参考資料

COSEL

# TEST DATA OF LEB100F-0524

(100V INPUT)

Regulated DC Power Supply

Mar. 16, 2000

Approved by : T. Miura
Design Manager

Prepared by : T. Koide
Design Engineer

コーセル株式会社

COSEL CO., LTD.

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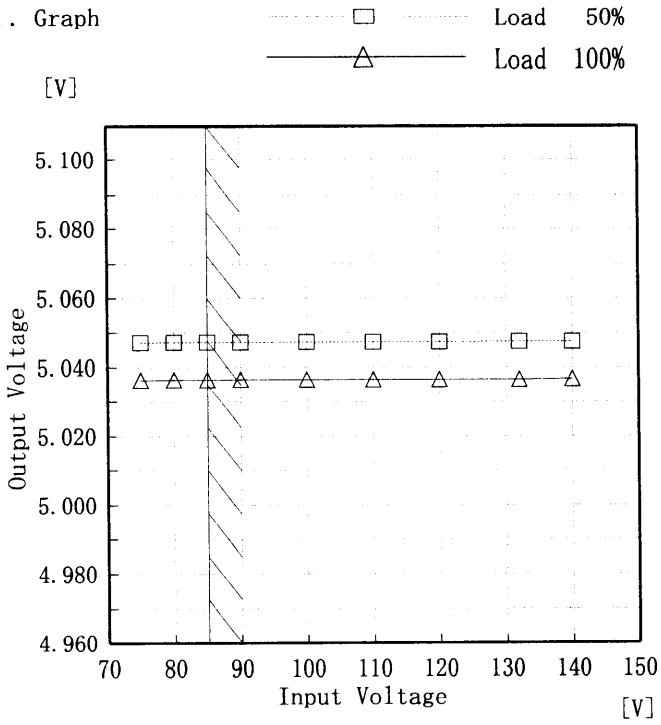
| | |
|---|---|
| Model | LEB100F-0524 |
| Item | Line Regulation<br>静的入力変動 |

Temperature 25℃
Testing Circuitry Figure A

Object V1:+5.0V5A

1. Graph

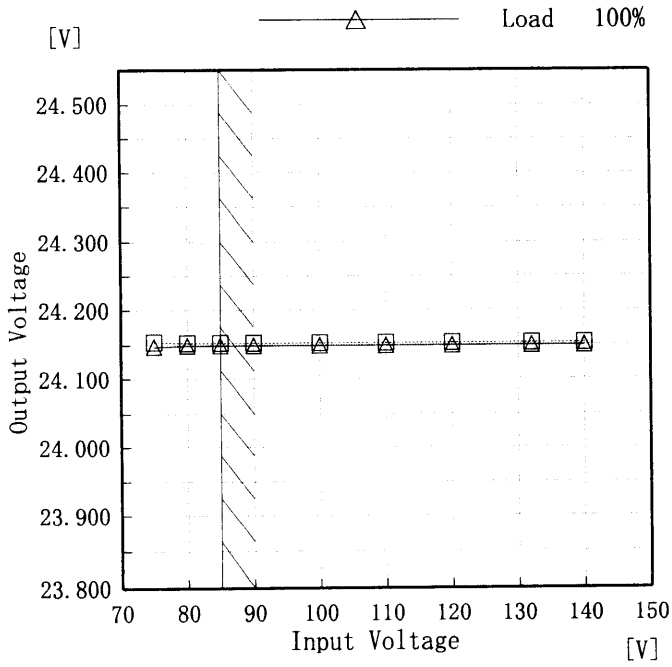



2. Values

| Input Voltage [V] | Output Voltage [V] | |
|---|---|---|
| | Load 50% | Load 100% |
| 75 | 5.047 | 5.036 |
| 80 | 5.047 | 5.037 |
| 85 | 5.047 | 5.037 |
| 90 | 5.047 | 5.037 |
| 100 | 5.047 | 5.037 |
| 110 | 5.047 | 5.037 |
| 120 | 5.047 | 5.037 |
| 132 | 5.047 | 5.037 |
| 140 | 5.047 | 5.037 |

Object V2:+24.0V4A

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% |
| 75 | 24.154 | 24.148 |
| 80 | 24.153 | 24.149 |
| 85 | 24.153 | 24.149 |
| 90 | 24.153 | 24.149 |
| 100 | 24.153 | 24.149 |
| 110 | 24.153 | 24.149 |
| 120 | 24.153 | 24.149 |
| 132 | 24.153 | 24.149 |
| 140 | 24.153 | 24.149 |



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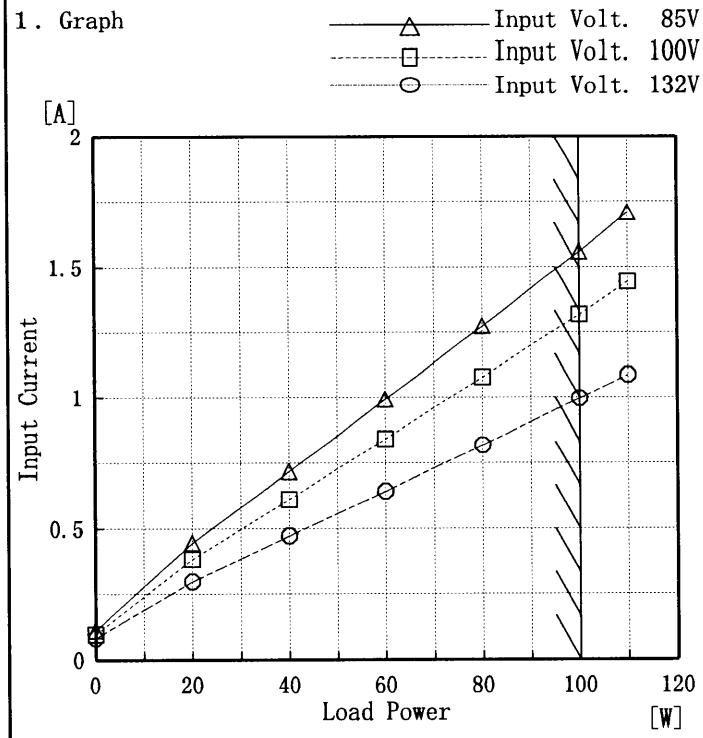
COSEL

| | |
|---|---|
| Model | LEB100F-0524 |
| Item | Input Current (by Load Power)<br>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

