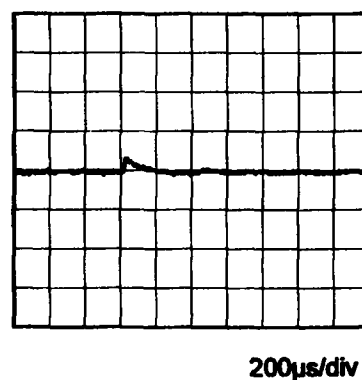
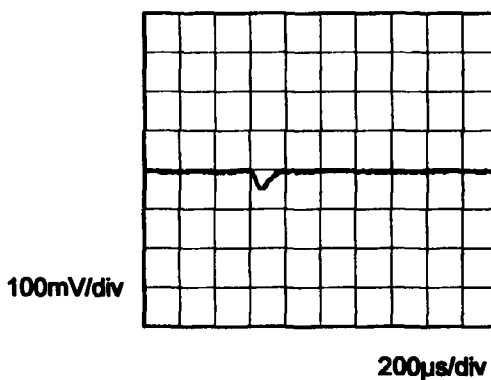
Input Volt. 48 V
Cycle 5 mS



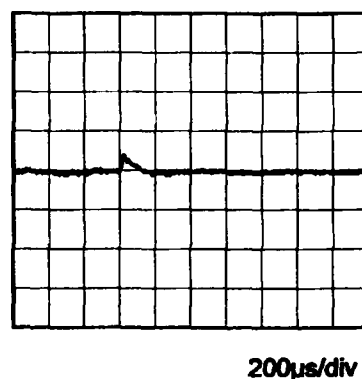
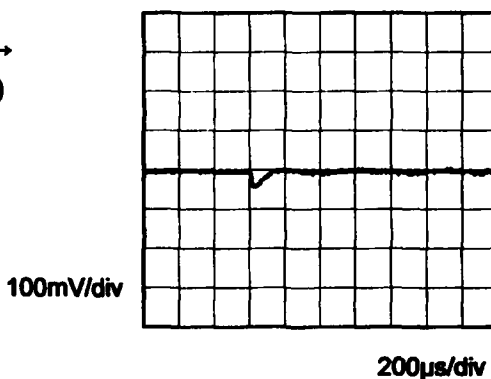
Min. Load (0A) ←→
Load 100% (30A)



Min. Load (0A) ←→
Load 50% (15A)



Load 50% (15A) ←→
Load 100% (30A)





Model CES48015-30		Temperature 25°C Testing Circuitry Figure A																																						
Item Ripple Voltage (by Load Current)																																								
Object +1.5V30A																																								
<p>1. Graph</p> <div style="text-align: right;"> <p>—△— Input Volt. 36V</p> <p>- - -○- - - Input Volt. 76V</p> </div>		<p>2. Values</p> <table border="1"> <thead> <tr> <th rowspan="2">Load Current [A]</th> <th colspan="2">Ripple Voltage [mV]</th> </tr> <tr> <th>Input Volt. 36 [V]</th> <th>Input Volt. 76 [V]</th> </tr> </thead> <tbody> <tr><td>0</td><td>5</td><td>5</td></tr> <tr><td>5</td><td>5</td><td>5</td></tr> <tr><td>10</td><td>5</td><td>5</td></tr> <tr><td>15</td><td>5</td><td>5</td></tr> <tr><td>20</td><td>5</td><td>5</td></tr> <tr><td>25</td><td>5</td><td>5</td></tr> <tr><td>30</td><td>5</td><td>5</td></tr> <tr><td>33</td><td>5</td><td>5</td></tr> <tr><td>-</td><td>-</td><td>-</td></tr> <tr><td>-</td><td>-</td><td>-</td></tr> <tr><td>-</td><td>-</td><td>-</td></tr> </tbody> </table>	Load Current [A]	Ripple Voltage [mV]		Input Volt. 36 [V]	Input Volt. 76 [V]	0	5	5	5	5	5	10	5	5	15	5	5	20	5	5	25	5	5	30	5	5	33	5	5	-	-	-	-	-	-	-	-	-
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<p>Measured by 20 MHz Oscilloscope. Ripple Voltage is shown as p-p in the figure below. Note: Slanted line shows the range of the rated load current.</p>																																								
<p>Ripple [mVp-p]</p> <p>Fig. Complex Ripple Wave Form</p>																																								



