参考資料

COSEL

TEST DATA OF LEA75F-3R3-Y

Regulated DC Power Supply
Jan.9. 2004

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COSEL CO.,LTD.

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Model	LEA75F-3R3-Y
Item	Input Current (by Load Current)
Object	————————

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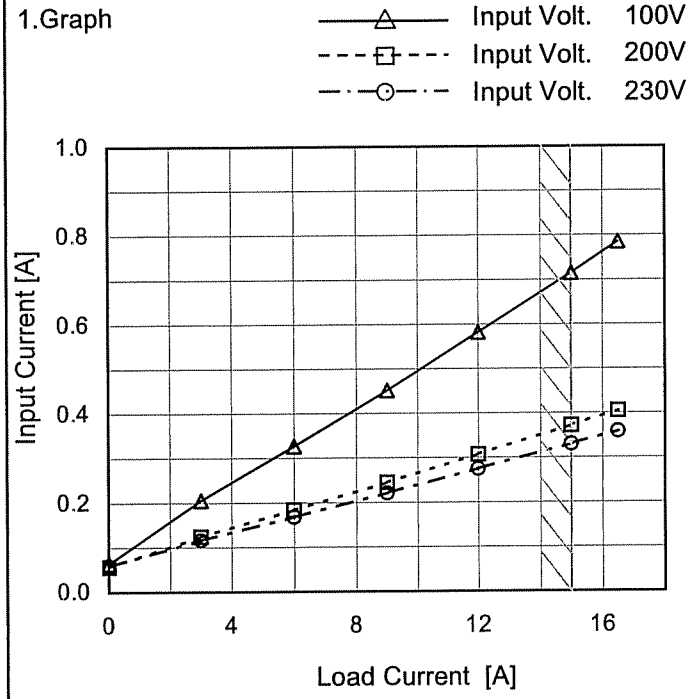
Testing Circuitry Figure A

1.Graph



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]
0.0	0.063	0.056	0.058
3.0	0.205	0.124	0.117
6.0	0.327	0.184	0.168
9.0	0.452	0.245	0.221
12.0	0.582	0.307	0.275
15.0	0.715	0.372	0.331
16.5	0.785	0.405	0.359
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-

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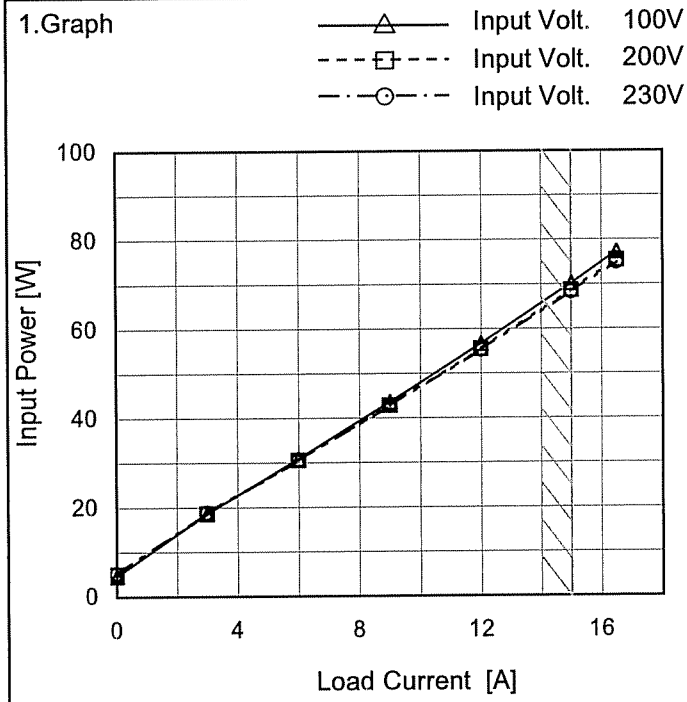
Model	LEA75F-3R3-Y
Item	Input Power (by Load Current)
Object	————————

Temperature 25°C
Testing Circuitry Figure A

1.Graph



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

2.Values

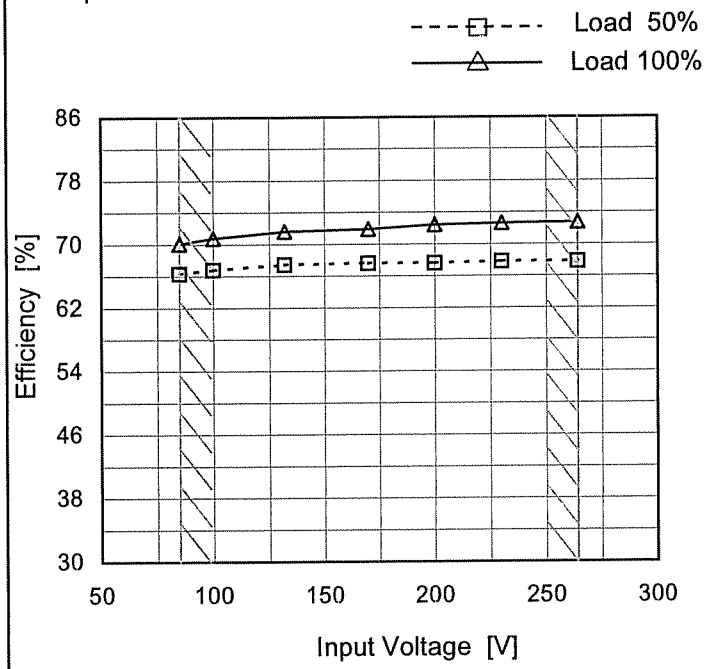
Load Current [A]	Input Power [W]		
	Input Volt. 100[V]	Input Volt. 200[V]	Input Volt. 230[V]
0.0	4.62	5.00	5.20
3.0	18.63	18.70	18.80
6.0	30.87	30.60	30.60
9.0	43.60	42.90	42.80
12.0	56.70	55.50	55.30
15.0	70.20	68.70	68.30
16.5	77.30	75.40	74.90
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-

