参考資料

COSEL

TEST DATA OF MODULE 2D

Regulated DC Power Supply
Apr.13. 2004

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COSEL CO.,LTD.

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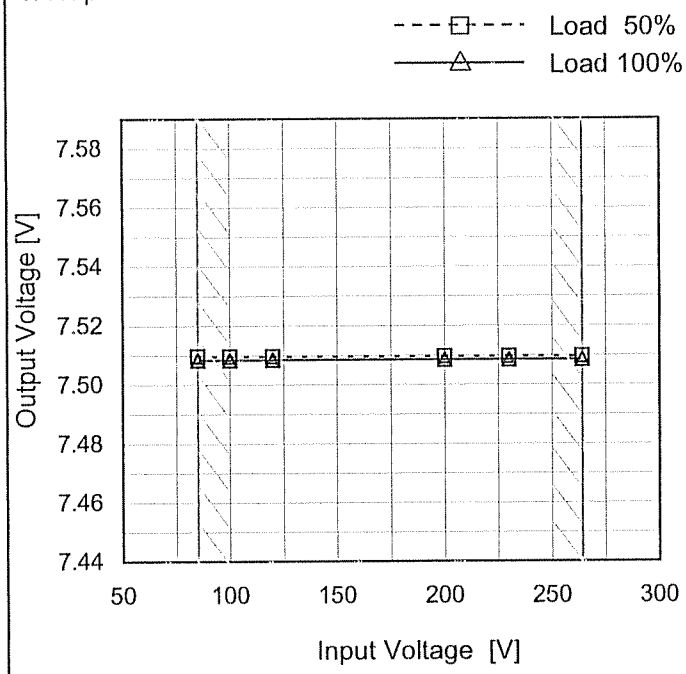
Model	MODULE 2D
Item	Line Regulation
Object	+7.5V40A

Temperature 25°C
Testing Circuitry Figure A

1.Graph



Note: Slanted line shows the range of the rated input voltage.

2.Values

Input Voltage [V]	Output Voltage [V]	
	Load 50%	Load 100%
85	7.510	7.508
100	7.510	7.508
120	7.510	7.508
200	7.510	7.508
230	7.510	7.508
264	7.510	7.508
--	-	-
--	-	-
--	-	-

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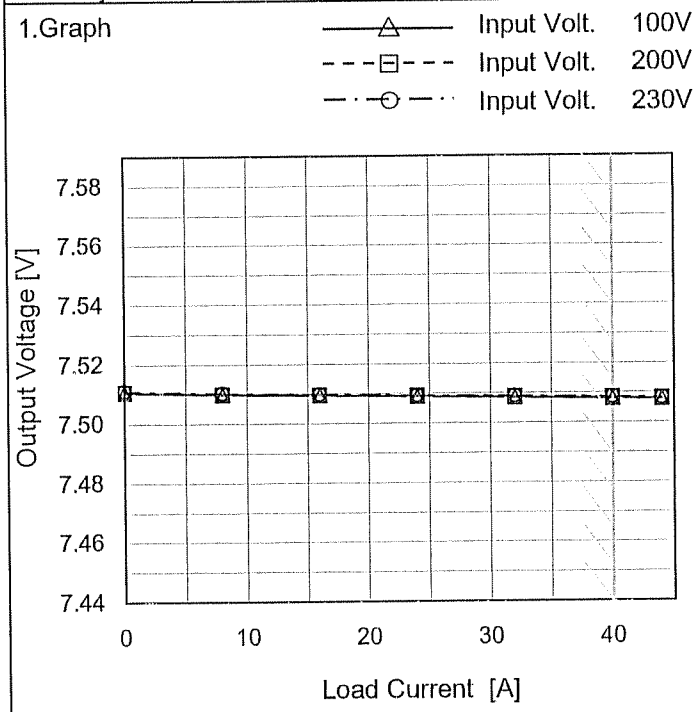
Model	MODULE 2D
Item	Load Regulation
Object	+7.5V40A