Model CES48015-30		Temperature 25°C Testing Circuitry Figure A																																						
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Item	Ripple Voltage (by Ambient Temp.)																																							
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<p>1. Graph</p> <p style="text-align: right;"> ---□--- Load 50% —△— Load 100% </p> <p style="text-align: center;"> Ripple Voltage [mV] Ambient Temperature [°C] Input Volt. 48V </p>		<p>2. Values</p> <table border="1"> <thead> <tr> <th rowspan="2">Ambient Temperature [°C]</th> <th colspan="2">Ripple Voltage [mV]</th> </tr> <tr> <th>Load 50%</th> <th>Load 100%</th> </tr> </thead> <tbody> <tr><td>-40</td><td>5</td><td>5</td></tr> <tr><td>-20</td><td>5</td><td>5</td></tr> <tr><td>0</td><td>5</td><td>5</td></tr> <tr><td>25</td><td>5</td><td>5</td></tr> <tr><td>40</td><td>5</td><td>5</td></tr> <tr><td>60</td><td>5</td><td>5</td></tr> <tr><td>85</td><td>5</td><td>5</td></tr> <tr><td>—</td><td>—</td><td>—</td></tr> <tr><td>—</td><td>—</td><td>—</td></tr> <tr><td>—</td><td>—</td><td>—</td></tr> <tr><td>—</td><td>—</td><td>—</td></tr> </tbody> </table>	Ambient Temperature [°C]	Ripple Voltage [mV]		Load 50%	Load 100%	-40	5	5	-20	5	5	0	5	5	25	5	5	40	5	5	60	5	5	85	5	5	—	—	—	—	—	—	—	—	—	—	—	—
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Model		CES48015-30		Testing Circuitry Figure A																																																				
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Model		CES48015-30	Testing Circuitry Figure A
Item	Output Voltage Accuracy		
Object	+1.5V30A		

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 - 85°C

Input Voltage : 36 - 76V

Load Current : 0 - 30A

* 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	0	76	30	1.503	±3	±0.2
Minimum Voltage	85	76	0	1.498		