COSEL

Model	LEA75F-3R3-Y
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

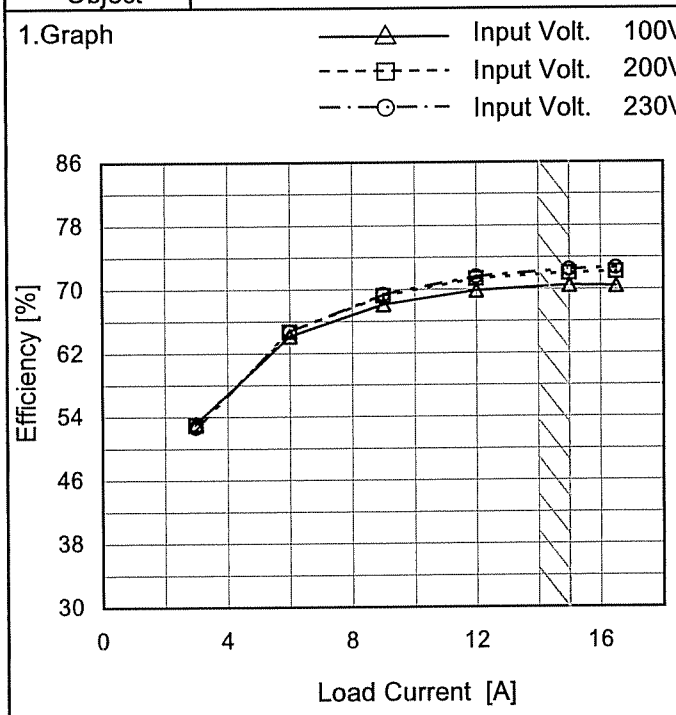
Input Voltage [V]	Efficiency [%]	
	Load 50%	Load 100%
85	66.3	70.1
100	66.8	70.8
132	67.5	71.6
170	67.6	71.9
200	67.6	72.5
230	67.8	72.7
264	67.8	72.8
--	-	-
--	-	-

COSEL

Model	LEA75F-3R3-Y
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]
0.0	-	-	-
3.0	53.2	53.0	52.7
6.0	64.2	64.7	64.7
9.0	68.1	69.2	69.4
12.0	69.9	71.4	71.6
15.0	70.5	72.0	72.5
16.5	70.4	72.2	72.7
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-

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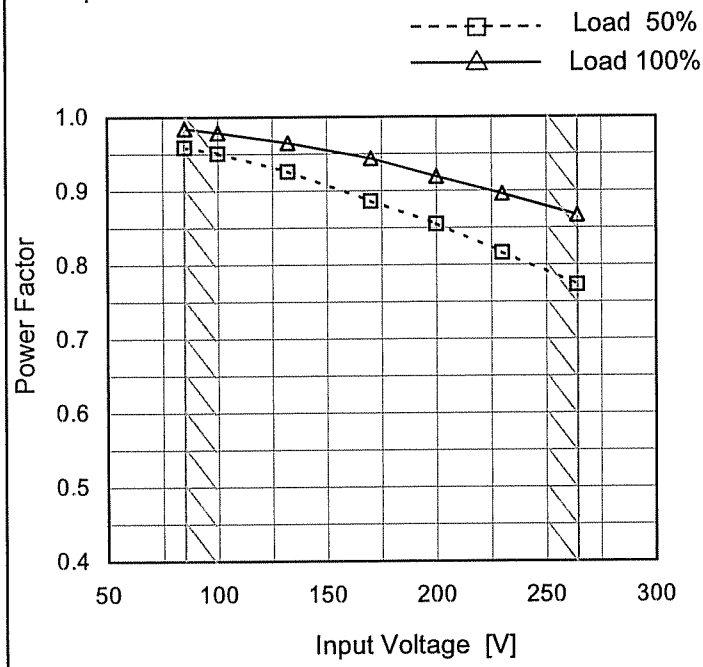
Model	LEA75F-3R3-Y
Item	Power Factor (by Input Voltage)
Object	———————————

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	0.959	0.985
100	0.951	0.979
132	0.926	0.965
170	0.886	0.944
200	0.855	0.919
230	0.817	0.896
264	0.773	0.867
--	-	-
--	-	-

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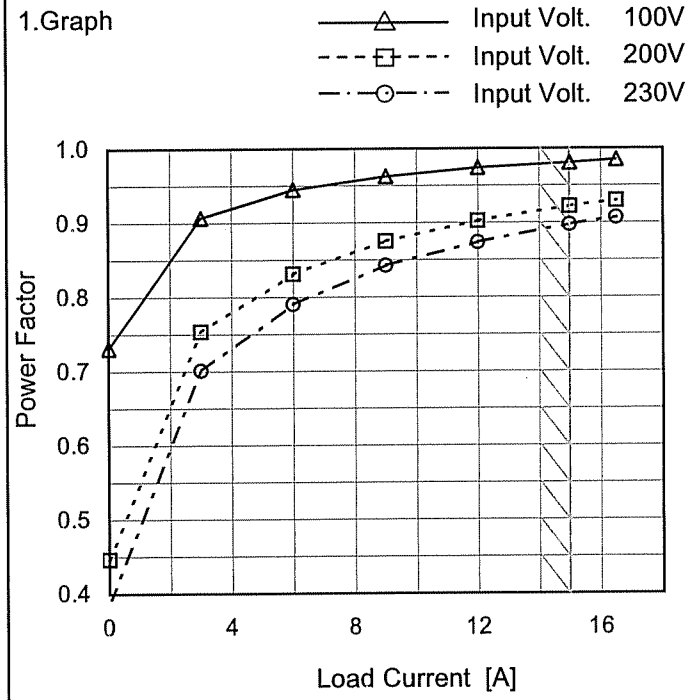
Model	LEA75F-3R3-Y
Item	Power Factor (by Load Current)
Object	————————

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]
0.0	0.731	0.446	0.388
3.0	0.907	0.754	0.701
6.0	0.945	0.832	0.791
9.0	0.962	0.876	0.843
12.0	0.974	0.902	0.874
15.0	0.980	0.922	0.898
16.5	0.985	0.930	0.907
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-