Temperature 25°C
Testing Circuitry Figure A

1.Graph



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

2.Values

Load Current [A]	Output Voltage [V]		
	Input Volt. 100[V]	Input Volt. 200[V]	Input Volt. 230[V]
0	7.511	7.511	7.511
8	7.510	7.510	7.510
16	7.509	7.510	7.510
24	7.509	7.509	7.509
32	7.508	7.509	7.509
40	7.508	7.508	7.509
44	7.508	7.508	7.508
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-

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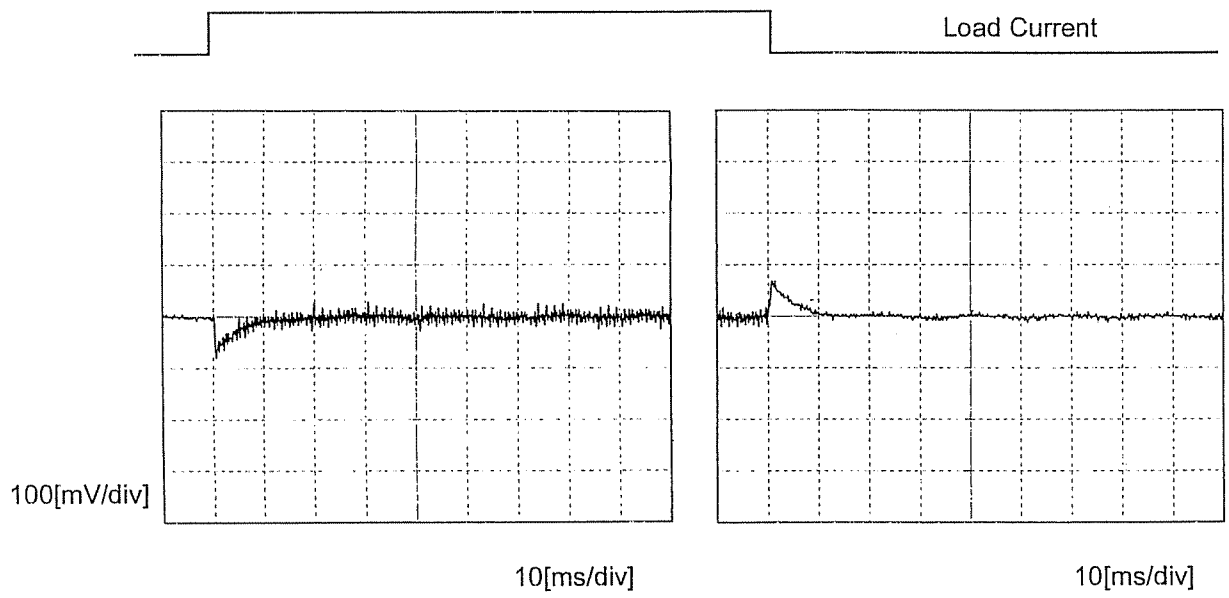
Model	MODULE 2D
Item	Dynamic Load Response
Object	+7.5V40A