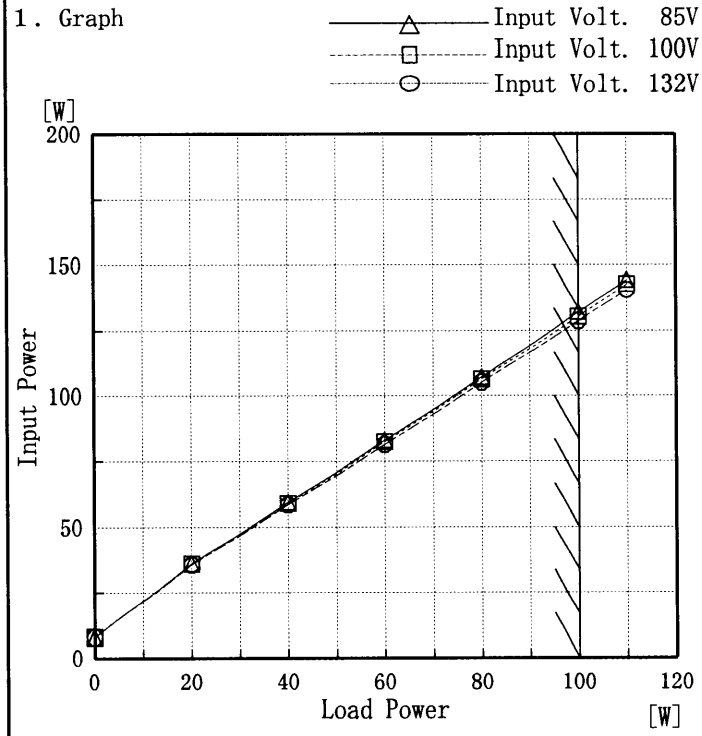
| Load Power [W] | Input Current [A] | | |
|---|---|---|---|
| | Input Volt. 85[V] | Input Volt. 100[V] | Input Volt. 132[V] |
| 0 | 0.112 | 0.098 | 0.083 |
| 20 | 0.446 | 0.383 | 0.299 |
| 40 | 0.719 | 0.613 | 0.472 |
| 60 | 0.994 | 0.844 | 0.643 |
| 80 | 1.274 | 1.079 | 0.820 |
| 100 | 1.560 | 1.318 | 0.996 |
| 110 | 1.706 | 1.442 | 1.087 |
| — | — | — | — |
| — | — | — | — |
| — | — | — | — |
| — | — | — | — |
| — | — | — | — |

COSEL

| | |
|---|---|
| Model | LEB100F-0524 |
| Item | Input Power (by Load Power)<br>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. 85[V] | Input Volt. 100[V] | Input Volt. 132[V] |
| 0 | 7.74 | 7.67 | 7.75 |
| 20 | 35.80 | 35.70 | 35.42 |
| 40 | 59.20 | 58.90 | 58.30 |
| 60 | 82.90 | 82.30 | 81.30 |
| 80 | 106.90 | 106.10 | 104.90 |
| 100 | 131.90 | 130.20 | 128.60 |
| 110 | 144.30 | 142.80 | 140.50 |
| — | — | — | — |
| — | — | — | — |
| — | — | — | — |
| — | — | — | — |
| — | — | — | — |



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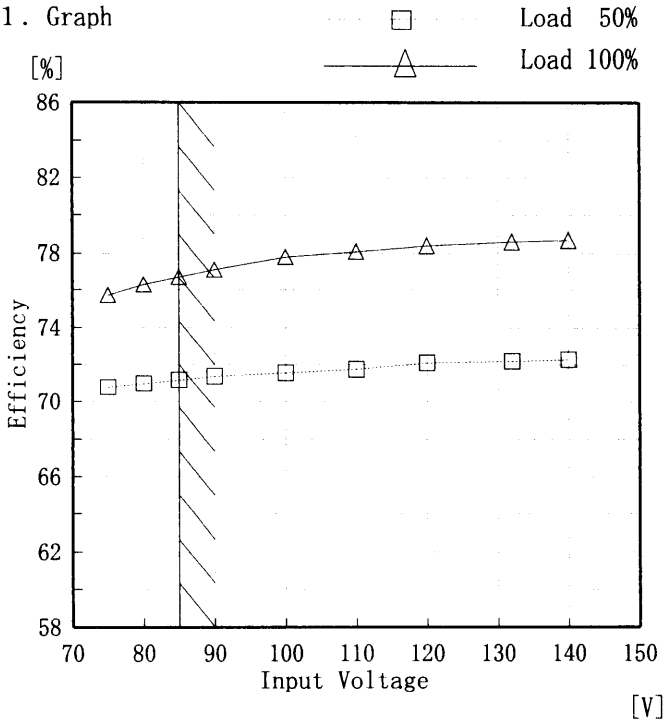
COSEL

| | |
|---|---|
| Model | LEB100F-0524 |
| Item | Efficiency (by Input Voltage)<br>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

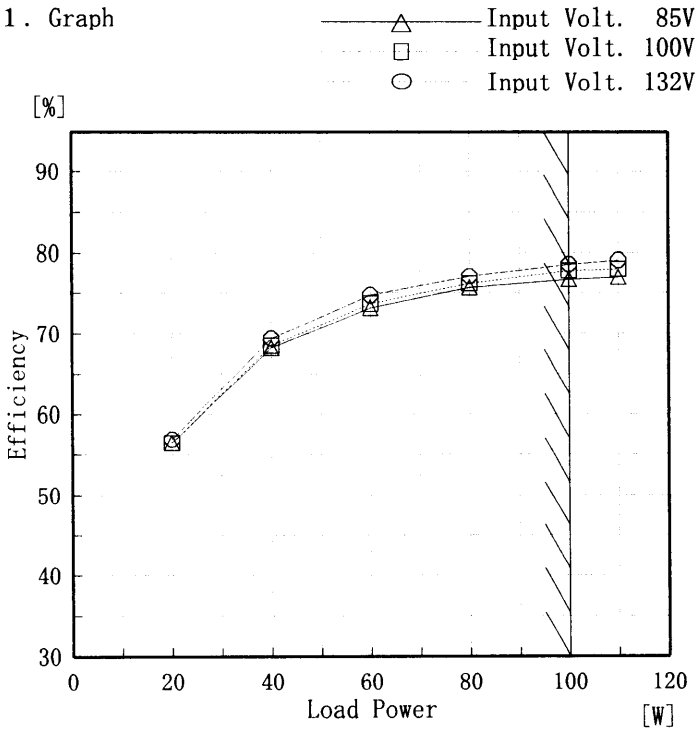
| Input Voltage [V] | Efficiency [%] | |
|---|---|---|
| | Load 50% | Load 100% |
| 75 | 70.8 | 75.7 |
| 80 | 71.0 | 76.3 |
| 85 | 71.2 | 76.7 |
| 90 | 71.4 | 77.1 |
| 100 | 71.6 | 77.8 |
| 110 | 71.8 | 78.1 |
| 120 | 72.1 | 78.4 |
| 132 | 72.2 | 78.6 |
| 140 | 72.3 | 78.7 |

COSEL

| | |
|---|---|
| Model | LEB100F-0524 |
| Item | Efficiency (by Load Power)<br>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. 85[V] | Input Volt. 100[V] | Input Volt. 132[V] |
|---|---|---|---|
| 20 | 56.5 | 56.5 | 56.9 |
| 40 | 68.2 | 68.5 | 69.4 |
| 60 | 73.2 | 73.7 | 74.7 |
| 80 | 75.7 | 76.2 | 77.1 |
| 100 | 76.7 | 77.8 | 78.6 |
| 110 | 77.0 | 78.0 | 79.1 |
| — | — | — | — |
| — | — | — | — |
| — | — | — | — |
| — | — | — | — |
| — | — | — | — |
| — | — | — | — |



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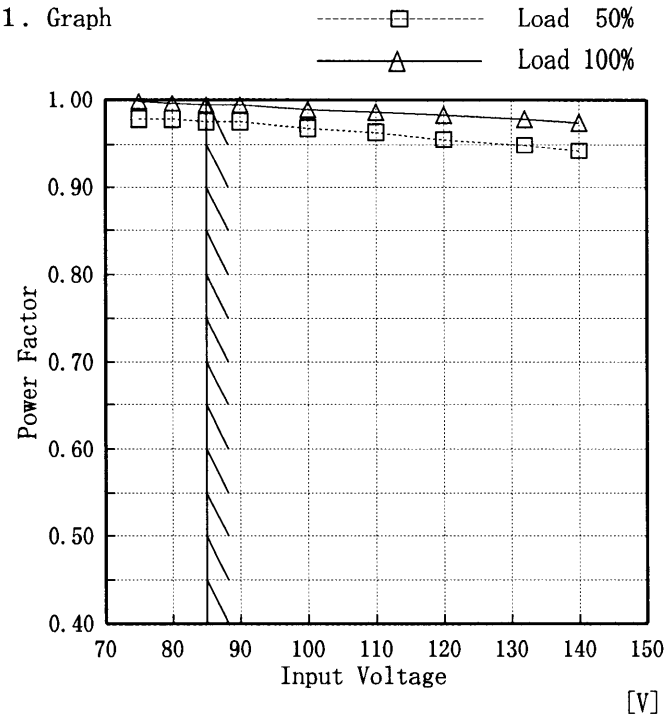
COSEL

| | |
|---|---|
| Model | LEB100F-0524 |
| Item | Power Factor (by Input Voltage)<br>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