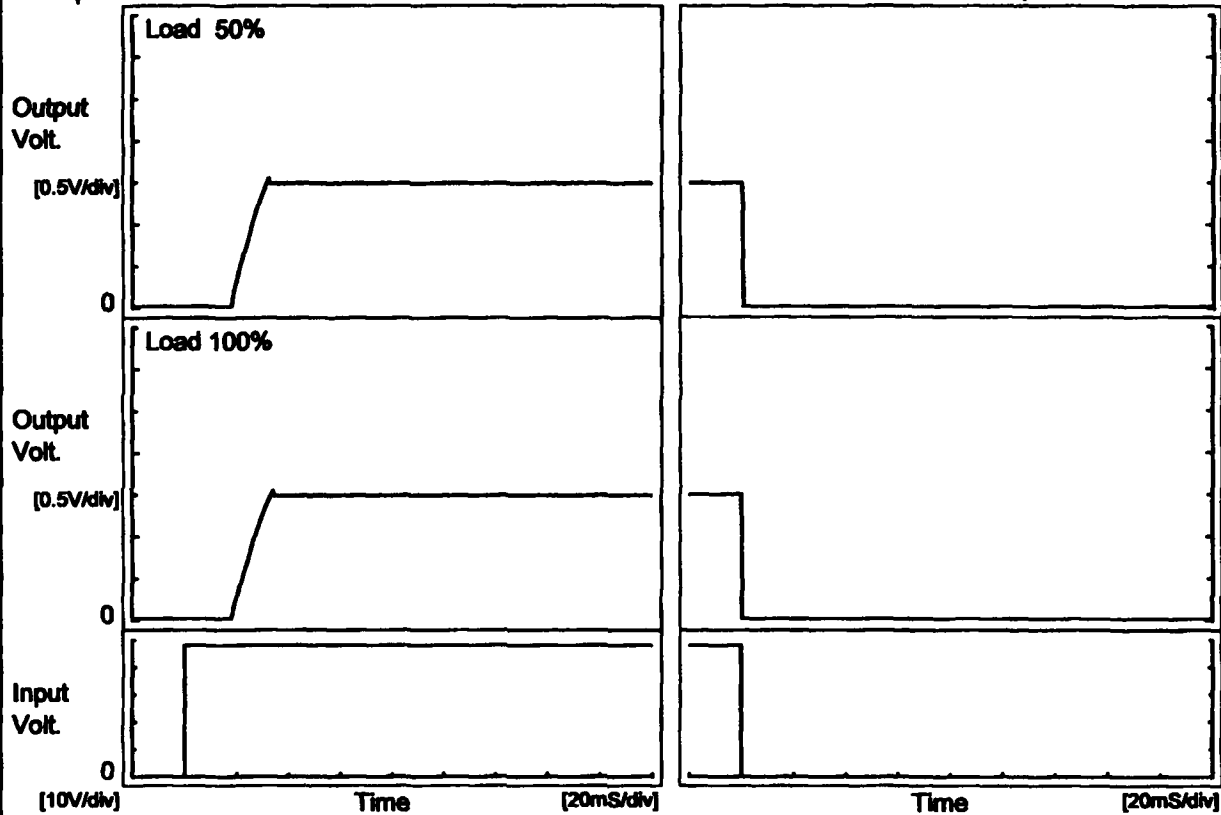


Model CES48015-30		Temperature 25°C Testing Circuitry Figure A																						
Item	Time Lapse Drift																							
Object	+1.5V30A																							
1. Graph		2. Values																						
<p style="text-align: center;">Time [H]</p> <p>Input Volt. 48V Load 100%</p>		<table border="1"> <thead> <tr> <th>Time since start [H]</th> <th>Output Voltage [V]</th> </tr> </thead> <tbody> <tr><td>0.0</td><td>1.502</td></tr> <tr><td>0.5</td><td>1.502</td></tr> <tr><td>1.0</td><td>1.502</td></tr> <tr><td>2.0</td><td>1.502</td></tr> <tr><td>3.0</td><td>1.502</td></tr> <tr><td>4.0</td><td>1.502</td></tr> <tr><td>5.0</td><td>1.502</td></tr> <tr><td>6.0</td><td>1.502</td></tr> <tr><td>7.0</td><td>1.502</td></tr> <tr><td>8.0</td><td>1.502</td></tr> </tbody> </table>	Time since start [H]	Output Voltage [V]	0.0	1.502	0.5	1.502	1.0	1.502	2.0	1.502	3.0	1.502	4.0	1.502	5.0	1.502	6.0	1.502	7.0	1.502	8.0	1.502
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7.0	1.502																							
8.0	1.502																							



Model	CES48015-30	Temperature	25°C
Item	Rise and Fall Time	Testing Circuitry	Figure A
Object	+1.5V30A		

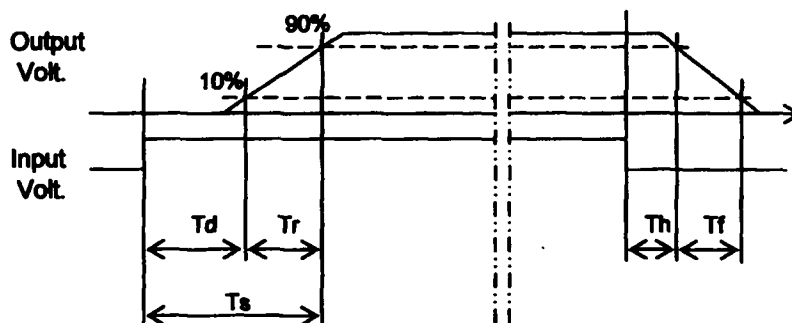
1. Graph



2. Values

Load \ Time	Td	Tr	Ts	Th	Tf
50 %	18.5	11.6	30.1	0.1	0.1
100 %	18.9	12.4	31.3	0.1	0.1