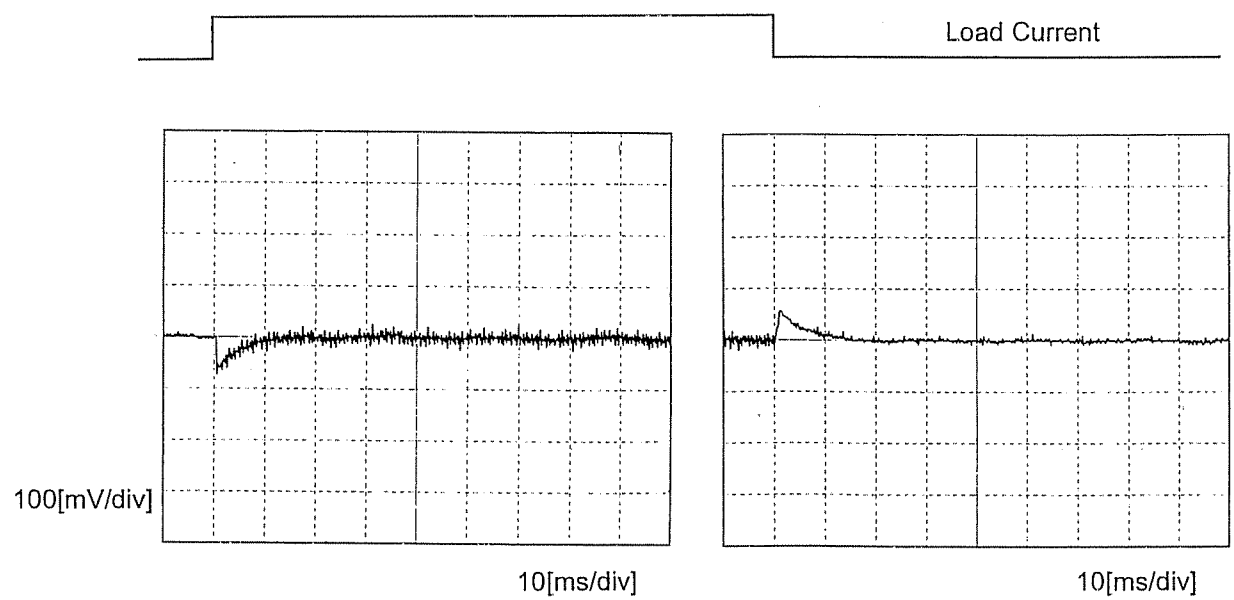
Temperature 25°C
Testing Circuitry Figure A

Input Volt. 100 V
Cycle 1000 ms

Min. Load (0 A) -- Load 100% (40 A)



Min. Load (0 A) -- Load 50% (20 A)



* The characteristic of AC200V is equal.

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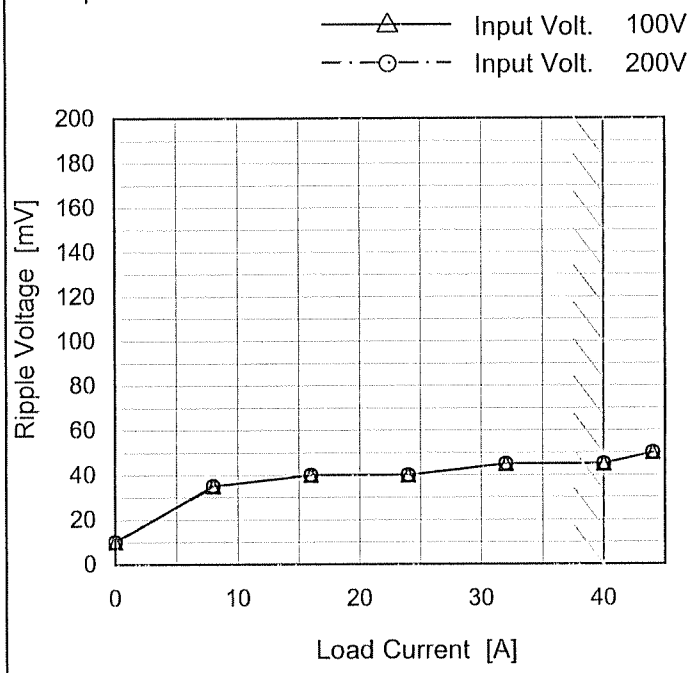
Model	MODULE 2D
Item	Ripple Voltage (by Load Current)
Object	+7.5V40A

Temperature 25°C
Testing Circuitry Figure A

1.Graph



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.