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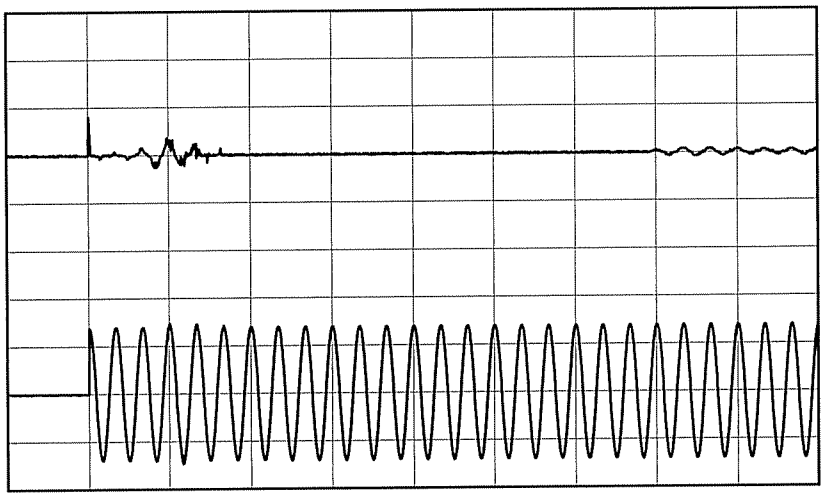
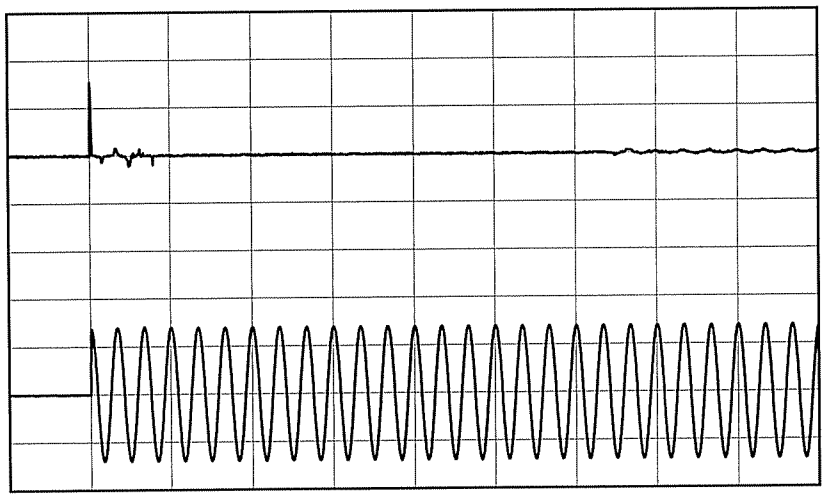
Model	LEA75F-3R3-Y
Item	Inrush Current
Object	————————

Temperature 25°C
Testing Circuitry Figure A



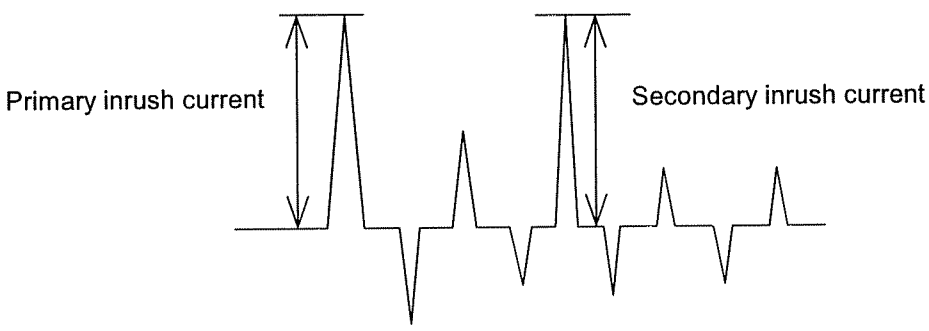
Input Voltage 100 V
Frequency 60 Hz
Load 100 %

Primary inrush current :
15.8 A
Secondary inrush current :
6.2 A



Input Voltage 200 V
Frequency 60 Hz
Load 100 %

Primary inrush current :
30.7 A
Secondary inrush current :
1.3 A



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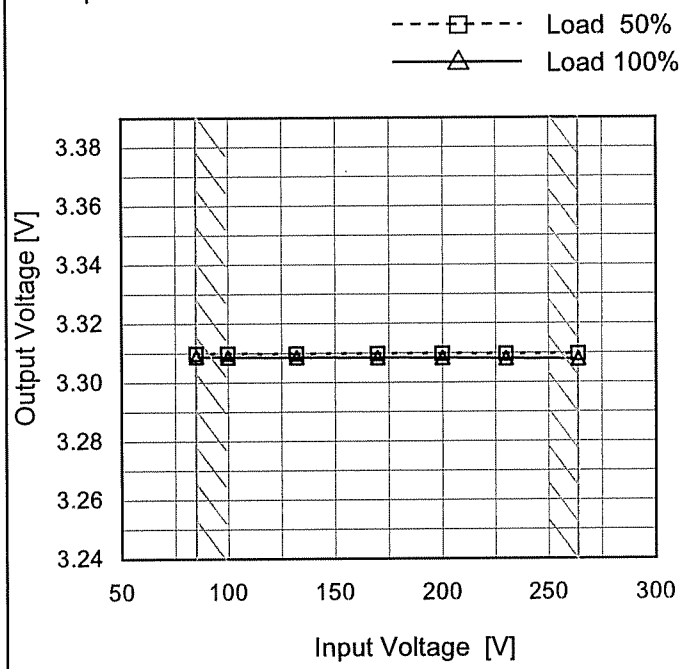
Model	LEA75F-3R3-Y
Item	Line Regulation
Object	+3.3V15A

Temperature 25°C
Testing Circuitry Figure A

1.Graph



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

2.Values

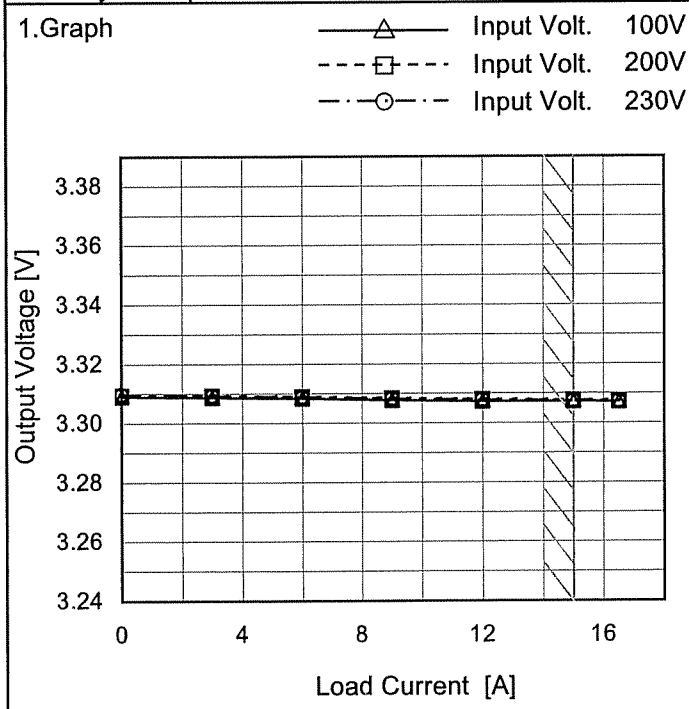
Input Voltage [V]	Output Voltage [V]	
	Load 50%	Load 100%
85	3.310	3.309
100	3.310	3.309
132	3.310	3.309
170	3.310	3.308
200	3.310	3.308
230	3.310	3.308
264	3.310	3.308
--	-	-
--	-	-

