参考資料

COSEL

TEST DATA OF LEA75F-30

Regulated DC Power Supply
Jun 14, 2005

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COSEL CO.,LTD.

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Item	Input Current (by Load Current)
Object	———————

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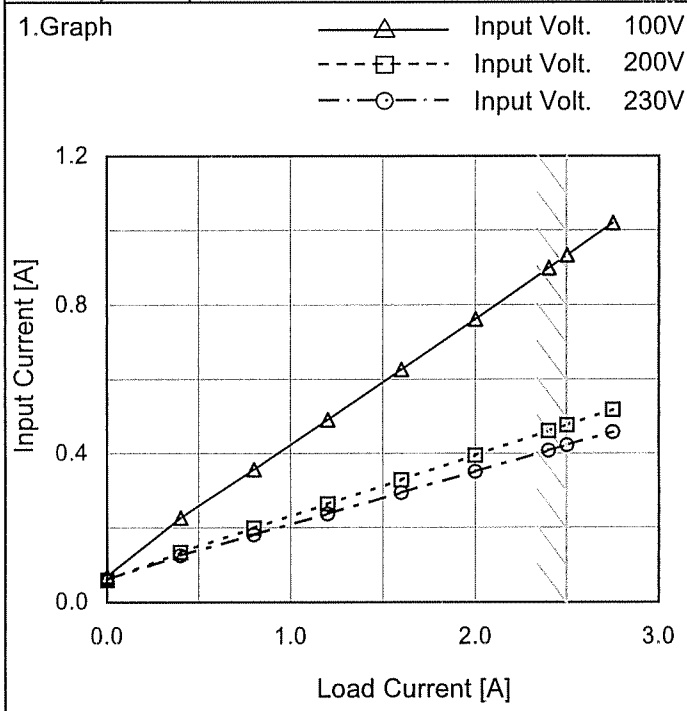

Note: Slanted line shows the range of the rated load current.

2.Values

Load Current [A]	Input Current [A]		
	Input Volt. 100[V]	Input Volt. 200[V]	Input Volt. 230[V]
0.00	0.070	0.059	0.060
0.40	0.227	0.134	0.125
0.80	0.357	0.199	0.181
1.20	0.491	0.264	0.237
1.60	0.627	0.329	0.294
2.00	0.762	0.395	0.351
2.40	0.899	0.461	0.408
2.50	0.934	0.477	0.422
2.75	1.020	0.518	0.458
--	-	-	-
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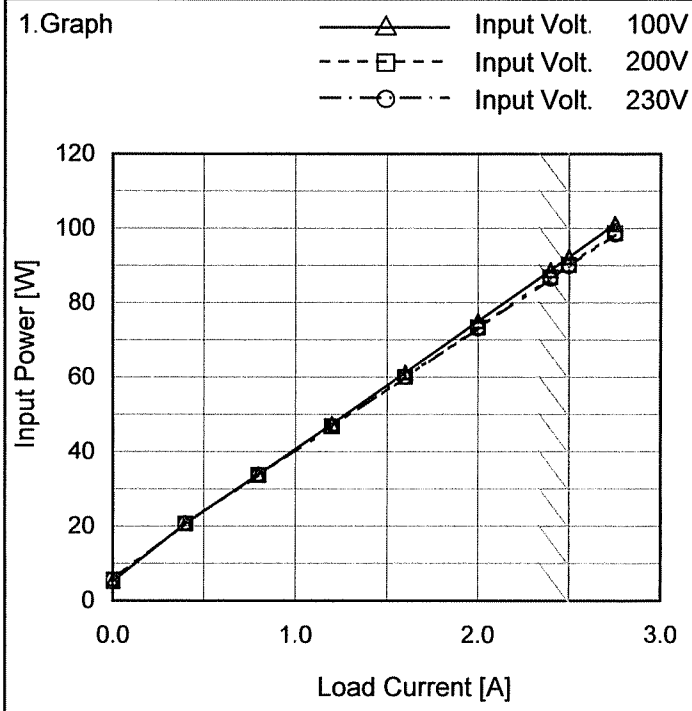
Model	LEA75F-30
Item	Input Power (by Load Current)
Object	————————

Temperature 25°C
Testing Circuitry Figure A

1.Graph



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

2.Values

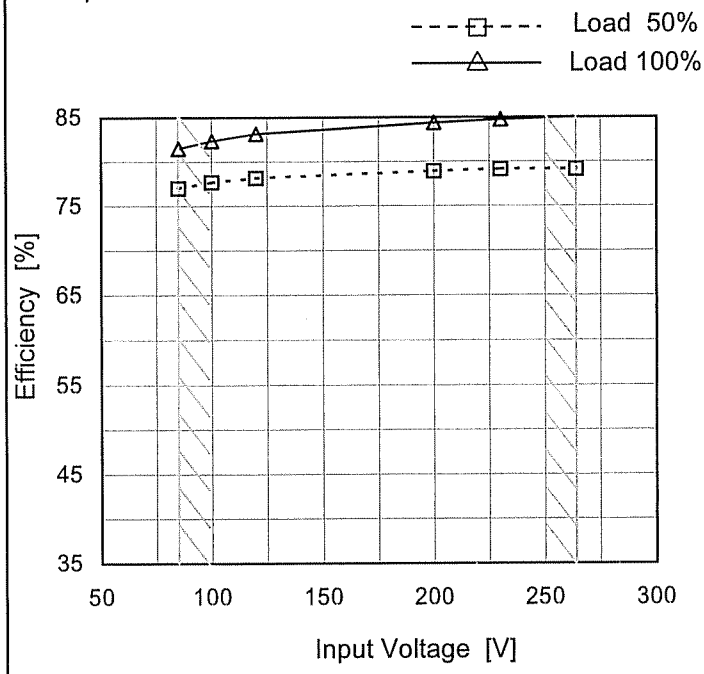
Load Current [A]	Input Power [W]		
	Input Volt. 100[V]	Input Volt. 200[V]	Input Volt. 230[V]
0.00	5.2	5.6	5.7
0.40	20.8	20.7	20.8
0.80	34.0	33.7	33.8
1.20	47.5	46.8	46.8
1.60	61.3	60.1	60.0
2.00	75.1	73.4	73.1
2.40	88.8	86.9	86.5
2.50	92.3	90.2	89.8
2.75	101.2	98.7	98.4
--	-	-	-
--	-	-	-

COSEL

Model	LEA75F-30
Item	Efficiency (by Input Voltage)
Object	———————————

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]	Efficiency [%]	
	Load 50%	Load 100%
85	77.0	81.5
100	77.7	82.4
120	78.2	83.2
200	78.9	84.4
230	79.2	84.7
264	79.1	85.0
--	-	-
--	-	-
--	-	-

