参考資料

COSEL

TEST DATA OF LEB100F-0512

(200V INPUT)

Regulated DC Power Supply

Mar. 16, 2000

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Design Engineer

コーセル株式会社

COSEL CO., LTD.

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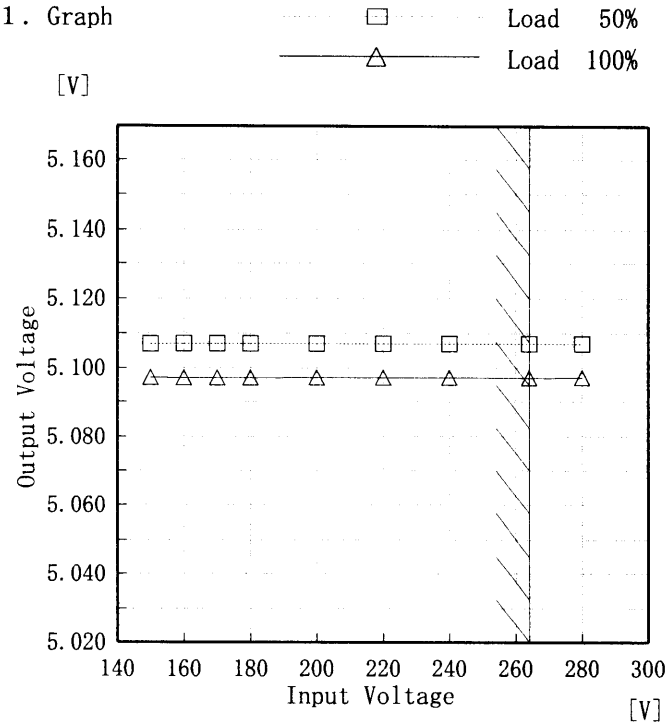
COSEL

Model	LEB100F-0512
Item	Line Regulation 静的入力変動

Temperature 25℃
Testing Circuitry Figure A

Object V1:+5.0V5A

1. Graph

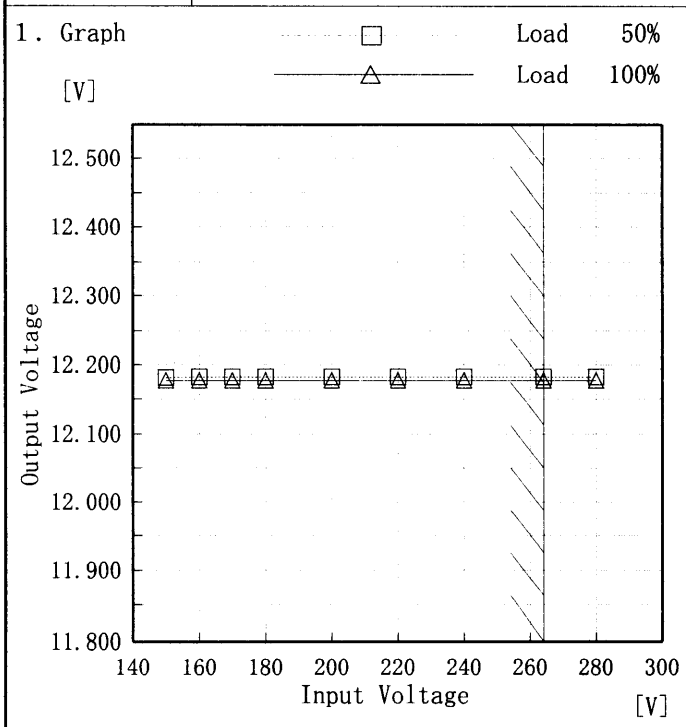


2. Values

Input Voltage [V]	Output Voltage [V]	
	Load 50%	Load 100%
150	5.107	5.097
160	5.107	5.097
170	5.107	5.097
180	5.107	5.097
200	5.107	5.097
220	5.107	5.097
240	5.107	5.097
264	5.107	5.097
280	5.107	5.097

Object V2:+12.0V5A

1. Graph



Note: Slanted line shows the range of the rated input voltage.
(注)斜線は定格入力電圧範囲を示す。

2. Values

Input Voltage [V]	Output Voltage [V]	
	Load 50%	Load 100%
150	12.182	12.178
160	12.183	12.178
170	12.183	12.178
180	12.183	12.178
200	12.183	12.178
220	12.183	12.178
240	12.183	12.178
264	12.183	12.178
280	12.183	12.178

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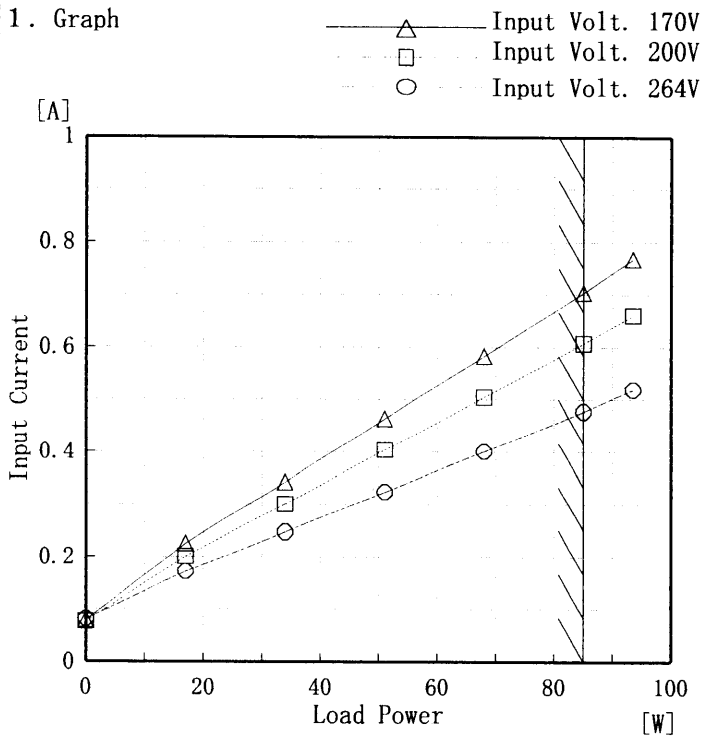
Model	LEB100F-0512
Item	Input Current (by Load Power) 入力電流（負荷特性）
Output	――――

Temperature 25℃
Testing Circuitry Figure A

1. Graph



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

(注)斜線は定格出力電力範囲を示す。

2. Values

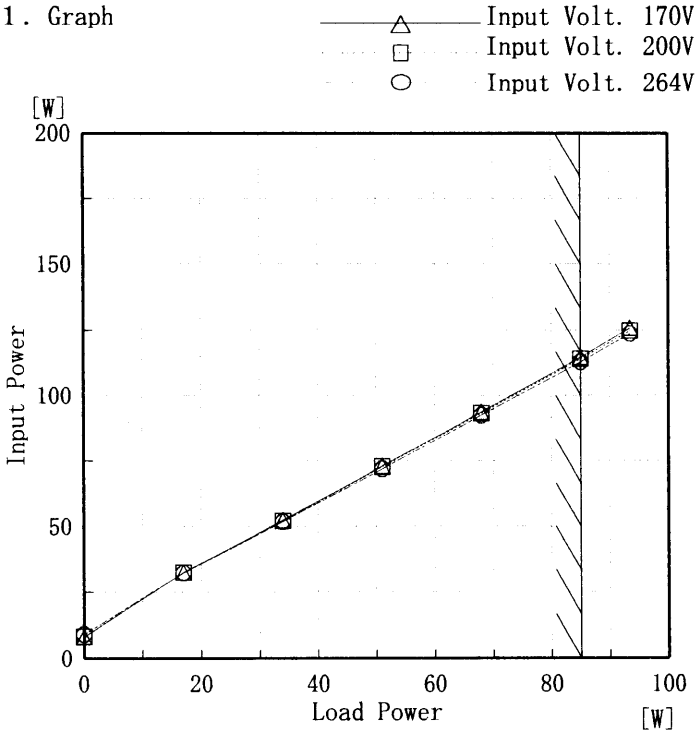
Load Power [W]	Input Current [A] Input Volt. 170[V]	Input Volt. 200[V]	Input Volt. 264[V]
0.0	0.078	0.076	0.080
17.0	0.225	0.201	0.171
34.0	0.343	0.301	0.247
51.0	0.464	0.404	0.324
68.0	0.583	0.505	0.401
85.0	0.704	0.607	0.478
93.5	0.768	0.661	0.519
—	—	—	—
—	—	—	—
—	—	—	—
—	—	—	—
—	—	—	—

COSEL

Model	LEB100F-0512
Item	Input Power (by Load Power) 入力電力（負荷特性）
Output	――――

Temperature 25℃
Testing Circuitry Figure A

1. Graph



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

(注)斜線は定格出力電力範囲を示す。

2. Values

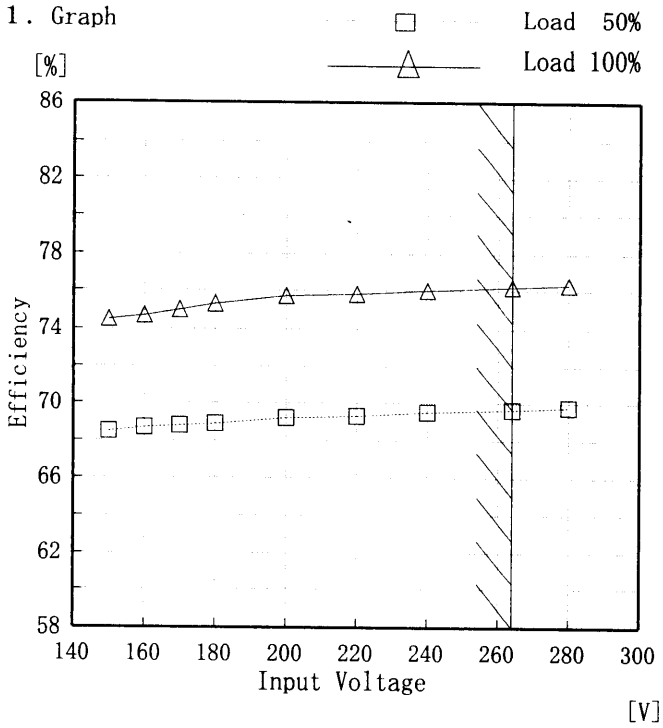
Load Power [W]	Input Power [W]		
	Input Volt. 170[V]	Input Volt. 200[V]	Input Volt. 264[V]
0.0	8.20	8.30	9.20
17.0	32.40	32.40	32.30
34.0	52.30	52.10	51.80
51.0	73.10	72.80	72.10
68.0	93.60	93.20	92.40
85.0	114.50	113.90	112.80
93.5	125.80	124.80	123.60
—	—	—	—
—	—	—	—
—	—	—	—
—	—	—	—
—	—	—	—

COSEL

Model	LEB100F-0512
Item	Efficiency (by Input Voltage) 効率（入力電圧特性）
Object	――――――――――

Temperature 25℃
Testing Circuitry Figure A

1. Graph



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

(注)斜線は定格入力電圧範囲を示す。

2. Values

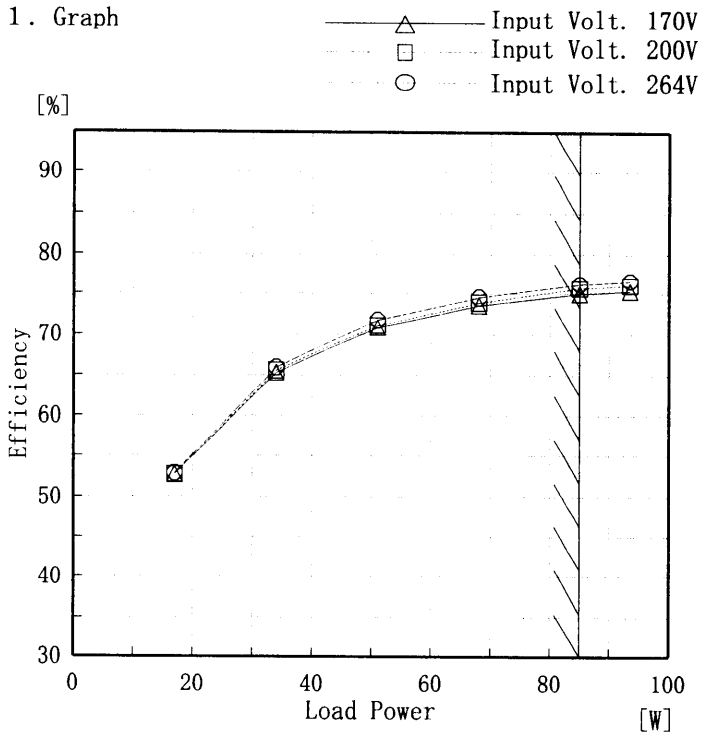
Input Voltage [V]	Efficiency [%]	
	Load 50%	Load 100%
150	68.5	74.5
160	68.7	74.7
170	68.8	75.0
180	68.9	75.3
200	69.2	75.7
220	69.3	75.8
240	69.5	76.0
264	69.7	76.2
280	69.8	76.3

COSEL

Model	LEB100F-0512
Item	Efficiency (by Load Power) 効率 (負荷特性)
Output	————

Temperature 25℃
Testing Circuitry Figure A

1. Graph



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

(注)斜線は定格出力電力範囲を示す。

2. Values

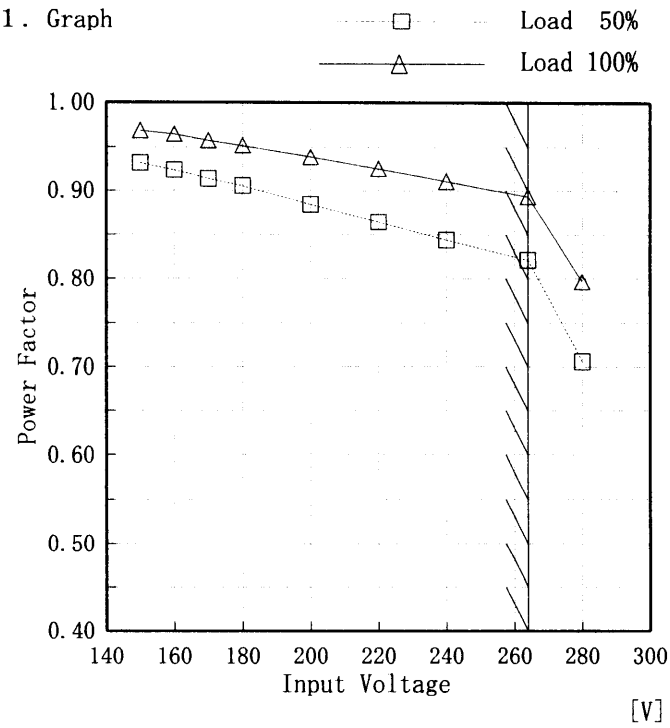
Load Power [W]	Efficiency [%]		
	Input Volt. 170[V]	Input Volt. 200[V]	Input Volt. 264[V]
17.0	52.7	52.7	52.9
34.0	65.3	65.6	65.9
51.0	70.9	71.1	71.8
68.0	73.6	73.9	74.5
85.0	75.0	75.7	76.2
93.5	75.3	76.0	76.6
—	—	—	—
—	—	—	—
—	—	—	—
—	—	—	—
—	—	—	—
—	—	—	—

