参考資料

COSEL

TEST DATA OF LEB150F-0524

(200V INPUT)

Regulated DC Power Supply

Mar.27, 2000

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Design Manager

Prepared by : T. Ohara
Design Engineer

コーセル株式会社

COSEL CO.,LTD.

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(Final Page 37)

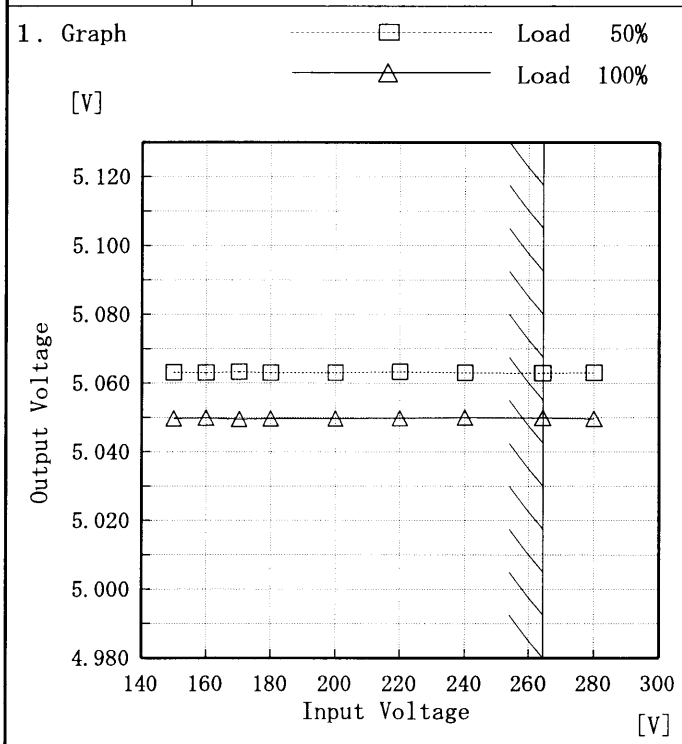
COSEL

Model	LEB150F-0524
Item	Line Regulation 静的入力変動

Temperature 25℃
Testing Circuitry Figure A

Object V1:+5.0V5A

1. Graph

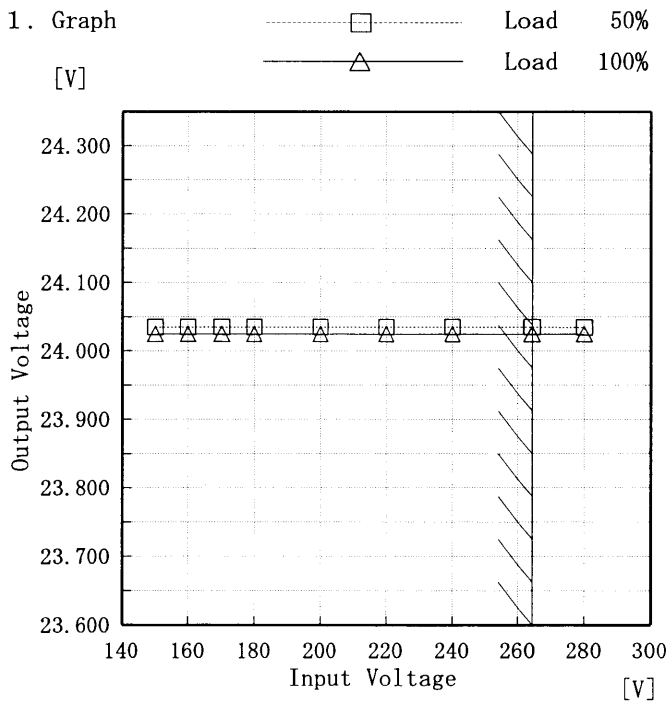


2. Values

Input Voltage [V]	Output Voltage [V]	
	Load 50%	Load 100%
150	5.063	5.050
160	5.063	5.050
170	5.063	5.050
180	5.063	5.050
200	5.063	5.050
220	5.063	5.050
240	5.063	5.050
264	5.063	5.050
280	5.063	5.050

Object V2:+24.0V6A

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	24.035	24.024
160	24.035	24.025
170	24.035	24.025
180	24.035	24.025
200	24.035	24.024
220	24.035	24.025
240	24.035	24.025
264	24.035	24.025
280	24.035	24.025

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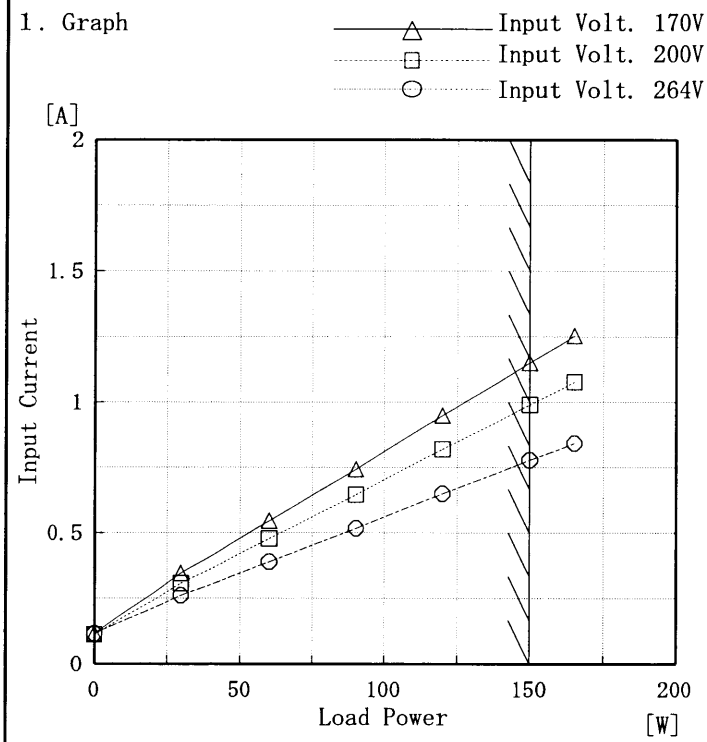
COSEL

Model	LEB150F-0524
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

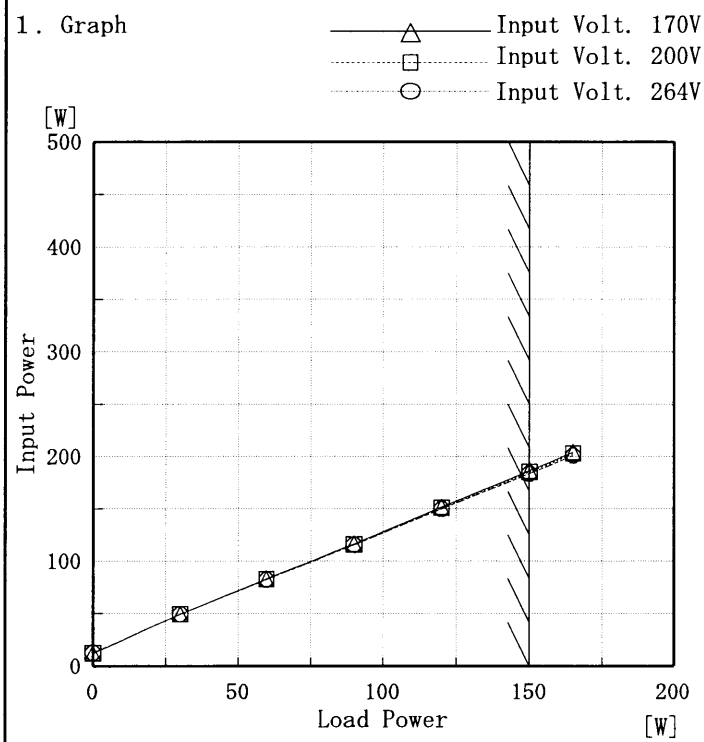
Load Power [W]	Input Current [A]		
	Input Volt. 170[V]	Input Volt. 200[V]	Input Volt. 264[V]
0	0.115	0.111	0.115
30	0.346	0.307	0.261
60	0.547	0.478	0.390
90	0.744	0.646	0.517
120	0.949	0.820	0.649
150	1.150	0.990	0.778
165	1.253	1.077	0.844
—	—	—	—
—	—	—	—
—	—	—	—
—	—	—	—
—	—	—	—

COSEL

Model	LEB150F-0524
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

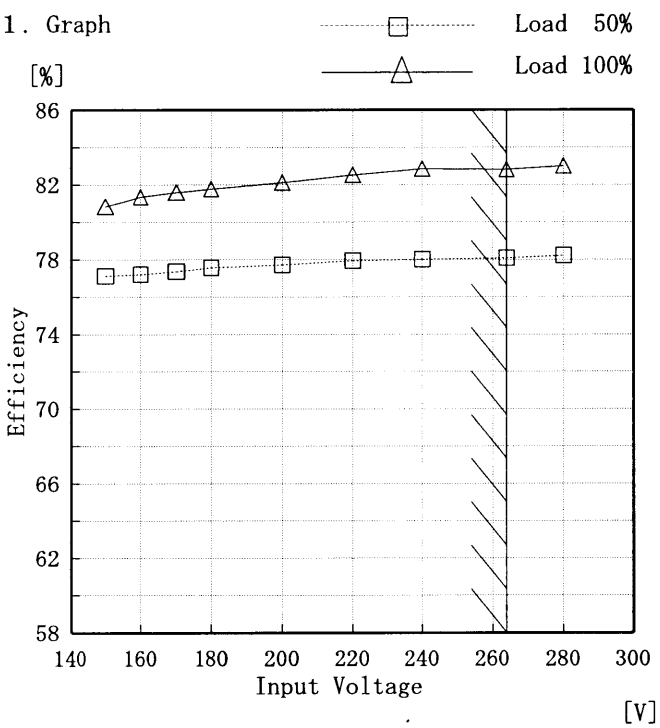
Load Power [W]	Input Power [W]		
	Input Volt. 170[V]	Input Volt. 200[V]	Input Volt. 264[V]
0	12.10	12.30	12.60
30	49.40	49.40	49.40
60	83.10	82.80	82.50
90	116.70	116.10	115.50
120	151.90	151.00	149.80
150	186.50	185.30	183.70
165	204.20	202.90	201.00
—	—	—	—
—	—	—	—
—	—	—	—
—	—	—	—
—	—	—	—

COSEL

Model	LEB150F-0524
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

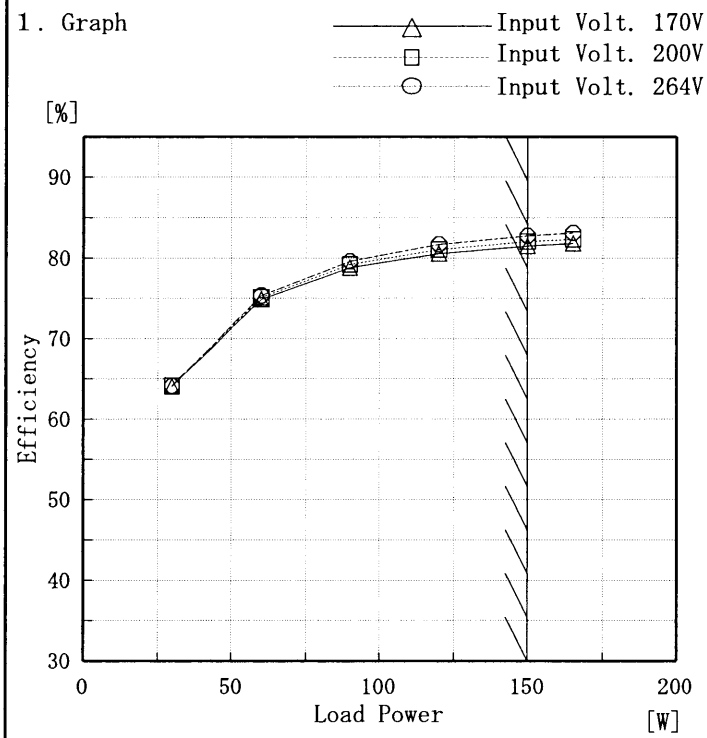
Input Voltage [V]	Efficiency [%]	
	Load 50%	Load 100%
150	77.1	80.8
160	77.2	81.3
170	77.4	81.6
180	77.6	81.8
200	77.7	82.1
220	77.9	82.5
240	78.0	82.9
264	78.1	82.8
280	78.2	83.0