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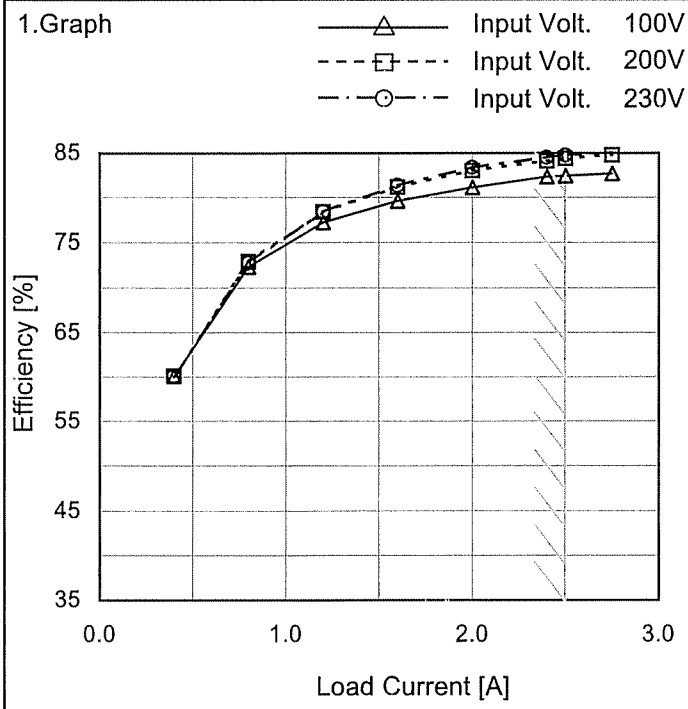
Model	LEA75F-30
Item	Efficiency (by Load Current)
Object	————————

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]	Efficiency [%]		
	Input Volt. 100[V]	Input Volt. 200[V]	Input Volt. 230[V]
0.00	-	-	-
0.40	60.1	60.2	60.1
0.80	72.4	72.9	72.8
1.20	77.3	78.4	78.5
1.60	79.7	81.2	81.4
2.00	81.2	83.0	83.4
2.40	82.3	84.1	84.5
2.50	82.5	84.4	84.7
2.75	82.7	84.8	85.0
--	-	-	-
--	-	-	-

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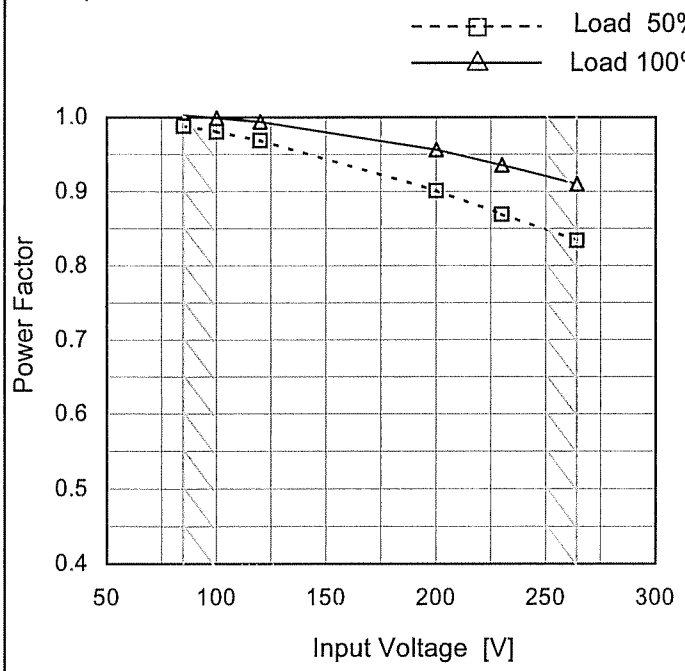
Model	LEA75F-30
Item	Power Factor (by Input Voltage)
Object	———————————

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]	Power Factor	
	Load 50%	Load 100%
85	0.978	0.993
100	0.970	0.989
120	0.959	0.984
200	0.891	0.946
230	0.859	0.926
264	0.824	0.900
--	-	-
--	-	-
--	-	-

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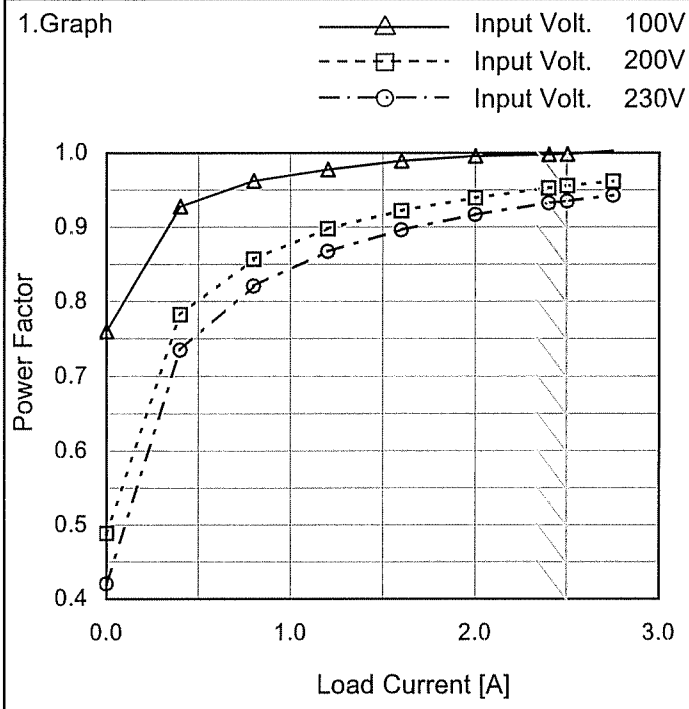
Model	LEA75F-30
Item	Power Factor (by Load Current)
Object	

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]	Power Factor		
	Input Volt. 100[V]	Input Volt. 200[V]	Input Volt. 230[V]
0.00	0.750	0.479	0.410
0.40	0.918	0.772	0.725
0.80	0.953	0.847	0.811
1.20	0.967	0.888	0.857
1.60	0.979	0.912	0.886
2.00	0.986	0.929	0.907
2.40	0.988	0.943	0.922
2.50	0.988	0.945	0.925
2.75	0.993	0.952	0.933
--	-	-	-
--	-	-	-