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

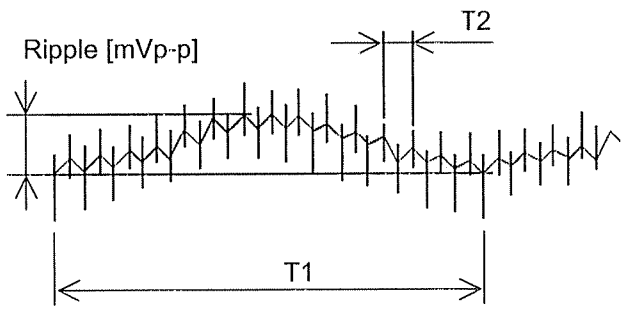


Fig. Complex Ripple Wave Form

2.Values

Load Current [A]	Ripple Voltage [mV]	
	Input Volt. 100 [V]	Input Volt. 200 [V]
0	10	10
8	35	35
16	40	40
24	40	40
32	45	45
40	45	45
44	50	50
--	-	-
--	-	-
--	-	-
--	-	-

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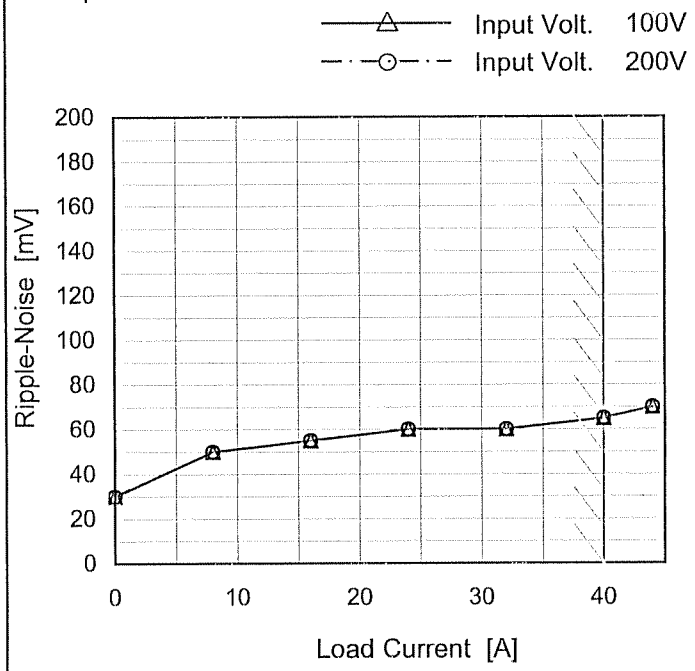
Model	MODULE 2D
Item	Ripple-Noise
Object	+7.5V40A

Temperature 25°C
Testing Circuitry Figure A

1.Graph



Measured by 20 MHz Oscilloscope.
Ripple-Noise is shown as p-p in the figure below.
Note: Slanted line shows the range of the rated load current.

2.Values

Load Current [A]	Ripple-Noise [mV]	
	Input Volt. 100 [V]	Input Volt. 200 [V]
0	30	30
8	50	50
16	55	55
24	60	60
32	60	60
40	65	65
44	70	70
--	-	-
--	-	-
--	-	-
--	-	-