COSEL

Model	LEB150F-0524
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

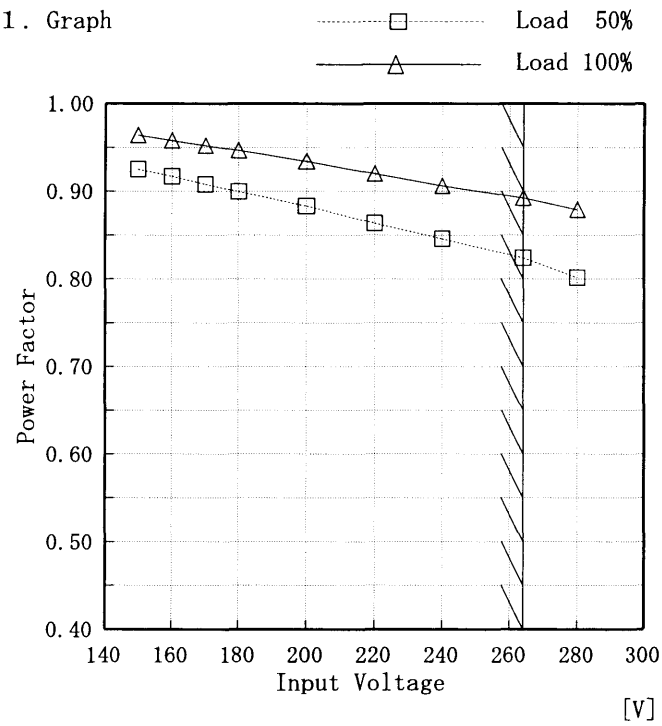
Load Power [W]	Efficiency [%] Input Volt. 170[V]	Input Volt. 200[V]	Input Volt. 264[V]
30	64.1	64.2	64.2
60	74.9	75.1	75.4
90	78.8	79.2	79.6
120	80.5	81.0	81.7
150	81.5	82.0	82.7
165	81.8	82.3	83.1
—	—	—	—
—	—	—	—
—	—	—	—
—	—	—	—
—	—	—	—
—	—	—	—

COSEL

Model	LEB150F-0524
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

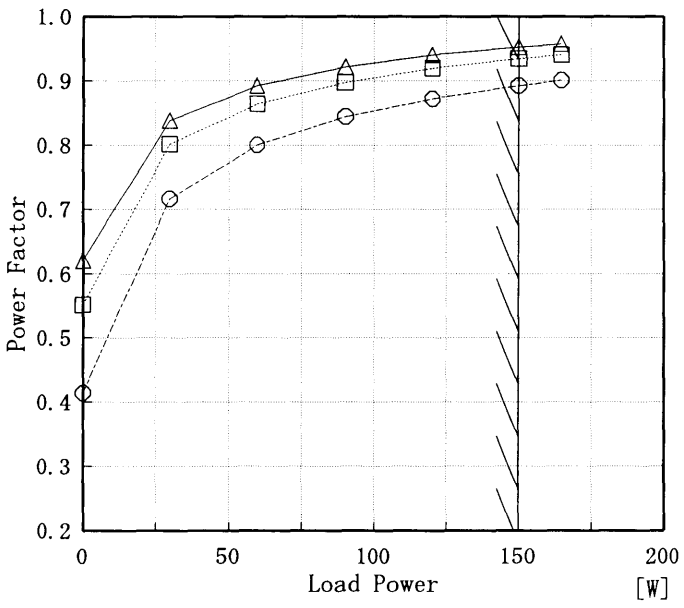
Input Voltage [V]	Power Factor	
	Load 50%	Load 100%
150	0.93	0.96
160	0.92	0.96
170	0.91	0.95
180	0.90	0.95
200	0.88	0.93
220	0.86	0.92
240	0.85	0.91
264	0.82	0.89
280	0.80	0.88

COSEL

Model	LEB150F-0524
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

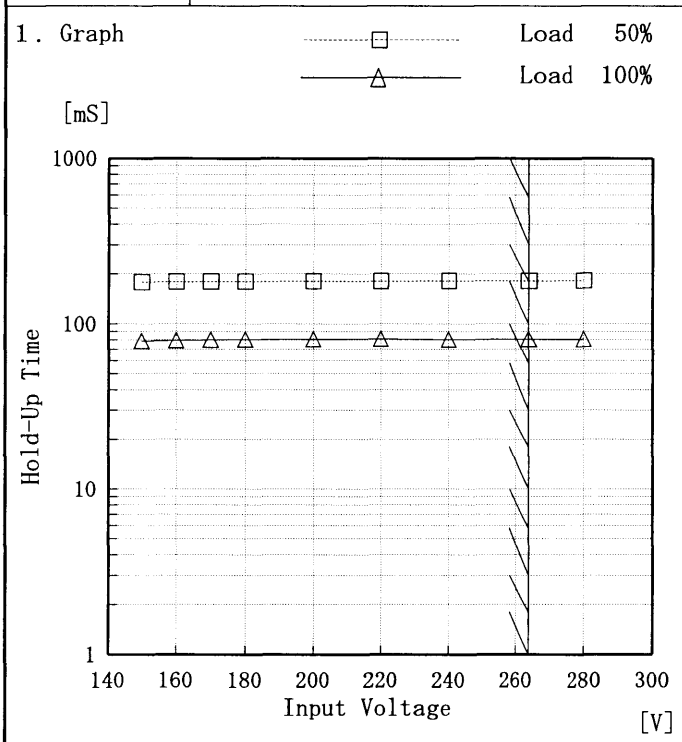
Load Power [W]	Power Factor		
	Input Volt. 170[V]	Input Volt. 200[V]	Input Volt. 264[V]
0	0.62	0.55	0.41
30	0.84	0.80	0.72
60	0.89	0.86	0.80
90	0.92	0.90	0.84
120	0.94	0.92	0.87
150	0.95	0.93	0.89
165	0.96	0.94	0.90
—	—	—	—
—	—	—	—
—	—	—	—
—	—	—	—
—	—	—	—

COSEL

Model	LEB150F-0524
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	179	79
160	179	79
170	180	80
180	180	80
200	181	81
220	181	81
240	182	81
264	182	81
280	183	81

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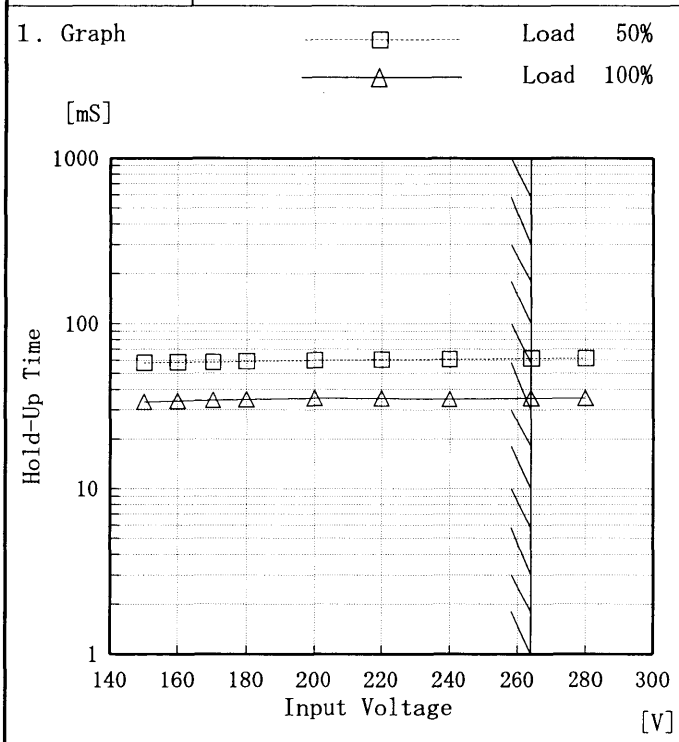
Model	LEB150F-0524
Item	Hold-Up Time 出力保持時間
Object	V2:+24.0V6A

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

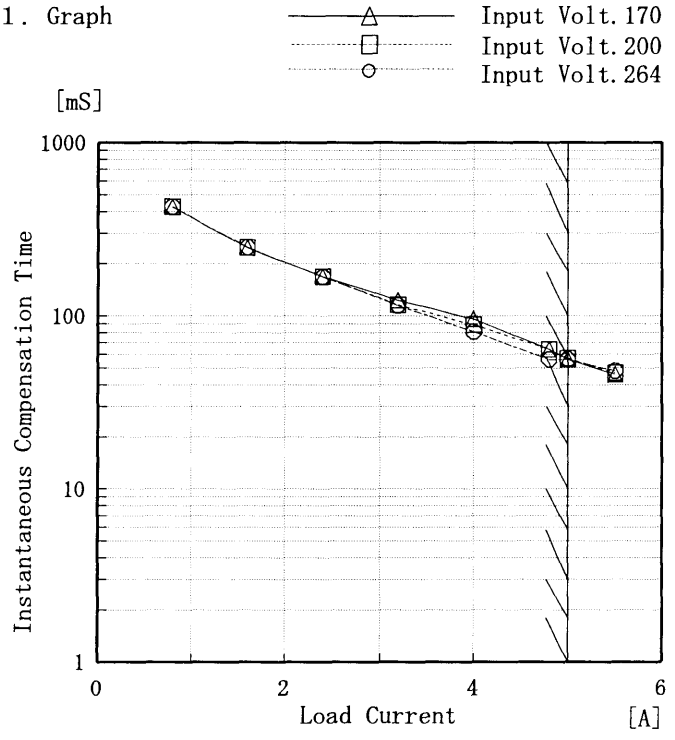
Input Voltage [V]	Hold-Up Time [mS]	
	Load 50%	Load 100%
150	58	34
160	58	34
170	59	34
180	59	35
200	60	35
220	61	35
240	61	35
264	62	35
280	62	35

COSEL

Model	LEB150F-0524
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

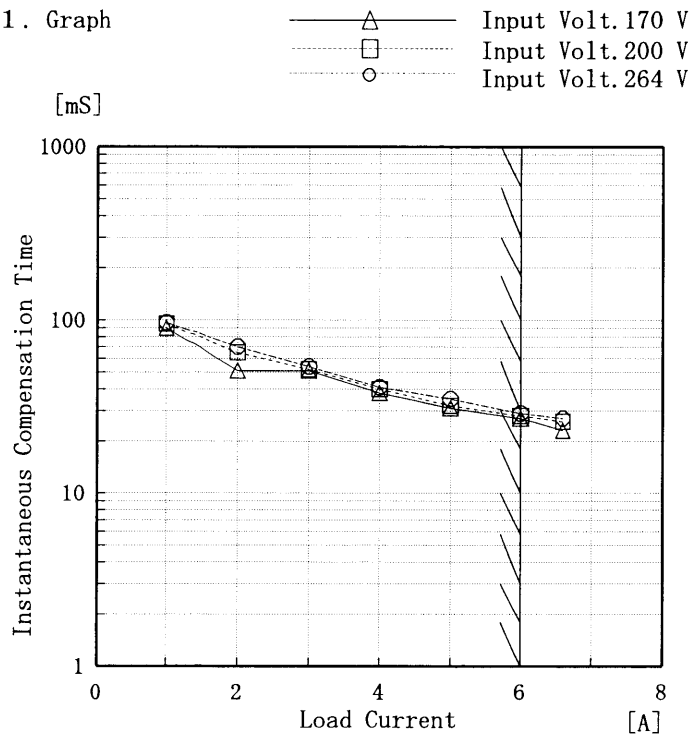
Load Current [A]	Time [mS] Input Volt. 170[V]	Input Volt. 200[V]	Input Volt. 264[V]
0.0	—	—	—
0.8	425	426	427
1.6	247	249	250
2.4	169	168	168
3.2	123	116	115
4.0	96	89	81
4.8	64	64	56
5.0	56	57	56
5.5	46	47	48
—	—	—	—
—	—	—	—

COSEL

Model	LEB150F-0524
Item	Instantaneous Interruption Compensation 瞬時停電保障
Object	V2:＋24.0V6A

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

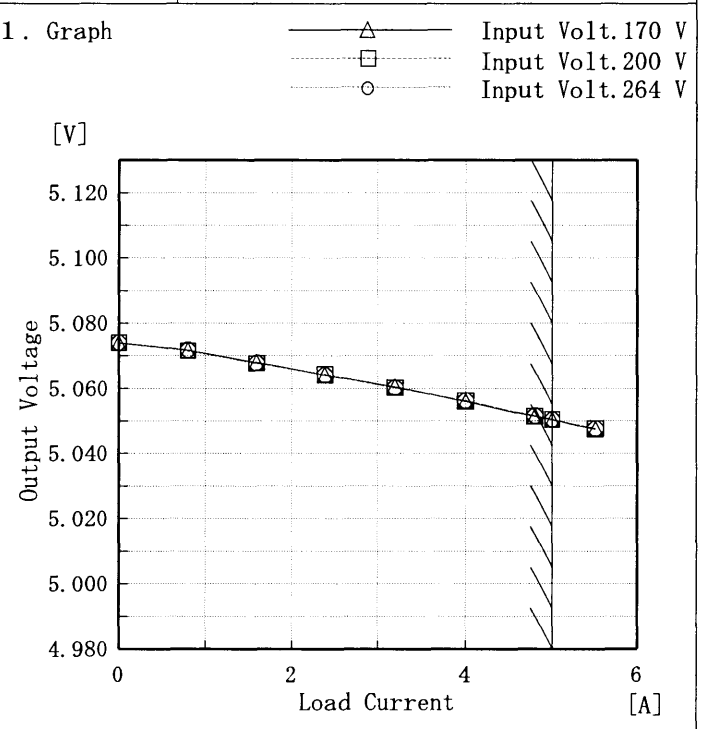
Load Current [A]	Time [mS]		
	Input Volt. 170[V]	Input Volt. 200[V]	Input Volt. 264[V]
0.0	—	—	—
1.0	90	95	97
2.0	51	65	70
3.0	51	52	54
4.0	38	40	41
5.0	31	32	35
6.0	27	28	29
6.6	23	26	27
—	—	—	—
—	—	—	—
—	—	—	—