COSEL

Model	LEB100F-0512
Item	Power Factor (by Input Voltage) 力率（入力電圧特性）
Object	――――――――――――――

Temperature 25℃
Testing Circuitry Figure A

1. Graph



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

(注)斜線は定格入力電圧範囲を示す。

2. Values

Input Voltage [V]	Power Factor	
	Load 50%	Load 100%
150	0.93	0.97
160	0.92	0.96
170	0.91	0.96
180	0.91	0.95
200	0.88	0.94
220	0.86	0.92
240	0.84	0.91
264	0.82	0.89
280	0.71	0.80

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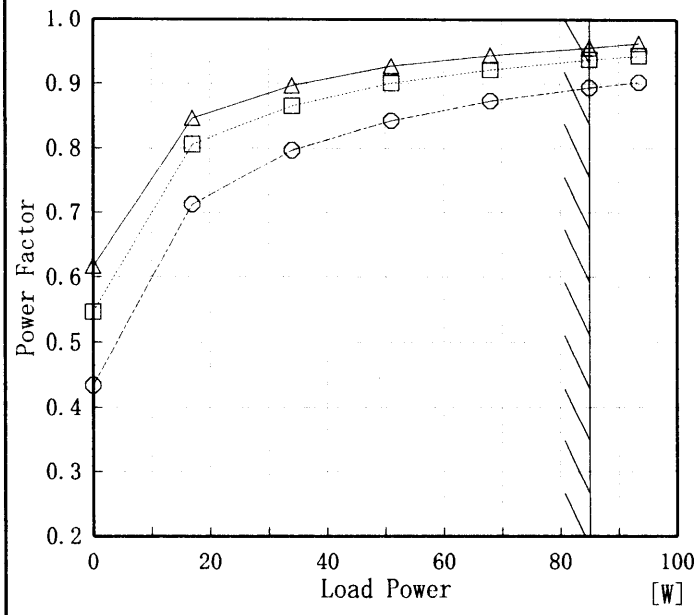
Model	LEB100F-0512
Item	Power Factor (by Load Power) 力率（負荷特性）
Output	――――

Temperature 25℃
Testing Circuitry Figure A

1. Graph



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

(注)斜線は定格出力電力範囲を示す。

2. Values

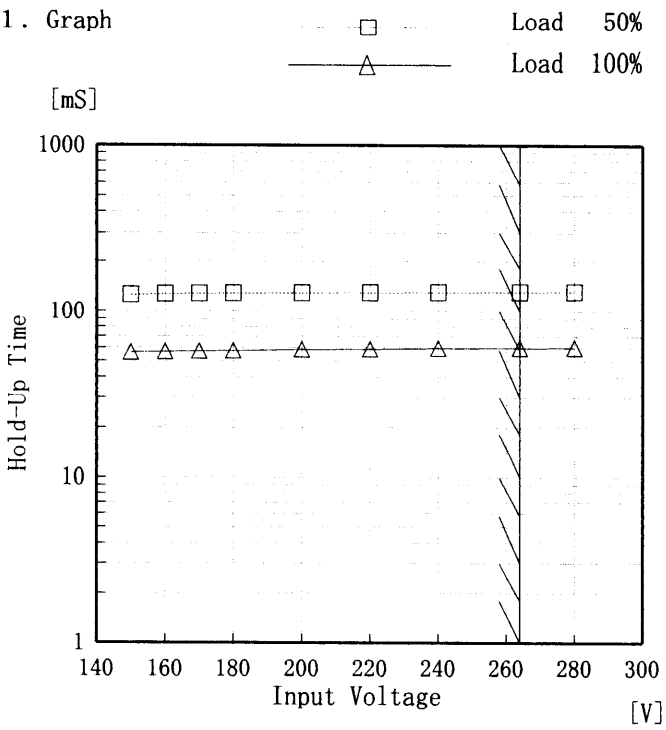
Load Power [W]	Power Factor		
	Input Volt. 170[V]	Input Volt. 200[V]	Input Volt. 264[V]
0.0	0.62	0.55	0.43
17.0	0.85	0.81	0.71
34.0	0.90	0.87	0.80
51.0	0.93	0.90	0.84
68.0	0.94	0.92	0.87
85.0	0.96	0.94	0.89
93.5	0.96	0.94	0.90
—	—	—	—
—	—	—	—
—	—	—	—
—	—	—	—
—	—	—	—

COSEL

Model	LEB100F-0512
Item	Hold-Up Time 出力保持時間
Object	V1:+5.0V5A

Temperature 25℃
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.

出力保持時間とは、入力電圧断から出力電圧が、定電圧精度の規格範囲を保持しているところまでの時間。

(注)斜線は定格入力電圧範囲を示す。

2. Values

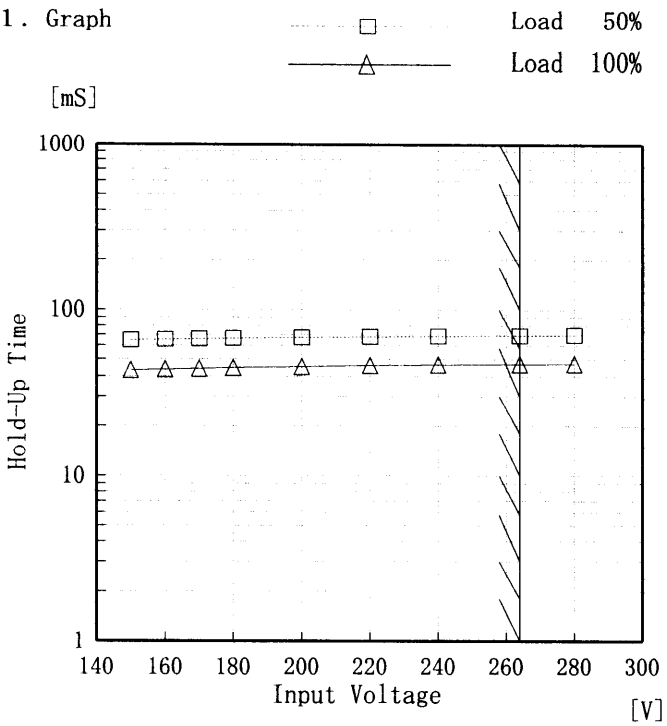
Input Voltage [V]	Hold-Up Time [mS]	
	Load 50%	Load 100%
150	126	56
160	127	57
170	128	58
180	129	58
200	129	59
220	130	59
240	131	60
264	131	60
280	132	60

COSEL

Model	LEB100F-0512
Item	Hold-Up Time 出力保持時間
Object	V2:＋12.0V5A

Temperature 25℃
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.

出力保持時間とは、入力電圧断から出力電圧が、定電圧精度の規格範囲を保持しているところまでの時間。

(注)斜線は定格入力電圧範囲を示す。

2. Values

Input Voltage [V]	Hold-Up Time [mS]	
	Load 50%	Load 100%
150	65	43
160	66	44
170	66	44
180	67	45
200	68	46
220	68	46
240	69	47
264	70	47
280	70	47

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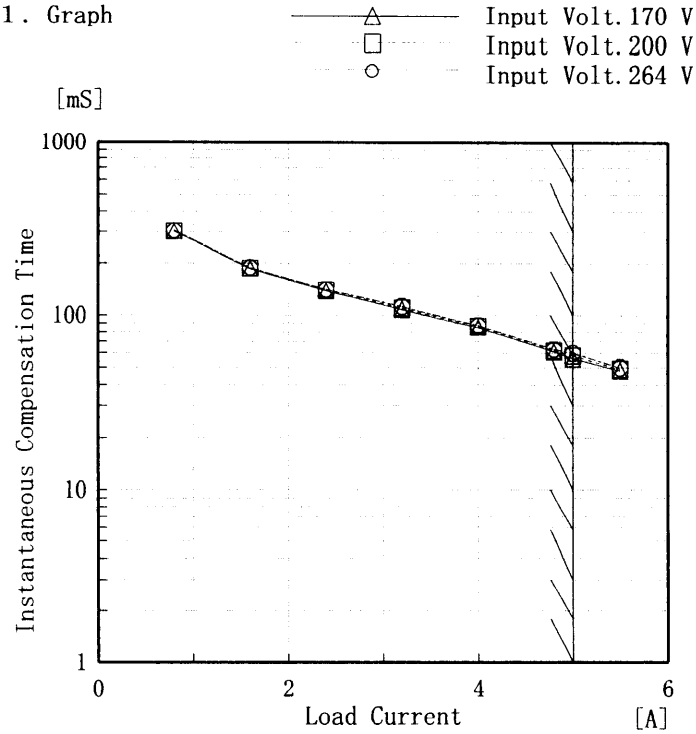
Model	LEB100F-0512
Item	Instantaneous Interruption Compensation 瞬時停電保障
Object	V1:+5.0V5A

Temperature 25℃
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 load current.

瞬時停電保障時間とは、出力電圧が定電圧精度の規格範囲を保持している瞬時停電時間をいう。
(注)斜線は定格負荷電流範囲を示す。

2. Values

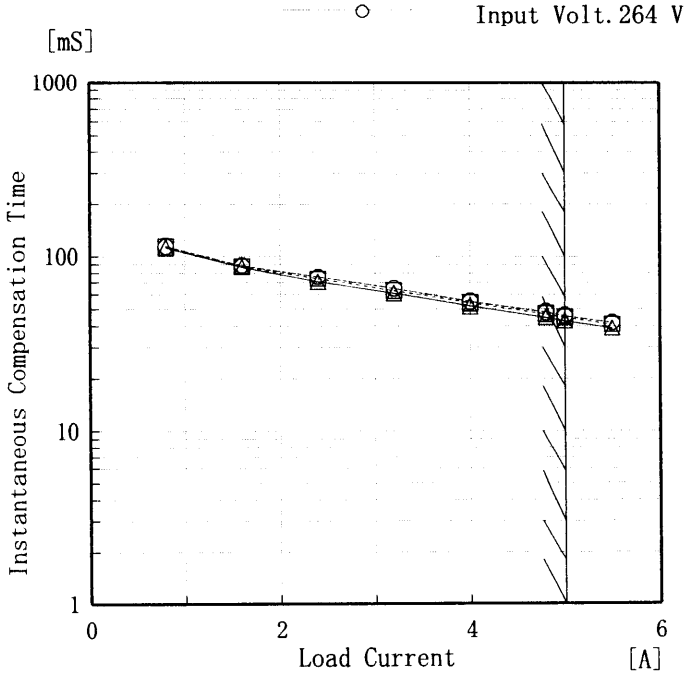
Load Current [A]	Time [mS]		
	Input Volt. 170[V]	Input Volt. 200[V]	Input Volt. 264[V]
0.0	—	—	—
0.8	301	303	305
1.6	186	187	189
2.4	137	139	140
3.2	108	110	112
4.0	85	87	88
4.8	61	62	63
5.0	56	58	60
5.5	48	49	50
—	—	—	—
—	—	—	—

COSEL

Model	LEB100F-0512
Item	Instantaneous Interruption Compensation 瞬時停電保障
Object	V2:＋12.0V5A

Temperature 25℃
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 load current.

瞬時停電保障時間とは、出力電圧が定電圧精度の規格範囲を保持している瞬時停電時間をいう。
(注)斜線は定格負荷電流範囲を示す。

2. Values

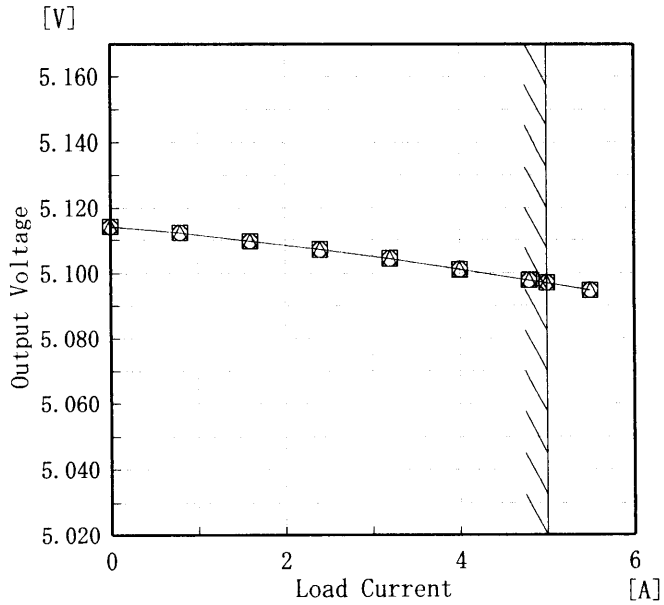
Load Current [A]	Time [mS]		
	Input Volt. 170[V]	Input Volt. 200[V]	Input Volt. 264[V]
0.0	—	—	—
0.8	112	113	114
1.6	87	88	89
2.4	71	74	76
3.2	61	63	65
4.0	52	54	55
4.8	45	47	48
5.0	43	45	46
5.5	39	41	42
—	—	—	—
—	—	—	—

COSEL

Model	LEB100F-0512		
Item	Load Regulation 静的負荷変動	Temperature Testing Circuitry	25℃ Figure A