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

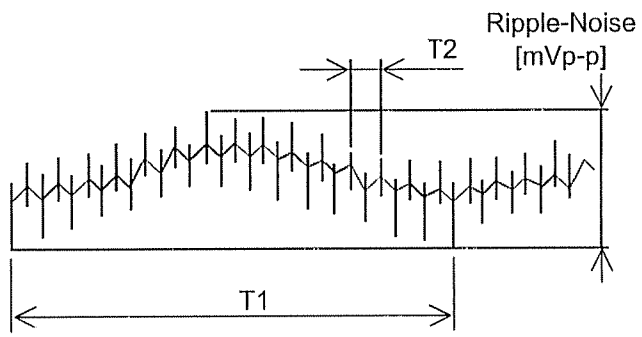


Fig. Complex Ripple Wave Form

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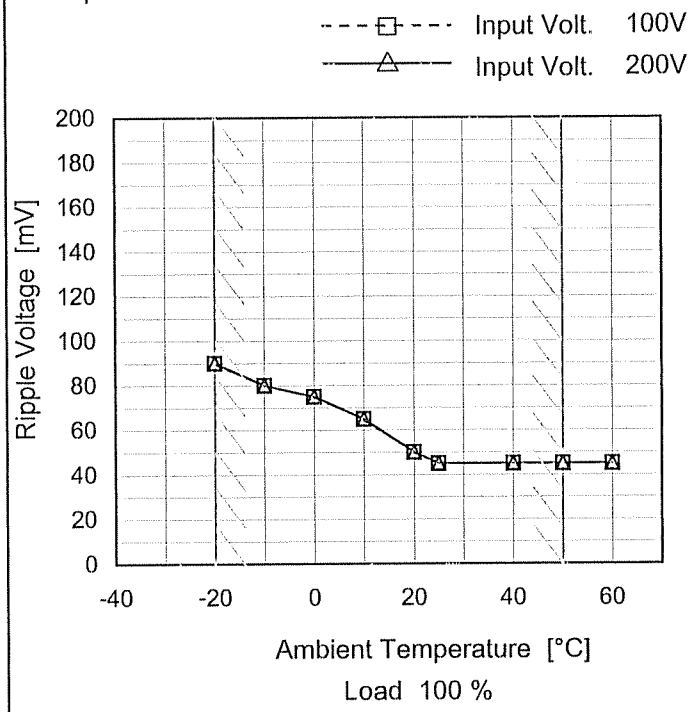
Model	MODULE 2D
Item	Ripple Voltage (by Ambient Temp.)
Object	+7.5V40A

Testing Circuitry Figure A

1.Graph



Measured by 20 MHz Oscilloscope.

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

2.Values

Ambient Temperature [°C]	Ripple Voltage [mV]	
	Input Volt. 100 [V]	Input Volt. 200 [V]
-20	90	90
-10	80	80
0	75	75
10	65	65
20	50	50
25	45	45
40	45	45
50	45	45
60	45	45
--	-	-
--	-	-

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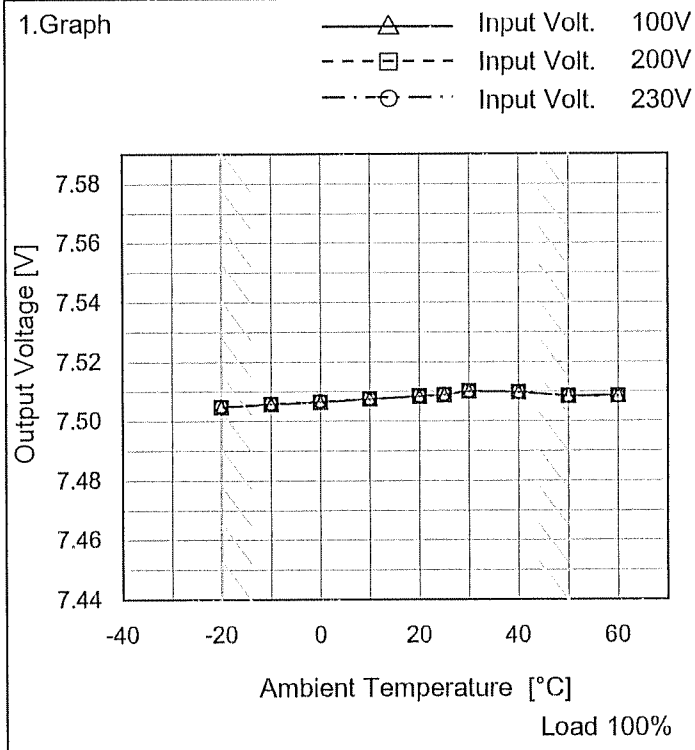
Model	MODULE 2D
Item	Ambient Temperature Drift
Object	+7.5V40A

Testing Circuitry Figure A

1.Graph



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

2.Values

Ambient Temperature [°C]	Output Voltage [V]		
	Input Volt. 100[V]	Input Volt. 200[V]	Input Volt. 230[V]
-20	7.505	7.505	7.505
-10	7.506	7.506	7.506
0	7.506	7.506	7.507
10	7.507	7.507	7.508
20	7.508	7.508	7.509
25	7.509	7.509	7.509
30	7.510	7.510	7.510
40	7.510	7.510	7.510
50	7.508	7.508	7.508
60	7.509	7.509	7.508
--	-	-	-