COSEL

Model	LEA75F-3R3-Y
Item	Load Regulation
Object	+3.3V15A

Temperature 25°C
Testing Circuitry Figure A

1.Graph



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

2.Values

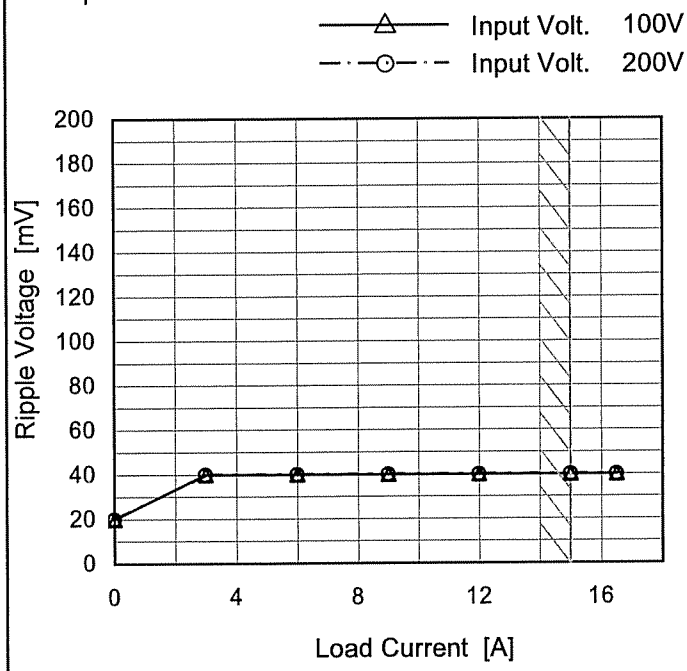
Load Current [A]	Output Voltage [V]		
	Input Volt. 100[V]	Input Volt. 200[V]	Input Volt. 230[V]
0.0	3.309	3.309	3.310
3.0	3.309	3.309	3.309
6.0	3.308	3.309	3.309
9.0	3.308	3.308	3.308
12.0	3.307	3.308	3.308
15.0	3.307	3.308	3.308
16.5	3.307	3.308	3.307
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-

COSEL

Model	LEA75F-3R3-Y
Item	Ripple Voltage (by Load Current)
Object	+3.3V15A

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

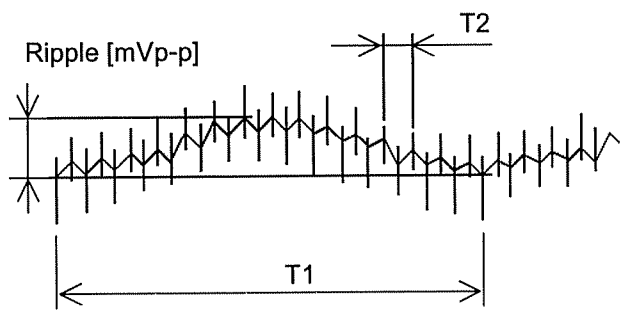


Fig. Complex Ripple Wave Form

2.Values

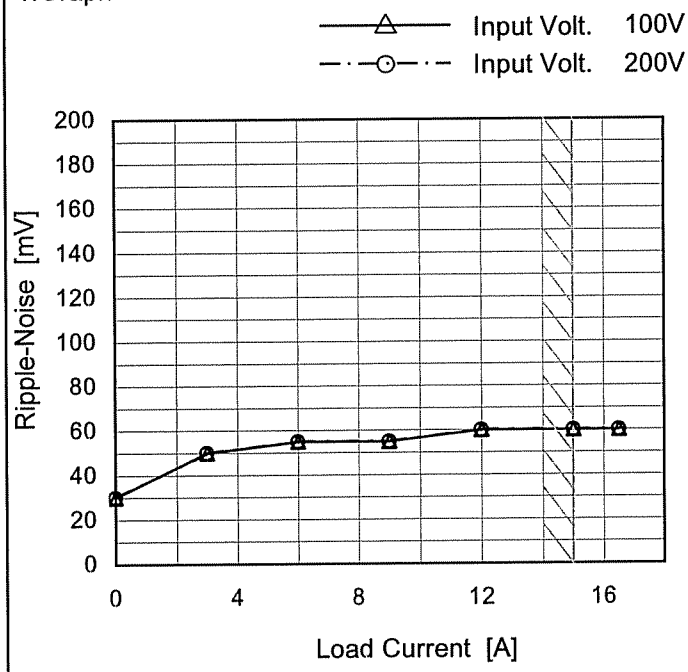
Load Current [A]	Ripple Voltage [mV] Input Volt. 100 [V]	Ripple Voltage [mV] Input Volt. 200 [V]
0.0	20	20
3.0	40	40
6.0	40	40
9.0	40	40
12.0	40	40
15.0	40	40
16.5	40	40
--	-	-
--	-	-
--	-	-
--	-	-

COSEL

Model	LEA75F-3R3-Y
Item	Ripple-Noise
Object	+3.3V15A

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.