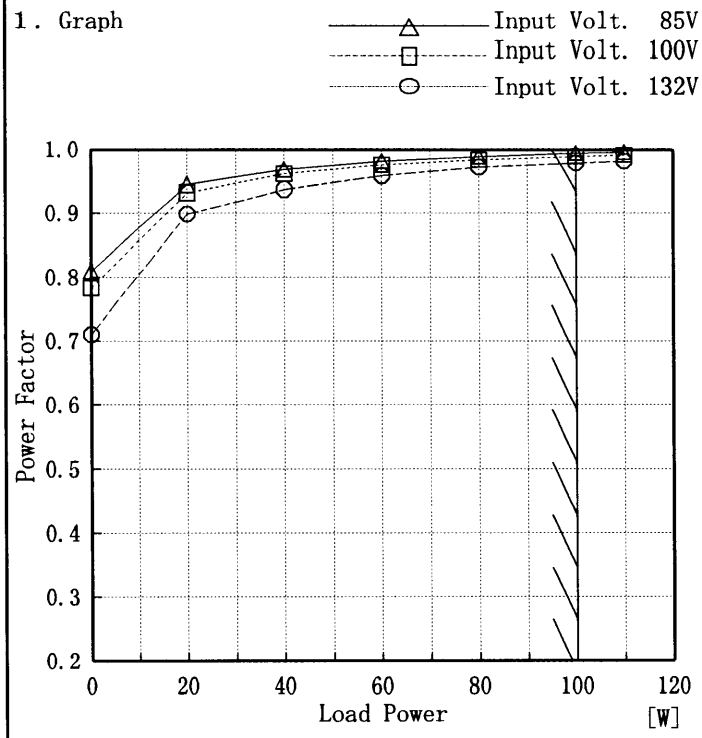
| Input Voltage [V] | Power Factor | |
|---|---|---|
| | Load 50% | Load 100% |
| 75 | 0.98 | 1.00 |
| 80 | 0.98 | 1.00 |
| 85 | 0.98 | 0.99 |
| 90 | 0.98 | 0.99 |
| 100 | 0.97 | 0.99 |
| 110 | 0.96 | 0.99 |
| 120 | 0.96 | 0.98 |
| 132 | 0.95 | 0.98 |
| 140 | 0.94 | 0.97 |

COSEL

| | |
|---|---|
| Model | LEB100F-0524 |
| Item | Power Factor (by Load Power)<br>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

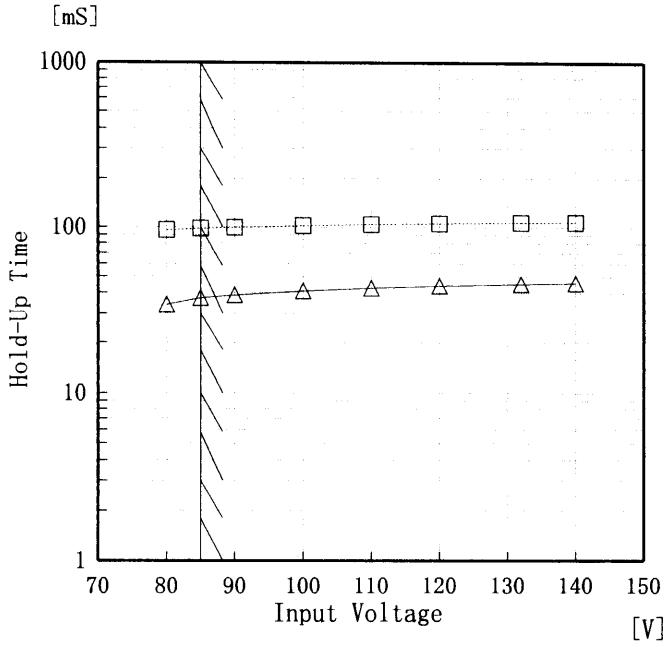
| Load Power [W] | Power Factor | | |
|---|---|---|---|
| | Input Volt. 85[V] | Input Volt. 100[V] | Input Volt. 132[V] |
| 0 | 0.81 | 0.78 | 0.71 |
| 20 | 0.94 | 0.93 | 0.90 |
| 40 | 0.97 | 0.96 | 0.94 |
| 60 | 0.98 | 0.98 | 0.96 |
| 80 | 0.99 | 0.98 | 0.97 |
| 100 | 0.99 | 0.99 | 0.98 |
| 110 | 1.00 | 0.99 | 0.98 |
| — | — | — | — |
| — | — | — | — |
| — | — | — | — |
| — | — | — | — |
| — | — | — | — |

COSEL

| | |
|---|---|
| Model | LEB100F-0524 |
| Item | Hold-Up Time<br>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

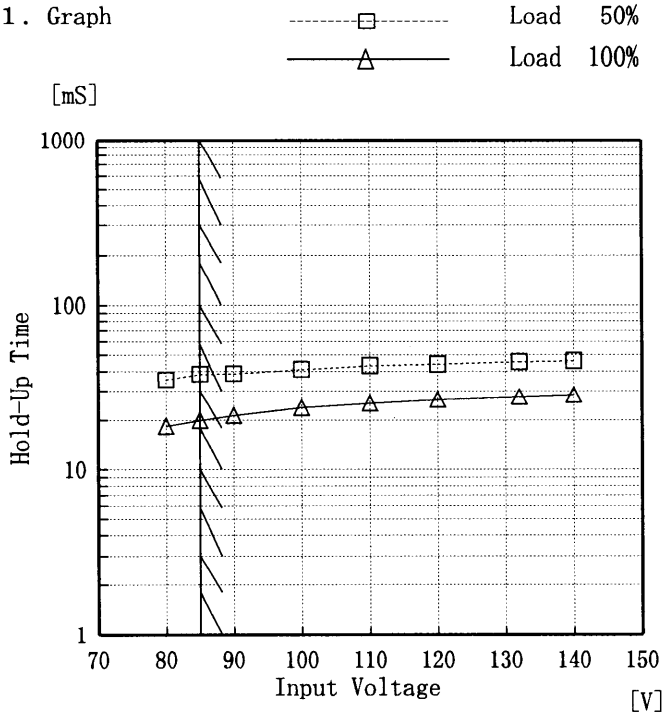
| Input Voltage [V] | Hold-Up Time [mS] | |
|---|---|---|
| | Load 50% | Load 100% |
| 75 | — | — |
| 80 | 96 | 34 |
| 85 | 98 | 37 |
| 90 | 100 | 39 |
| 100 | 102 | 41 |
| 110 | 104 | 43 |
| 120 | 105 | 44 |
| 132 | 107 | 45 |
| 140 | 107 | 46 |

COSEL

| | |
|---|---|
| Model | LEB100F-0524 |
| Item | Hold-Up Time<br>出力保持時間 |
| Object | V2:+24.0V4A |