COSEL

Model	LEB150F-0524		
Item	Load Regulation 静的負荷変動	Temperature Testing Circuitry	25℃ Figure A

Object: V1:+5.0V5A

1. Graph

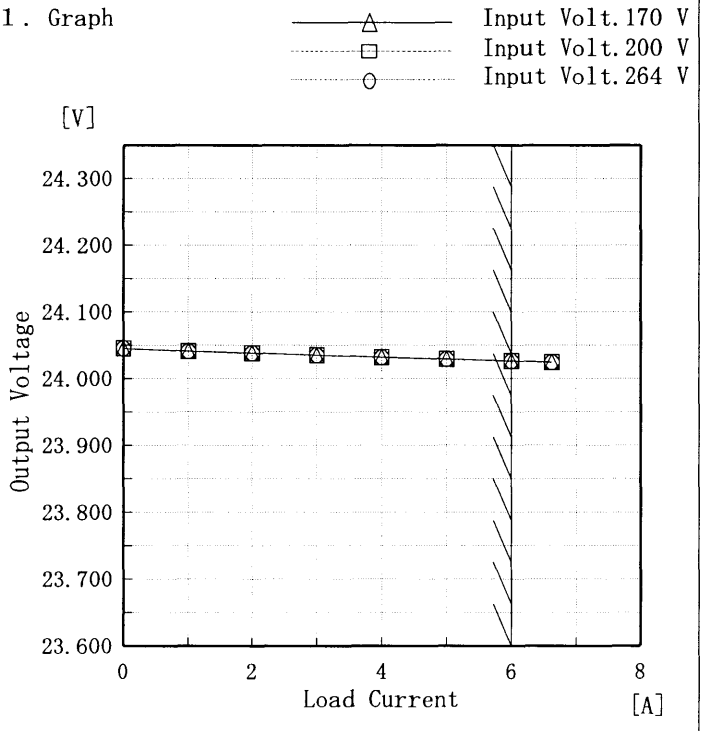


2. Values

Load Current [A]	Output Voltage [V]		
	Input Volt. 170[V]	Input Volt. 200[V]	Input Volt. 264[V]
0.0	5.074	5.074	5.074
0.8	5.072	5.072	5.072
1.6	5.068	5.068	5.068
2.4	5.064	5.064	5.064
3.2	5.061	5.060	5.060
4.0	5.056	5.056	5.056
4.8	5.051	5.051	5.052
5.0	5.050	5.050	5.050
5.5	5.047	5.048	5.048
—	—	—	—

Object: V2:+24.0V6A

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

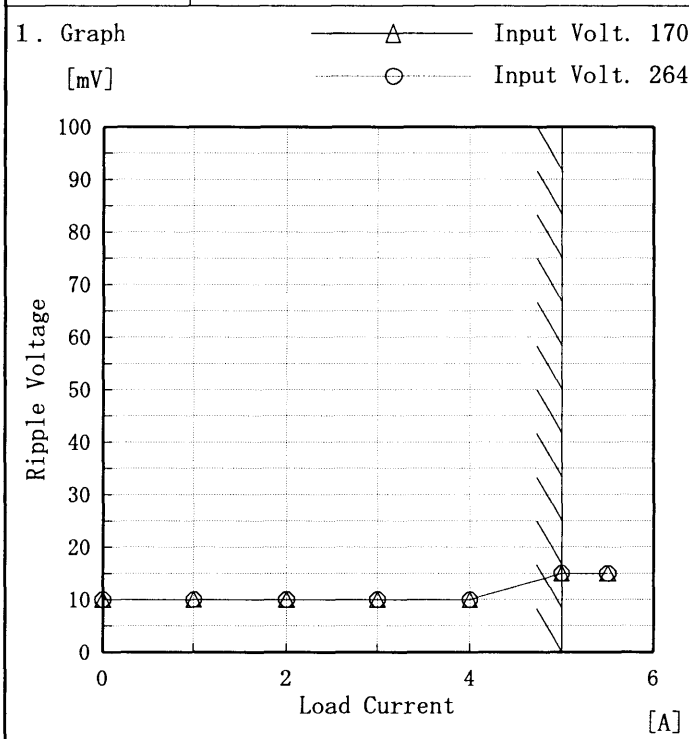
Load Current [A]	Output Voltage [V]		
	Input Volt. 170[V]	Input Volt. 200[V]	Input Volt. 264[V]
0.0	24.046	24.045	24.045
1.0	24.041	24.041	24.041
2.0	24.039	24.038	24.038
3.0	24.035	24.035	24.035
4.0	24.032	24.032	24.032
5.0	24.029	24.029	24.029
6.0	24.027	24.026	24.026
6.6	24.025	24.025	24.024
—	—	—	—
—	—	—	—

COSEL

Model	LEB150F-0524
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

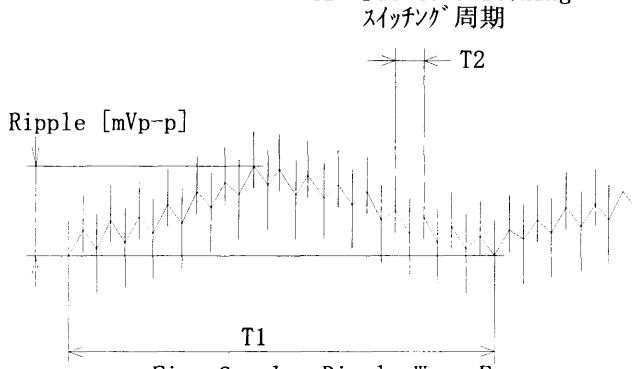


Fig. Complex Ripple Wave Form

図　リップル波形詳細図

2. Values

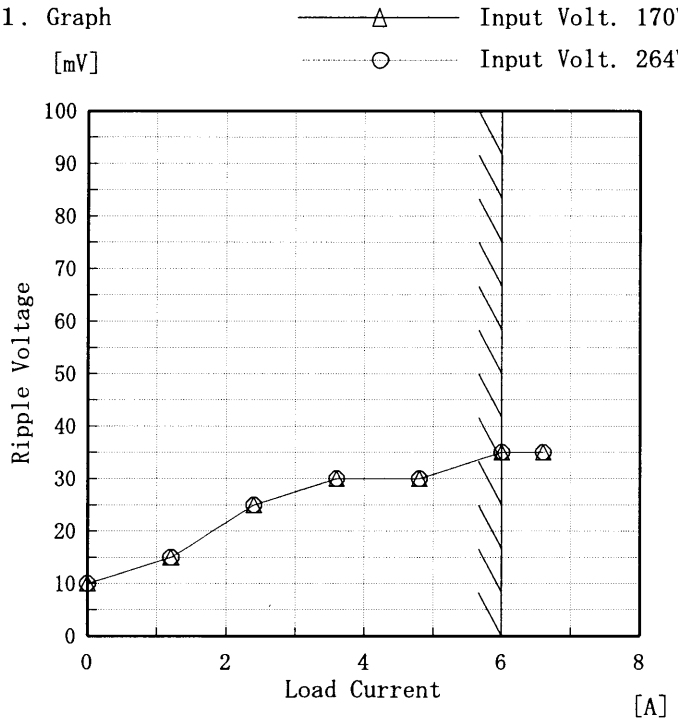
Load Current [A]	Ripple Output Voltage [mV]	
	Input Volt. 170 [V]	Input Volt. 264 [V]
0.0	10	10
1.0	10	10
2.0	10	10
3.0	10	10
4.0	10	10
5.0	15	15
5.5	15	15
—	—	—
—	—	—
—	—	—
—	—	—

COSEL

Model	LEB150F-0524
Item	Ripple Voltage(by Load Current) リップル電圧(負荷特性)
Object	V2:+24.0V6A

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

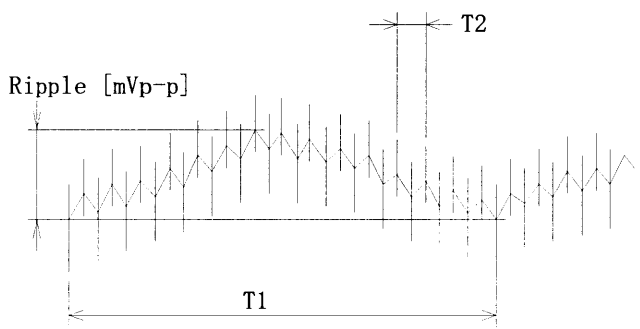


Fig. Complex Ripple Wave Form
図　リップル波形詳細図

2. Values

Load Current [A]	Ripple Output Voltage [mV]	
	Input Volt. 170 [V]	Input Volt. 264 [V]
0.0	10	10
1.2	15	15
2.4	25	25
3.6	30	30
4.8	30	30
6.0	35	35
6.6	35	35
—	—	—
—	—	—
—	—	—
—	—	—

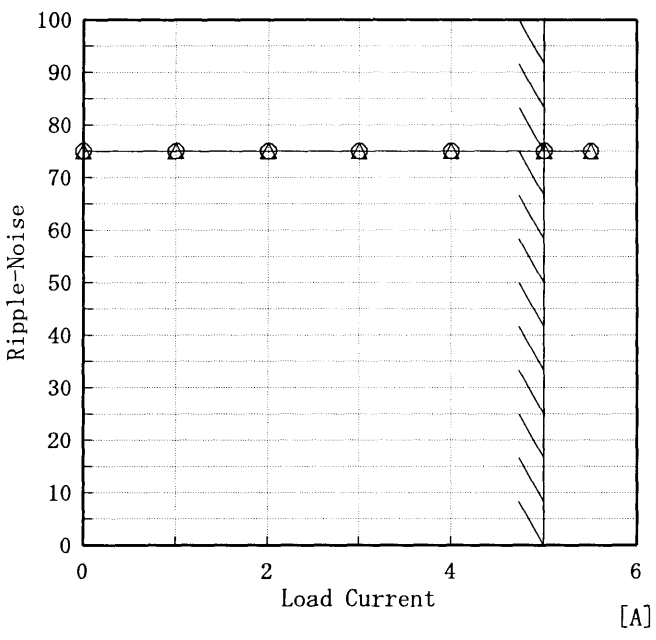
COSEL

Model	LEB150F-0524
Item	Ripple-Noise リップルノイズ
Object	V1:+5.0V5A

Temperature 25℃
Testing Circuitry Figure A

1. Graph

△—— Input Volt. 170V
○···· Input Volt. 264V



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

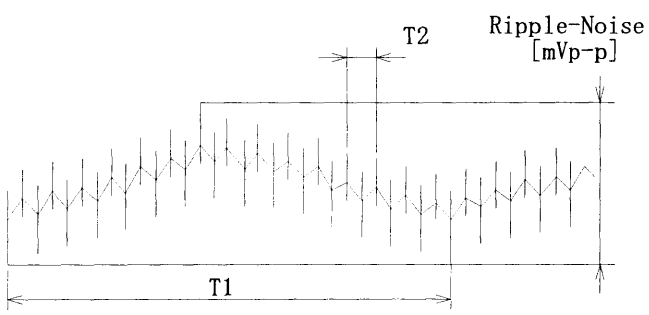


Fig. Complex Ripple Wave Form
図　リップル波形詳細図

2. Values

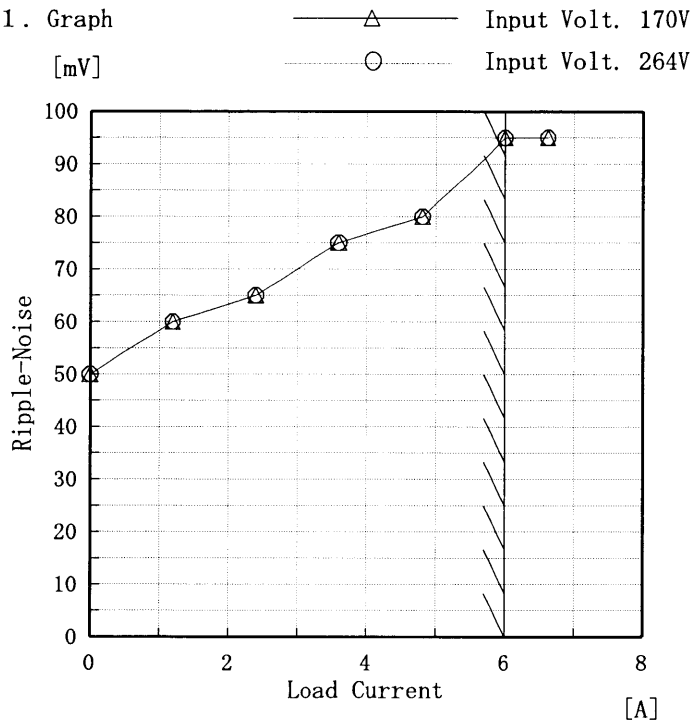
Load Current [A]	Ripple-Noise [mV]	
	Input Volt. 170 [V]	Input Volt. 264 [V]
0.0	75	75
1.0	75	75
2.0	75	75
3.0	75	75
4.0	75	75
5.0	75	75
5.5	75	75
—	—	—
—	—	—
—	—	—
—	—	—