COSEL

Model	MODULE 2D	
Item	Output Voltage Accuracy	Testing Circuitry Figure A
Object	+7.5V40A	

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 : -20 - 50°C
Input Voltage : 85 - 264V
Load Current : 0 - 40A

* Output Voltage Accuracy = ±(Maximum of Output Voltage - 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	264	0	7.512	±4	±0.1
Minimum Voltage	-20	85	40	7.504		

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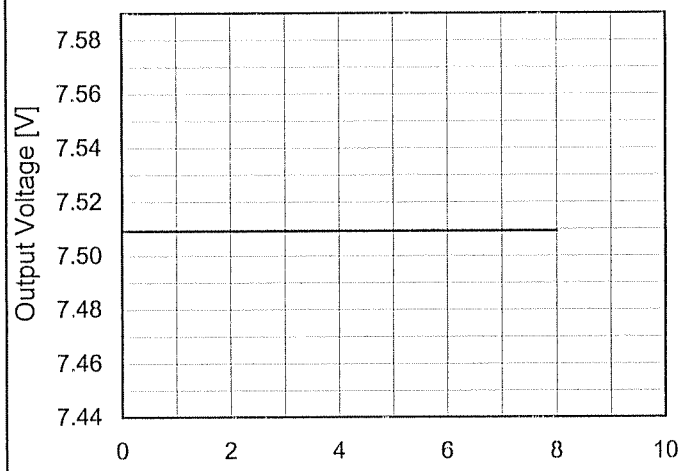
Model	MODULE 2D
Item	Time Lapse Drift
Object	+7.5V40A

Temperature 25°C
Testing Circuitry Figure A

1.Graph



Input Volt. 100V
Load 100%

* The characteristic of AC200V is equal.

2.Values

Time since start [H]	Output Voltage [V]
0.0	7.509
0.5	7.509
1.0	7.509
2.0	7.509
3.0	7.509
4.0	7.509
5.0	7.509
6.0	7.509
7.0	7.509
8.0	7.509

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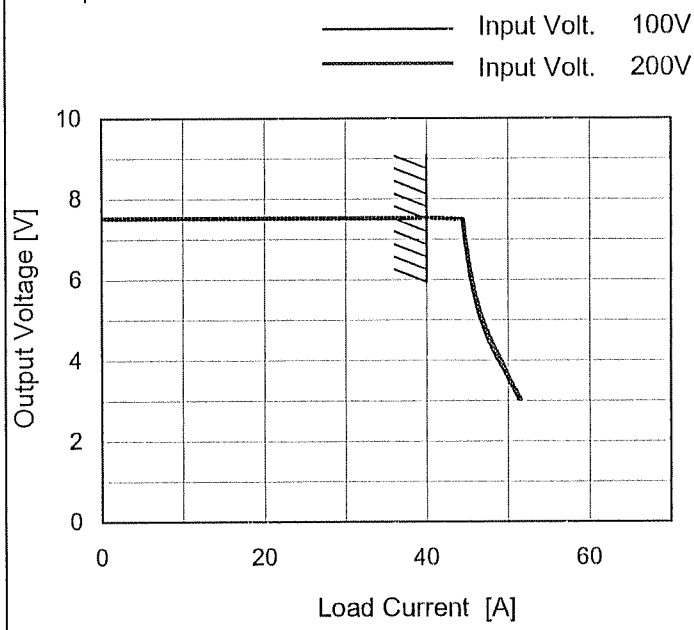
Model	MODULE 2D
Item	Overcurrent Protection
Object	+7.5V40A

Temperature 25°C
Testing Circuitry Figure A

1.Graph



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

Intermittent operation occurs when the output voltage is from 3V to 0V.