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

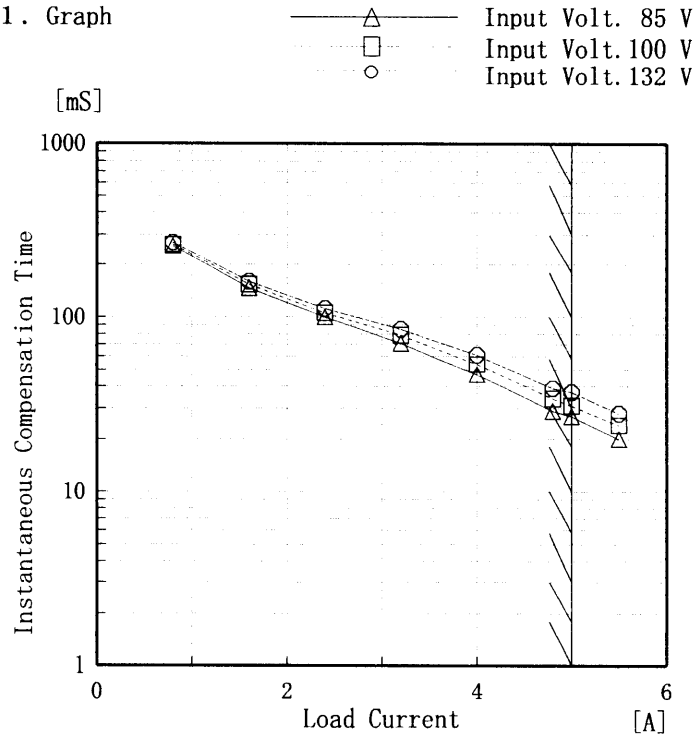
| Input Voltage [V] | Hold-Up Time [mS] | |
|---|---|---|
| | Load 50% | Load 100% |
| 75 | — | — |
| 80 | 35 | 19 |
| 85 | 38 | 20 |
| 90 | 39 | 21 |
| 100 | 41 | 24 |
| 110 | 43 | 25 |
| 120 | 44 | 27 |
| 132 | 45 | 28 |
| 140 | 46 | 28 |

COSEL

| | |
|---|---|
| Model | LEB100F-0524 |
| Item | Instantaneous Interruption Compensation<br>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

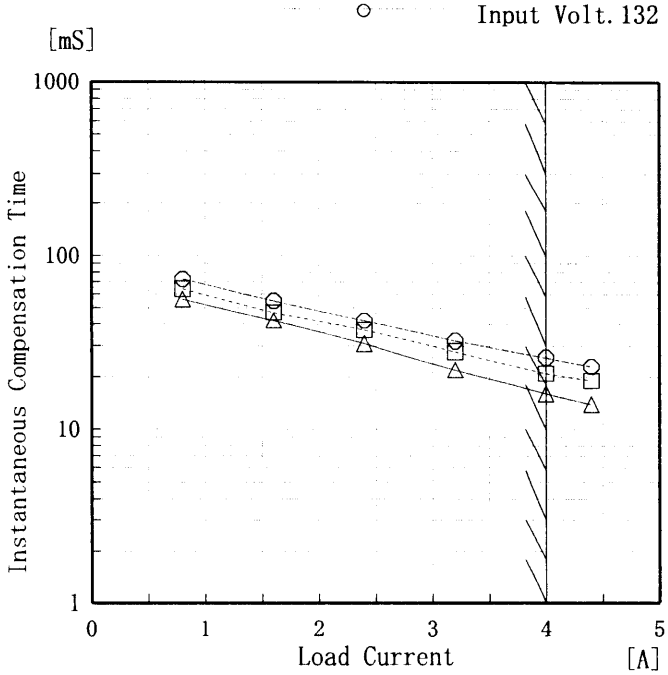
| Load Current [A] | Time [mS] | | |
|---|---|---|---|
| | Input Volt. 85[V] | Input Volt. 100[V] | Input Volt. 132[V] |
| 0.0 | — | — | — |
| 0.8 | 257 | 263 | 269 |
| 1.6 | 147 | 154 | 160 |
| 2.4 | 100 | 106 | 112 |
| 3.2 | 71 | 79 | 85 |
| 4.0 | 47 | 54 | 61 |
| 4.8 | 29 | 34 | 39 |
| 5.0 | 27 | 31 | 37 |
| 5.5 | 20 | 24 | 28 |
| — | — | — | — |
| — | — | — | — |

COSEL

| | |
|---|---|
| Model | LEB100F-0524 |
| Item | Instantaneous Interruption Compensation<br>瞬時停電保障 |
| Object | V2:+24.0V4A |

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. 85[V] | Input Volt. 100[V] | Input Volt. 132[V] |
| 0.0 | — | — | — |
| 0.8 | 56 | 64 | 73 |
| 1.6 | 42 | 47 | 55 |
| 2.4 | 31 | 37 | 42 |
| 3.2 | 22 | 28 | 32 |
| 4.0 | 16 | 21 | 26 |
| 4.4 | 14 | 19 | 23 |
| — | — | — | — |
| — | — | — | — |
| — | — | — | — |
| — | — | — | — |