COSEL

Model	LEB150F-0524
Item	Ripple-Noise リップルノイズ
Object	V2:＋24.0V6A

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

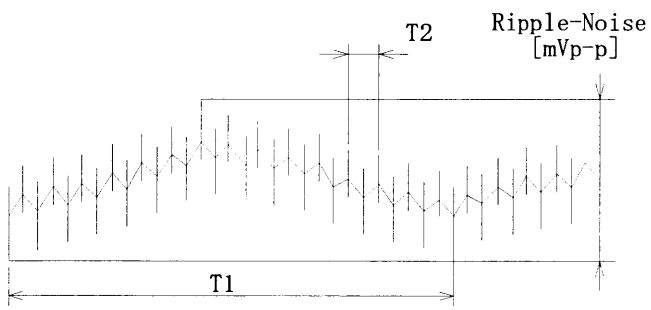


Fig. Complex Ripple Wave Form
図　リップル波形詳細図

2. Values

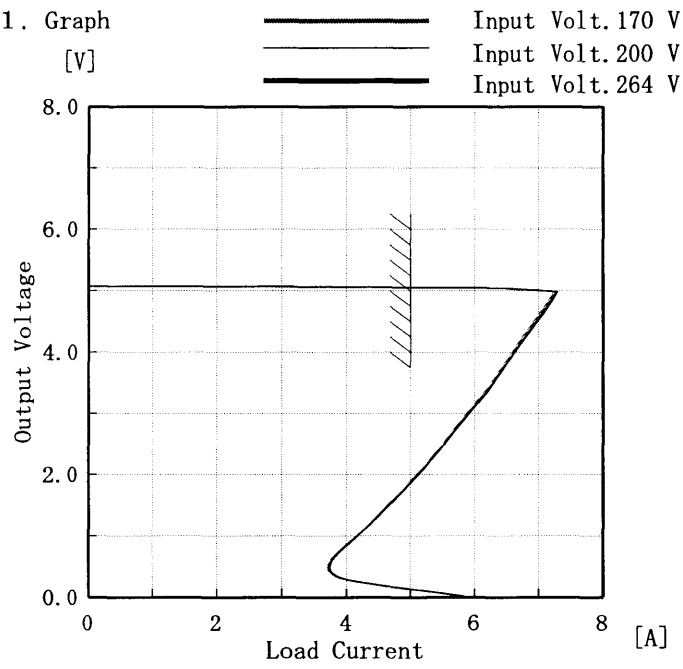
Load Current [A]	Ripple-Noise [mV]	
	Input Volt. 170 [V]	Input Volt. 264 [V]
0.0	50	50
1.2	60	60
2.4	65	65
3.6	75	75
4.8	80	80
6.0	95	95
6.6	95	95
—	—	—
—	—	—
—	—	—
—	—	—

COSEL

Model	LEB150F-0524	Temperature	25℃
Item	Overcurrent Protection 過電流保護	Testing Circuitry	Figure A

Object: V1:+5.0V5A

1. Graph



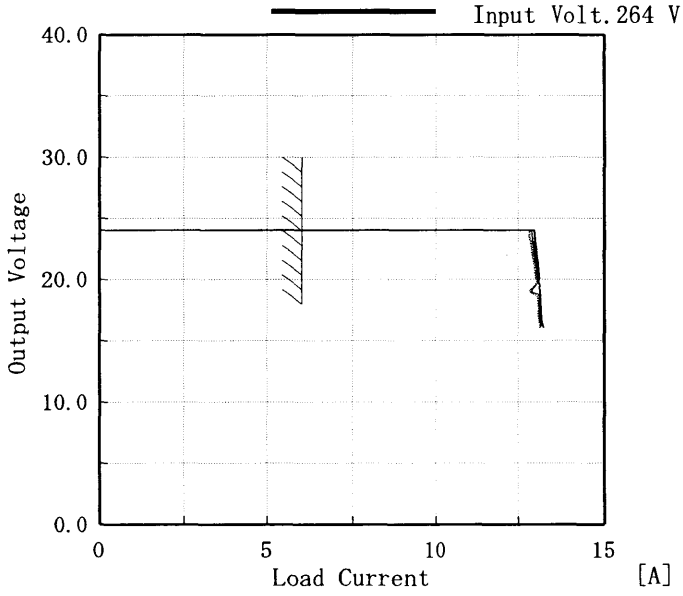
Note: Slanted line shows the range of the rated load current.

2. Values

Output Voltage [V]	Load Current [A]		
	Input Volt. 170[V]	Input Volt. 200[V]	Input Volt. 264[V]
5.00	7.23	7.26	7.29
4.75	7.09	7.12	7.14
4.50	6.94	6.97	6.99
4.00	6.61	6.63	6.66
3.50	6.28	6.30	6.32
3.00	5.91	5.93	5.94
2.50	5.51	5.53	5.55
2.00	5.10	5.11	5.13
1.50	4.67	4.69	4.70
1.00	4.20	4.22	4.23
0.50	3.73	3.74	3.75
0.00	5.84	5.86	5.86

Object: V2:+24.0V6A

1. Graph



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

Intermittent operation occurs when the output voltage is from 16.8V to 0V.

2. Values

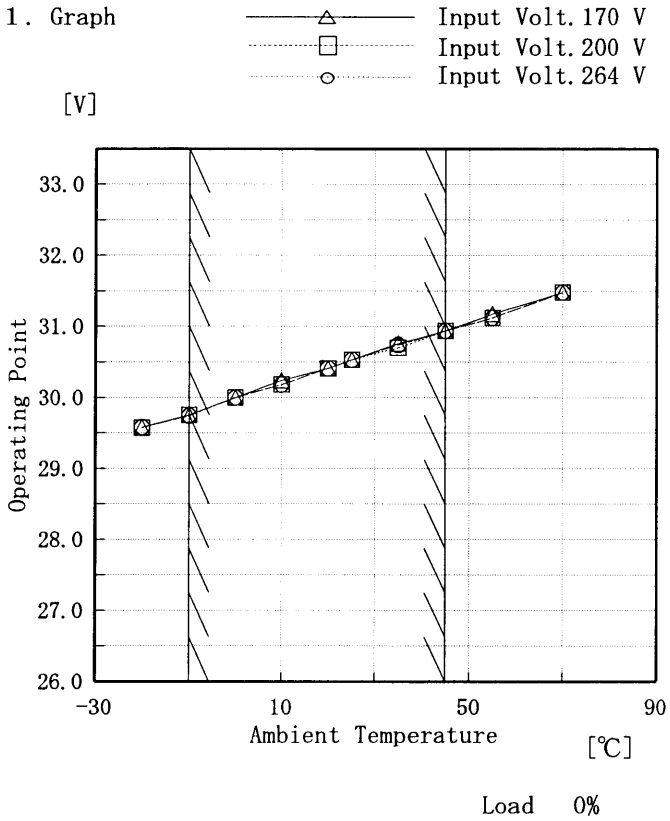
Output Voltage [V]	Load Current [A]		
	Input Volt. 170[V]	Input Volt. 200[V]	Input Volt. 264[V]
24.00	12.81	12.86	12.94
22.80	12.85	12.91	12.98
21.60	12.92	12.97	13.02
19.20	12.91	12.93	13.06
16.80	13.06	13.09	13.13
14.40	—	—	—
12.00	—	—	—
9.60	—	—	—
7.20	—	—	—
4.80	—	—	—
2.40	—	—	—
0.00	—	—	—

COSEL

Model	LEB150F-0524
Item	Overvoltage Protection 過電圧保護
Object	V2:+24.0V6A

Testing Circuitry Figure A

1. Graph



Load 0%

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

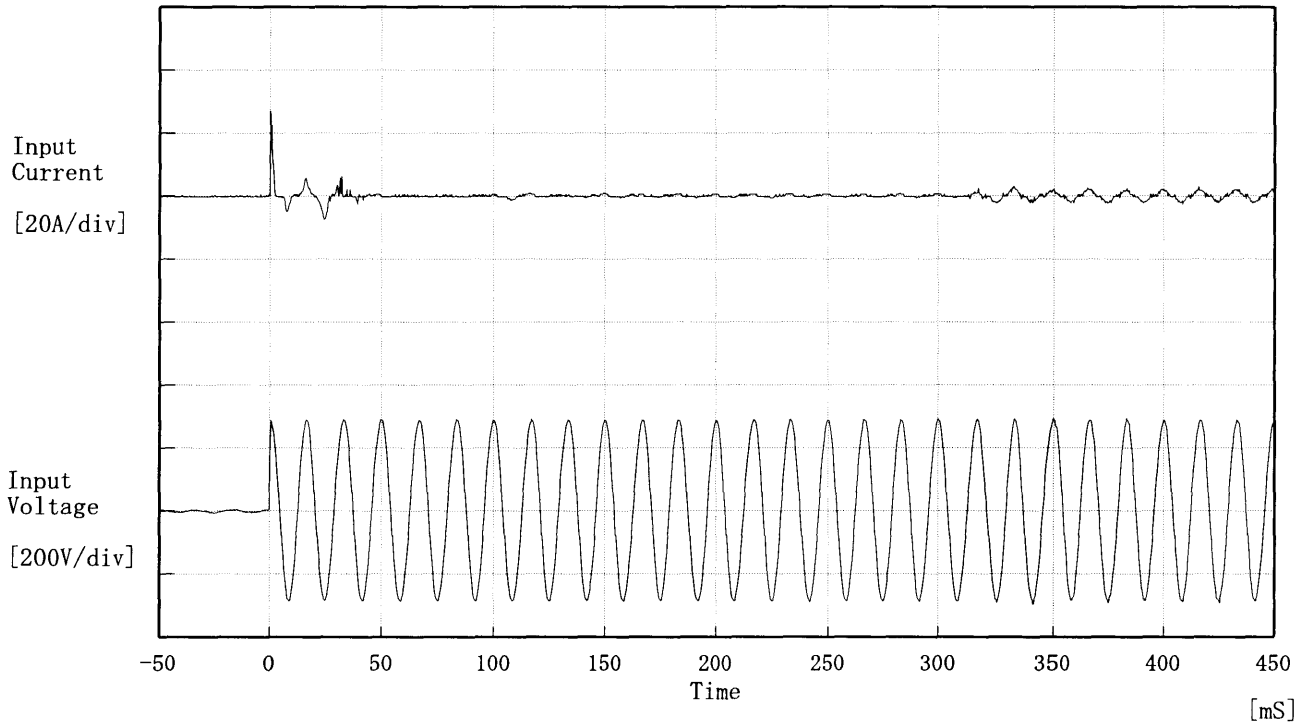
(注)斜線は定格周囲温度範囲を示す。

2. Values

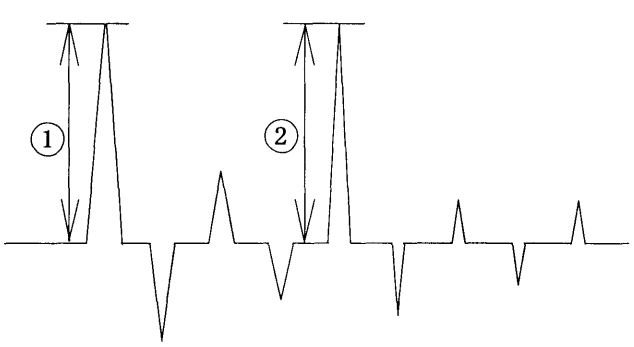
Ambient Temperature [℃]	Operating Point [V]		
	Input Volt. 170[V]	Input Volt. 200[V]	Input Volt. 264[V]
-20	29.6	29.6	29.6
-10	29.8	29.8	29.7
0	30.0	30.0	30.0
10	30.2	30.2	30.2
20	30.4	30.4	30.4
25	30.5	30.5	30.5
35	30.8	30.7	30.7
45	30.9	30.9	30.9
55	31.2	31.1	31.1
70	31.5	31.5	31.5
—	—	—	—

COSEL

Model	LEB150F-0524		
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 27.01 [A]
② 3.01 [A]



BC－３２７１

COSEL

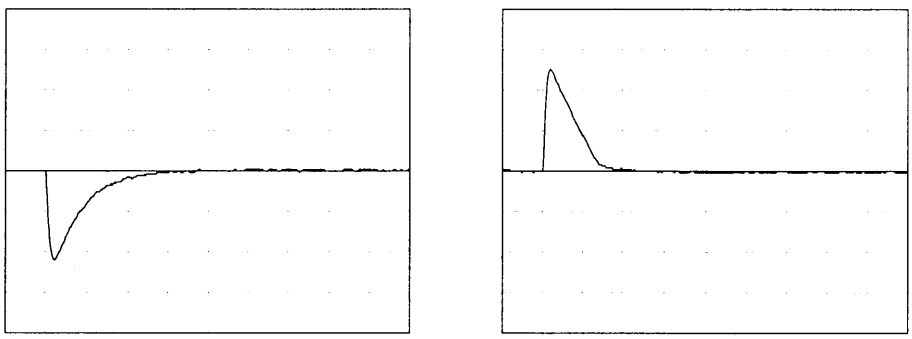
Model	LEB150F-0524
Item	Dynamic Load Responce 動的負荷変動
Object	V1:+5.0V5A