Object: V1:+5.0V5A

1. Graph

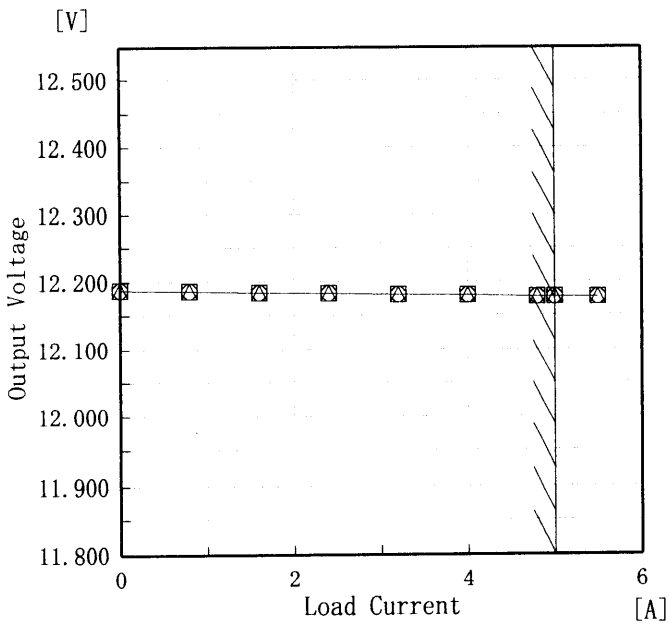


2. Values

Load Current [A]	Output Voltage [V] Input Volt. 170[V]	Input Volt. 200[V]	Input Volt. 264[V]
0.0	5.114	5.114	5.114
0.8	5.112	5.112	5.112
1.6	5.110	5.110	5.110
2.4	5.107	5.107	5.107
3.2	5.104	5.104	5.104
4.0	5.101	5.101	5.101
4.8	5.098	5.098	5.098
5.0	5.097	5.097	5.097
5.5	5.095	5.095	5.095
—	—	—	—

Object: V2:+12.0V5A

1. Graph



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

(注)斜線は定格負荷電流範囲を示す。

2. Values

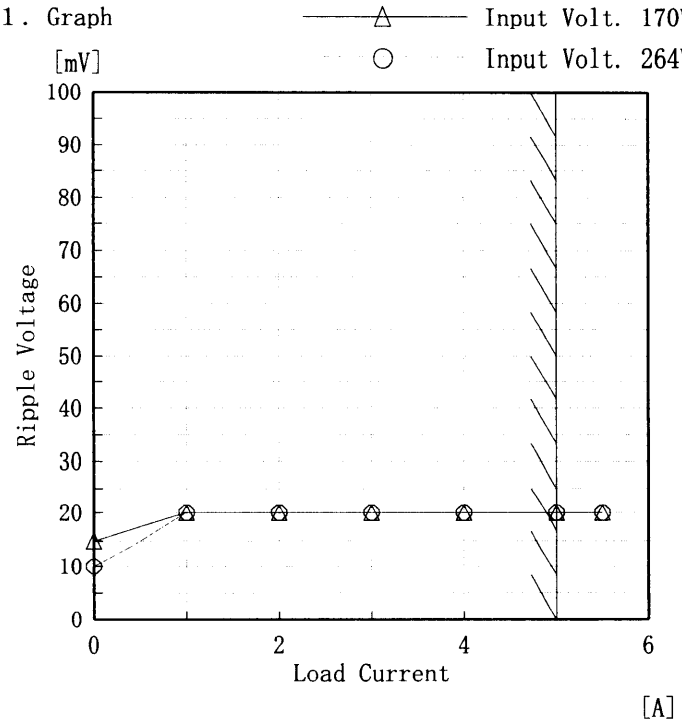
Load Current [A]	Output Voltage [V] Input Volt. 170[V]	Input Volt. 200[V]	Input Volt. 264[V]
0.0	12.188	12.188	12.188
0.8	12.186	12.186	12.186
1.6	12.184	12.184	12.184
2.4	12.183	12.183	12.183
3.2	12.181	12.181	12.181
4.0	12.180	12.180	12.180
4.8	12.178	12.178	12.178
5.0	12.178	12.178	12.178
5.5	12.177	12.177	12.177
—	—	—	—

COSEL

Model	LEB100F-0512
Item	Ripple Voltage(by Load Current) リップル電圧(負荷特性)
Object	V1:+5.0V5A

Temperature 25℃
Testing Circuitry Figure A

1. Graph



Ripple Voltage is shown as p-p in the figure below.

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

リップル電圧は、下図ｐ－ｐ値で示される。
(注)斜線は定格負荷電流範囲を示す。

T1: Due to AC Input Line
入力商用周期
T2: Due to Switching
ｽｲｯﾁﾝｸﾞ周期

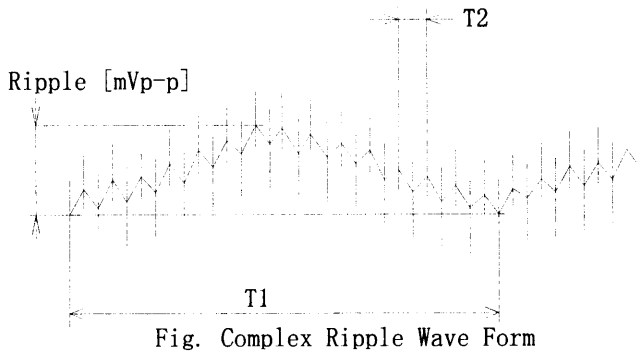


Fig. Complex Ripple Wave Form
図 リップル波形詳細図

2. Values

Load Current [A]	Ripple Output Voltage [mV]	
	Input Volt. 170 [V]	Input Volt. 264 [V]
0.0	15	10
1.0	20	20
2.0	20	20
3.0	20	20
4.0	20	20
5.0	20	20
5.5	20	20
—	—	—
—	—	—
—	—	—
—	—	—

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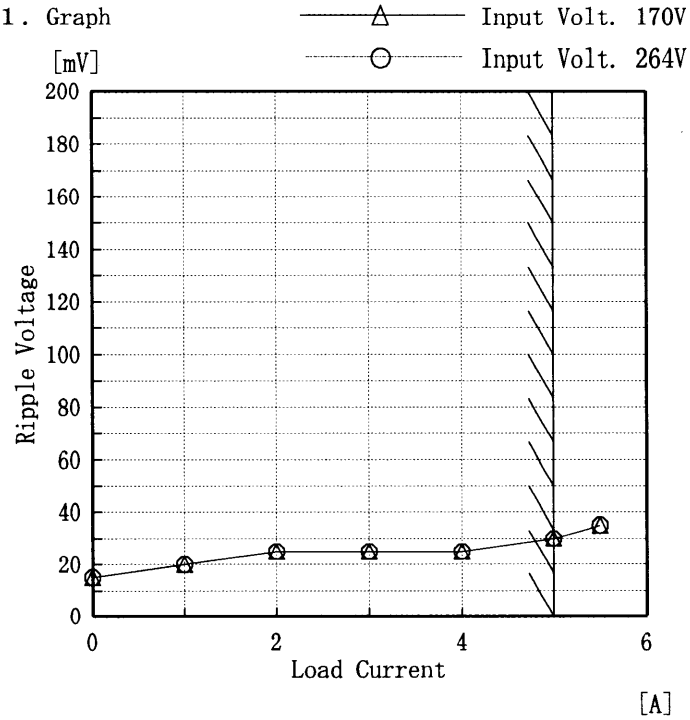
COSEL

Model	LEB100F-0512
Item	Ripple Voltage(by Load Current) リップル電圧(負荷特性)
Object	V2:+12.0V5A

Temperature 25℃
Testing Circuitry Figure A

1. Graph



Ripple Voltage is shown as p-p in the figure below.

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

リップル電圧は、下図ｐ－ｐ値で示される。
(注)斜線は定格負荷電流範囲を示す。

T1: Due to AC Input Line
入力商用周期
T2: Due to Switching
ｽｲｯﾁﾝｸﾞ周期

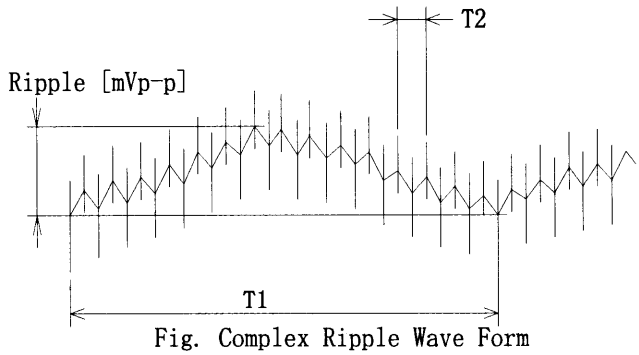


Fig. Complex Ripple Wave Form
図 リップル波形詳細図

2. Values

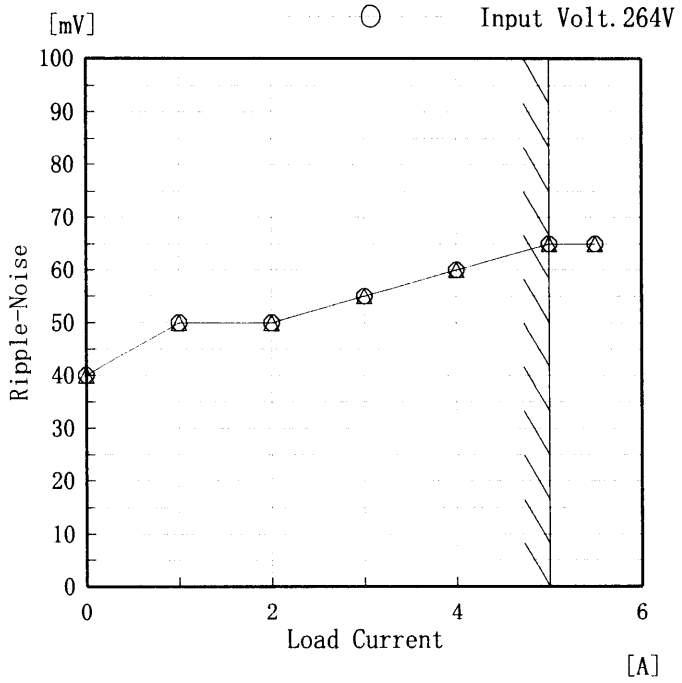
Load Current [A]	Ripple Output Voltage [mV]	
	Input Volt. 170 [V]	Input Volt. 264 [V]
0.0	15	15
1.0	20	20
2.0	25	25
3.0	25	25
4.0	25	25
5.0	30	30
5.5	35	35
—	—	—
—	—	—
—	—	—
—	—	—

COSEL

Model	LEB100F-0512
Item	Ripple-Noise リップルノイズ
Object	V1:+5.0V5A

Temperature 25℃
Testing Circuitry Figure A

1. Graph



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

リップルノイズは、下図ｐ－ｐ値で示される。
(注)斜線は定格負荷電流範囲を示す。

T1: Due to AC Input Line
入力商用周期
T2: Due to Switching
ｽｲｯﾁﾝｸﾞ周期

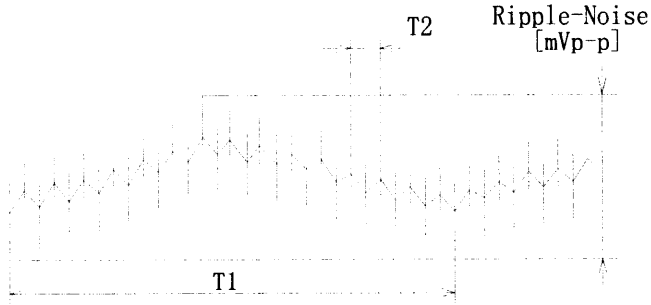


Fig. Complex Ripple Wave Form
図 リップル波形詳細図

2. Values

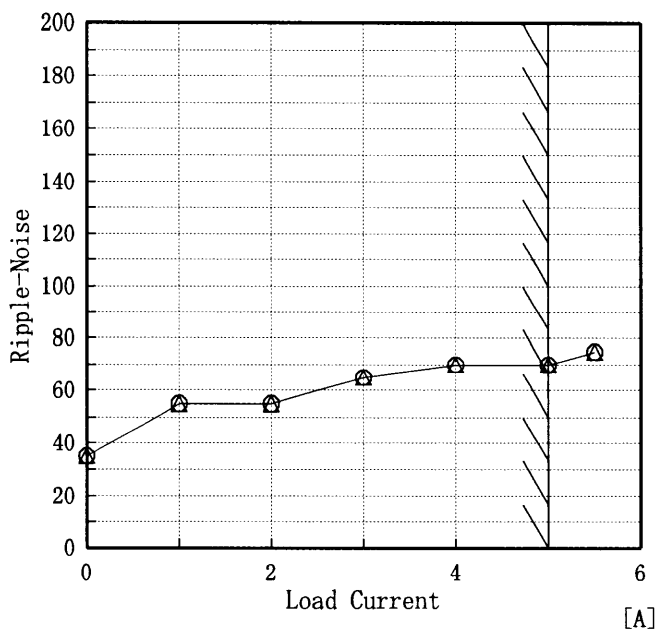
Load Current [A]	Ripple-Noise [mV]	
	Input Volt. 170 [V]	Input Volt. 264 [V]
0.0	40	40
1.0	50	50
2.0	50	50
3.0	55	55
4.0	60	60
5.0	65	65
5.5	65	65
—	—	—
—	—	—
—	—	—
—	—	—

COSEL

Model	LEB100F-0512
Item	Ripple-Noise リップルノイズ
Object	V2:＋12.0V5A

Temperature 25℃
Testing Circuitry Figure A

1. Graph



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

リップルノイズは、下図ｐ－ｐ値で示される。
(注)斜線は定格負荷電流範囲を示す。

T1: Due to AC Input Line
入力商用周期
T2: Due to Switching
ｽｲｯﾁﾝｸﾞ周期

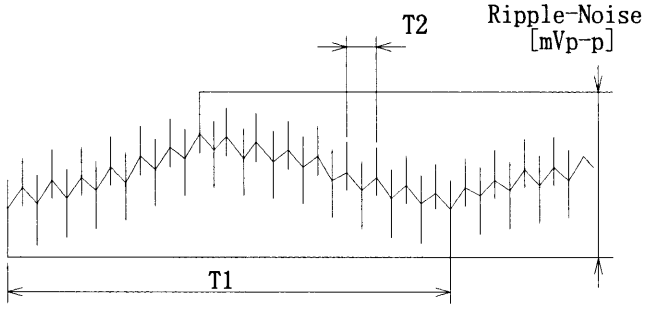


Fig. Complex Ripple Wave Form
図 リップル波形詳細図

2. Values

Load Current [A]	Ripple-Noise [mV]	
	Input Volt. 170 [V]	Input Volt. 264 [V]
0.0	35	35
1.0	55	55
2.0	55	55
3.0	65	65
4.0	70	70
5.0	70	70
5.5	75	75
—	—	—
—	—	—
—	—	—
—	—	—