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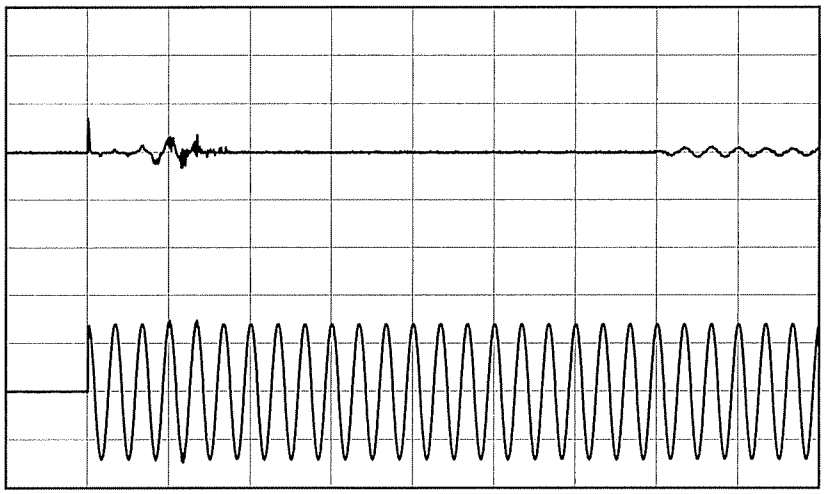
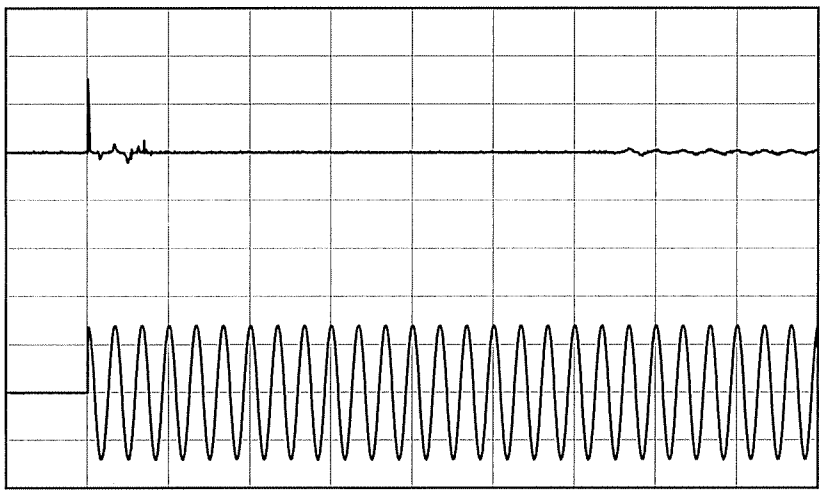
Model	LEA75F-30		
Item	Inrush Current	Temperature	25°C
		Testing Circuitry	Figure A
Object	————————		



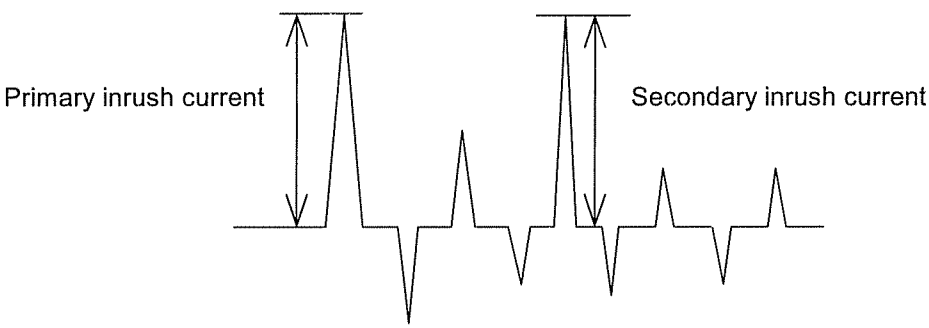
Input Voltage 100 V
Frequency 60 Hz
Load 100 %

Primary inrush current :
14.0 A
Secondary inrush current :
7.2 A



Input Voltage 200 V
Frequency 60 Hz
Load 100 %

Primary inrush current :
30.4 A
Secondary inrush current :
1.6 A



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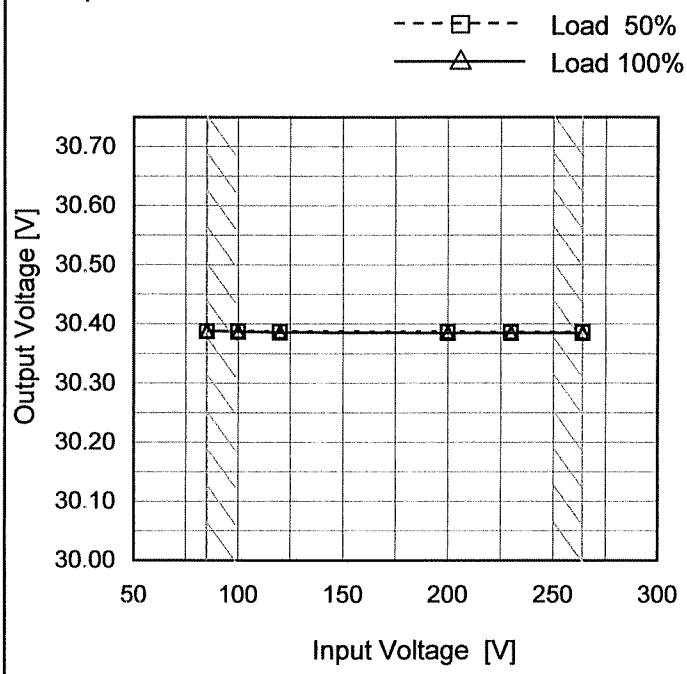
Model	LEA75F-30
Item	Line Regulation
Object	+30V2.5A

Temperature 25°C
Testing Circuitry Figure A

1.Graph



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

2.Values

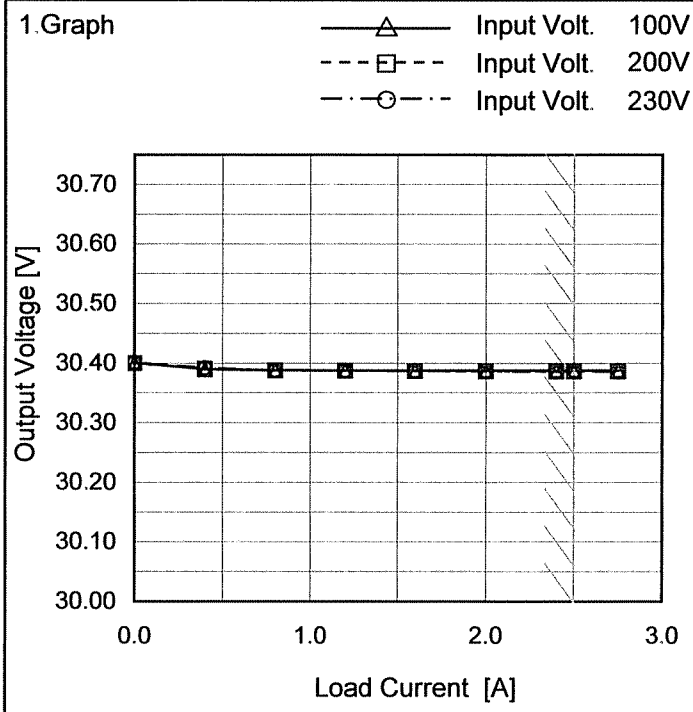
Input Voltage [V]	Output Voltage [V]	
	Load 50%	Load 100%
85	30.388	30.389
100	30.388	30.387
120	30.387	30.386
200	30.387	30.385
230	30.386	30.385
264	30.386	30.385
--	-	-
--	-	-
--	-	-

COSEL

Model	LEA75F-30
Item	Load Regulation
Object	+30V2.5A

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]
0.00	30.401	30.400	30.401
0.40	30.390	30.391	30.392
0.80	30.389	30.388	30.388
1.20	30.388	30.387	30.388
1.60	30.388	30.387	30.387
2.00	30.388	30.387	30.387
2.40	30.388	30.386	30.386
2.50	30.388	30.386	30.386
2.75	30.388	30.386	30.386
--	-	-	-
--	-	-	-