Temperature 25℃
Testing Circuitry Figure A

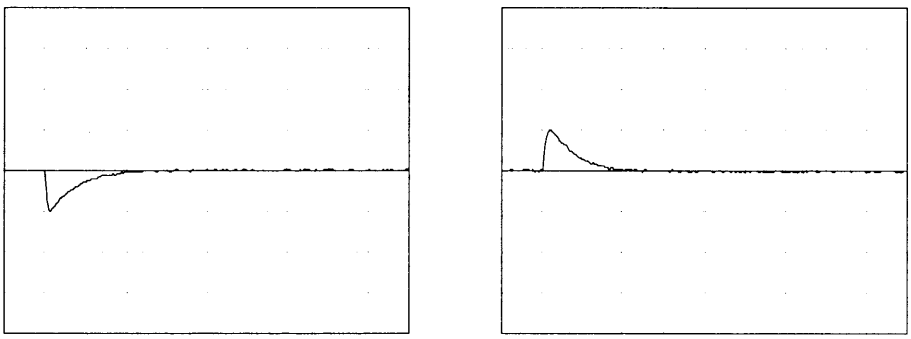
Input Volt. 200 V
Cycle 1000 mS

Load Current

Min. Load ⟷
Load 100 %



Min. Load ⟷
Load 50 %



100 mV/div

10 ms/div

COSEL

Model	LEB150F-0524		
Item	Dynamic Load Responce 動的負荷変動	Temperature Testing Circuitry	25℃ Figure A
Object	V2:+24.0V6A		

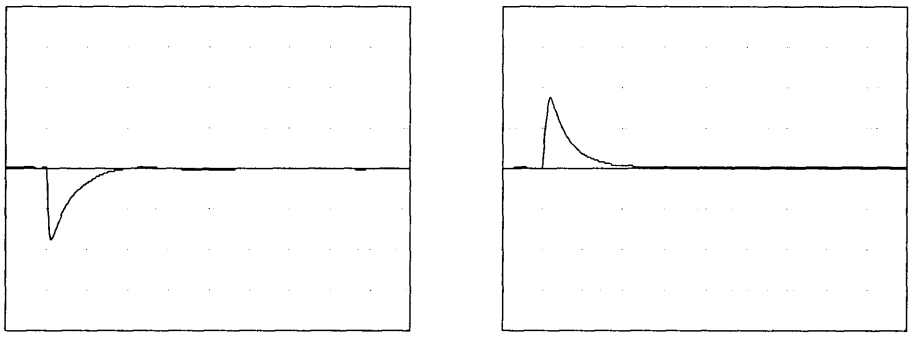
Input Volt. 200 V

Cycle 1000 mS

Load Current

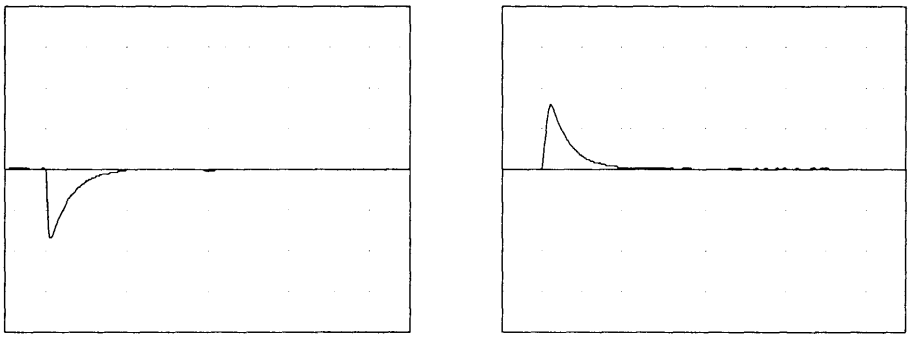
Min. Load ←→

Load 100 %



Min. Load ←→

Load 50 %



100 mV/div

10 ms/div

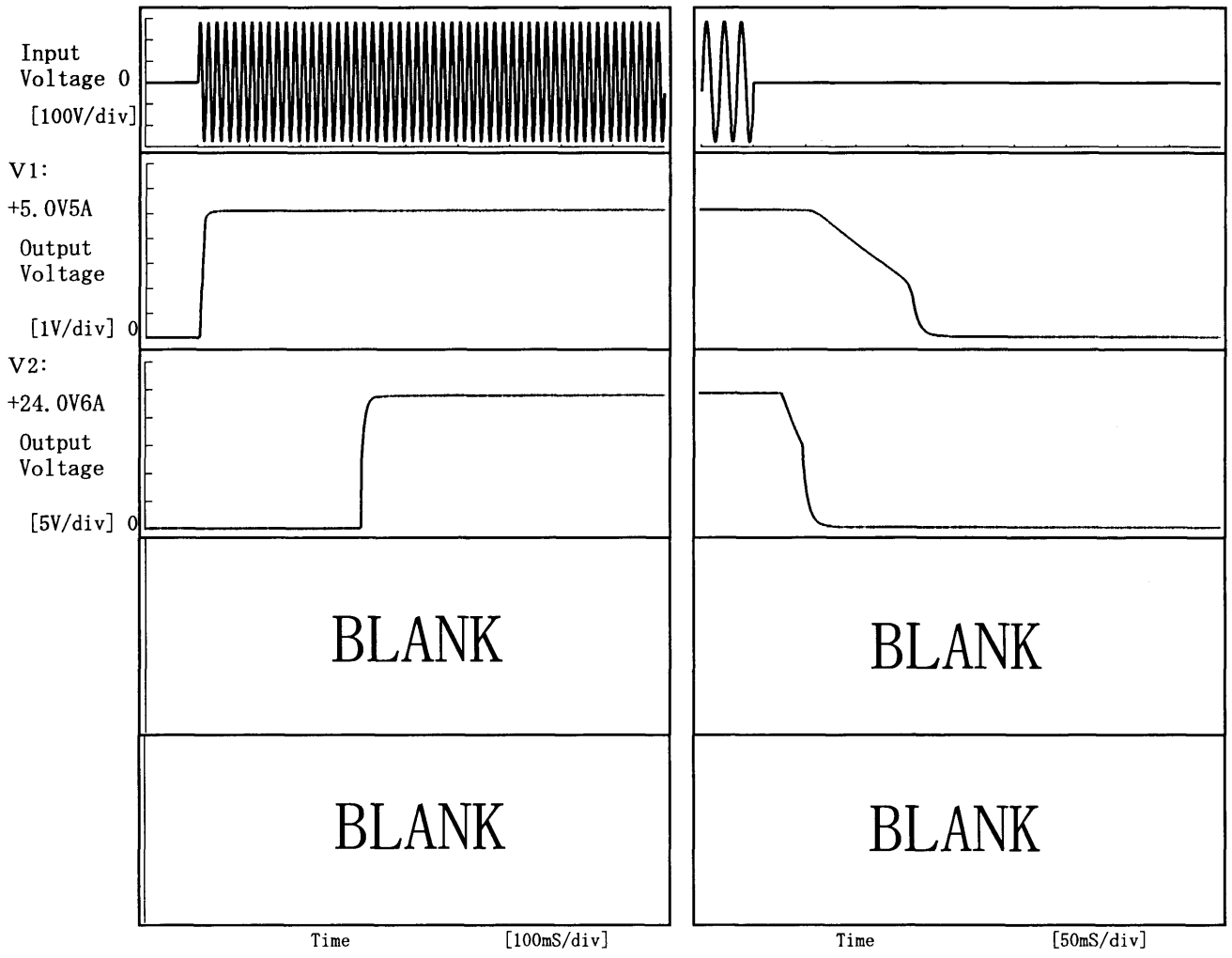
COSEL

Model	LEB150F-0524
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

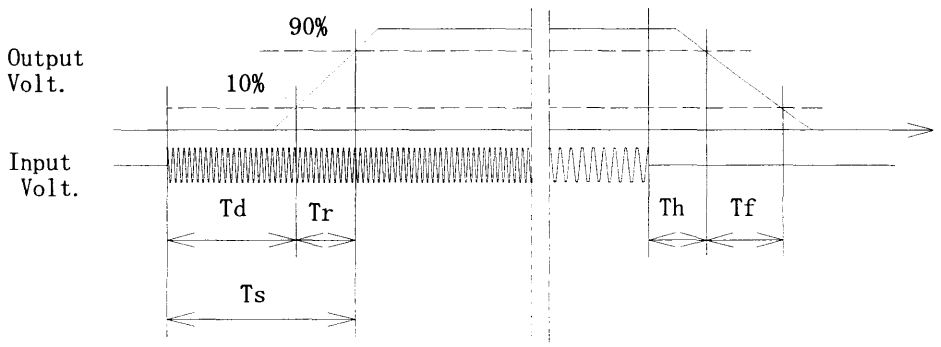
1. Graph



2. Values

[mS]

Output \ Time	T d	T r	T s	T h	T f
V1	4.0	10.0	14.0	78.0	84.8
V2	316.0	13.0	329.0	32.5	26.0
—	—	—	—	—	—
—	—	—	—	—	—



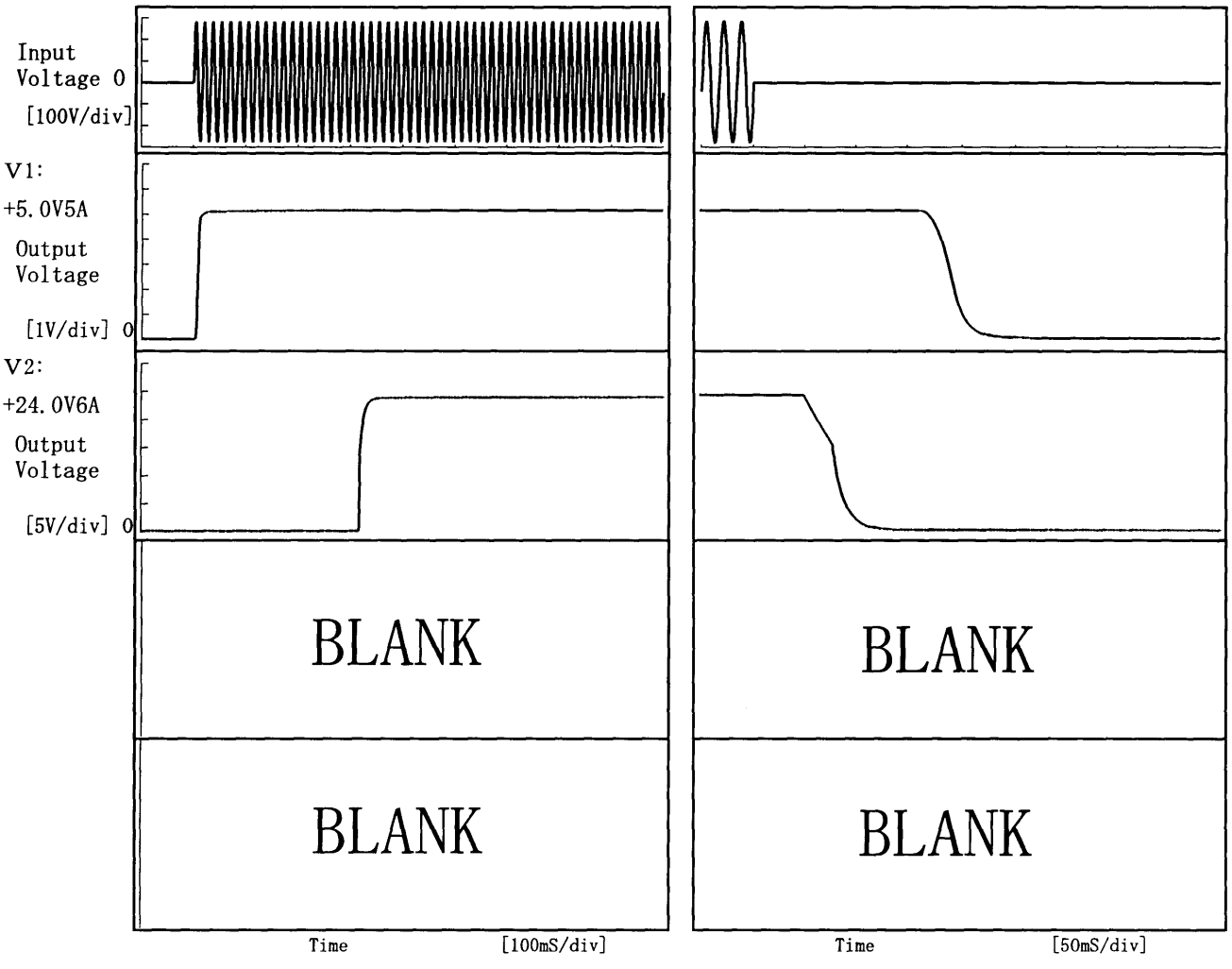
BC－３２７１

COSEL

Model	LEB150F-0524		
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

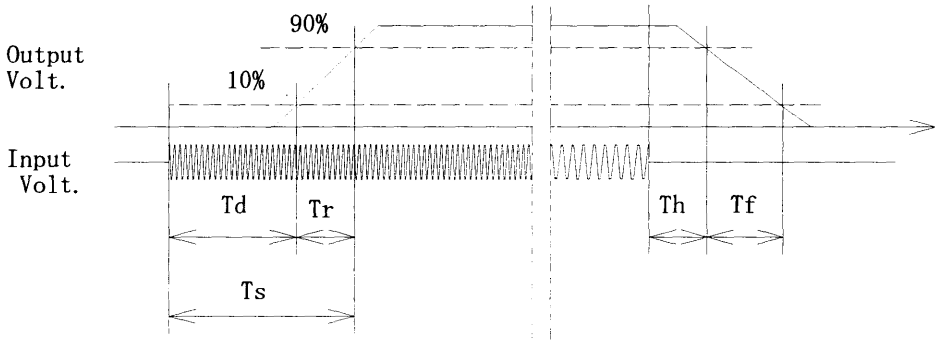
1. Graph



2. Values

[mS]