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

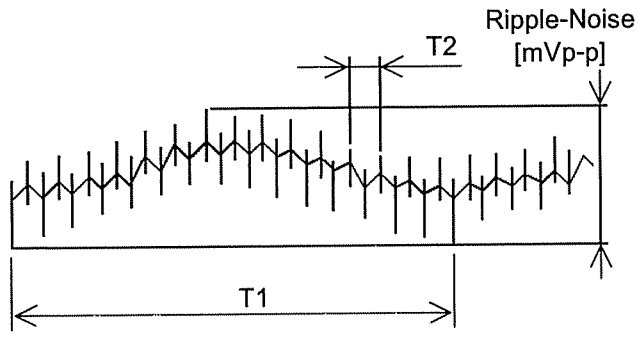


Fig. Complex Ripple Wave Form

2.Values

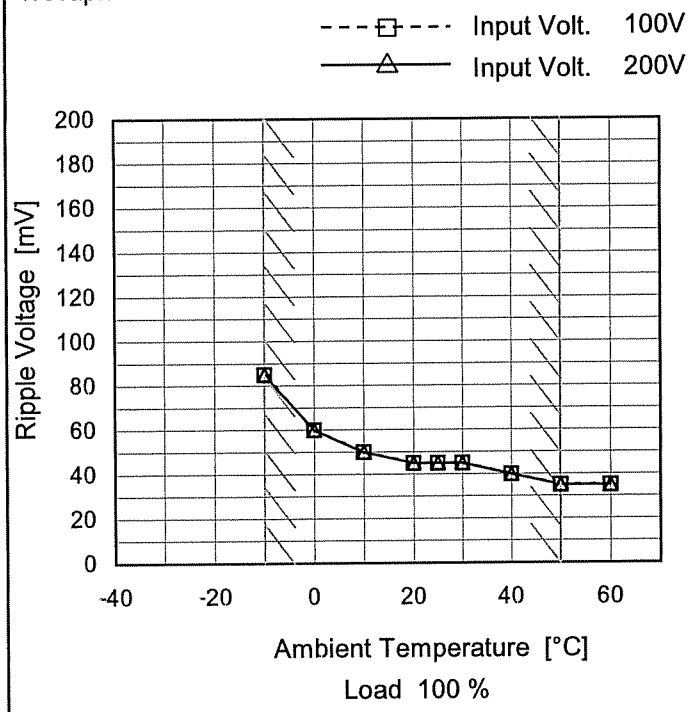
Load Current [A]	Ripple-Noise [mV] Input Volt. 100 [V]	Ripple-Noise [mV] Input Volt. 200 [V]
0.0	30	30
3.0	50	50
6.0	55	55
9.0	55	55
12.0	60	60
15.0	60	60
16.5	60	60
--	-	-
--	-	-
--	-	-
--	-	-

COSEL

Model	LEA75F-3R3-Y
Item	Ripple Voltage (by Ambient Temp.)
Object	+3.3V15A

Testing Circuitry Figure A

1.Graph



Measured by 20 MHz Oscilloscope.

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

2.Values

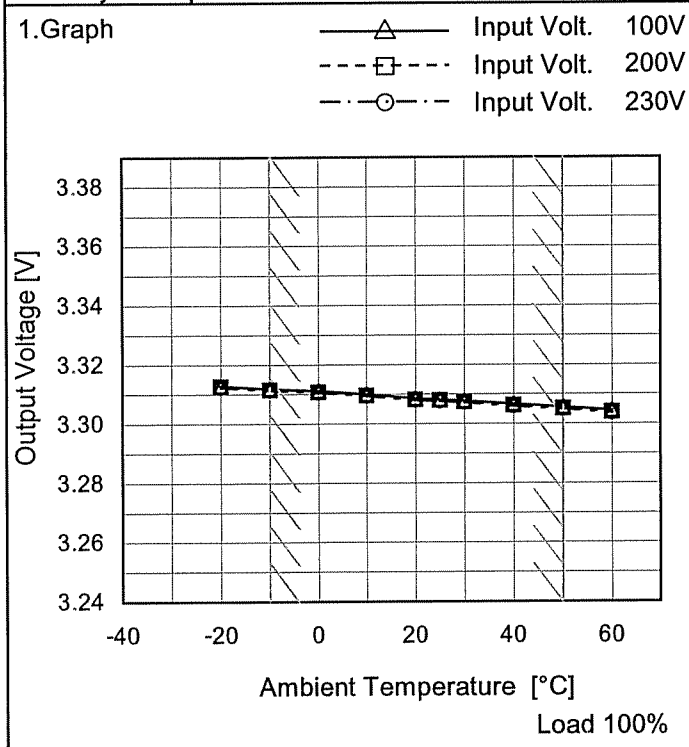
Ambient Temperature [°C]	Ripple Voltage [mV]	
	Input Volt. 100 [V]	Input Volt. 200 [V]
-10	85	85
0	60	60
10	50	50
20	45	45
25	45	45
30	45	45
40	40	40
50	35	35
60	35	35
--	-	-
--	-	-

COSEL

Model	LEA75F-3R3-Y
Item	Ambient Temperature Drift
Object	+3.3V15A

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	3.313	3.313	3.312
-10	3.312	3.312	3.311
0	3.311	3.311	3.311
10	3.310	3.310	3.310
20	3.309	3.308	3.308
25	3.308	3.308	3.308
30	3.308	3.308	3.307
40	3.307	3.306	3.306
50	3.306	3.305	3.305
60	3.305	3.304	3.304
--	-	-	-

COSEL

Model	LEA75F-3R3-Y	
Item	Output Voltage Accuracy	Testing Circuitry Figure A
Object	+3.3V15A	

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 - 15A

* 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

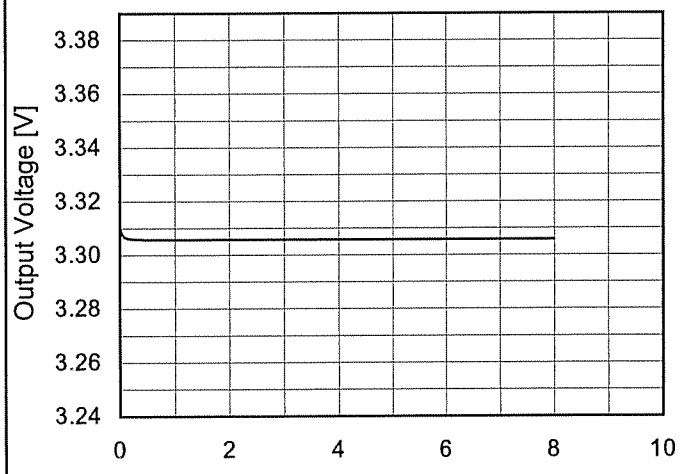
Item	Temperature [°C]	Input Voltage[V]	Output		Output Voltage Accuracy	
			Current[A]	Voltage[V]	Value [mV]	Ration [%]
Maximum Voltage	-10	264	0	3.314	±5	±0.2
Minimum Voltage	50	264	15	3.304		

COSEL

Model	LEA75F-3R3-Y
Item	Time Lapse Drift
Object	+3.3V15A

Temperature 25°C
Testing Circuitry Figure A

1.Graph



Input Volt. 100V
Load 100%

* The characteristic of AC200V is equal.