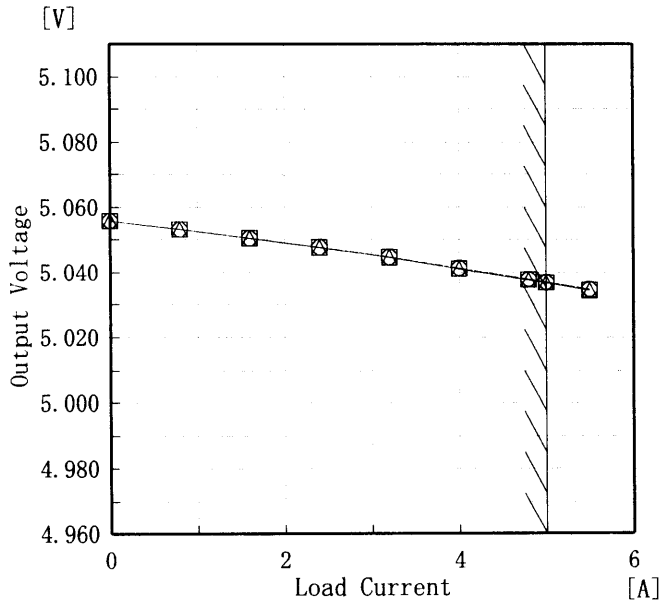
COSEL

| Model | LEB100F-0524 |
|---|---|
| Item | Load Regulation<br>静的負荷変動 |

Temperature 25℃
Testing Circuitry Figure A

Object V1:+5.0V5A

1. Graph

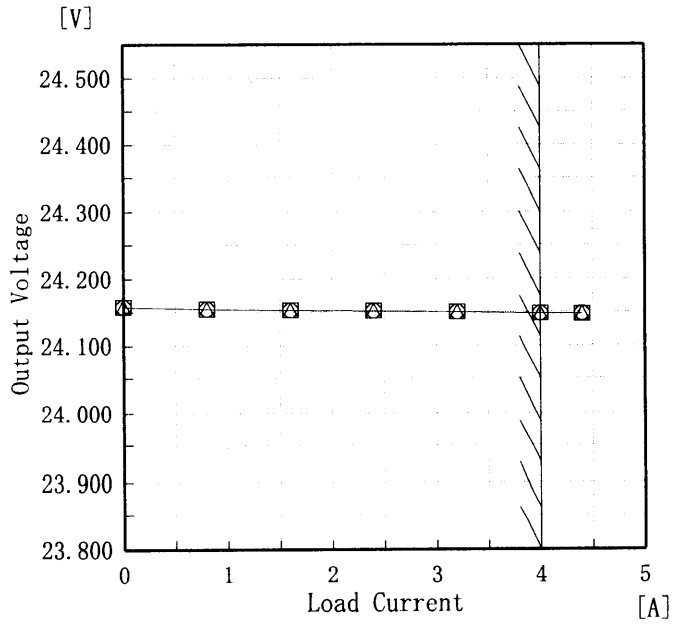



2. Values

| Load Current [A] | Output Voltage [V] Input Volt. 85[V] | Input Volt. 100[V] | Input Volt. 132[V] |
|---|---|---|---|
| 0.0 | 5.056 | 5.056 | 5.056 |
| 0.8 | 5.053 | 5.053 | 5.053 |
| 1.6 | 5.050 | 5.050 | 5.050 |
| 2.4 | 5.048 | 5.048 | 5.048 |
| 3.2 | 5.045 | 5.045 | 5.045 |
| 4.0 | 5.041 | 5.041 | 5.041 |
| 4.8 | 5.038 | 5.038 | 5.038 |
| 5.0 | 5.037 | 5.037 | 5.037 |
| 5.5 | 5.034 | 5.034 | 5.035 |
| — | — | — | — |

Object V2:+24.0V4A

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. 85[V] | Input Volt. 100[V] | Input Volt. 132[V] |
|---|---|---|---|
| 0.0 | 24.158 | 24.158 | 24.158 |
| 0.8 | 24.155 | 24.155 | 24.155 |
| 1.6 | 24.153 | 24.153 | 24.153 |
| 2.4 | 24.152 | 24.152 | 24.152 |
| 3.2 | 24.150 | 24.150 | 24.150 |
| 4.0 | 24.148 | 24.148 | 24.148 |
| 4.4 | 24.148 | 24.147 | 24.148 |
| — | — | — | — |
| — | — | — | — |
| — | — | — | — |



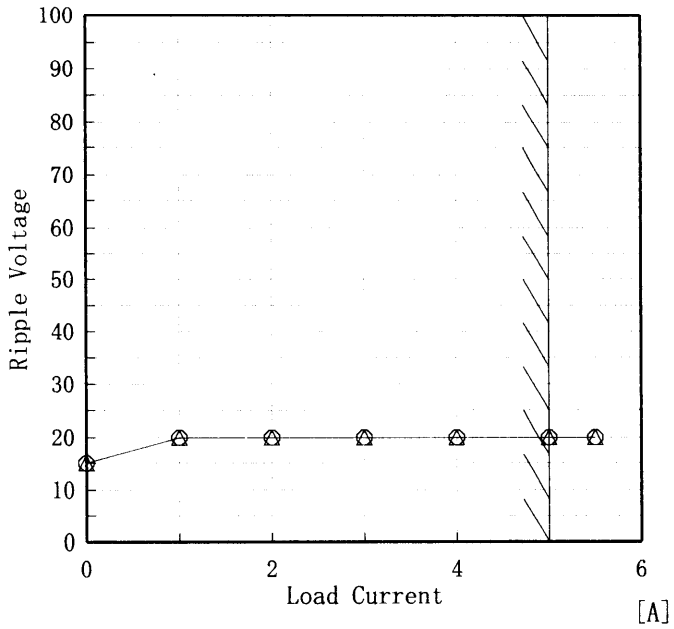
BC−3266

COSEL

| | |
|---|---|
| Model | LEB100F-0524 |
| Item | Ripple Voltage(by Load Current)<br>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

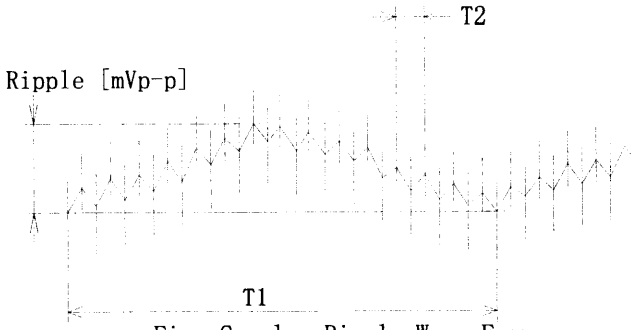



Fig. Complex Ripple Wave Form
図　リップル波形詳細図

2. Values

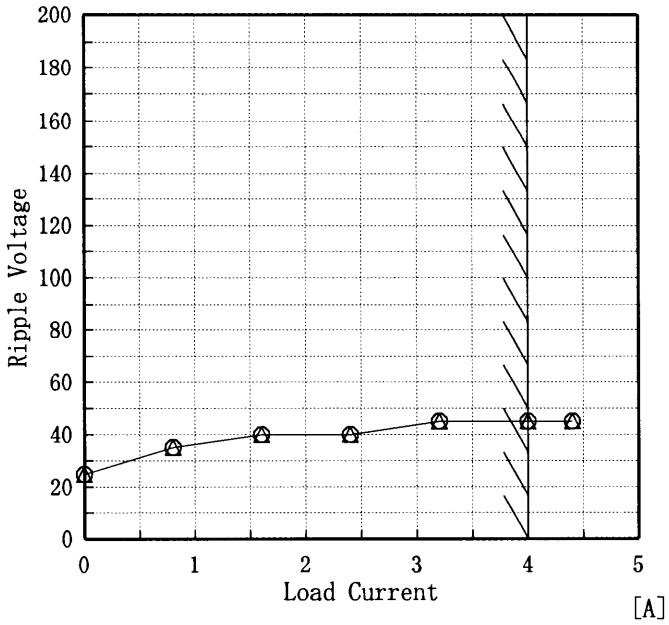
| Load Current [A] | Ripple Output Voltage [mV] | |
|---|---|---|
| | Input Volt. 85 [V] | Input Volt. 132 [V] |
| 0.0 | 15 | 15 |
| 1.0 | 20 | 20 |
| 2.0 | 20 | 20 |
| 3.0 | 20 | 20 |
| 4.0 | 20 | 20 |
| 5.0 | 20 | 20 |
| 5.5 | 20 | 20 |
| — | — | — |
| — | — | — |
| — | — | — |
| — | — | — |

COSEL

| | |
|---|---|
| Model | LEB100F-0524 |
| Item | Ripple Voltage(by Load Current)<br>リップル電圧(負荷特性) |
| Object | V2:+24.0V4A |