Output \ Time	T d	T r	T s	T h	T f
V1	4.0	6.5	10.5	175.8	33.5
V2	316.0	12.5	328.5	57.5	42.3
—	—	—	—	—	—
—	—	—	—	—	—



BC－3271

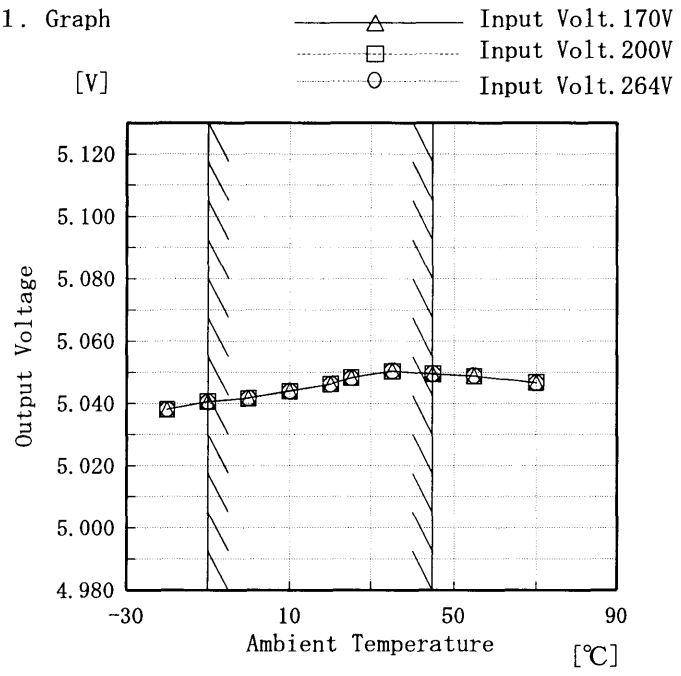
COSEL

Model	LEB150F-0524
Item	Ambient Temperature Drift 周囲温度変動

Testing Circuitry Figure A

Object V1:+5.0V5A

1. Graph

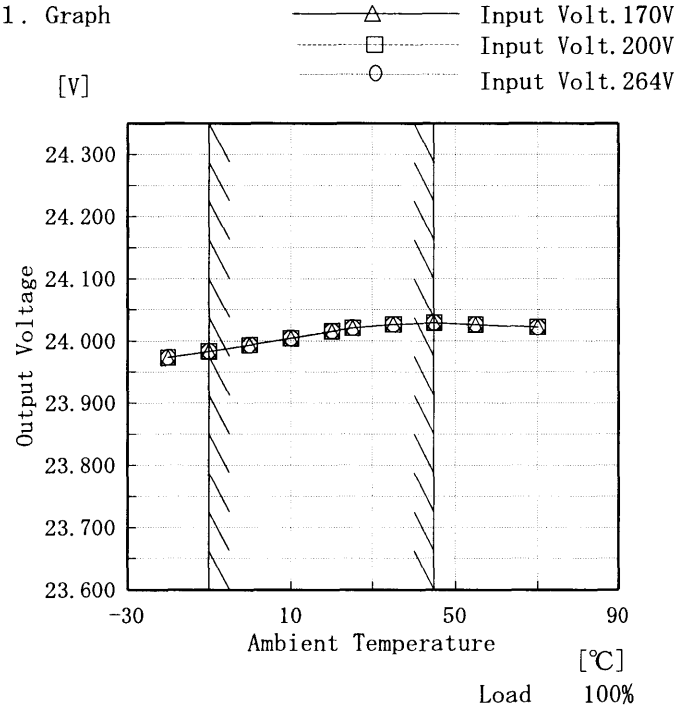


2. Values

Ambient Temperature [℃]	Output Voltage [V]		
	Input Volt. 170[V]	Input Volt. 200[V]	Input Volt. 264[V]
-20	5.038	5.038	5.038
-10	5.041	5.041	5.040
0	5.042	5.042	5.042
10	5.044	5.044	5.044
20	5.046	5.046	5.046
25	5.048	5.048	5.048
35	5.050	5.050	5.051
45	5.049	5.050	5.050
55	5.049	5.049	5.049
70	5.047	5.047	5.047
—	—	—	—

Object V2:+24.0V6A

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	23.973	23.973	23.973
-10	23.983	23.983	23.984
0	23.993	23.993	23.994
10	24.004	24.004	24.004
20	24.015	24.016	24.016
25	24.021	24.021	24.021
35	24.026	24.026	24.026
45	24.029	24.029	24.029
55	24.026	24.026	24.027
70	24.022	24.022	24.022
—	—	—	—

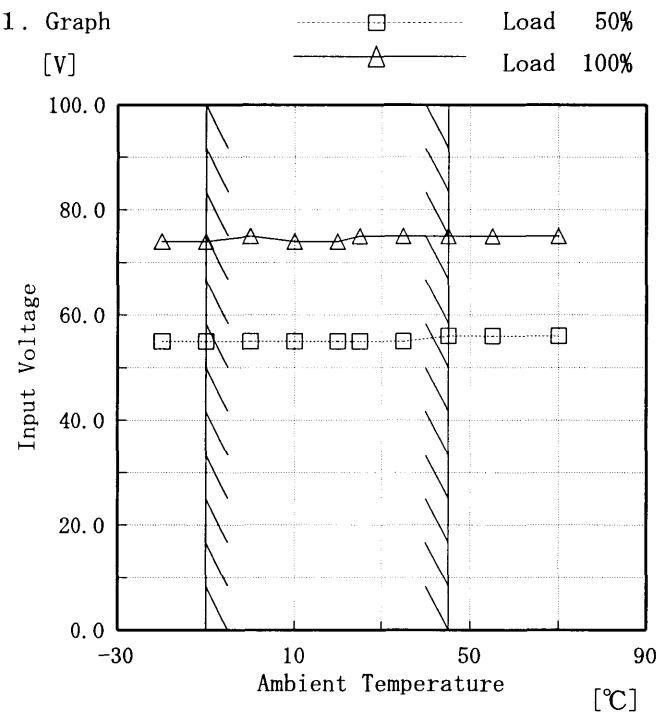
COSEL

Model	LEB150F-0524
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

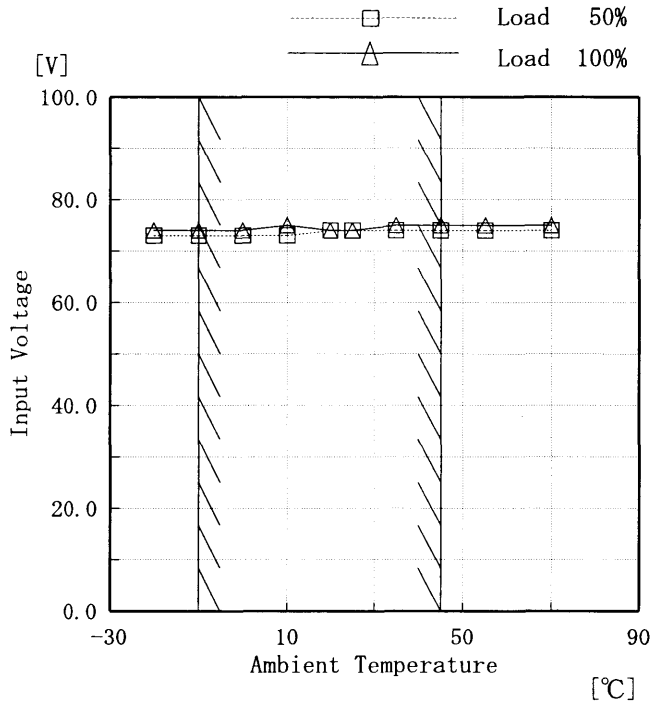
1. Graph



2. Values

Ambient Temperature [℃]	Input Voltage [V]	
	Load 50%	Load 100%
-20	55	74
-10	55	74
0	55	75
10	55	74
20	55	74
25	55	75
35	55	75
45	56	75
55	56	75
70	56	75
—	—	—

Object V2:+24.0V6A



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	75
20	74	74
25	74	74
35	74	75
45	74	75
55	74	75
70	74	75
—	—	—

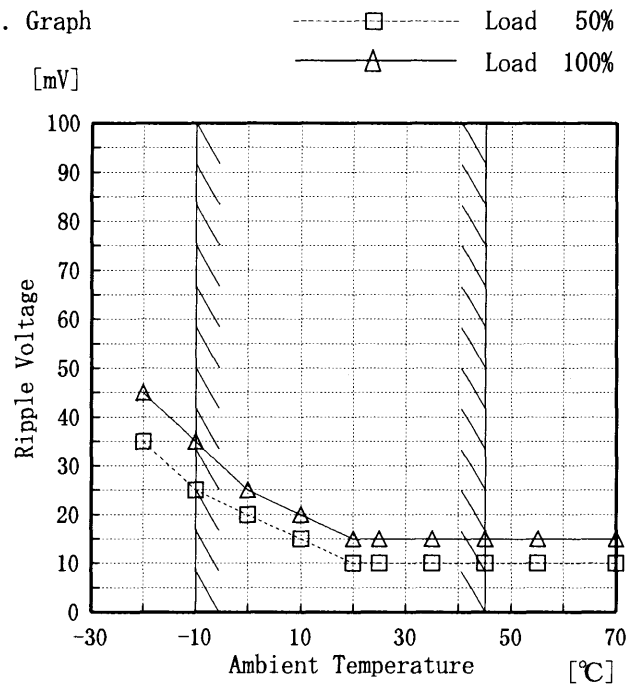
COSEL

Model	LEB150F-0524
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



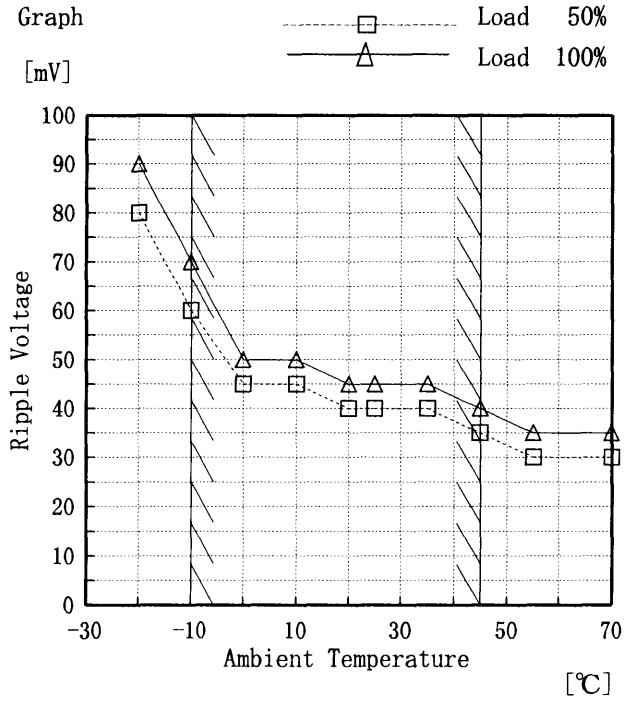
Input Volt. 200 V

2. Values

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

Object V2:+24.0V6A

1. Graph



Input Volt. 200 V

2. Values

Ambient Temperature [℃]	Ripple Output Voltage [mV]	
	Load 50%	Load 100%
-20	80	90
-10	60	70
0	45	50
10	45	50
20	40	45
25	40	45
35	40	45
45	35	40
55	30	35
70	30	35
—	—	—