COSEL

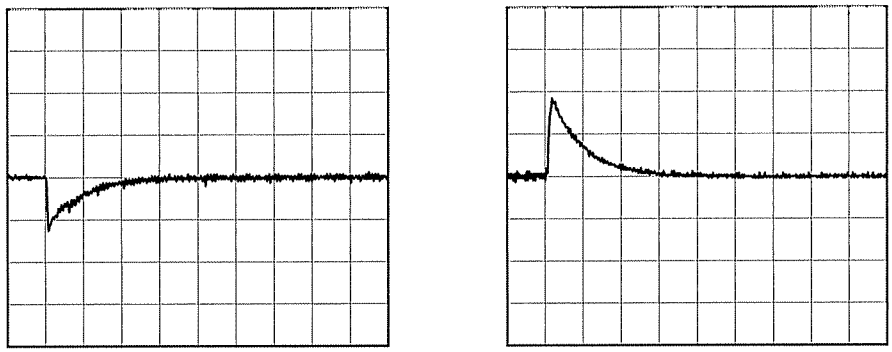
Model	LEA75F-30		
Item	Dynamic Load Response	Temperature Testing Circuitry	25℃ Figure A
Object	+30V2.5A		

Input Volt. 100 V

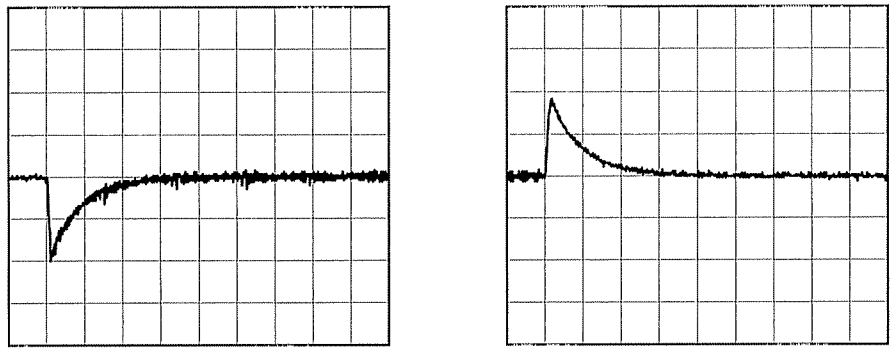
Cycle 1000 ms

Load Current

Min. Load (0A) ⟷
Load 100% (2.5A)



Min. Load (0A) ⟷
Load 50% (1.25A)



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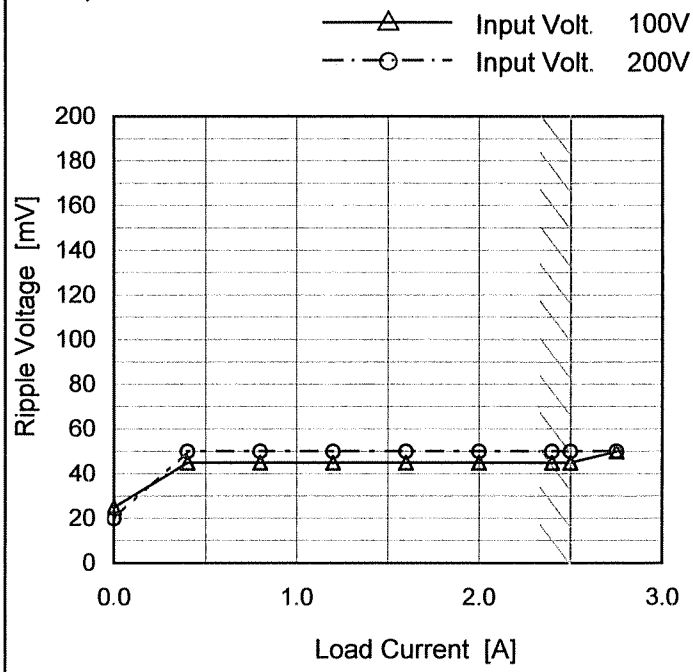
Model	LEA75F-30
Item	Ripple Voltage (by Load Current)
Object	+30V2.5A

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

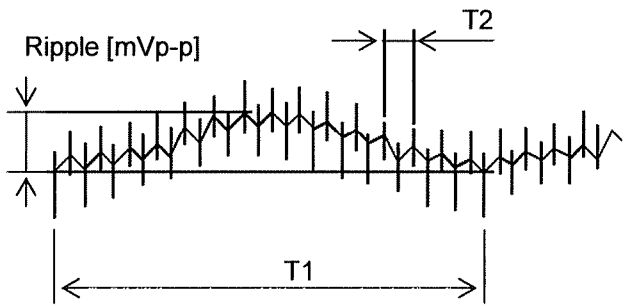


Fig. Complex Ripple Wave Form

2.Values

Load Current [A]	Ripple Voltage [mV]	
	Input Volt. 100 [V]	Input Volt. 200 [V]
0.00	25	20
0.40	45	50
0.80	45	50
1.20	45	50
1.60	45	50
2.00	45	50
2.40	45	50
2.50	45	50
2.75	50	50
--	-	-
--	-	-

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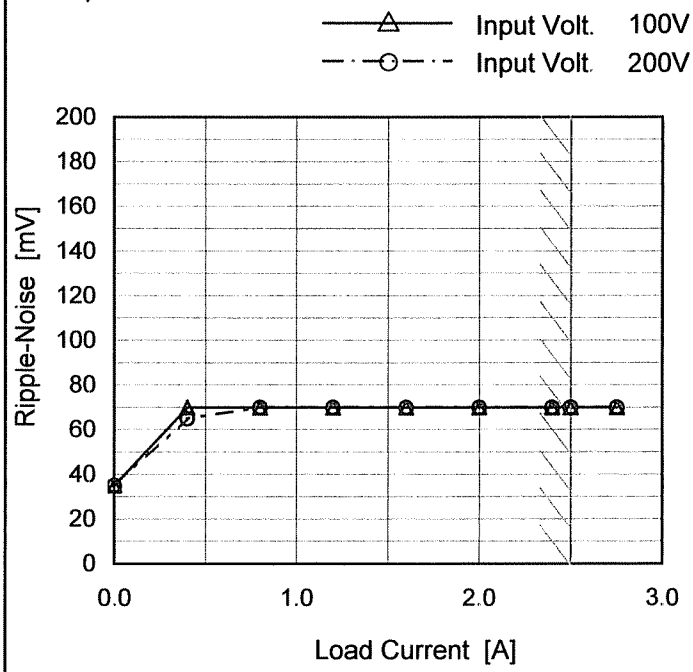
Model	LEA75F-30
Item	Ripple-Noise
Object	+30V2.5A

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]
0.00	35	35
0.40	70	65
0.80	70	70
1.20	70	70
1.60	70	70
2.00	70	70
2.40	70	70
2.50	70	70
2.75	70	70
--	-	-
--	-	-