2.Values

Output Voltage [V]	Load Current [A]	
	Input Volt. 100[V]	Input Volt. 200[V]
7.500	42.37	42.10
7.125	44.47	44.64
6.750	44.69	44.88
6.000	45.32	45.55
5.250	46.13	46.44
4.500	47.46	47.88
3.750	49.31	49.65
3.000	51.35	51.65
--	-	-
--	-	-
--	-	-
--	-	-

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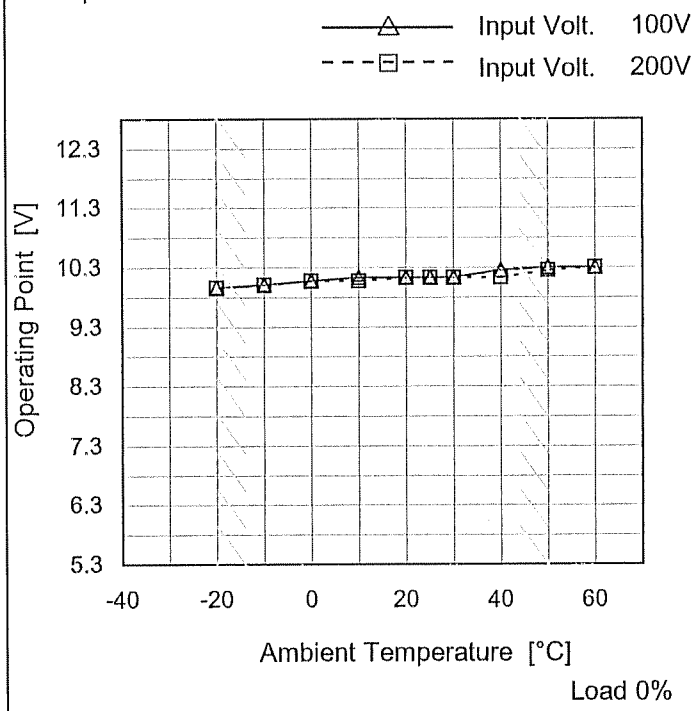
Model	MODULE 2D
Item	Overvoltage Protection
Object	+7.5V40A

Testing Circuitry Figure A

1.Graph



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

2.Values

Ambient Temperature [°C]	Operating Point [V]	
	Input Volt. 100[V]	Input Volt. 200[V]
-20	10.00	10.00
-10	10.05	10.05
0	10.11	10.11
10	10.17	10.11
20	10.17	10.17
25	10.17	10.17
30	10.17	10.17
40	10.29	10.17
50	10.34	10.29
60	10.34	10.34
"	"	"