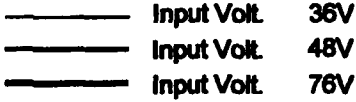
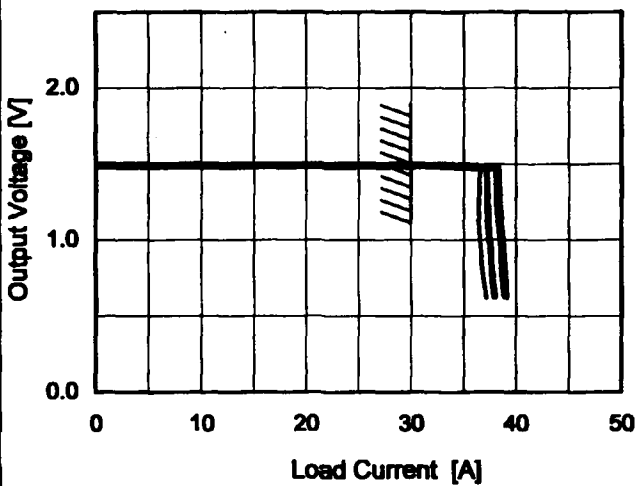
[mS]





Model CES48015-30		Testing Circuitry Figure A																																						
Item	Minimum Input Voltage for Regulated Output Voltage																																							
Object	+1.5V30A																																							
1. Graph <div style="text-align: right;"> ---□--- Load 50% ---△--- Load 100% </div> <p style="text-align: center;">Input Voltage [V]</p> <p style="text-align: center;">Ambient Temperature [°C]</p>		2. Values <table border="1"> <thead> <tr> <th rowspan="2">Ambient Temperature [°C]</th> <th colspan="2">Input Voltage [V]</th> </tr> <tr> <th>Load 50%</th> <th>Load 100%</th> </tr> </thead> <tbody> <tr><td>-40</td><td>31.0</td><td>31.1</td></tr> <tr><td>-20</td><td>31.2</td><td>31.1</td></tr> <tr><td>0</td><td>31.2</td><td>31.3</td></tr> <tr><td>25</td><td>31.7</td><td>31.8</td></tr> <tr><td>40</td><td>31.9</td><td>32.0</td></tr> <tr><td>60</td><td>32.1</td><td>32.2</td></tr> <tr><td>85</td><td>32.3</td><td>32.4</td></tr> <tr><td>--</td><td>-</td><td>-</td></tr> <tr><td>--</td><td>-</td><td>-</td></tr> <tr><td>--</td><td>-</td><td>-</td></tr> <tr><td>--</td><td>-</td><td>-</td></tr> </tbody> </table>	Ambient Temperature [°C]	Input Voltage [V]		Load 50%	Load 100%	-40	31.0	31.1	-20	31.2	31.1	0	31.2	31.3	25	31.7	31.8	40	31.9	32.0	60	32.1	32.2	85	32.3	32.4	--	-	-	--	-	-	--	-	-	--	-	-
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<p>Note: Slanted line shows the range of the rated load current.</p> <p>When the output voltage fell lower than 1.2V, the unit shuts off output by operating low voltage protection.</p>																																																									



Model CES48015-30		Testing Circuitry Figure A																																																			
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Object	+1.5V30A																																																				
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-40	1.84	1.84	1.84																																																		
-20	1.84	1.84	1.84																																																		
0	1.84	1.84	1.84																																																		
25	1.84	1.84	1.84																																																		
40	1.84	1.84	1.84																																																		
60	1.84	1.84	1.84																																																		
85	1.84	1.84	1.84																																																		
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<p>Note: Slanted line shows the range of the rated ambient temperature.</p>																																																					