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

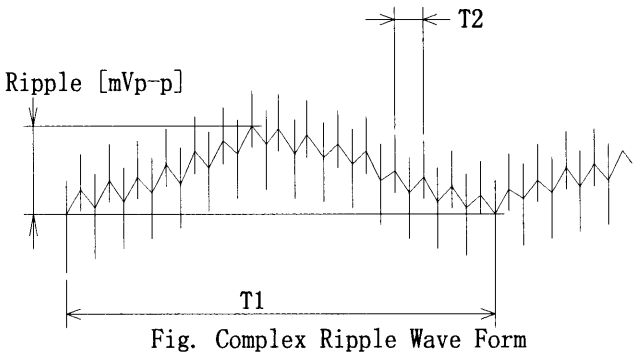



Fig. Complex Ripple Wave Form
図 リップル波形詳細図

2. Values

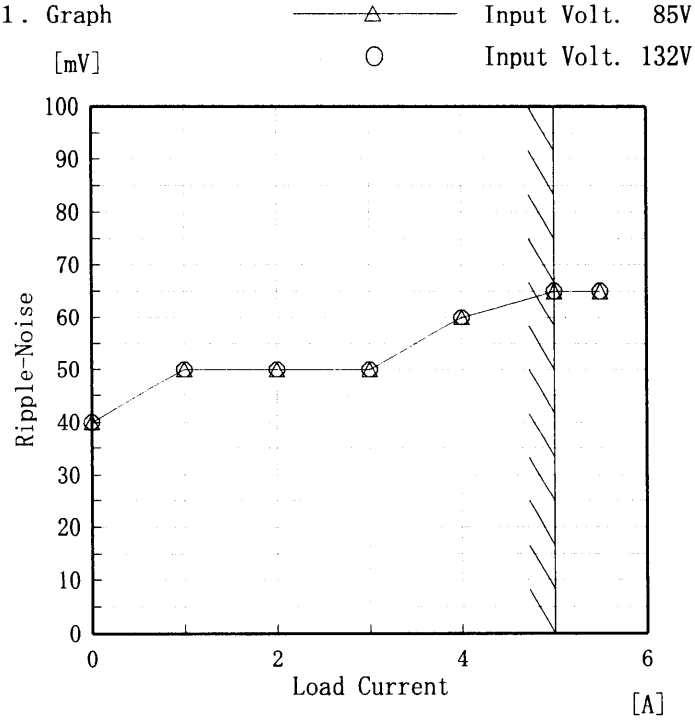
| Load Current [A] | Ripple Output Voltage [mV] | |
|---|---|---|
| | Input Volt. 85 [V] | Input Volt. 132 [V] |
| 0.0 | 25 | 25 |
| 0.8 | 35 | 35 |
| 1.6 | 40 | 40 |
| 2.4 | 40 | 40 |
| 3.2 | 45 | 45 |
| 4.0 | 45 | 45 |
| 4.4 | 45 | 45 |
| — | — | — |
| — | — | — |
| — | — | — |
| — | — | — |

COSEL

| | |
|---|---|
| Model | LEB100F-0524 |
| 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

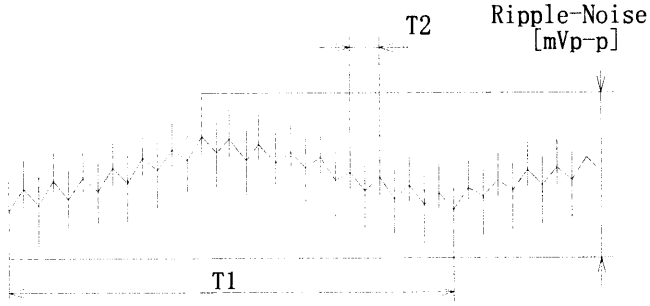



Fig. Complex Ripple Wave Form
図 リップル波形詳細図

2. Values

| Load Current [A] | Ripple-Noise [mV] | |
|---|---|---|
| | Input Volt. 85 [V] | Input Volt. 132 [V] |
| 0.0 | 40 | 40 |
| 1.0 | 50 | 50 |
| 2.0 | 50 | 50 |
| 3.0 | 50 | 50 |
| 4.0 | 60 | 60 |
| 5.0 | 65 | 65 |
| 5.5 | 65 | 65 |
| — | — | — |
| — | — | — |
| — | — | — |
| — | — | — |

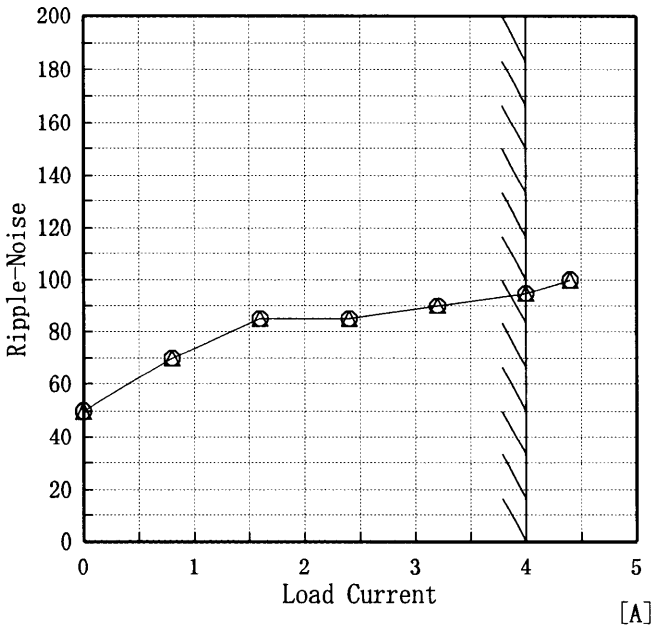
COSEL

| | |
|---|---|
| Model | LEB100F-0524 |
| Item | Ripple-Noise リップルノイズ |
| Object | V2:+24.0V4A |

Temperature 25℃
Testing Circuitry Figure A

1. Graph

△ Input Volt. 85V
○ Input Volt. 132V




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

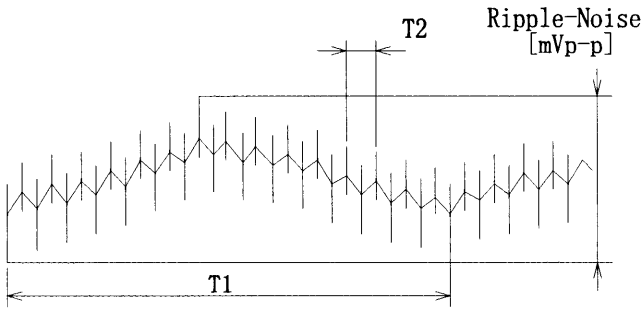



Fig. Complex Ripple Wave Form
図 リップル波形詳細図

2. Values

| Load Current [A] | Ripple-Noise [mV] | |
|---|---|---|
| | Input Volt. 85 [V] | Input Volt. 132 [V] |
| 0.0 | 50 | 50 |
| 0.8 | 70 | 70 |
| 1.6 | 85 | 85 |
| 2.4 | 85 | 85 |
| 3.2 | 90 | 90 |
| 4.0 | 95 | 95 |
| 4.4 | 100 | 100 |
| — | — | — |
| — | — | — |
| — | — | — |
| — | — | — |

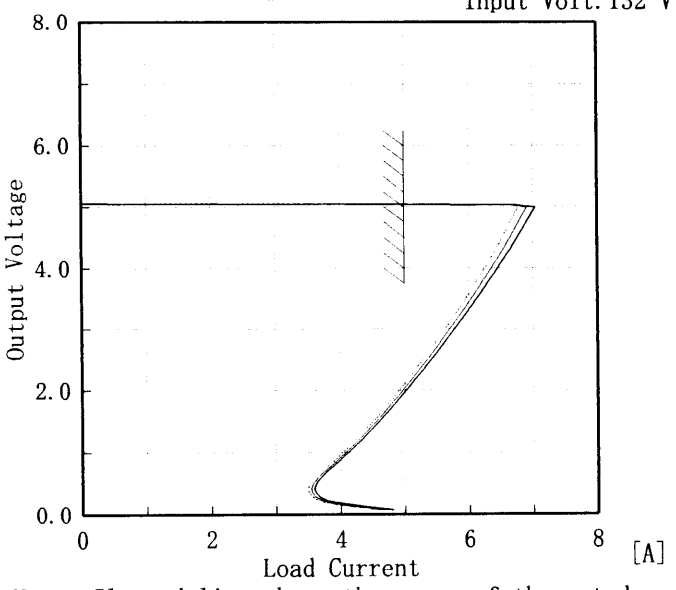
COSEL

| | |
|---|---|
| Model | LEB100F-0524 |
| Item | Overcurrent Protection<br>過電流保護 |