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

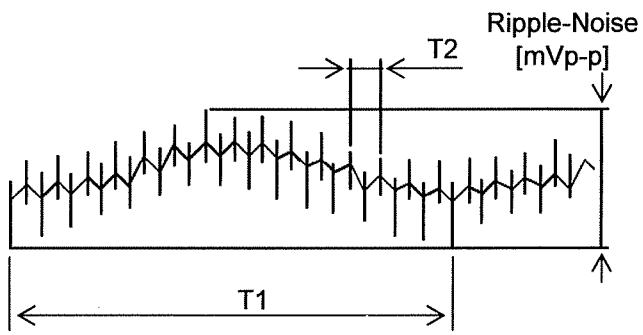


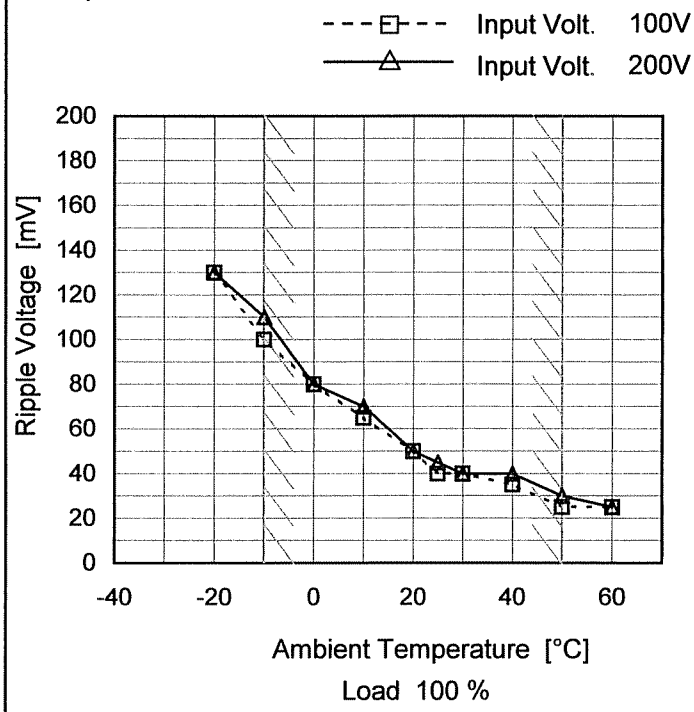
Fig. Complex Ripple Wave Form

COSEL

Model	LEA75F-30
Item	Ripple Voltage (by Ambient Temp.)
Object	+30V2.5A

Testing Circuitry Figure A

1.Graph



Load 100 %

Measured by 20 MHz Oscilloscope.

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

2.Values

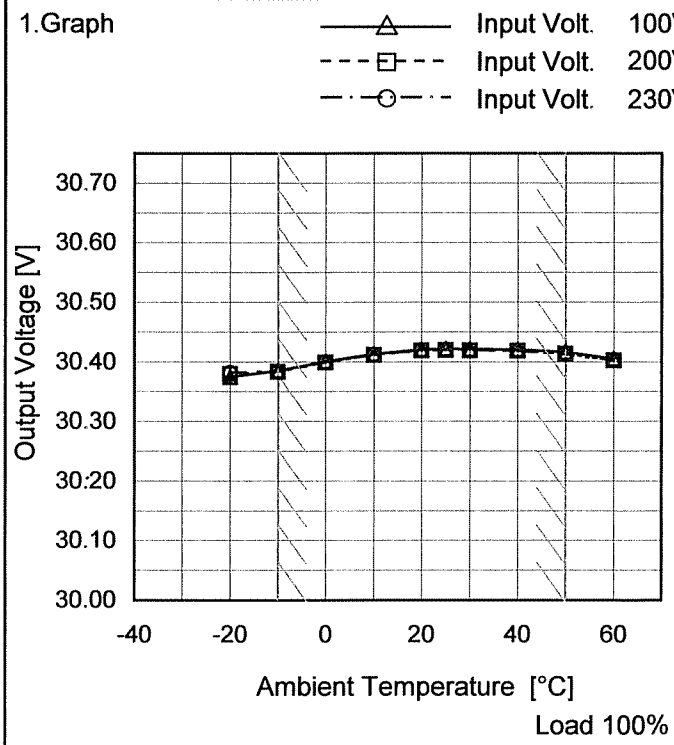
Ambient Temperature [°C]	Ripple Voltage [mV]	
	Input Volt. 100 [V]	Input Volt. 200 [V]
-20	130	130
-10	100	110
0	80	80
10	65	70
20	50	50
25	40	45
30	40	40
40	35	40
50	25	30
60	25	25
--	-	-

COSEL

Model	LEA75F-30
Item	Ambient Temperature Drift
Object	+30V2.5A

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	30.375	30.380	30.382
-10	30.385	30.384	30.384
0	30.401	30.399	30.400
10	30.413	30.412	30.412
20	30.421	30.419	30.420
25	30.422	30.420	30.420
30	30.421	30.419	30.419
40	30.421	30.419	30.419
50	30.417	30.414	30.413
60	30.405	30.403	30.402
--	-	-	-

COSEL

Model	LEA75F-30	
Item	Output Voltage Accuracy	Testing Circuitry Figure A
Object	+30V2.5A	

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 : -10 - 50°C
Input Voltage : 85 - 264V
Load Current : 0 - 2.5A

* 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

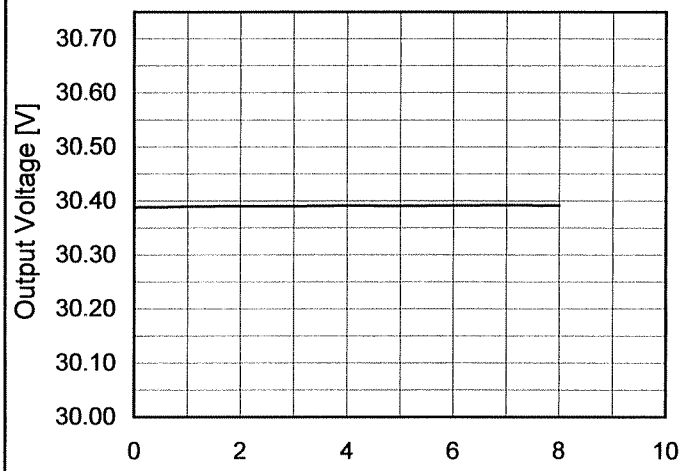
Item	Temperature [°C]	Input Voltage[V]	Output		Output Voltage Accuracy	
			Current[A]	Voltage[V]	Value [mV]	Ration [%]
Maximum Voltage	25	85	0	30.436	±23	±0.1
Minimum Voltage	-10	200	2.5	30.390		

COSEL

Model	LEA75F-30
Item	Time Lapse Drift
Object	+30V2.5A

Temperature 25°C
Testing Circuitry Figure A

1.Graph



Input Volt. 100V
Load 100%

* The characteristic of AC200V is equal.