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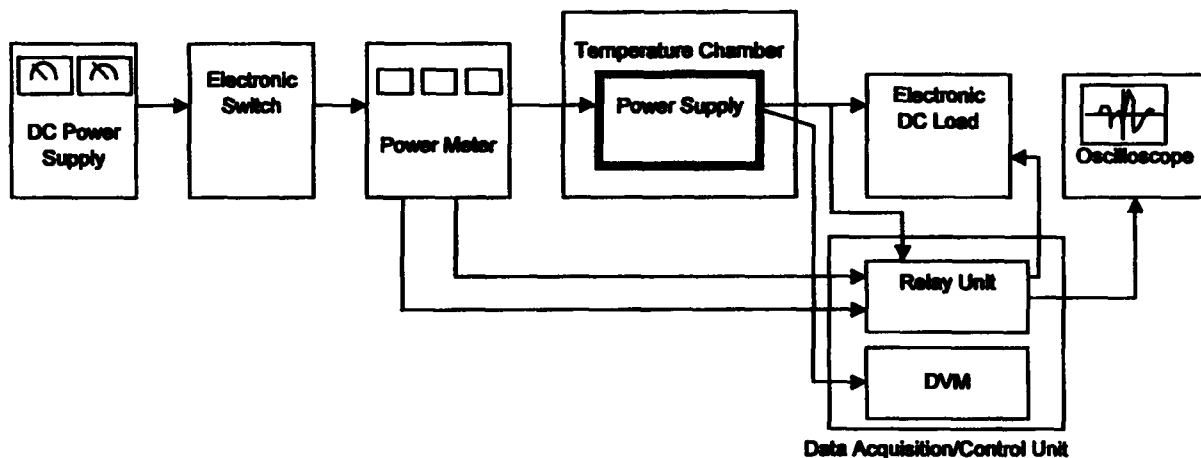


Figure A

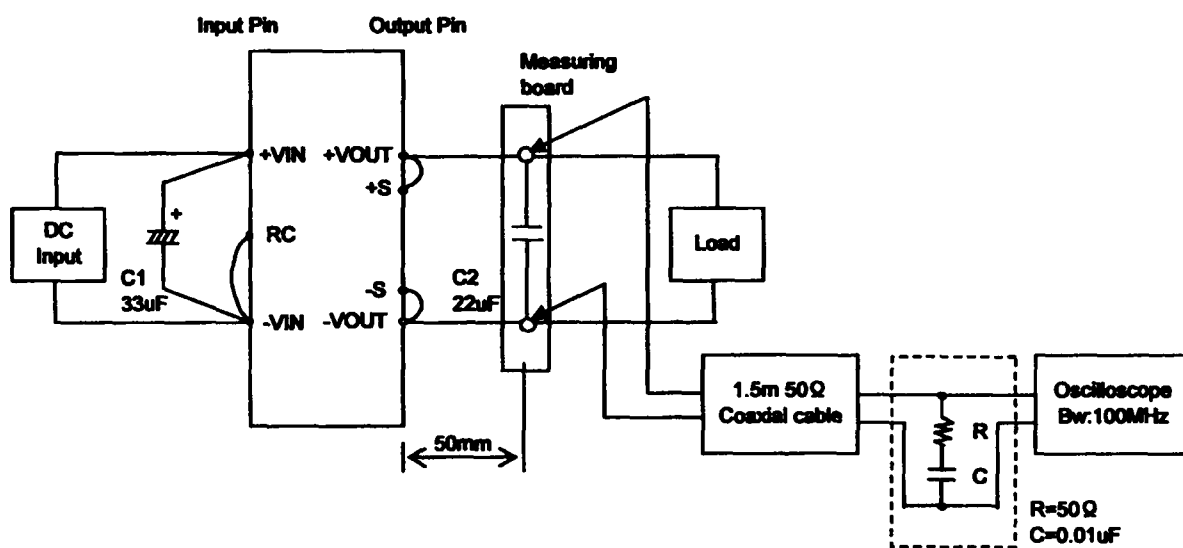


Figure B