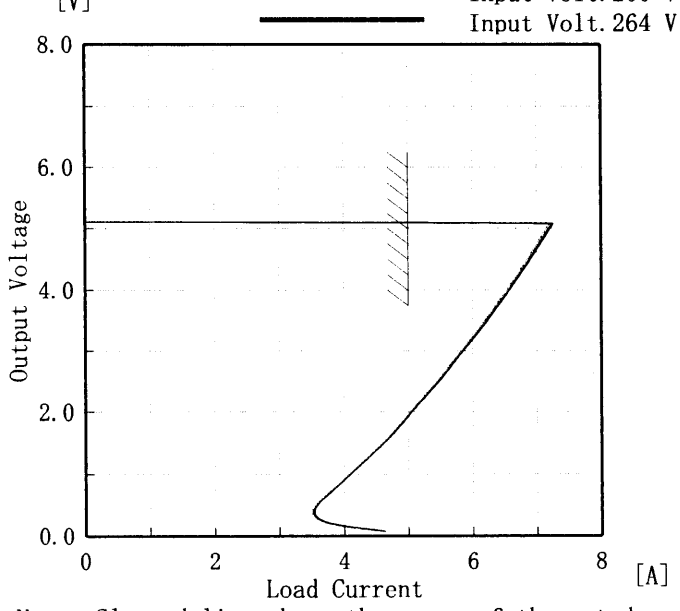
COSEL

Model	LEB100F-0512
Item	Overcurrent Protection 過電流保護

Temperature 25℃
Testing Circuitry Figure A

Object V1:+5.0V5A

1. Graph



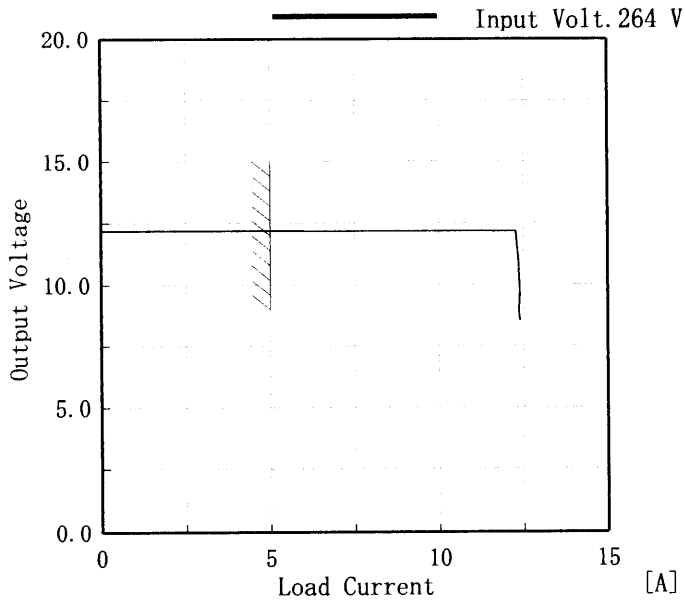
Note: Slanted line shows the range of the rated load current.

2. Values

Output Voltage [V]	Load Current [A]		
	Input Volt. 170[V]	Input Volt. 200[V]	Input Volt. 264[V]
5.00	7.14	7.18	7.21
4.75	7.00	7.03	7.05
4.50	6.83	6.86	6.88
4.00	6.50	6.53	6.55
3.50	6.17	6.19	6.21
3.00	5.80	5.84	5.83
2.50	5.41	5.42	5.44
2.00	4.99	5.00	5.01
1.50	4.58	4.59	4.60
1.00	4.03	4.04	4.05
0.50	3.56	3.57	3.58
0.00	4.60	4.63	4.64

Object V2:+12.0V5A

1. Graph



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

Intermittent operation occurs when the output voltage is from 8.4V to 0V.

2. Values

Output Voltage [V]	Load Current [A]		
	Input Volt. 170[V]	Input Volt. 200[V]	Input Volt. 264[V]
12.00	12.29	12.29	12.29
11.40	12.32	12.32	12.32
10.80	12.37	12.37	12.36
9.60	12.40	12.39	12.38
8.40	12.43	12.42	12.42
7.20	—	—	—
6.00	—	—	—
4.80	—	—	—
3.60	—	—	—
2.40	—	—	—
1.20	—	—	—
0.00	—	—	—

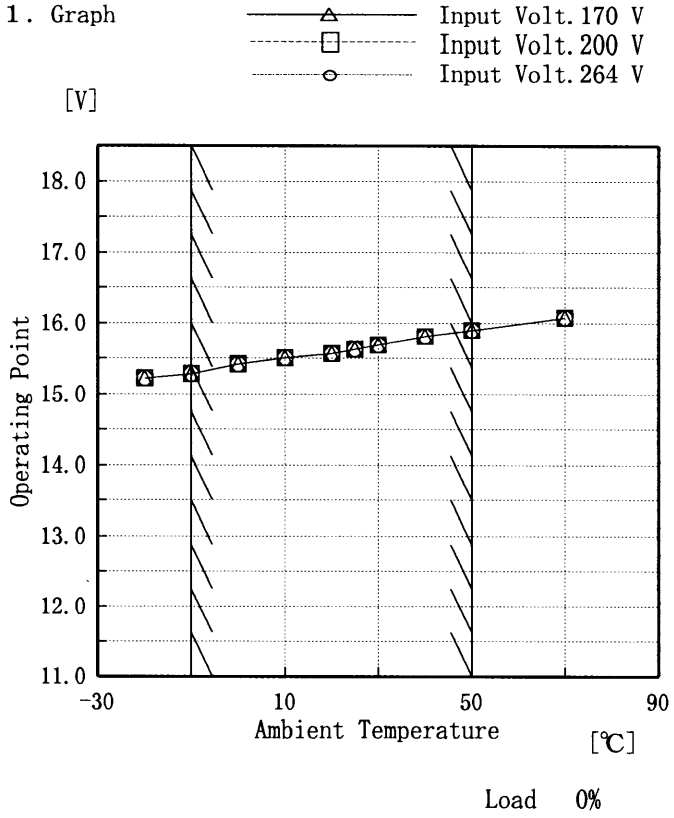
BC−3269

COSEL

Model	LEB100F-0512
Item	Overvoltage Protection 過電圧保護
Object	V2:＋12.0V5A

Testing Circuitry Figure A

1. Graph



Load 0%

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

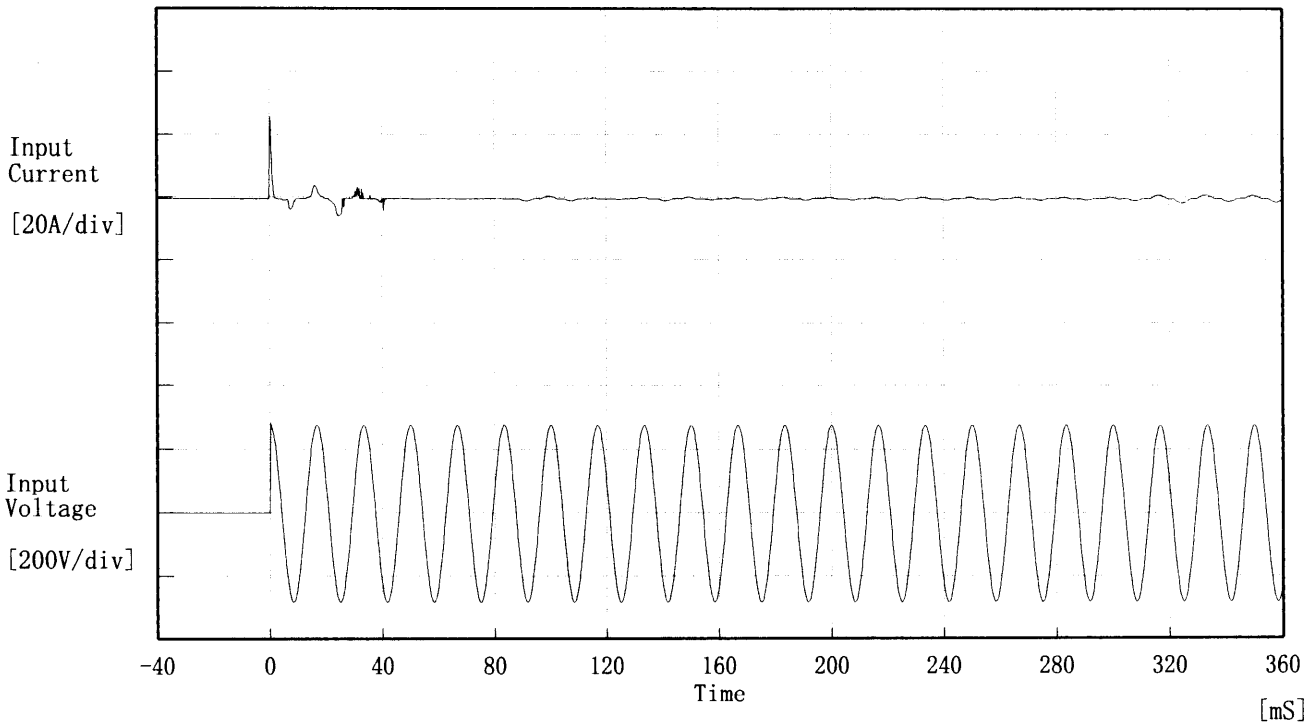
(注)斜線は定格周囲温度範囲を示す。

2. Values

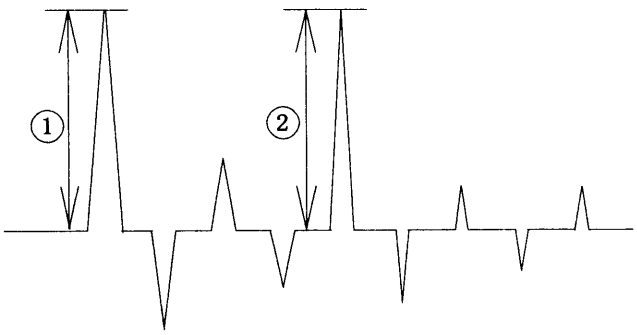
Ambient Temperature [℃]	Operating Point [V]		
	Input Volt. 170[V]	Input Volt. 200[V]	Input Volt. 264[V]
-20	15.2	15.2	15.2
-10	15.3	15.3	15.3
0	15.4	15.4	15.4
10	15.5	15.5	15.5
20	15.6	15.6	15.6
25	15.6	15.6	15.6
30	15.7	15.7	15.7
40	15.8	15.8	15.8
50	15.9	15.9	15.9
70	16.1	16.1	16.1
—	—	—	—

COSEL

Model	LEB100F-0512		
Item	Inrush Current 突入電流	Temperature Testing Circuitry	25℃ Figure A
Object	――――――――		



Input Voltage 200 V
Frequency 60 Hz
Load 100 %
Inrush Current
① 25.68 [A]
② 4.20 [A]



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COSEL

Model	LEB100F-0512		
Item	Dynamic Load Responce 動的負荷変動	Temperature Testing Circuitry	25℃ Figure A
Object	V 1 : +5.0V5A		

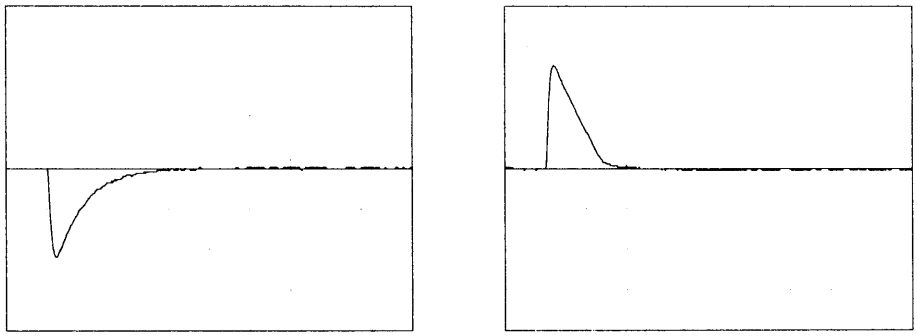
Input Volt. 200 V

Cycle 1000 mS

Load Current

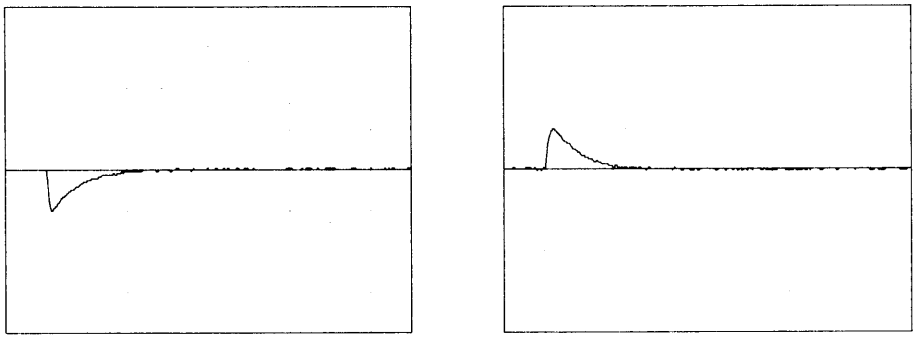
Min. Load ←→

Load 100 %



Min. Load ←→

Load 50 %



100 mV/div

10 ms/div

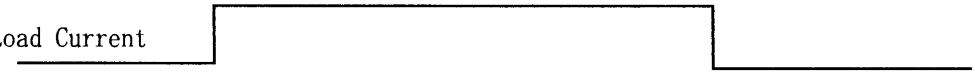
COSEL

Model	LEB100F-0512		
Item	Dynamic Load Responce 動的負荷変動	Temperature Testing Circuitry	25℃ Figure A
Object	V 2 : +12.0V5A		