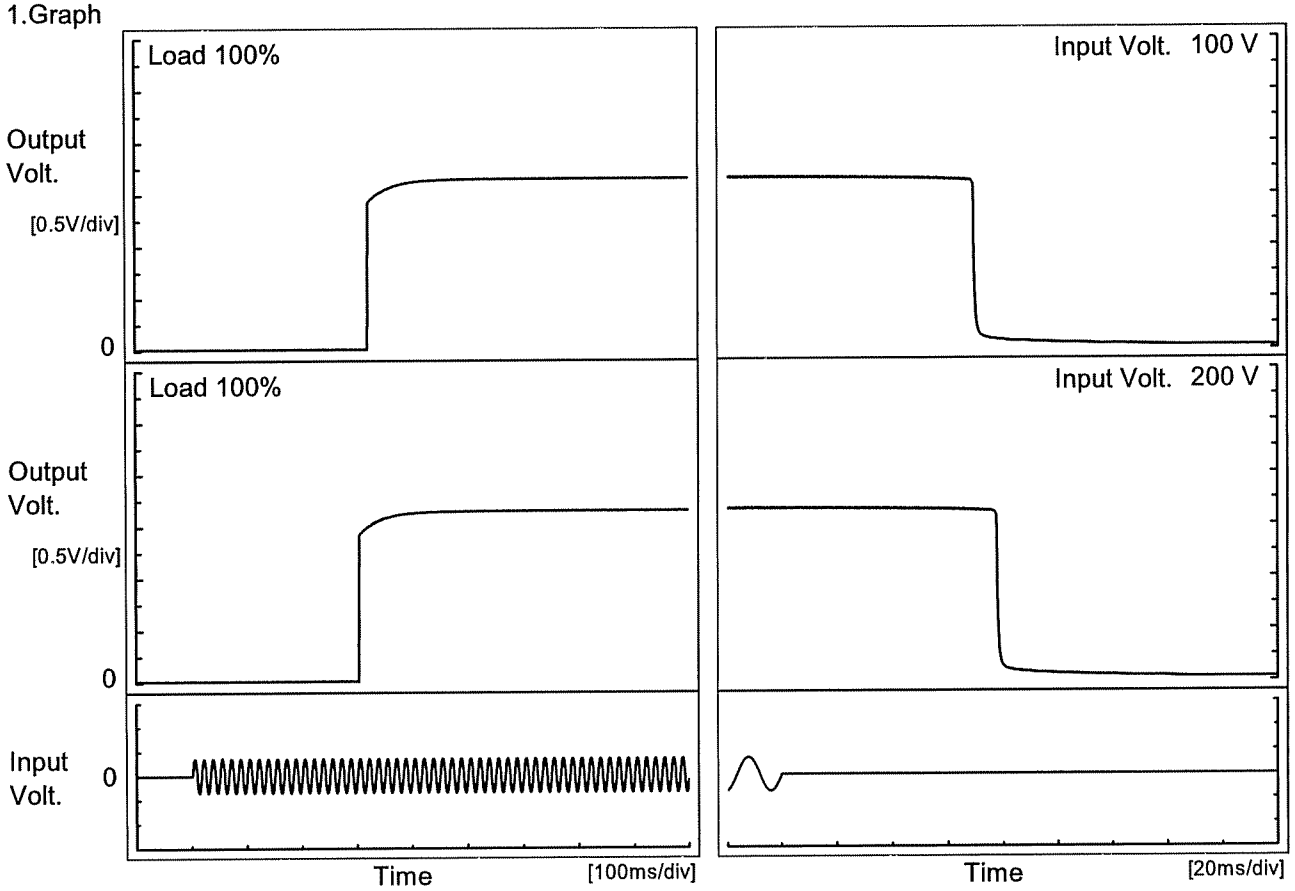
2.Values

Time since start [H]	Output Voltage [V]
0.0	3.310
0.5	3.306
1.0	3.306
2.0	3.306
3.0	3.306
4.0	3.306
5.0	3.306
6.0	3.306
7.0	3.306
8.0	3.306

COSEL

Model	LEA75F-3R3-Y	
Item	Rise and Fall Time	Temperature 25°C Testing Circuitry Figure A
Object	+3.3V15A	

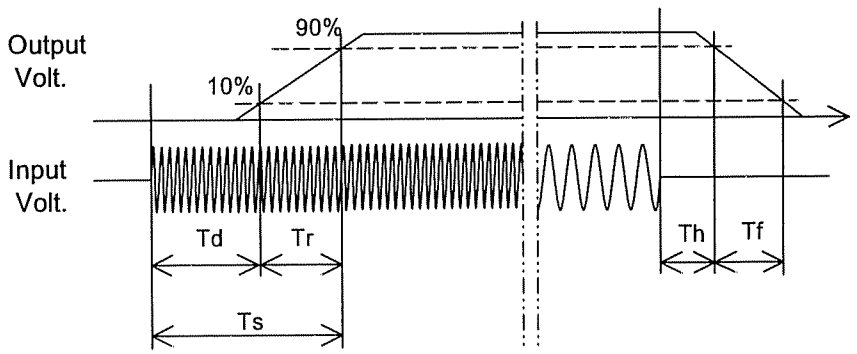
1.Graph



2.Values

[ms]

Input Volt. \ Time	Td	Tr	Ts	Th	Tf
100 V	320.0	15.5	335.5	68.9	1.9
200 V	303.5	15.5	319.0	77.5	2.0