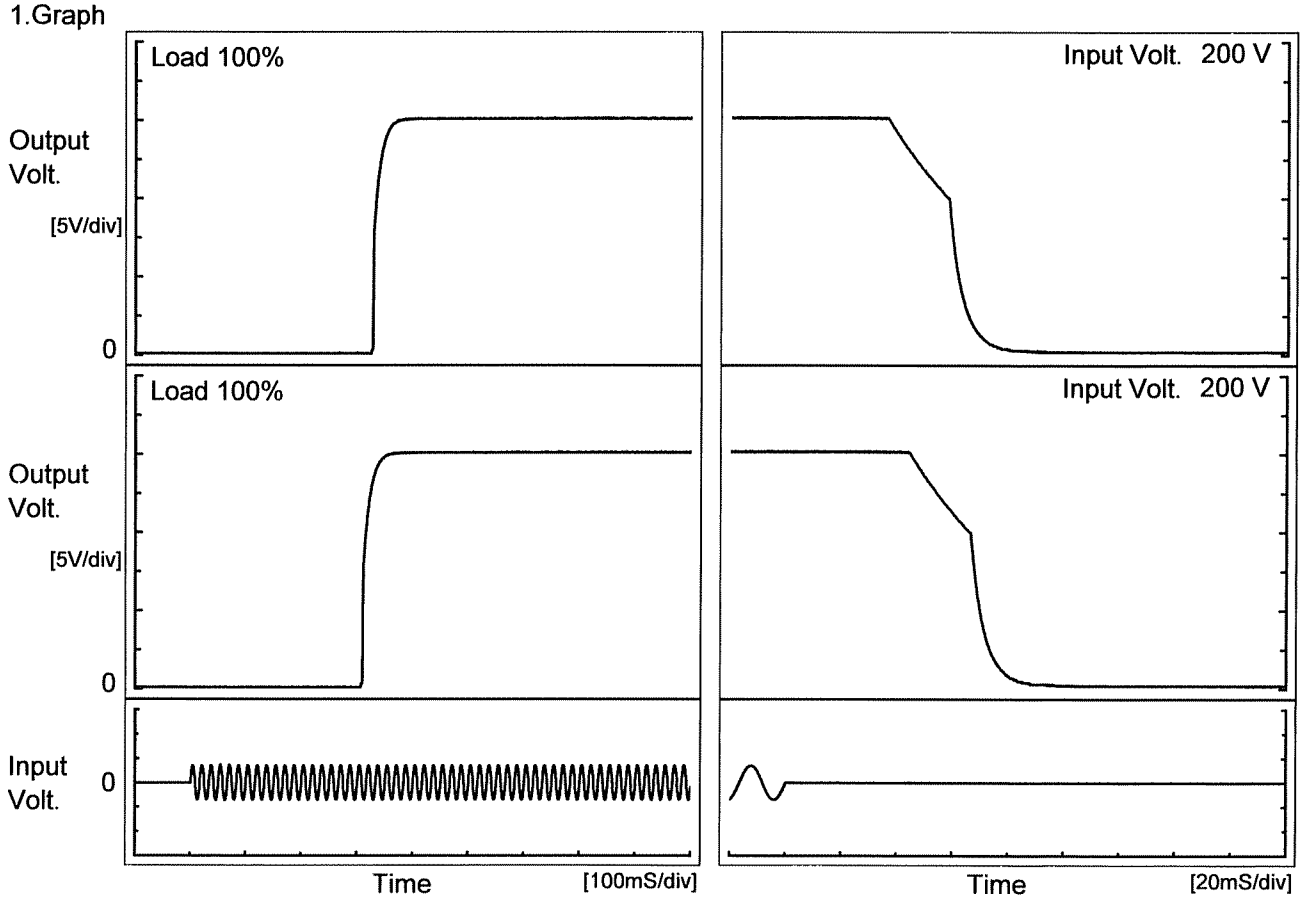
2.Values

Time since start [H]	Output Voltage [V]
0.0	30.388
0.5	30.389
1.0	30.390
2.0	30.390
3.0	30.391
4.0	30.392
5.0	30.391
6.0	30.392
7.0	30.392
8.0	30.392

COSEL

Model	LEA75F-30	
Item	Rise and Fall Time	Temperature 25°C Testing Circuitry Figure A
Object	+30V2.5A	

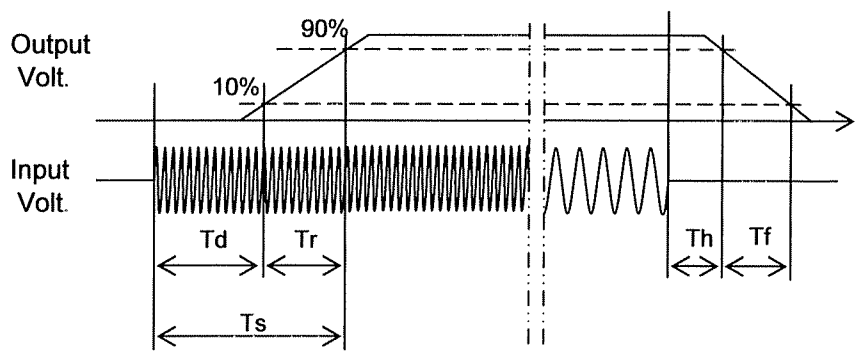
1.Graph



2.Values

[mS]

Input Volt. \ Time	Td	Tr	Ts	Th	Tf
100 V	327.0	21.5	348.5	41.7	26.3
200 V	309.0	21.5	330.5	49.9	26.4

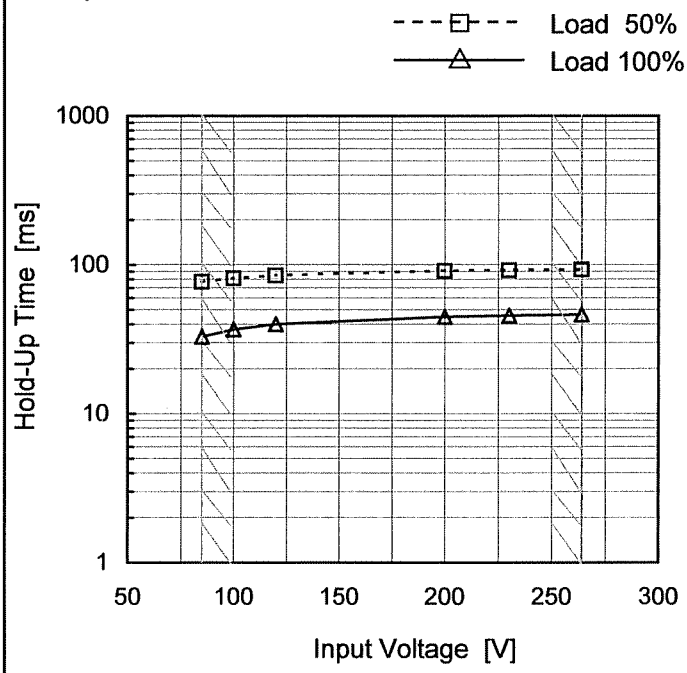


COSEL

Model	LEA75F-30
Item	Hold-Up Time
Object	+30V2.5A

Temperature 25°C
Testing Circuitry Figure A

1.Graph



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.