Input Volt. 200 V

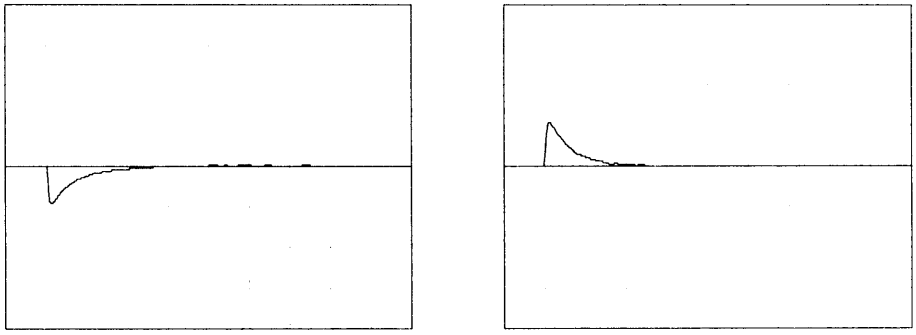
Cycle 1000 mS

Load Current



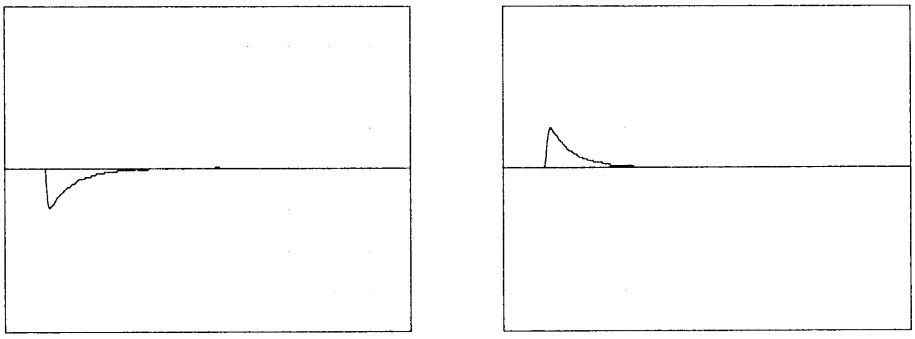
Min. Load ←→

Load 100 %



Min. Load ←→

Load 50 %



100 mV/div

10 ms/div

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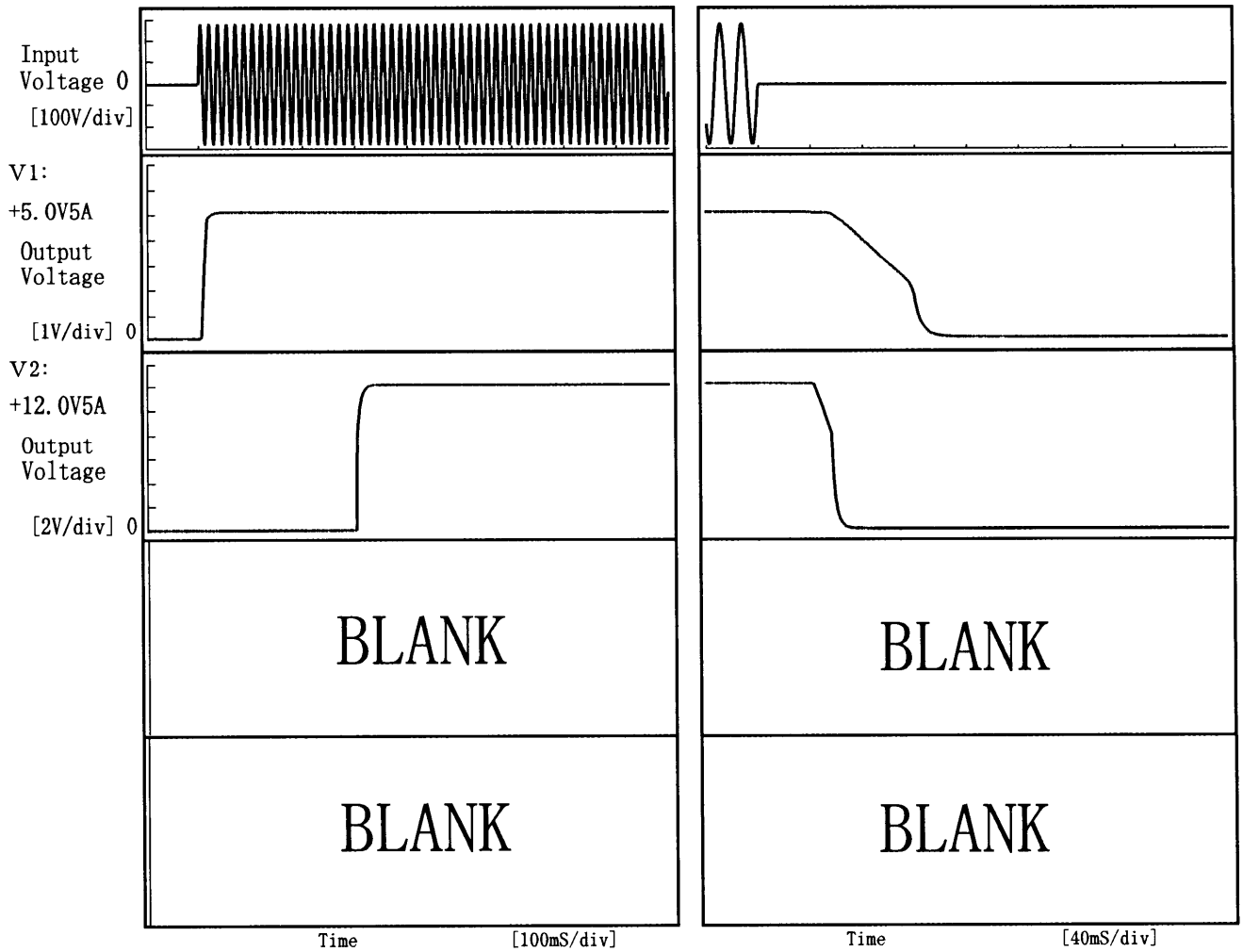
COSEL

Model	LEB100F-0512
Item	Rise and Fall Time 立上り、立下り時間
Object	————

Temperature 25℃
Testing Circuitry Figure A

Load Power 100 %
Input Volt. 200 V

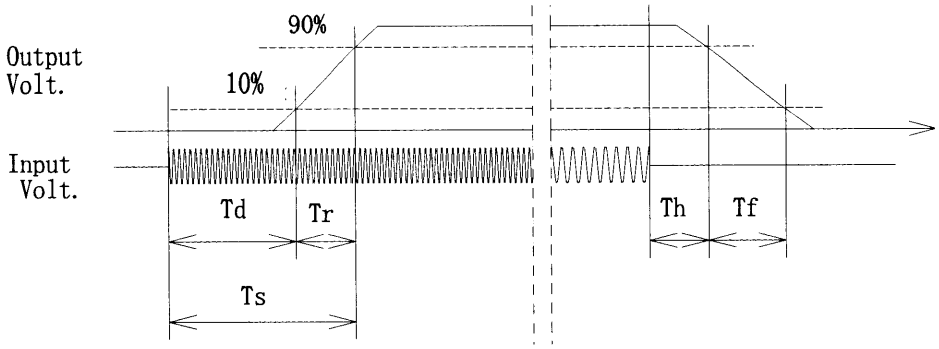
1. Graph



2. Values

[mS]

Output \ Time	T d	T r	T s	T h	T f
V1	3.0	10.0	13.0	68.8	58.4
V2	300.0	9.0	309.0	46.6	15.2
—	—	—	—	—	—
—	—	—	—	—	—



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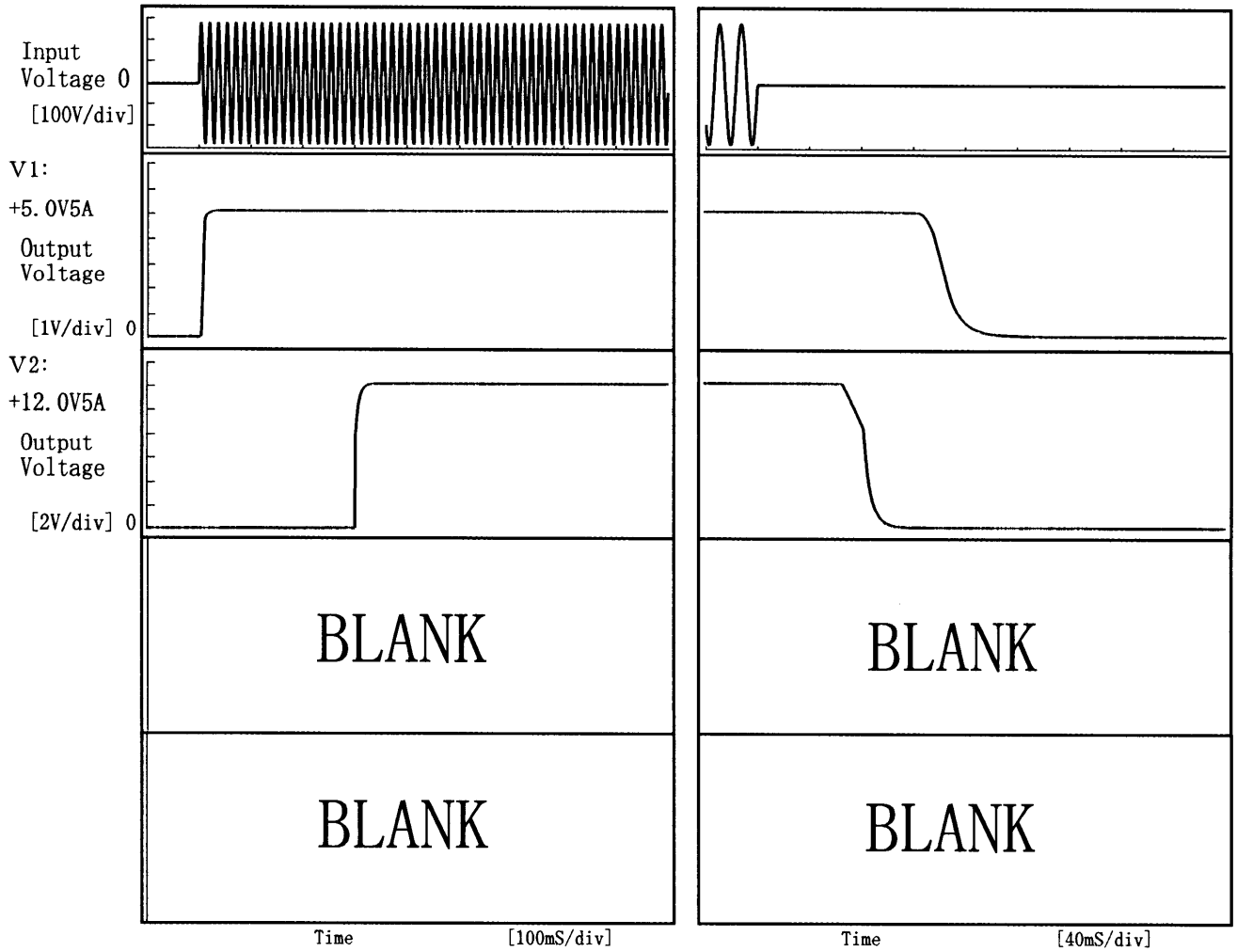
COSEL

Model	LEB100F-0512		
Item	Rise and Fall Time 立上り、立下り時間	Temperature Testing Circuitry	25℃ Figure A
Object	————		

Load Power 50 %

Input Volt. 200 V

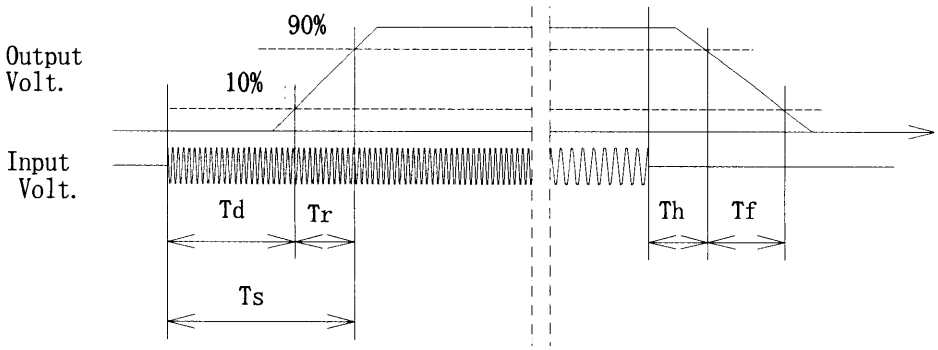
1. Graph



2. Values

[mS]

Output \ Time	T d	T r	T s	T h	T f
V1	3.5	6.5	10.0	133.2	31.4
V2	299.5	8.5	308.0	71.6	22.0
—	—	—	—	—	—
—	—	—	—	—	—



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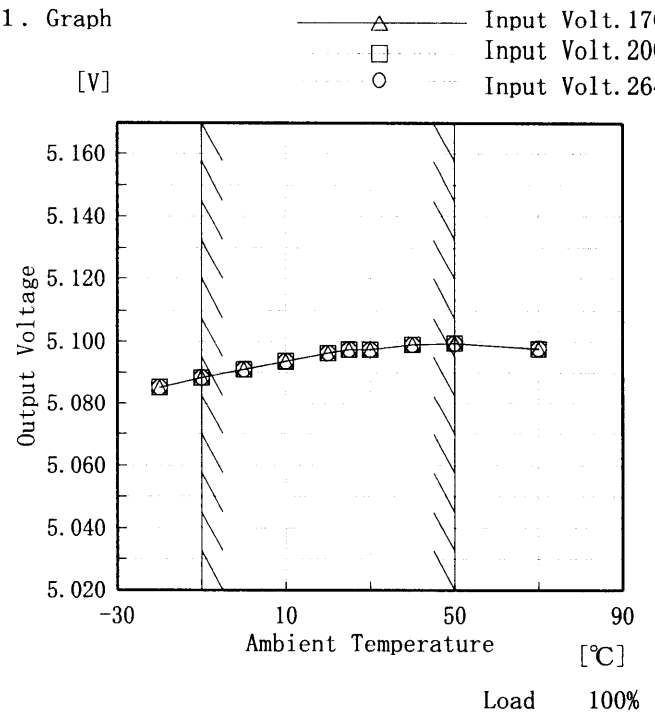
COSEL