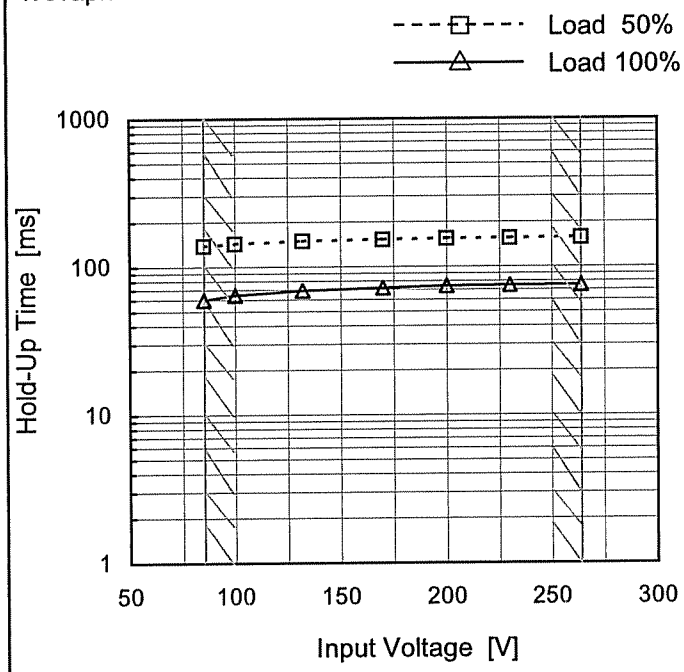


COSEL

Model	LEA75F-3R3-Y
Item	Hold-Up Time
Object	+3.3V15A

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

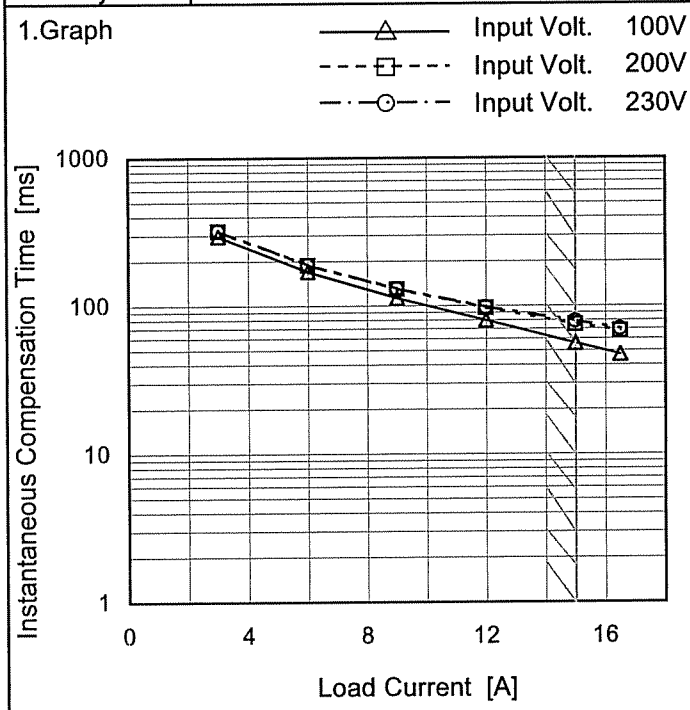
Input Voltage [V]	Hold-Up Time [ms]	
	Load 50%	Load 100%
85	139	60
100	144	65
132	149	69
170	153	72
200	154	74
230	156	75
264	157	75
--	-	-
--	-	-

COSEL

Model	LEA75F-3R3-Y
Item	Instantaneous Interruption Compensation
Object	+3.3V15A

Temperature 25°C
Testing Circuitry Figure A

1.Graph



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

2.Values

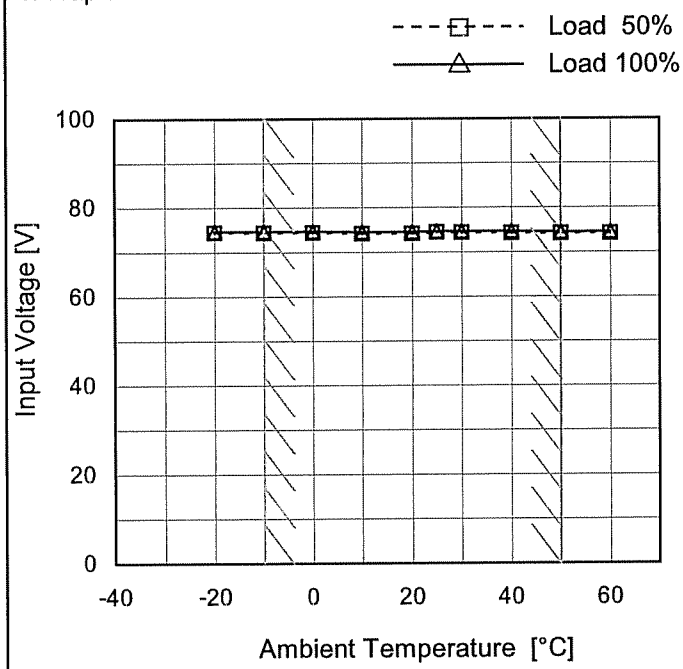
Load Current [A]	Time [ms]		
	Input Volt. 100[V]	Input Volt. 200[V]	Input Volt. 230[V]
0.0	-	-	-
3.0	297	321	322
6.0	171	189	190
9.0	113	130	131
12.0	80	97	98
15.0	56	75	79
16.5	47	68	70
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-

COSEL

Model	LEA75F-3R3-Y
Item	Minimum Input Voltage for Regulated Output Voltage
Object	+3.3V15A

Testing Circuitry Figure A

1.Graph



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

2.Values

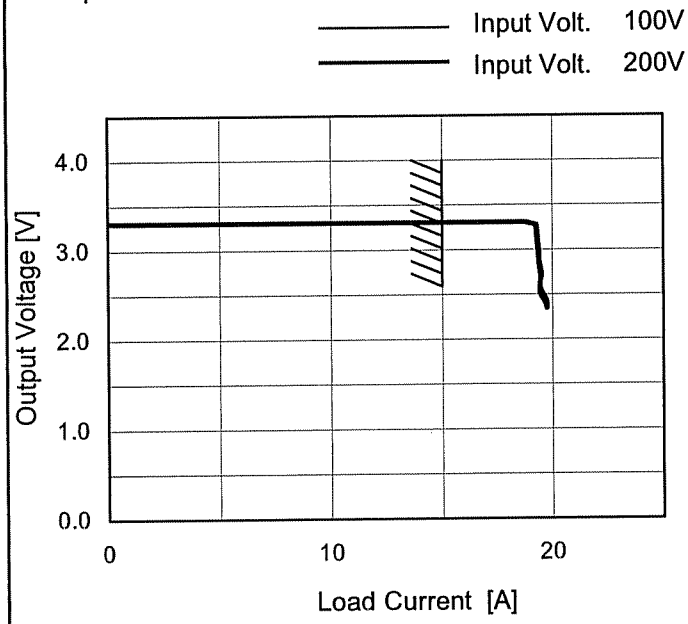
Ambient Temperature [°C]	Input Voltage [V]	
	Load 50%	Load 100%
-20	75	75
-10	75	75
0	75	75
10	75	75
20	75	75
25	75	75
30	75	75
40	75	75
50	75	75
60	75	75
--	-	-

COSEL

Model	LEA75F-3R3-Y
Item	Overcurrent Protection
Object	+3.3V15A

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 2.31V to 0V.

2.Values

Output Voltage [V]	Load Current [A]	
	Input Volt. 100[V]	Input Volt. 200[V]
3.300	15.91	17.32
3.135	19.25	19.34
2.970	19.31	19.39
2.640	19.45	19.46
2.310	19.68	19.70
--	-	-
--	-	-
--	-	-
--	-	-
--	-	-
--	-	-
--	-	-

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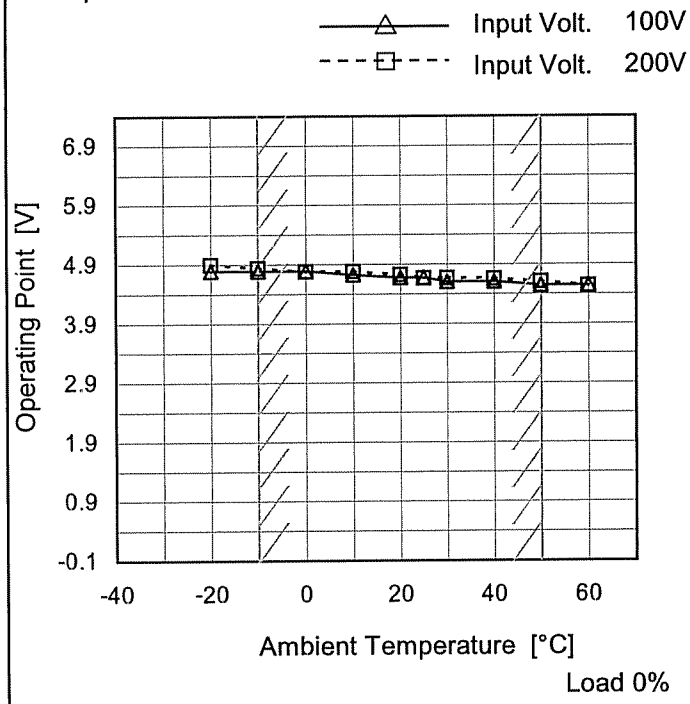
Model	LEA75F-3R3-Y
Item	Overvoltage Protection
Object	+3.3V15A