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。

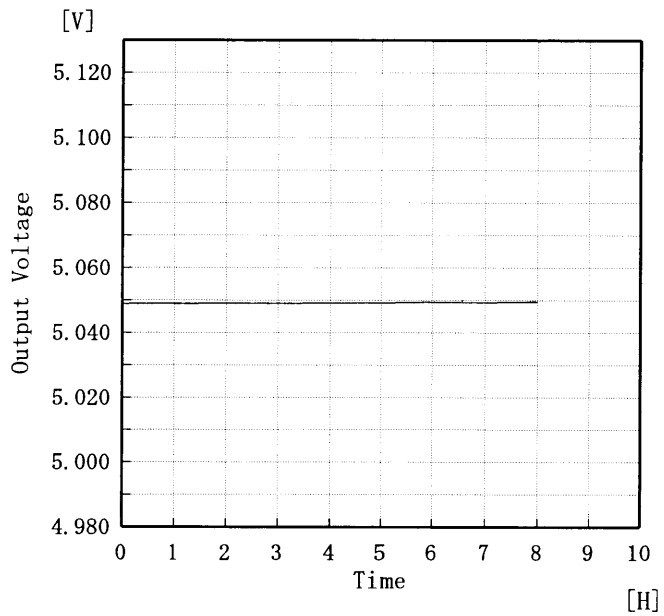
COSEL

Model	LEB150F-0524
Item	Time Lapse Drift 経時ドリフト

Temperature 25℃
Testing Circuitry Figure A

Object V1:+5.0V5A

1. Graph



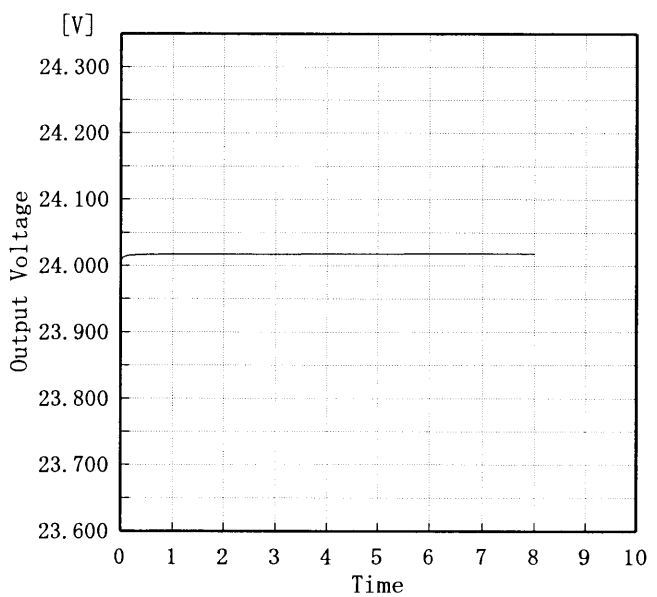
Input Volt. 200V
Load 100%

2. Values

Time since start [H]	Output Voltage [V]
0.0	5.050
0.5	5.049
1.0	5.049
2.0	5.049
3.0	5.049
4.0	5.049
5.0	5.049
6.0	5.049
7.0	5.049
8.0	5.049

Object V2:+24.0V6A

1. Graph



Input Volt. 200V
Load 100%

2. Values

Time since start [H]	Output Voltage [V]
0.0	24.001
0.5	24.017
1.0	24.017
2.0	24.017
3.0	24.017
4.0	24.018
5.0	24.018
6.0	24.018
7.0	24.018
8.0	24.018

COSEL

Model	LEB150F-0524	
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 : -10～45 ℃

Input Voltage : 170～264 V

Load Current (V1) : 0～5 A

(V2) : 0～6 A

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

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

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 -10～45 ℃

入力電圧 170～264 V

負荷電流 (V1) 0～5 A

(V2) 0～6 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

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

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	45	170	0	5.076	±18	±0.4
Minimum Voltage	-10	200	5	5.041		

Object	V2:＋24.0V6A

Item	Temperature [℃]	Input Voltage [V]	Output Current [A]	Output Voltage [V]	Output Voltage Accuracy [mV]	Output Voltage Accuracy(Ration)[%]
Maximum Voltage	45	170	0	24.046	±32	±0.2
Minimum Voltage	-10	170	6	23.983		

COSEL

Model	LEB150F-0524
Item	Harmonic Current 高調波電流
Object	————

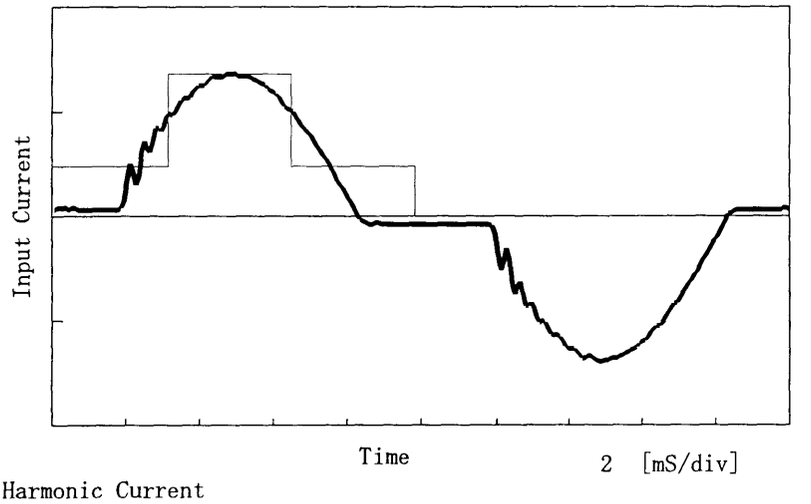
Temperature 25℃
Testing Circuitry Figure E

1. Input Current Waveform

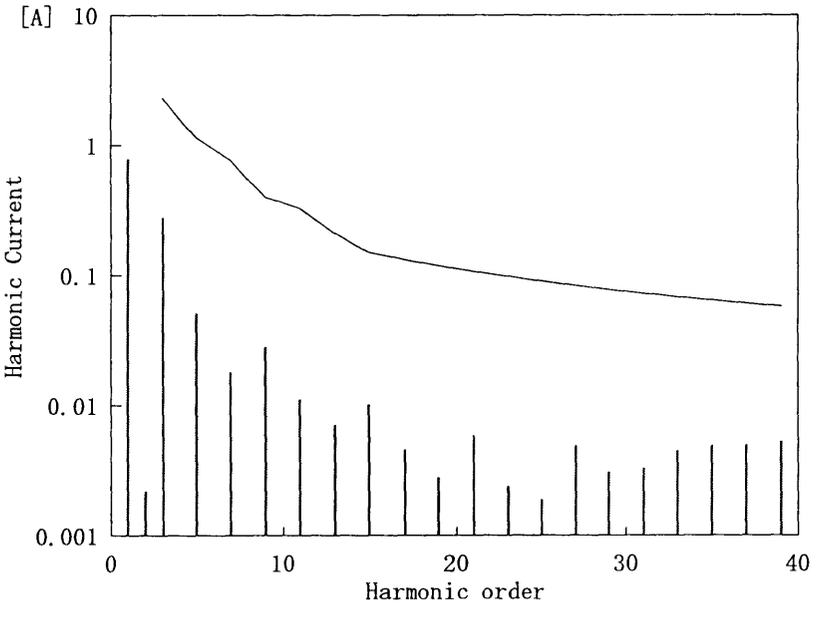
——— Input Current

——— 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



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

Conditions	Values
Input Voltage [V]	230.5
Input Current [A]	0.84
Active Power [W]	179.5
Apparent Power [VA]	193.7
Frequency [Hz]	50
Power Factor	0.927
Output Power [W]	150

Harmonics order 高調波次数	Limits 限度値 [A]	Values 測定値 [A]
1	—	0.78890
2	—	0.00220
3	2.29501	0.27900
4	—	0.00100
5	1.13753	0.05100
6	—	0.00030
7	0.76833	0.01810
8	—	0.00040
9	0.39913	0.02830
10	—	0.00010
11	0.32928	0.01120
12	—	0.00010
13	0.20954	0.00710
14	—	0.00040
15	0.14967	0.01020
16	—	0.00030
17	0.13207	0.00460
18	—	0.00010
19	0.11816	0.00280
20	—	0.00010
21	0.10691	0.00590
22	—	0.00010
23	0.09761	0.00240
24	—	0.00000
25	0.08980	0.00190
26	—	0.00010
27	0.08315	0.00490
28	—	0.00010
29	0.07742	0.00310
30	—	0.00010
31	0.07242	0.00330
32	—	0.00010
33	0.06803	0.00450
34	—	0.00010
35	0.06415	0.00490
36	—	0.00000
37	0.06068	0.00500
38	—	0.00000
39	0.05757	0.00530
40	—	0.00010

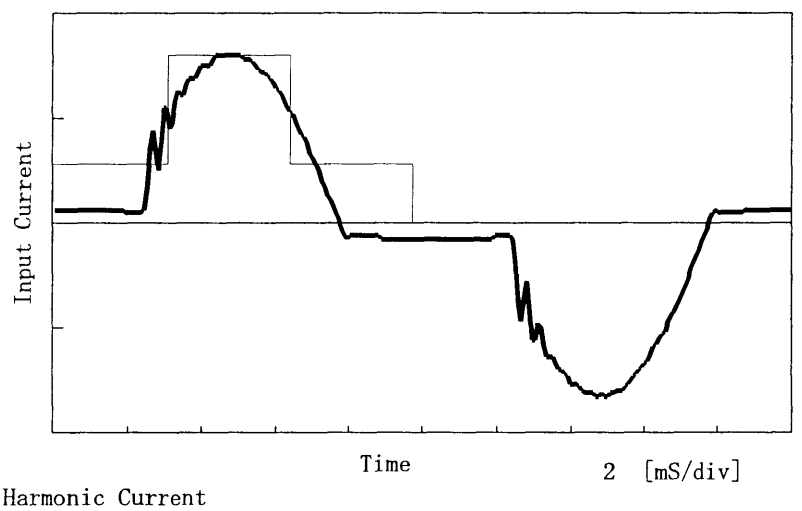
COSEL

Model	LEB150F-0524		
Item	Harmonic Current 高調波電流	Temperature Testing Circuitry	25℃ Figure E
Object	————		

1. Input Current Waveform

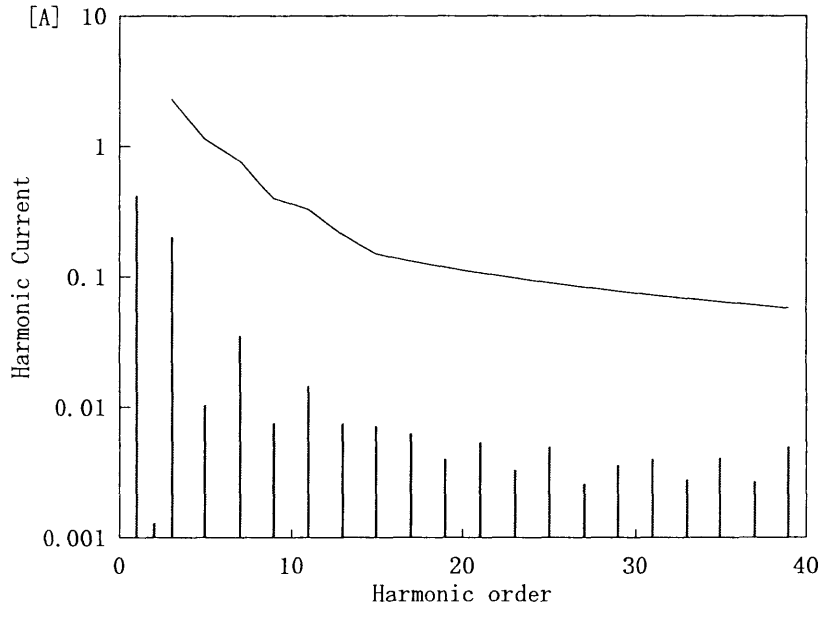
——— Input Current

——— 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]	0.47
Active Power [W]	94.5
Apparent Power[VA]	108.5
Frequency [Hz]	50
Power Factor	0.871
Output Power [W]	75

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

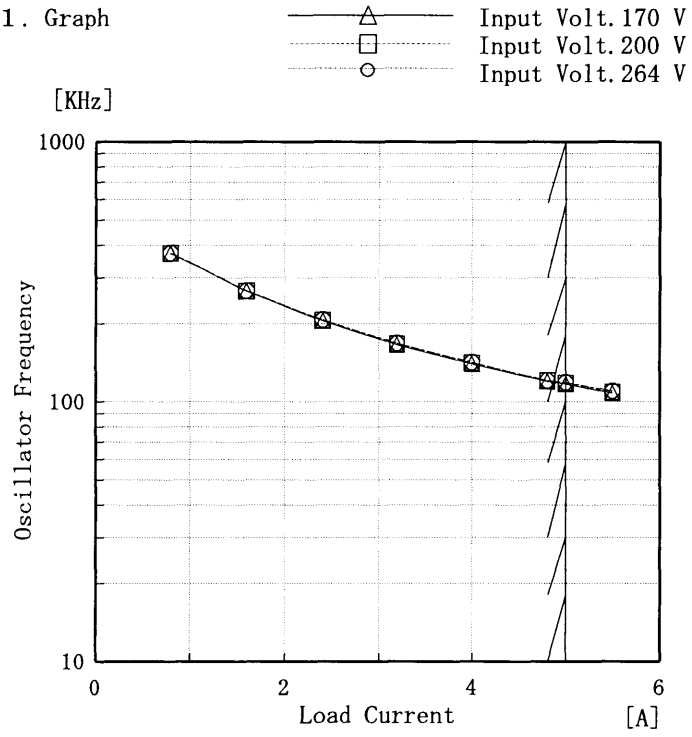
Harmonics order 高調波次数	Limits 限度値 [A]	Values 測定値 [A]
1	—	0.42090
2	—	0.00130
3	2.29402	0.20330
4	—	0.00030
5	1.13703	0.01040
6	—	0.00010
7	0.76800	0.03550
8	—	0.00010
9	0.39896	0.00760
10	—	0.00030
11	0.32914	0.01460
12	—	0.00030
13	0.20945	0.00750
14	—	0.00010
15	0.14961	0.00720
16	—	0.00000
17	0.13201	0.00630
18	—	0.00010
19	0.11811	0.00400
20	—	0.00010
21	0.10686	0.00540
22	—	0.00000
23	0.09757	0.00330
24	—	0.00010
25	0.08977	0.00500
26	—	0.00010
27	0.08312	0.00260
28	—	0.00010
29	0.07738	0.00360
30	—	0.00000
31	0.07239	0.00400
32	—	0.00010
33	0.06800	0.00280
34	—	0.00010
35	0.06412	0.00410
36	—	0.00000
37	0.06065	0.00270
38	—	0.00000
39	0.05754	0.00500
40	—	0.00010