Model	LEB100F-0512
Item	Ambient Temperature Drift 周囲温度変動

Testing Circuitry Figure A

Object V1:+5.0V5A

1. Graph

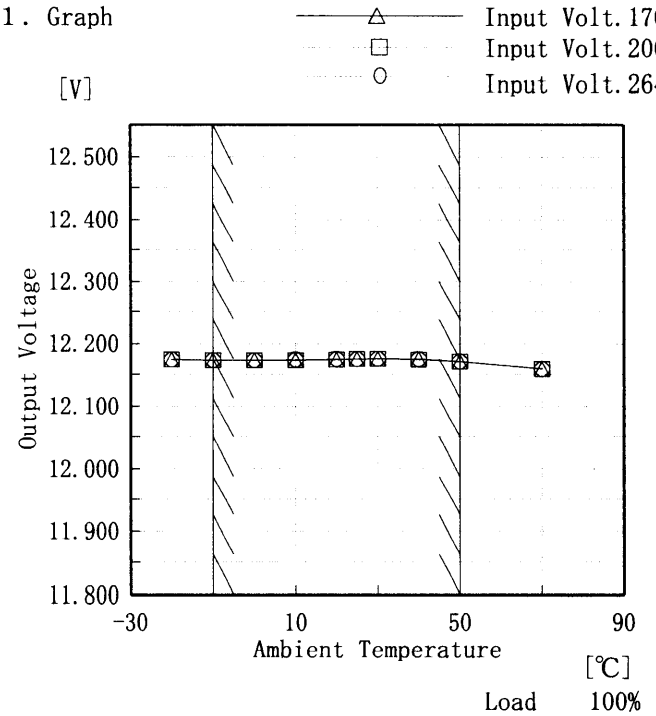


2. Values

Ambient Temperature [℃]	Output Voltage [V]		
	Input Volt. 170[V]	Input Volt. 200[V]	Input Volt. 264[V]
-20	5.085	5.085	5.085
-10	5.088	5.088	5.088
0	5.091	5.091	5.091
10	5.094	5.094	5.094
20	5.096	5.096	5.096
25	5.097	5.097	5.098
30	5.097	5.097	5.097
40	5.099	5.099	5.099
50	5.099	5.099	5.099
70	5.098	5.098	5.098
—	—	—	—

Object V2:+12.0V5A

1. Graph



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

(注)斜線は定格周囲温度範囲を示す。

2. Values

Ambient Temperature [℃]	Output Voltage [V]		
	Input Volt. 170[V]	Input Volt. 200[V]	Input Volt. 264[V]
-20	12.174	12.174	12.174
-10	12.173	12.173	12.173
0	12.173	12.173	12.173
10	12.173	12.173	12.174
20	12.174	12.174	12.175
25	12.175	12.175	12.175
30	12.176	12.176	12.176
40	12.175	12.174	12.175
50	12.171	12.171	12.171
70	12.159	12.159	12.159
—	—	—	—

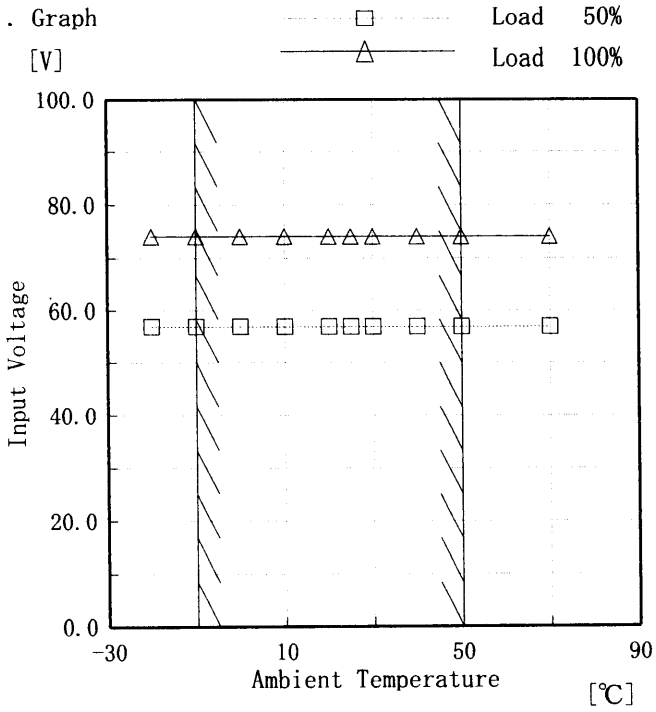
COSEL

Model	LEB100F-0512
Item	Minimum Input Voltage for Regulated Output Voltage 最低レギュレーション電圧

Testing Circuitry Figure A

Object V1:+5.0V5A

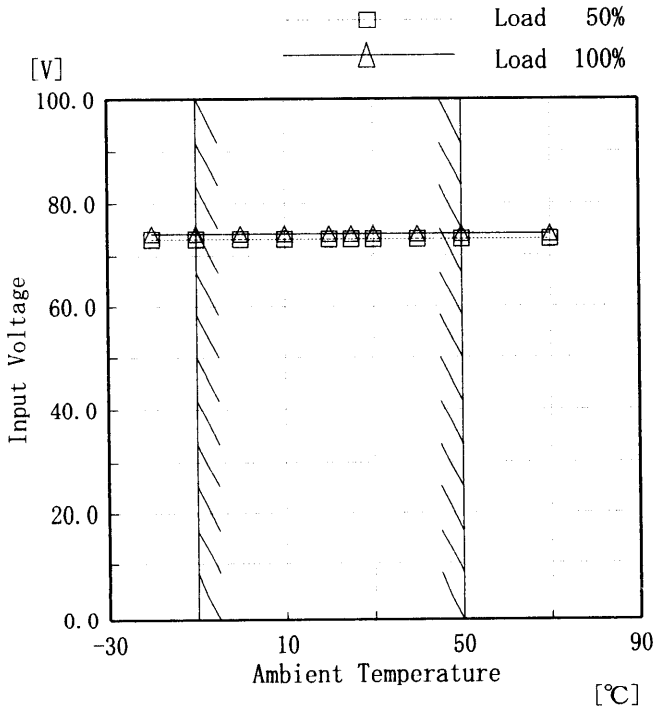
1. Graph



2. Values

Ambient Temperature [℃]	Input Voltage [V] Load 50%	Load 100%
-20	57	74
-10	57	74
0	57	74
10	57	74
20	57	74
25	57	74
30	57	74
40	57	74
50	57	74
70	57	74
—	—	—

Object V2:+12.0V5A



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

(注)斜線は定格周囲温度範囲を示す。

2. Values

Ambient Temperature [℃]	Input Voltage [V] Load 50%	Load 100%
-20	73	74
-10	73	74
0	73	74
10	73	74
20	73	74
25	73	74
30	73	74
40	73	74
50	73	74
70	73	74
—	—	—

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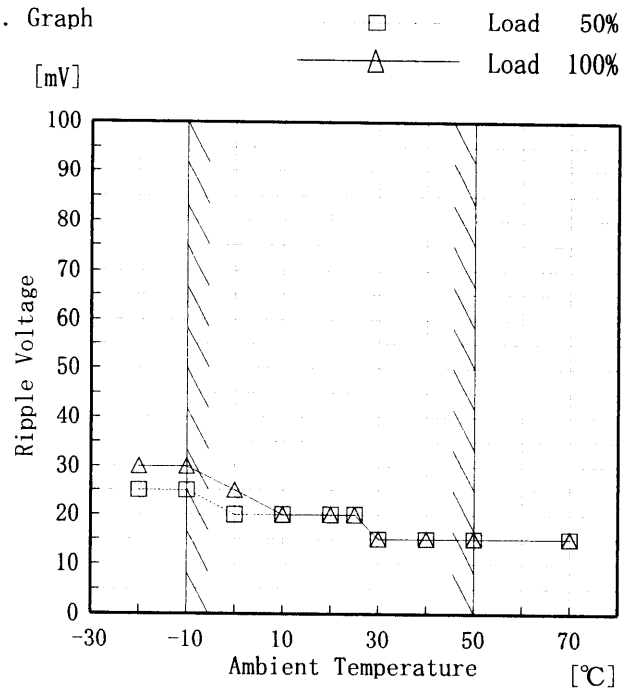
COSEL

Model	LEB100F-0512
Item	Ripple Voltage (by Ambient Temp.) リップル電圧（周囲温度特性）

Testing Circuitry　Figure A

Object　V1:+5.0V5A

1. Graph



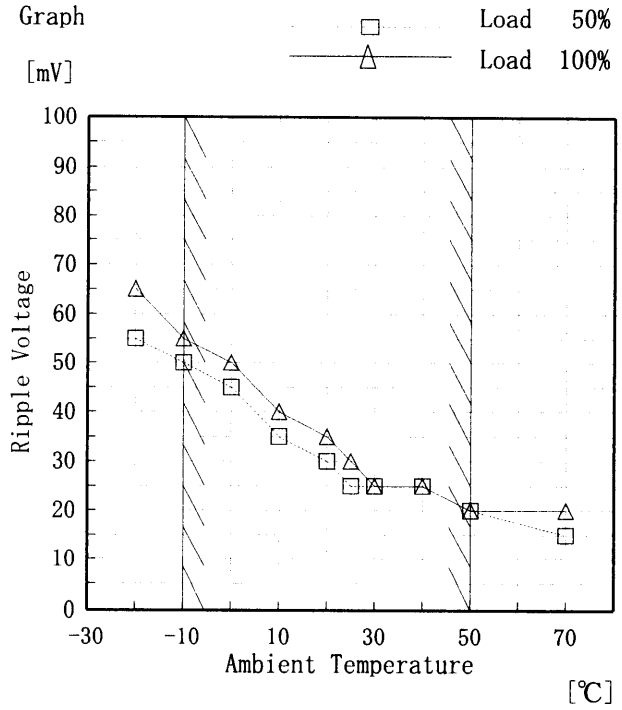
Input Volt.　200 V

2. Values

Ambient Temperature [℃]	Ripple Output Voltage [mV]	
	Load 50%	Load 100%
-20	25	30
-10	25	30
0	20	25
10	20	20
20	20	20
25	20	20
30	15	15
40	15	15
50	15	15
70	15	15
—	—	—

Object　V2:+12.0V5A

1. Graph



Input Volt.　200 V

2. Values

Ambient Temperature [℃]	Ripple Output Voltage [mV]	
	Load 50%	Load 100%
-20	55	65
-10	50	55
0	45	50
10	35	40
20	30	35
25	25	30
30	25	25
40	25	25
50	20	20
70	15	20
—	—	—

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

(注)斜線は定格周囲温度範囲を示す。

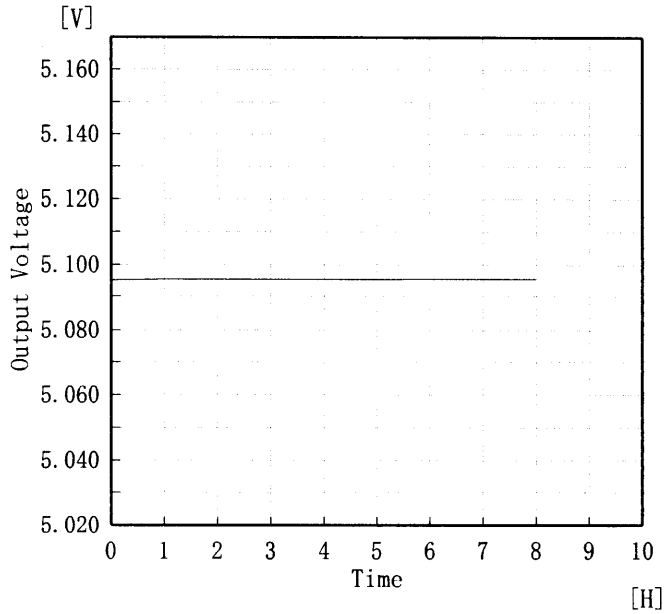
COSEL

Model	LEB100F-0512
Item	Time Lapse Drift 経時ドリフト

Temperature 25℃
Testing Circuitry Figure A

Object V1:+5.0V5A

1. Graph



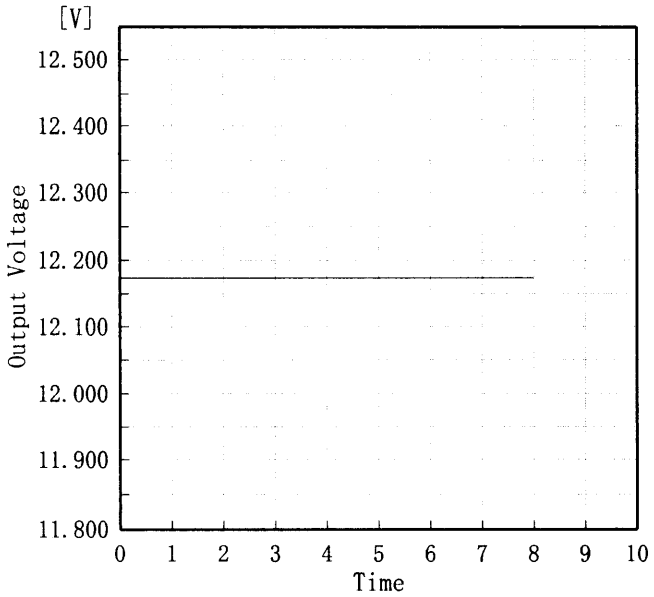
Input Volt. 200V
Load 100%

2. Values

Time since start [H]	Output Voltage [V]
0.0	5.095
0.5	5.095
1.0	5.095
2.0	5.095
3.0	5.095
4.0	5.095
5.0	5.095
6.0	5.095
7.0	5.095
8.0	5.095

Object V2:+12.0V5A

1. Graph



Input Volt. 200V
Load 100%

2. Values

Time since start [H]	Output Voltage [V]
0.0	12.176
0.5	12.174
1.0	12.174
2.0	12.174
3.0	12.174
4.0	12.174
5.0	12.174
6.0	12.174
7.0	12.174
8.0	12.174

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COSEL

Model	LEB100F-0512	
Item	Output Voltage Accuracy 定電圧精度	Testing Circuitry　Figure A