2.Values

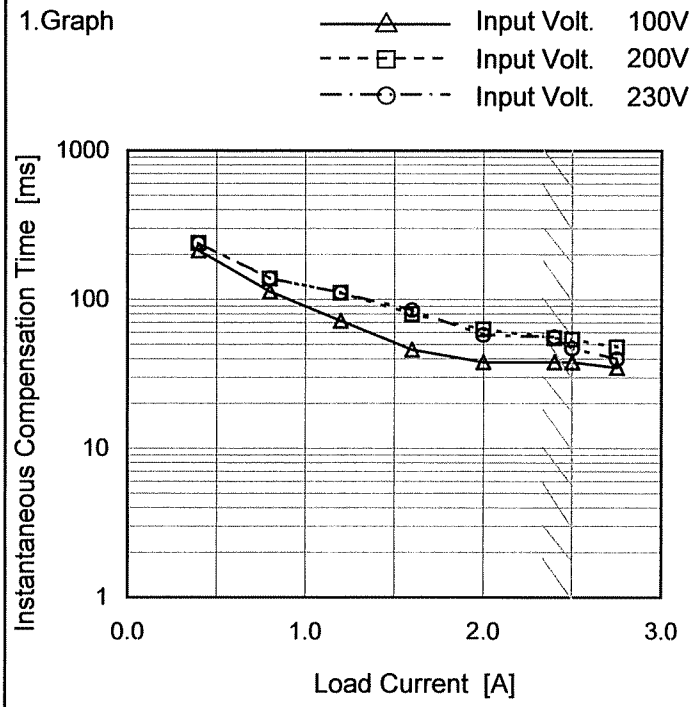
Input Voltage [V]	Hold-Up Time [ms]	
	Load 50%	Load 100%
85	77	33
100	81	37
120	85	40
200	91	45
230	92	46
264	93	46
--	-	-
--	-	-
--	-	-

COSEL

Model	LEA75F-30
Item	Instantaneous Interruption Compensation
Object	+30V2.5A

Temperature 25°C
Testing Circuitry Figure A

1.Graph



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

2.Values

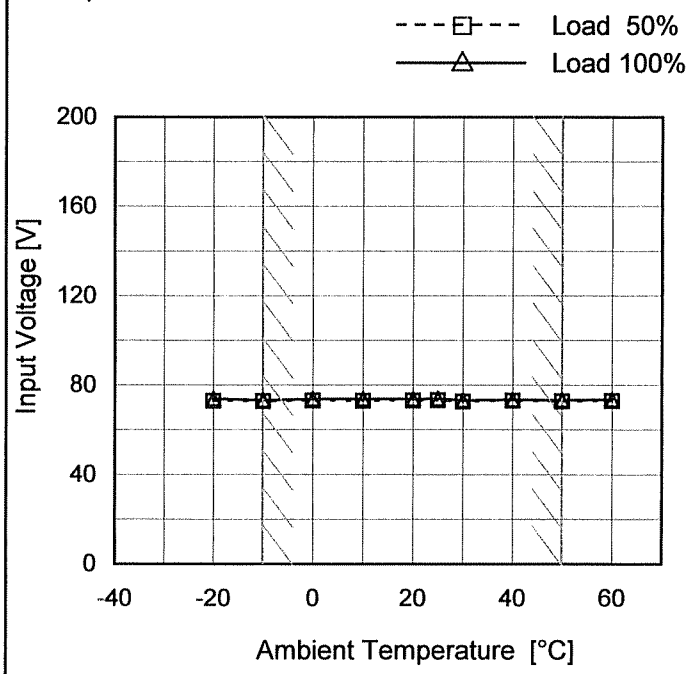
Load Current [A]	Time [ms] Input Volt. 100[V]	Input Volt. 200[V]	Input Volt. 230[V]
0.00	-	-	-
0.40	214	239	239
0.80	113	138	139
1.20	72	111	111
1.60	46	80	85
2.00	38	63	58
2.40	38	55	56
2.50	38	54	47
2.75	35	48	40
--	-	-	-
--	-	-	-

COSEL

Model	LEA75F-30
Item	Minimum Input Voltage for Regulated Output Voltage
Object	+30V2.5A

Testing Circuitry Figure A

1.Graph



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

2.Values

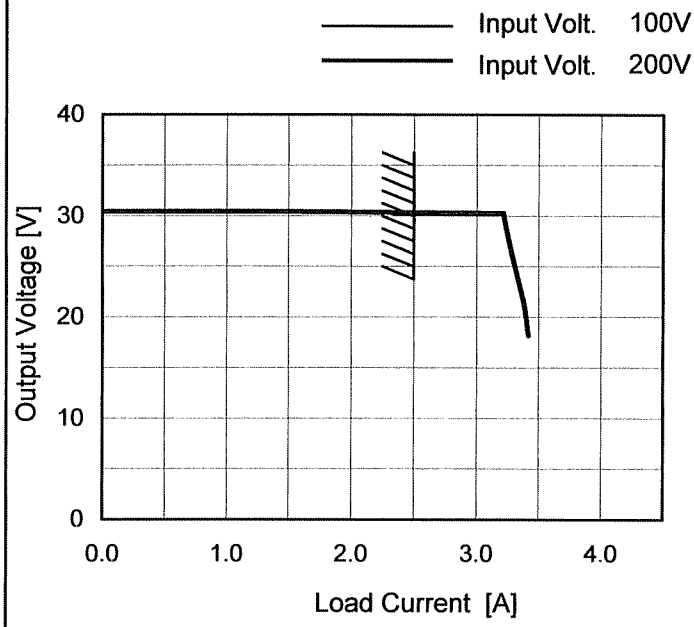
Ambient Temperature [°C]	Input Voltage [V]	
	Load 50%	Load 100%
-20	73	74
-10	73	74
0	74	74
10	73	74
20	74	74
25	74	74
30	73	74
40	74	74
50	73	74
60	73	74
--	-	-

COSEL

Model	LEA75F-30
Item	Overcurrent Protection
Object	+30V2.5A

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 18V to 0V.