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	4.76	4.87
-10	4.76	4.81
0	4.76	4.75
10	4.70	4.75
20	4.65	4.70
25	4.65	4.64
30	4.58	4.64
40	4.58	4.63
50	4.52	4.58
60	4.52	4.51
--	-	-

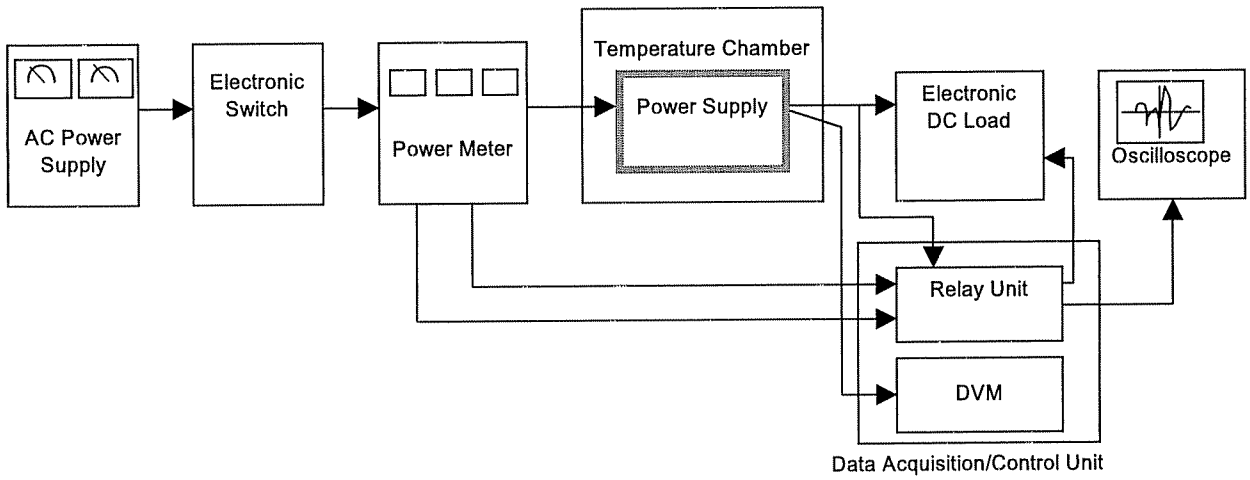


Figure A

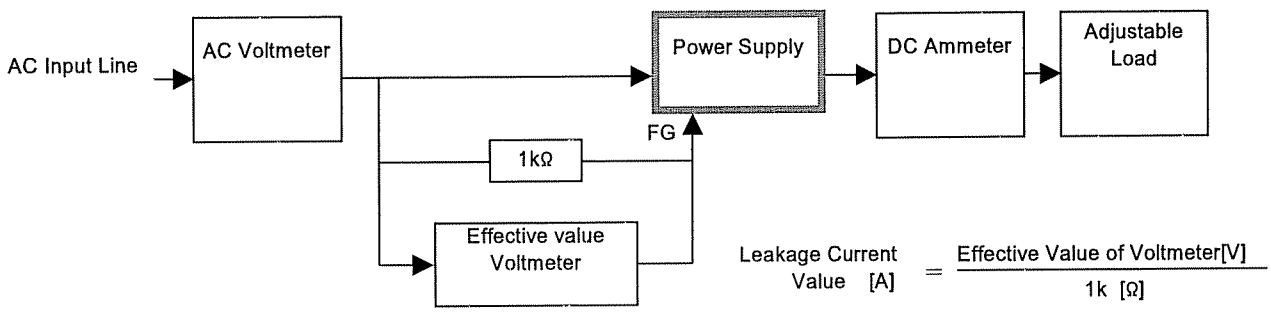


Figure B (DEN-AN)

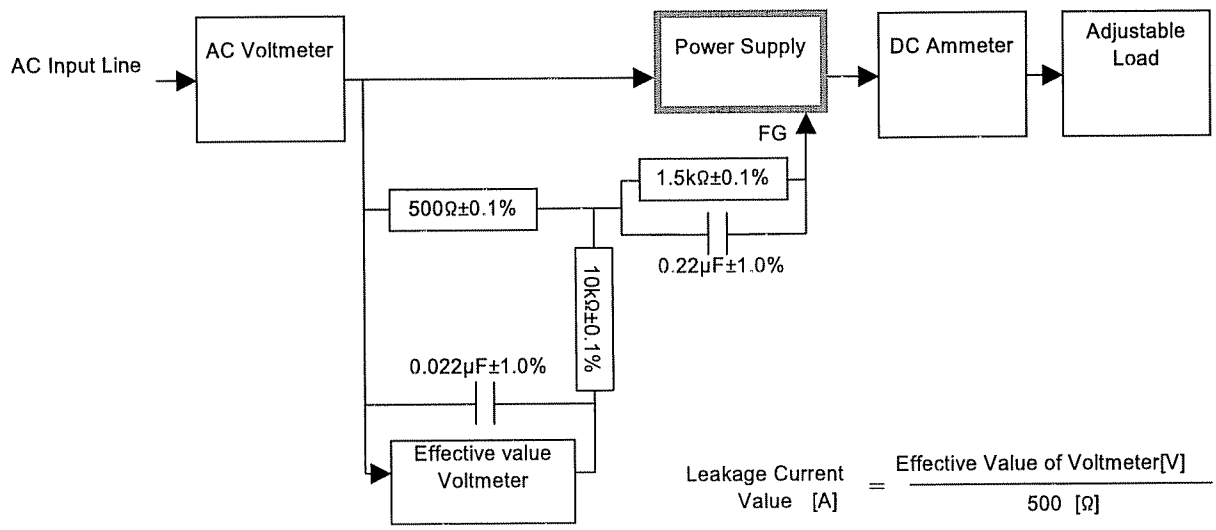


Figure B (IEC60950)