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 ℃
Input Voltage : 170～264 V
Load Current (V1) : 0～5 A
(V2) : 0～5 A

* Output Voltage Accuracy = ±(Maximum of Output Voltage − Minimum of Output Voltage)／2

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

1. 定電圧精度

周囲温度、入力電圧、負荷電流を下記仕様内で、任意に変動させたときの出力電圧の変動をいう。

周囲温度　-10～50 ℃
入力電圧　170～264 V
負荷電流 (V1)　0～5 A
(V2)　0～5 A

* 定電圧精度(変動値) ＝ ±(出力電圧の最高値－出力電圧の最低値)／２

* 定電圧精度(変動率) ＝ $\frac{\text{変動値}}{\text{定格出力電圧}}$ ×１００

2. Values

Object	V1:＋5.0V5A

Item	Temperature [℃]	Input Voltage [V]	Output Current [A]	Output Voltage [V]	Output Voltage Accuracy [mV]	Output Voltage Accuracy(Ration)[%]
Maximum Voltage	50	264	0	5.117	±15	±0.3
Minimum Voltage	-10	170	5	5.088		

Object	V2:＋12.0V5A

Item	Temperature [℃]	Input Voltage [V]	Output Current [A]	Output Voltage [V]	Output Voltage Accuracy [mV]	Output Voltage Accuracy(Ration)[%]
Maximum Voltage	25	170	0	12.188	±9	±0.1
Minimum Voltage	50	264	5	12.170		

COSEL

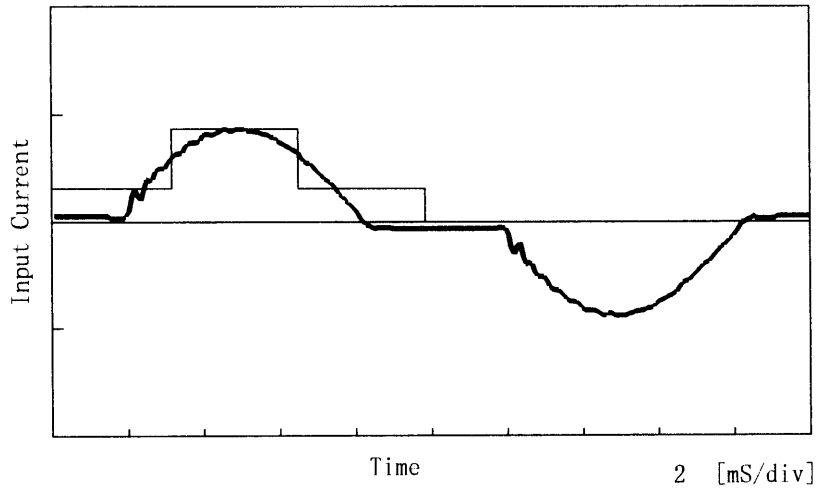
Model	LEB100F-0512		
Item	Harmonic Current 高調波電流	Temperature Testing Circuitry	25℃ Figure E
Object	――――		

1. Input Current Waveform

―― Input Current

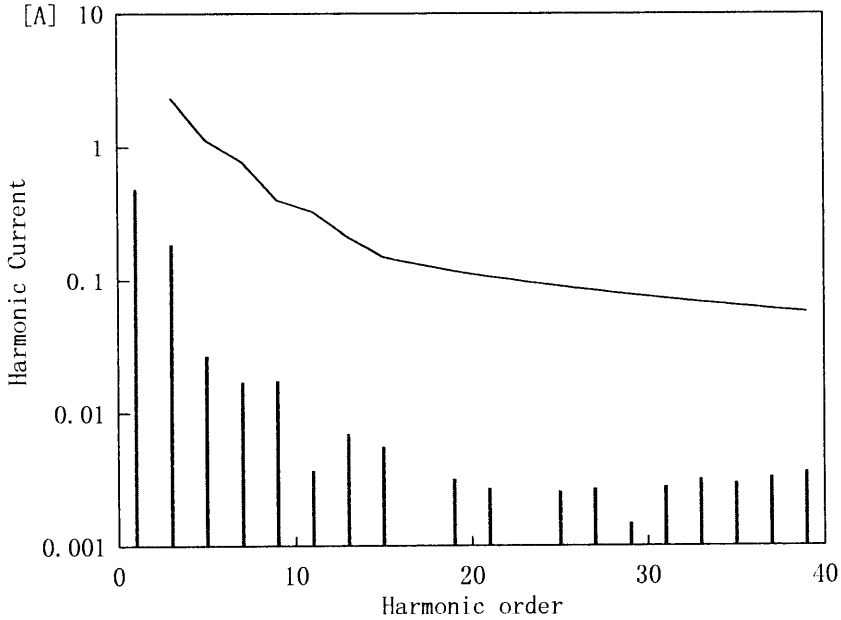
―― Envelope of the input current to classify equipment as Class D
ｸﾗｽDの機器を決定するための入力電流包絡線

1 A/div



Conditions	Values
Input Voltage [V]	230.6
Input Current [A]	0.525
Active Power [W]	111.4
Apparent Power[VA]	121.2
Frequency [Hz]	50
Power Factor	0.919
Output Power [W]	85

2. Harmonic Current



―― Harmonic Current
高調波電流

―― Limits for Class A equipment
ｸﾗｽAの機器に対する限度値

Harmonics order 高調波次数	Limits 限度値 [A]	Values 測定値 [A]
1	—	0.48980
2	—	0.00040
3	2.29402	0.18580
4	—	0.00010
5	1.13703	0.02710
6	—	0.00000
7	0.76800	0.01750
8	—	0.00010
9	0.39896	0.01800
10	—	0.00010
11	0.32914	0.00370
12	—	0.00010
13	0.20945	0.00710
14	—	0.00010
15	0.14961	0.00570
16	—	0.00000
17	0.13201	0.00090
18	—	0.00010
19	0.11811	0.00320
20	—	0.00010
21	0.10686	0.00270
22	—	0.00010
23	0.09757	0.00040
24	—	0.00000
25	0.08977	0.00260
26	—	0.00010
27	0.08312	0.00270
28	—	0.00010
29	0.07738	0.00150
30	—	0.00010
31	0.07239	0.00280
32	—	0.00010
33	0.06800	0.00320
34	—	0.00000
35	0.06412	0.00300
36	—	0.00000
37	0.06065	0.00330
38	—	0.00000
39	0.05754	0.00360
40	—	0.00010

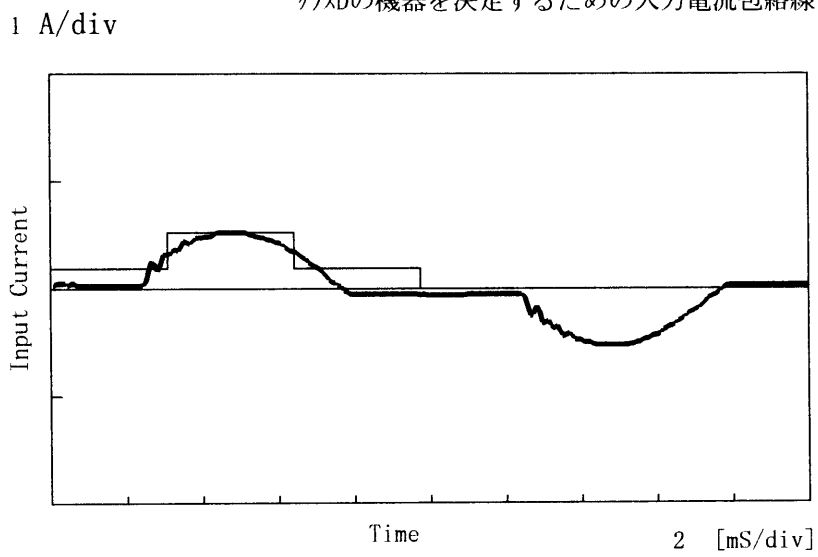
COSEL

Model	LEB100F-0512		
Item	Harmonic Current 高調波電流	Temperature Testing Circuitry	25℃ Figure E
Object	――――		

1. Input Current Waveform

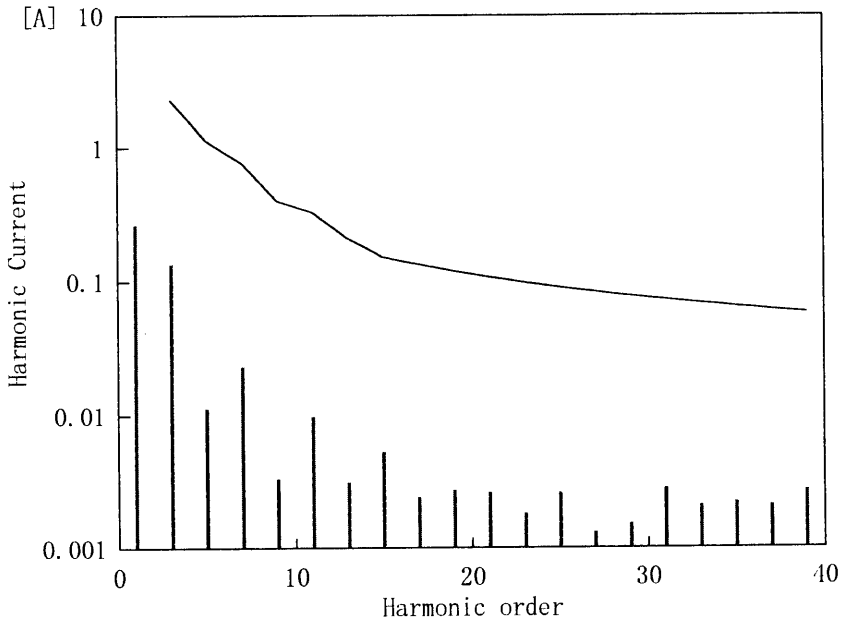
―― Input Current

―― Envelope of the input current to classify equipment as Class D
ｸﾗｽDの機器を決定するための入力電流包絡線



Conditions	Values
Input Voltage [V]	230.6
Input Current [A]	0.3
Active Power [W]	59.8
Apparent Power[VA]	69.4
Frequency [Hz]	50
Power Factor	0.862
Output Power [W]	42.5

2. Harmonic Current



―― Harmonic Current
高調波電流

―― Limits for Class A equipment
ｸﾗｽAの機器に対する限度値

Harmonics order 高調波次数	Limits 限度値 [A]	Values 測定値 [A]
1	—	0.26700
2	—	0.00040
3	2.29402	0.13410
4	—	0.00000
5	1.13703	0.01130
6	—	0.00010
7	0.76800	0.02330
8	—	0.00010
9	0.39896	0.00330
10	—	0.00010
11	0.32914	0.00980
12	—	0.00010
13	0.20945	0.00310
14	—	0.00010
15	0.14961	0.00530
16	—	0.00010
17	0.13201	0.00240
18	—	0.00000
19	0.11811	0.00270
20	—	0.00000
21	0.10686	0.00260
22	—	0.00010
23	0.09757	0.00180
24	—	0.00010
25	0.08977	0.00260
26	—	0.00010
27	0.08312	0.00130
28	—	0.00000
29	0.07738	0.00150
30	—	0.00010
31	0.07239	0.00280
32	—	0.00010
33	0.06800	0.00210
34	—	0.00000
35	0.06412	0.00220
36	—	0.00010
37	0.06065	0.00210
38	—	0.00010
39	0.05754	0.00270
40	—	0.00010

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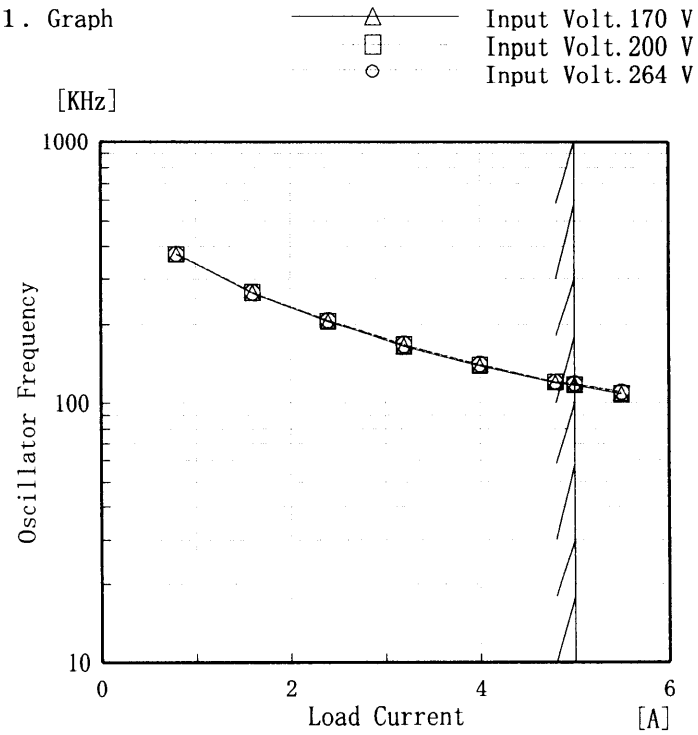
COSEL

Model	LEB100F-0512
Item	Oscillator Frequency 発振周波数
Object	V1:+5.0V5A

Temperature 25℃
Testing Circuitry Figure A

1. Graph



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

(注)斜線は定格負荷電流範囲を示す。

2. Values

Load Current [A]	Oscillator Frequency [KHz]		
	Input Volt. 170[V]	Input Volt. 200[V]	Input Volt. 264[V]
0.8	372	373	374
1.6	266	267	268
2.4	205	206	207
3.2	166	167	168
4.0	140	141	142
4.8	120	121	121
5.0	117	118	119
5.5	108	109	110
—	—	—	—
—	—	—	—
—	—	—	—

COSEL

Model	LEB100F-0512
Item	Condensation 結露特性

Testing Circuitry　Figure A

1. Condensation test

Testing procedure is as follows.

① Keeping and cooling the unit in a tank at -10℃ for an hour with the input off.

② Taking it out of the tank and dewing itself in a room where the temperature is 25℃ and the humidity is 40%RH.

③ Testing electrical characteristics of the unit to confirm there be no fault.