2.Values

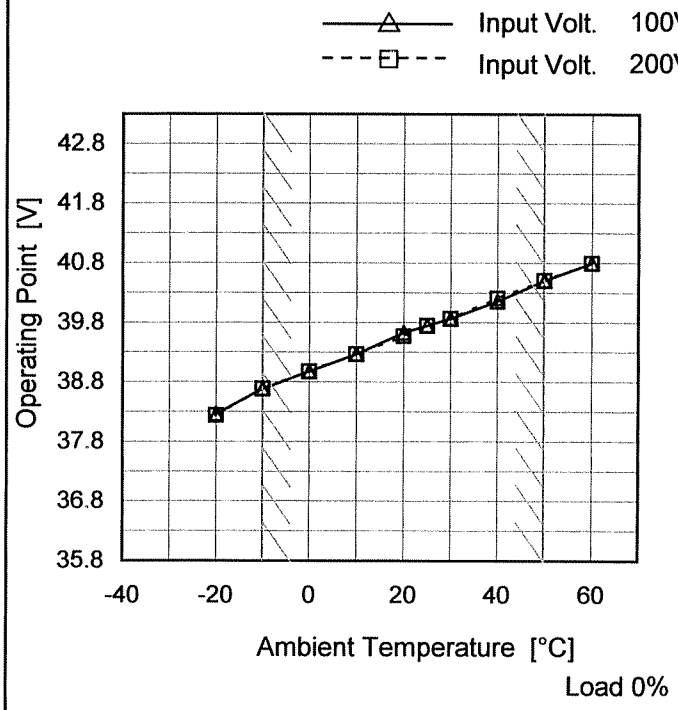
Output Voltage [V]	Load Current [A]	
	Input Volt. 100[V]	Input Volt. 200[V]
30.0	3.22	3.22
28.5	3.25	3.24
27.0	3.27	3.27
24.0	3.33	3.33
21.0	3.39	3.39
18.0	3.43	3.42
--	-	-
--	-	-
--	-	-
--	-	-
--	-	-
--	-	-

COSEL

Model	LEA75F-30
Item	Overvoltage Protection
Object	+30V2.5A

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	38.24	38.22
-10	38.67	38.67
0	38.96	38.96
10	39.25	39.25
20	39.61	39.55
25	39.73	39.73
30	39.85	39.85
40	40.14	40.19
50	40.49	40.49
60	40.78	40.78
--	-	-

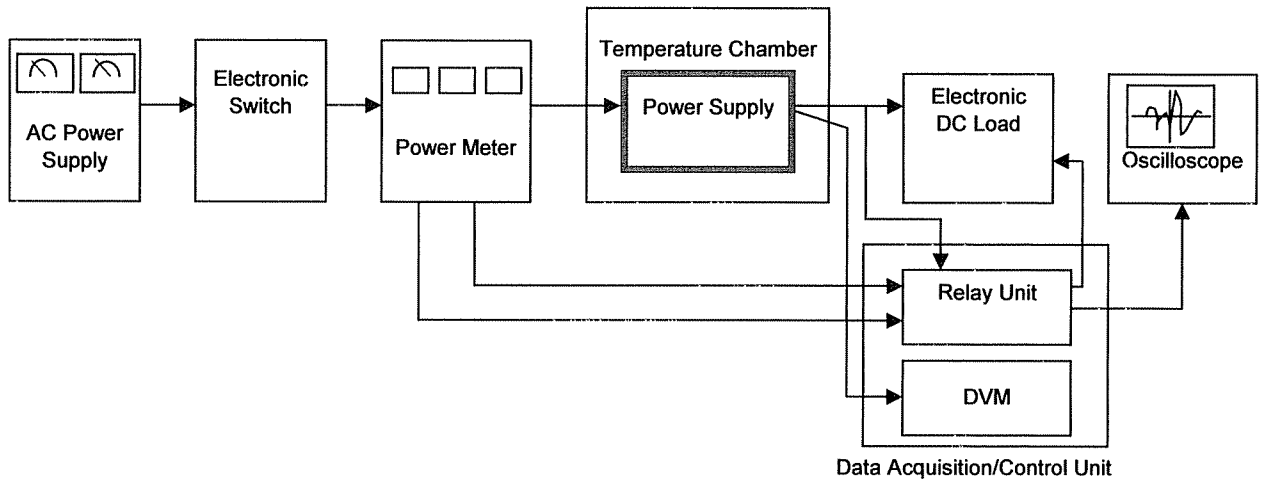


Figure A

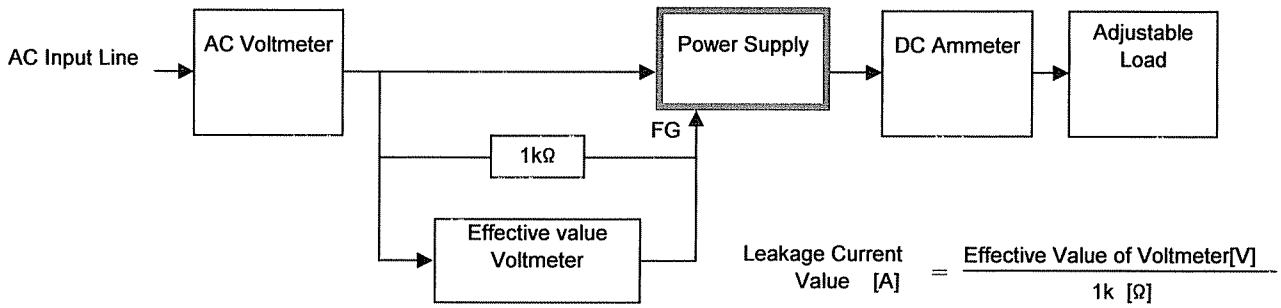


Figure B (DEN-AN)

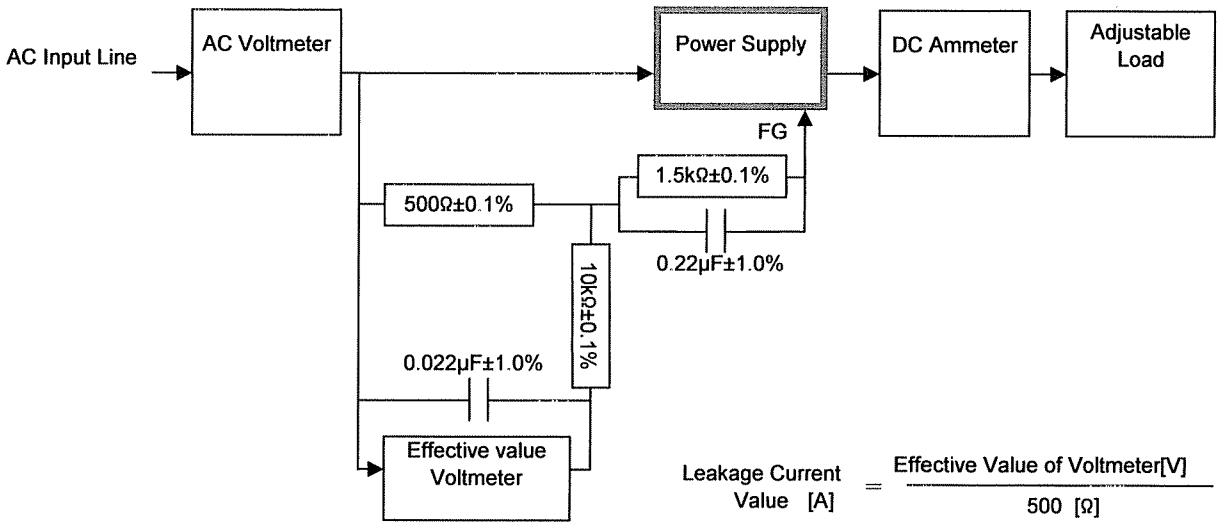


Figure B (IEC60950)