Temperature 25℃
Testing Circuitry Figure A

Object V1:+5.0V5A

1. Graph



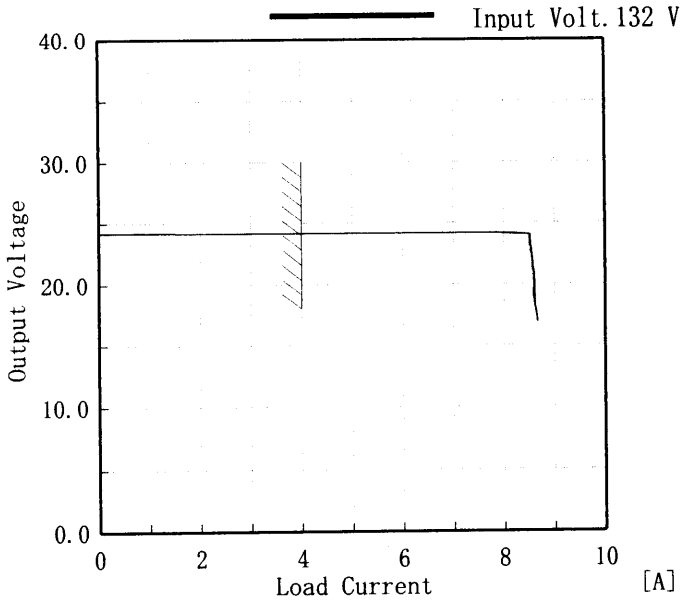

Note: Slanted line shows the range of the rated load current.

2. Values

| Output Voltage [V] | Load Current [A] Input Volt. 85[V] | Input Volt. 100[V] | Input Volt. 132[V] |
|---|---|---|---|
| 5.00 | 6.77 | 6.90 | 7.04 |
| 4.75 | 6.66 | 6.79 | 6.91 |
| 4.50 | 6.50 | 6.62 | 6.74 |
| 4.00 | 6.25 | 6.34 | 6.44 |
| 3.50 | 5.93 | 6.02 | 6.10 |
| 3.00 | 5.62 | 5.70 | 5.77 |
| 2.50 | 5.27 | 5.33 | 5.40 |
| 2.00 | 4.89 | 4.94 | 5.00 |
| 1.50 | 4.50 | 4.55 | 4.59 |
| 1.00 | 4.01 | 4.05 | 4.10 |
| 0.50 | 3.53 | 3.57 | 3.62 |
| 0.00 | 4.64 | 4.72 | 4.82 |

Object V2:+24.0V4A

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. 85[V] | Input Volt. 100[V] | Input Volt. 132[V] |
|---|---|---|---|
| 24.00 | 8.50 | 8.51 | 8.51 |
| 22.80 | 8.52 | 8.53 | 8.54 |
| 21.60 | 8.55 | 8.57 | 8.57 |
| 19.20 | 8.61 | 8.60 | 8.58 |
| 16.80 | 8.67 | 8.67 | 8.67 |
| 14.40 | — | — | — |
| 12.00 | — | — | — |
| 9.60 | — | — | — |
| 7.20 | — | — | — |
| 4.80 | — | — | — |
| 2.40 | — | — | — |
| 0.00 | — | — | — |



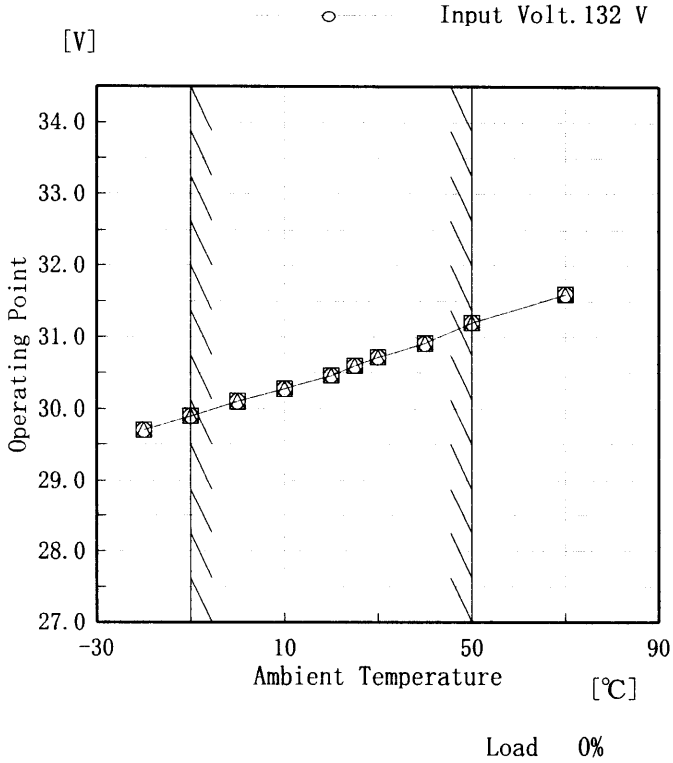
BC－3266

COSEL

| | |
|---|---|
| Model | LEB100F-0524 |
| Item | Overvoltage Protection<br>過電圧保護 |
| Object | V2:+24.0V4A |