1．結露特性試験

入力を切った状態で、恒温槽で－１０℃に冷却しておき、約１時間後に恒温槽から取り出し、室温２５℃、湿度４０％RHの状態におき結露させ、その電気的特性の測定を行い、異常のないことを確認する。

2. Values

Object	V1:＋5.0V5A

Item	Data	Testing Conditions
Output Voltage [V]	5.097	Input Volt.: 200V, Load Current:5A
Line Regulation [mV]	1	Input Volt.: 170～264V, Load Current:5A
Load Regulation [mV]	14	Input Volt.: 200V, Load Current:0～5A

Object	V2:＋12.0V5A

Item	Data	Testing Conditions
Output Voltage [V]	12.178	Input Volt.: 200V, Load Current:5A
Line Regulation [mV]	1	Input Volt.: 170～264V, Load Current:5A
Load Regulation [mV]	10	Input Volt.: 200V, Load Current:0～5A

COSEL

Model	LEB100F-0512		
Item	Leakage Current 漏洩電流	Temperature Testing Circuitry	25℃ Figure B
Object	――――――		

1. Results

Standards	Leakage Current [mA]		
	Input Volt. 85 [V]	Input Volt. 100 [V]	Input Volt. 132 [V]
(A) DENTORI	—	—	—
(B) IEC60950	—	—	—

Standards	Leakage Current [mA]		
	Input Volt. 170 [V]	Input Volt. 230 [V]	Input Volt. 264 [V]
(B) IEC60950	0.36	0.42	0.56

2. Condition

Leakage current value is concluded after measuring both phases of AC input and by choosing the larger one.

交流入力の両相について測定し、その大きい方を漏洩電流測定値とする。

COSEL

Model	LEB100F-0512		
Item	Line Noise Tolerance 入力雑音耐量	Temperature Testing Circuitry	25℃ Figure C
Object	V1:+5.0V5A		

1. Results

Conditions

Input Voltage :200 V
Pulse Voltage :2000 V
Pulse Cycle :10 mS
Pulse Input Duration:1 min. or more
Load :100 %

Pulse Width [nS]	MODE	POLARITY	No protection failure should occur 保護回路の誤動作がない	DC-like Regulation of Output Voltage 出力電圧の直流的変動
50	COMMON	+	OK	no fluctuation
		−	OK	no fluctuation
	NORMAL	+	OK	no fluctuation
		−	OK	no fluctuation
1000	COMMON	+	OK	no fluctuation
		−	OK	no fluctuation
	NORMAL	+	OK	no fluctuation
		−	OK	no fluctuation

Object	V2:+12.0V5A

1. Results

Conditions

Input Voltage :200 V
Pulse Voltage :2000 V
Pulse Cycle :10 mS
Pulse Input Duration:1 min. or more
Load :100 %

Pulse Width [nS]	MODE	POLARITY	No protection failure should occur 保護回路の誤動作がない	DC-like Regulation of Output Voltage 出力電圧の直流的変動
50	COMMON	+	OK	no fluctuation
		−	OK	no fluctuation
	NORMAL	+	OK	no fluctuation
		−	OK	no fluctuation
1000	COMMON	+	OK	no fluctuation
		−	OK	no fluctuation
	NORMAL	+	OK	no fluctuation
		−	OK	no fluctuation

COSEL

Model	LEB100F-0512		
Item	Conducted Emission 雑音端子電圧	Temperature Testing Circuitry	25℃ Figure D
Object	――――――		

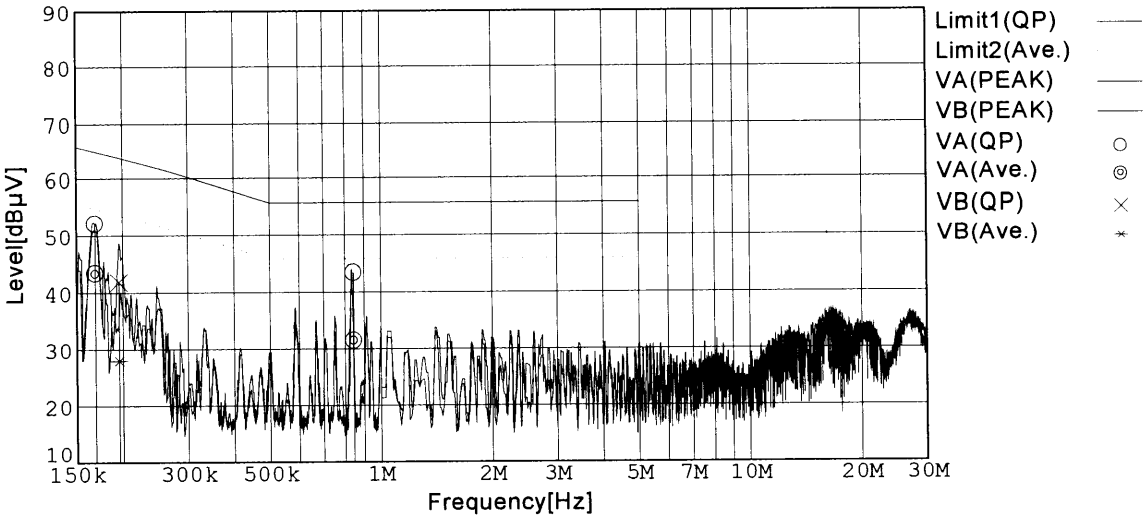
1. Graph

Remarks

Input Volt. 230 V (CISPR Pub22 Class B)

Load 100 %

Limit1: [CISPR Pub22] Class B(QP)
Limit2: [CISPR Pub22] Class B(Ave.)



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COSEL

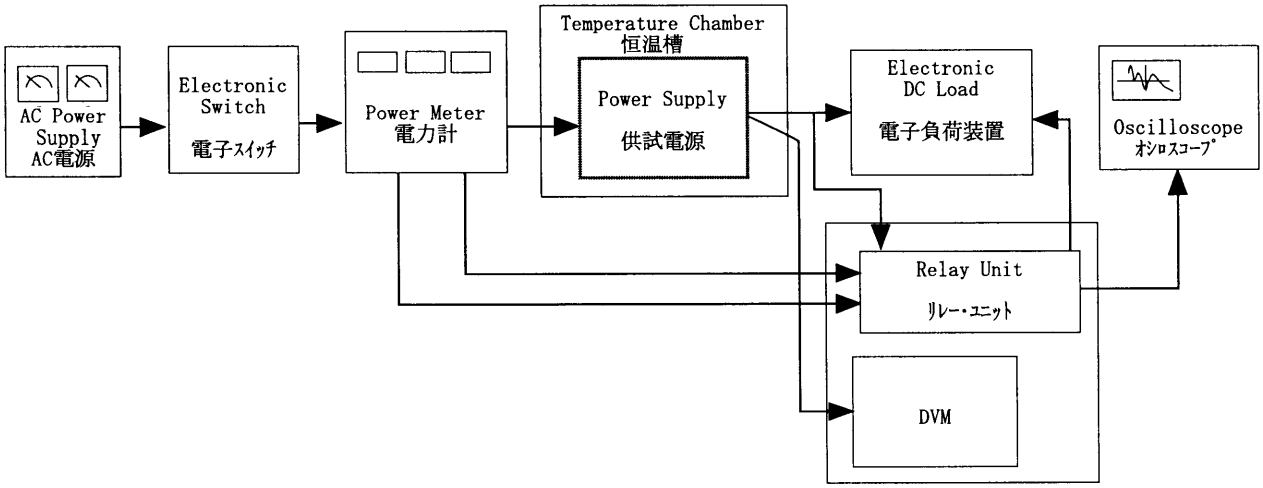

Figure A

Data Acquisition/Control Unit
データ集録システム

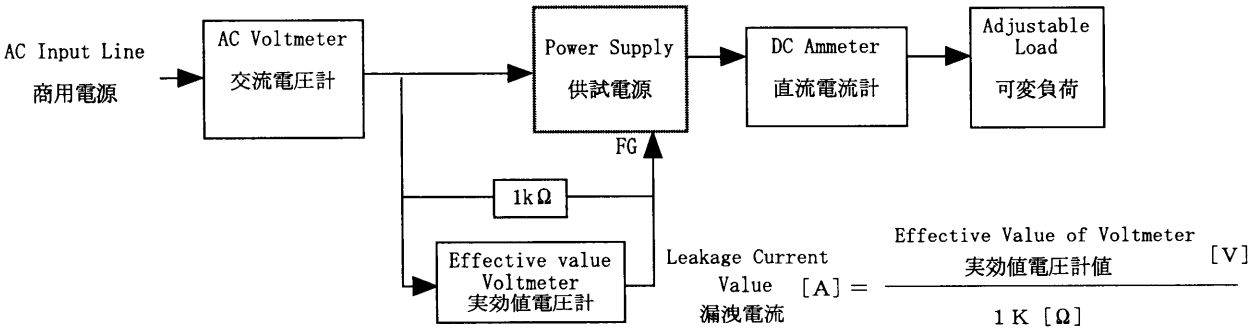

Figure B(DENTORI)

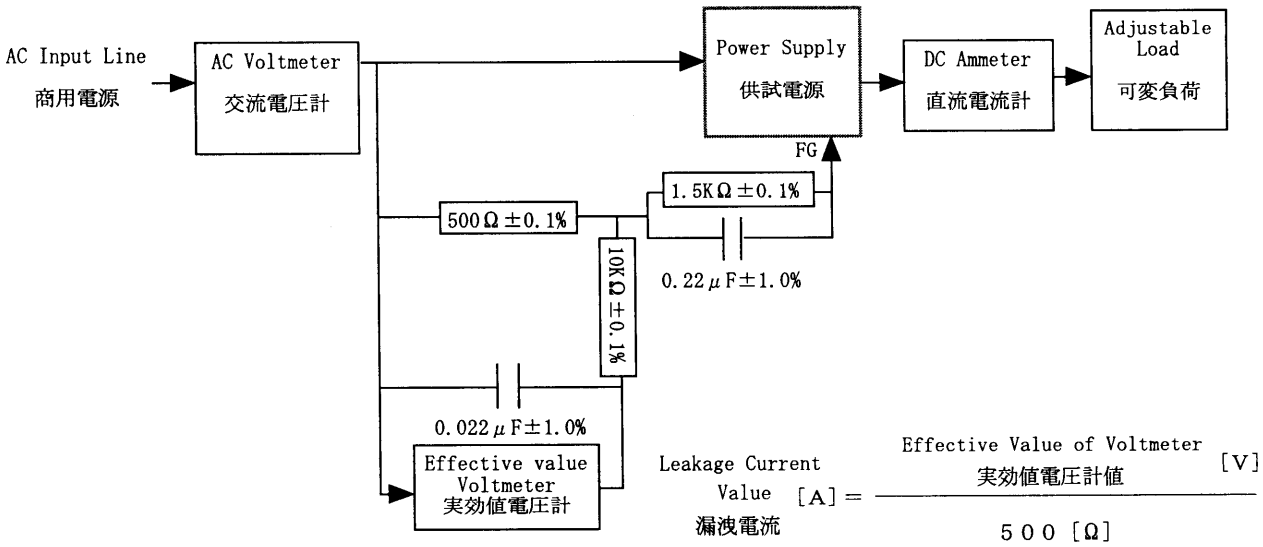

Figure B (IEC60950)

COSEL

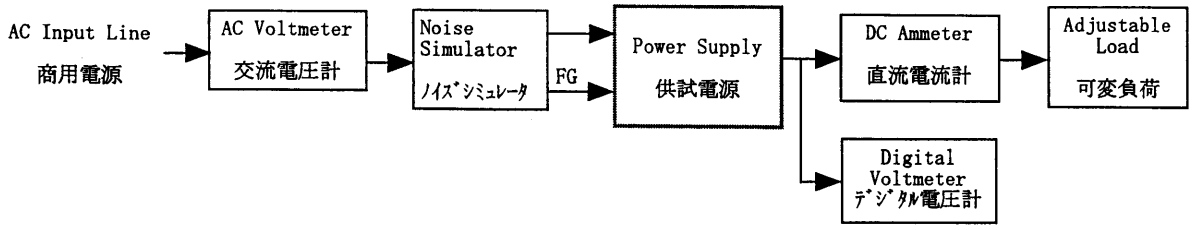

Figure C

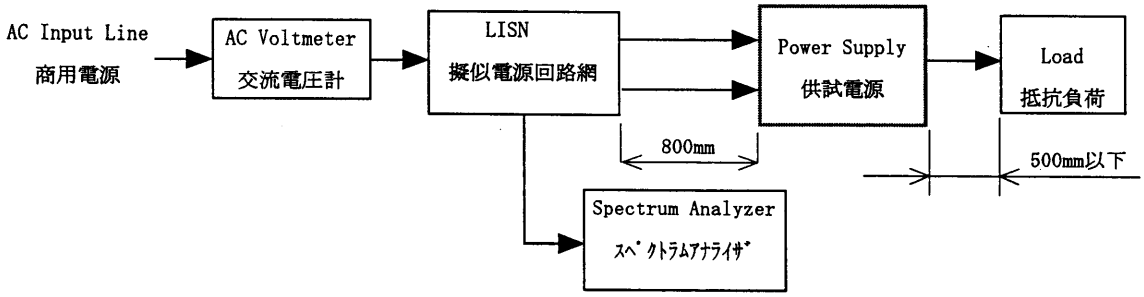

Figure D

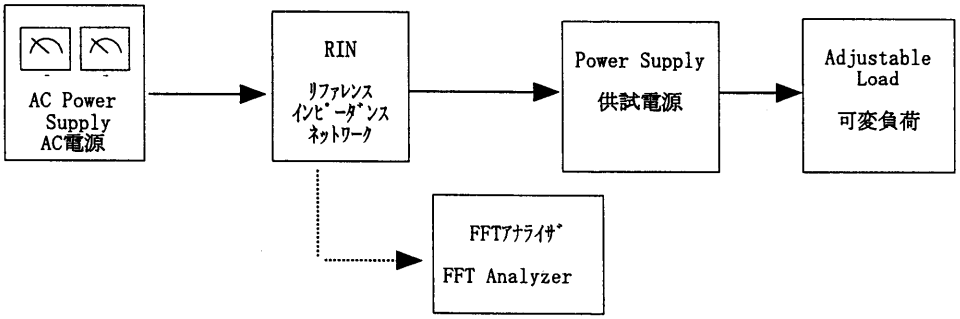

Figure E