COSEL

Model	LEB150F-0524
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	LEB150F-0524	
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]	5.021	Input Volt.: 200V, Load Current:5A
Line Regulation [mV]	1	Input Volt.: 170～264V, Load Current:5A
Load Regulation [mV]	21	Input Volt.: 200V, Load Current:0～5A

Object	V2:+24.0V6A

Item	Data	Testing Conditions
Output Voltage [V]	24.069	Input Volt.: 200V, Load Current:6A
Line Regulation [mV]	1	Input Volt.: 170～264V, Load Current:6A
Load Regulation [mV]	20	Input Volt.: 200V, Load Current:0～6A

COSEL

Model	LEB150F-0524		
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	0.32	0.44	0.51

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	LEB150F-0524		
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 Input Duration:1 min. or more

Pulse Voltage :2000 V　　Load :100 %

Pulse Cycle :10 mS

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:+24.0V6A

1. Results

Conditions

Input Voltage :200 V　　Pulse Input Duration:1 min. or more

Pulse Voltage :2000 V　　Load :100 %

Pulse Cycle :10 mS

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	LEB150F-0524		
Item	Conducted Emission 雑音端子電圧	Temperature Testing Circuitry	25℃ Figure D
Object	――――――		

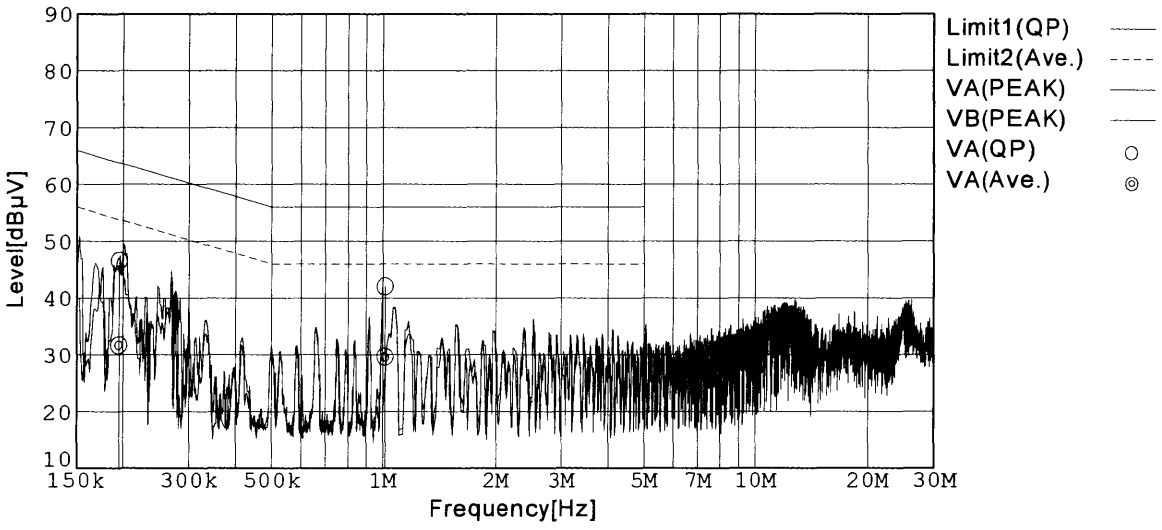
1. Graph

Remarks

Input Volt. 230 V (CISPR Pub22 Class B)

Load 100 %

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



COSEL

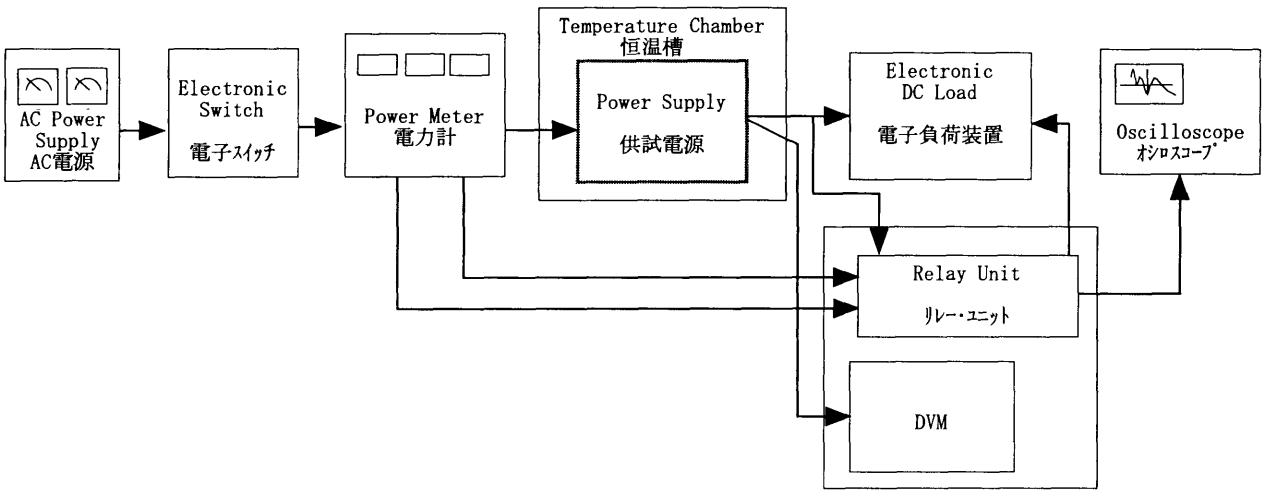


Figure A

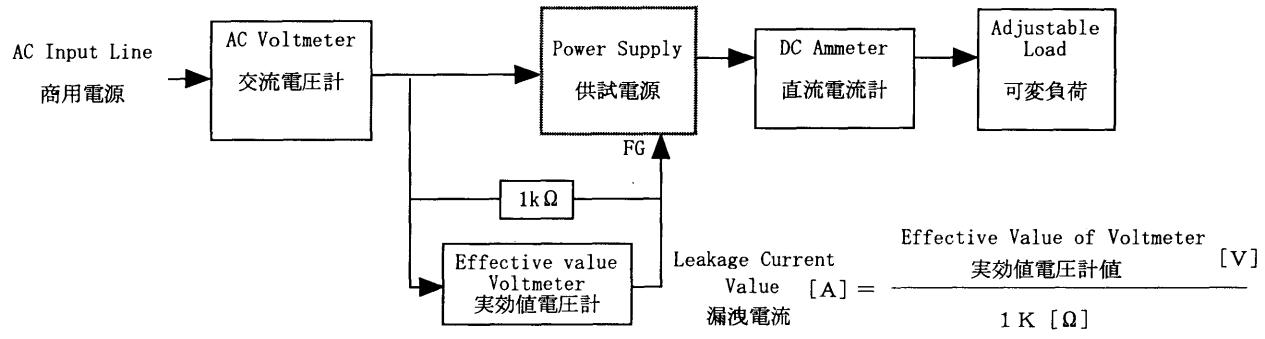


Figure B(DENTORI)

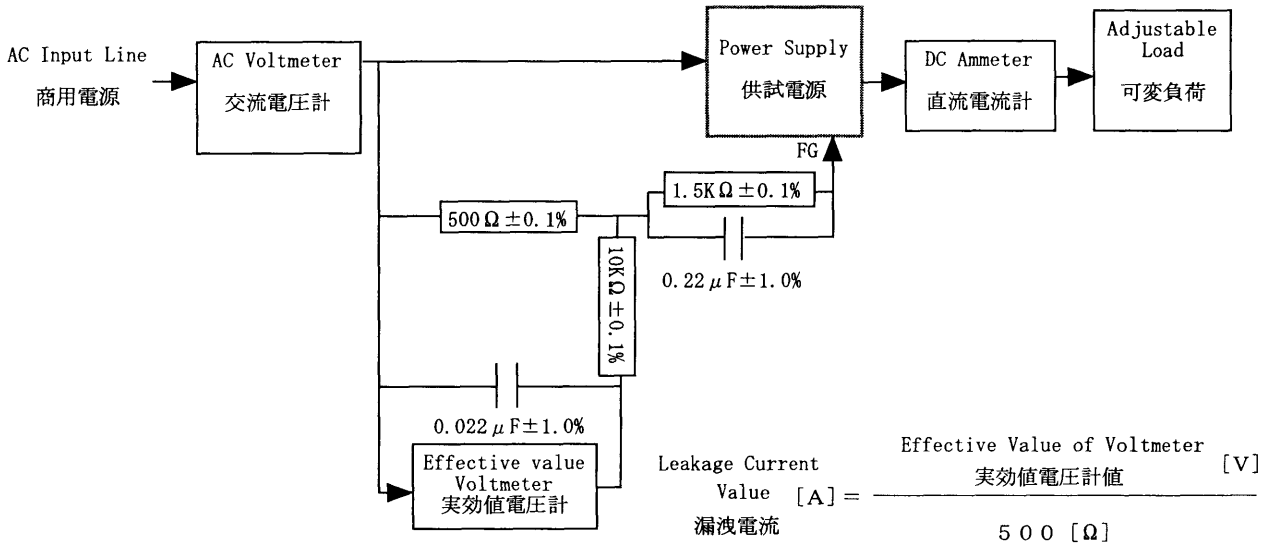


Figure B（ＩＥＣ６０９５０）

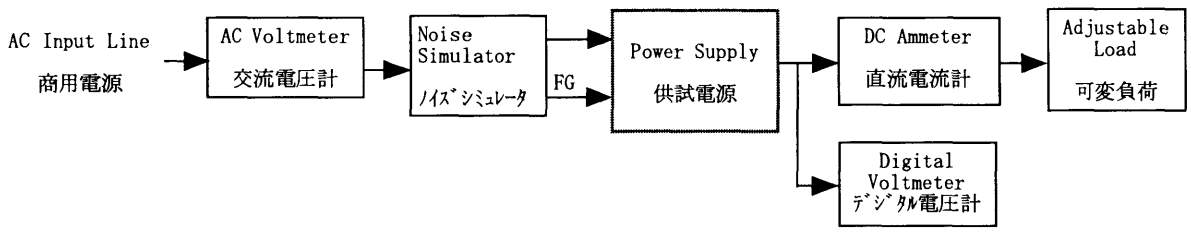


Figure C

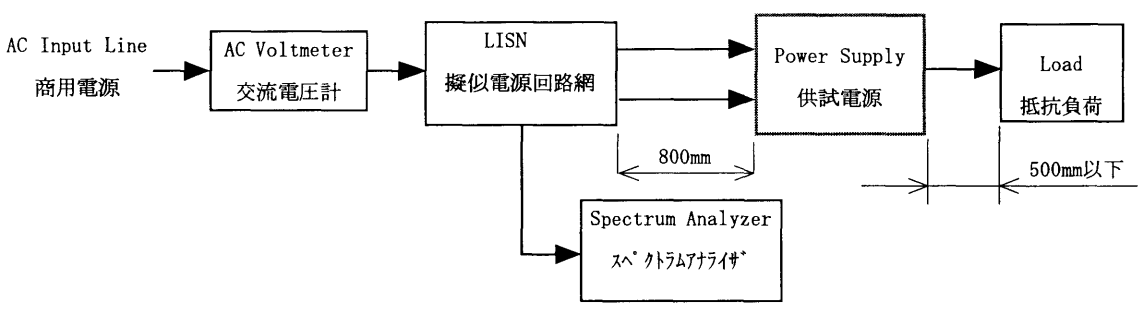


Figure D

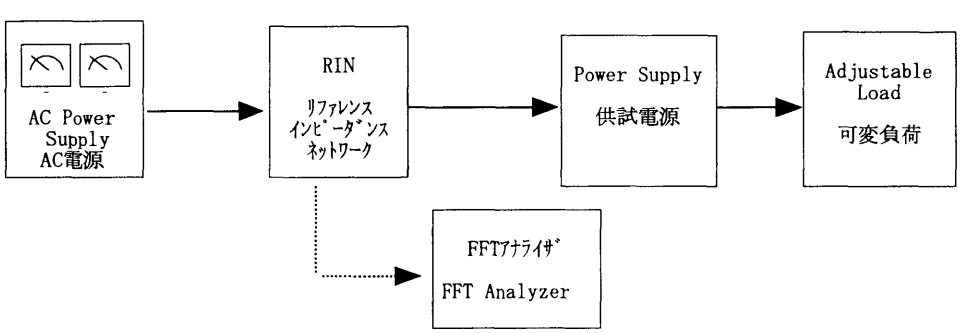


Figure E