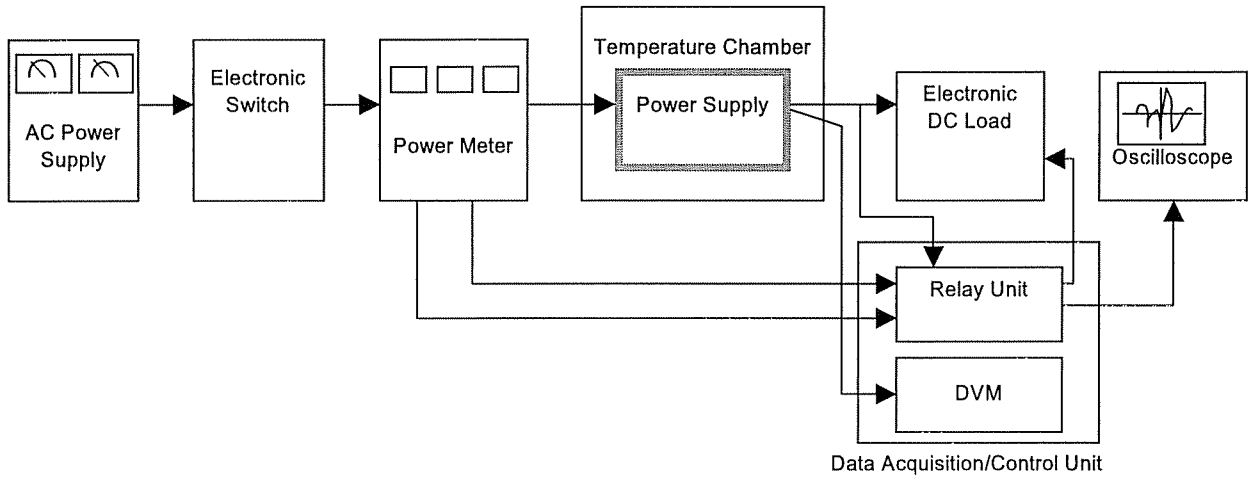


Figure A

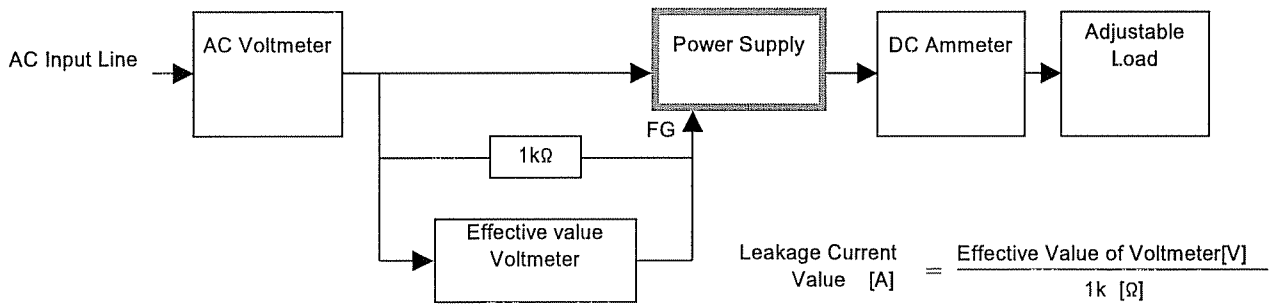


Figure B (DEN-AN)

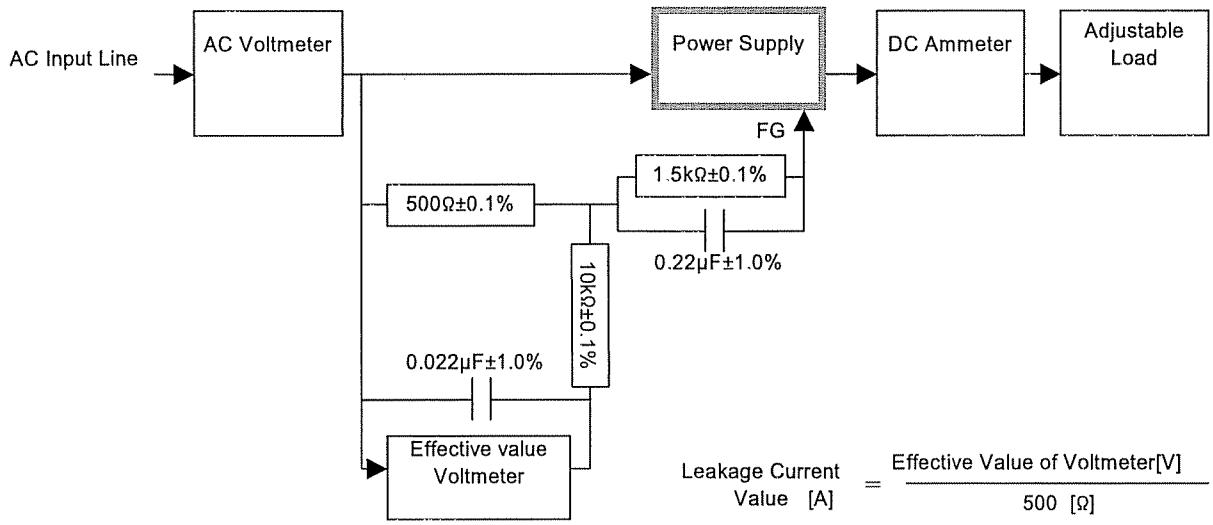


Figure B (IEC60950)