Testing Circuitry Figure A

1. Graph




Load 0%

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

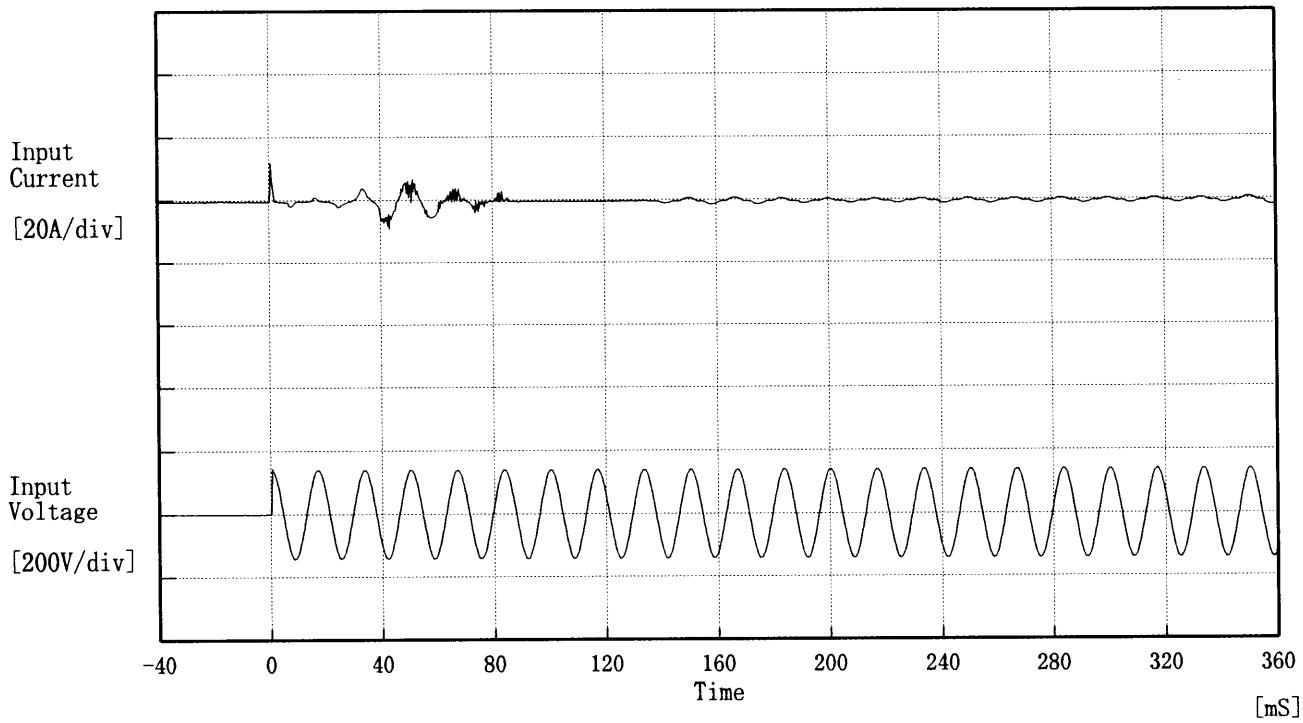
(注)斜線は定格周囲温度範囲を示す。

2. Values

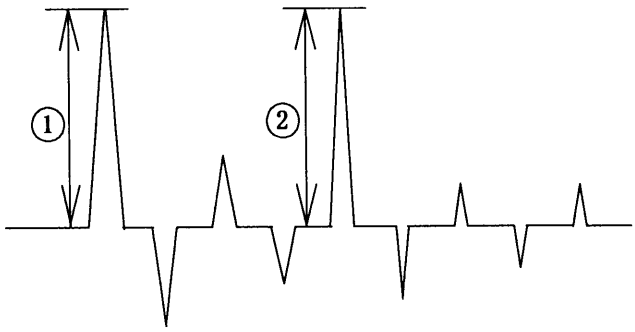
| Ambient Temperature [℃] | Operating Point [V] | | |
|---|---|---|---|
| | Input Volt. 85[V] | Input Volt. 100[V] | Input Volt. 132[V] |
| -20 | 29.7 | 29.7 | 29.7 |
| -10 | 29.9 | 29.9 | 29.9 |
| 0 | 30.1 | 30.1 | 30.1 |
| 10 | 30.3 | 30.3 | 30.3 |
| 20 | 30.5 | 30.5 | 30.5 |
| 25 | 30.6 | 30.6 | 30.6 |
| 30 | 30.7 | 30.7 | 30.7 |
| 40 | 30.9 | 30.9 | 30.9 |
| 50 | 31.2 | 31.2 | 31.2 |
| 70 | 31.6 | 31.6 | 31.6 |
| — | — | — | — |

COSEL

| | | | |
|---|---|---|---|
| Model | LEB100F-0524 | | |
| Item | Inrush Current<br>突入電流 | Temperature<br>Testing Circuitry | 25℃<br>Figure A |
| Object | ―――――――― | | |




Input Voltage 100 V
Frequency 60 Hz
Load 100 %
Inrush Current
① 11.62 [A]
② 9.28 [A]



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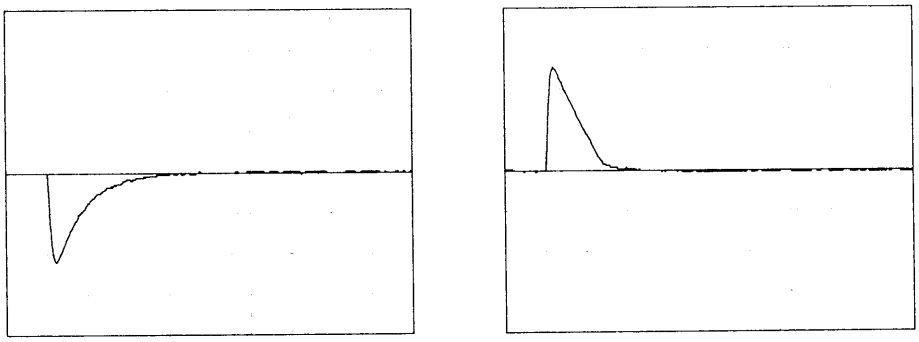
COSEL

| | | | |
|---|---|---|---|
| Model | LEB100F-0524 | | |
| Item | Dynamic Load Responce<br>動的負荷変動 | Temperature<br>Testing Circuitry | 25℃<br>Figure A |
| Object | V1:+5.0V5A | | |

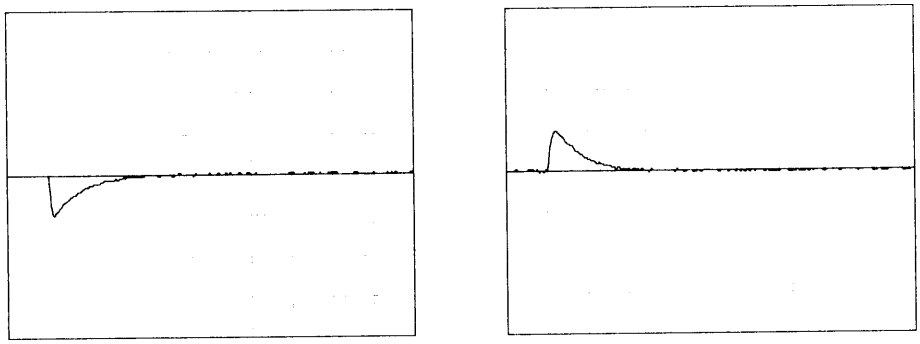
Input Volt. 100 V
Cycle 1000 mS

Load Current

Min. Load ←→
Load 100 %



Min. Load ←→
Load 50 %



100 mV/div

10 ms/div



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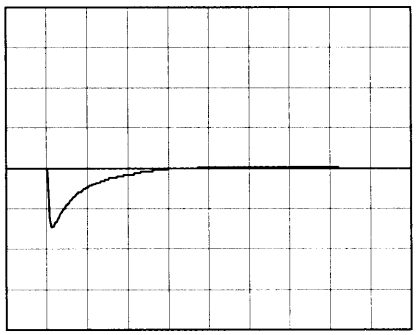
COSEL

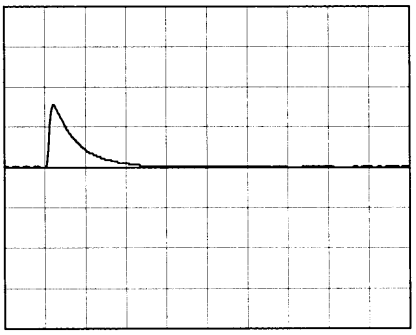
| | | | |
|---|---|---|---|
| Model | LEB100F-0524 | | |
| Item | Dynamic Load Responce<br>動的負荷変動 | Temperature<br>Testing Circuitry | 25℃<br>Figure A |
| Object | V2:+24.0V4A | | |

Input Volt. 100 V
Cycle 1000 mS

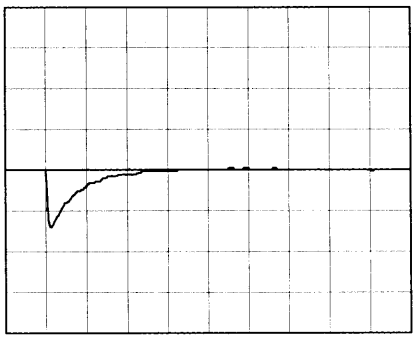
Load Current

Min. Load ←→
Load 100 %

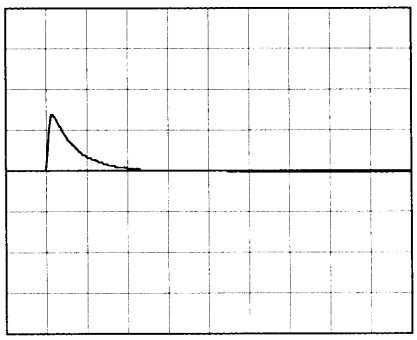




Min. Load ←→
Load 50 %



100 mV/div



10 ms/div

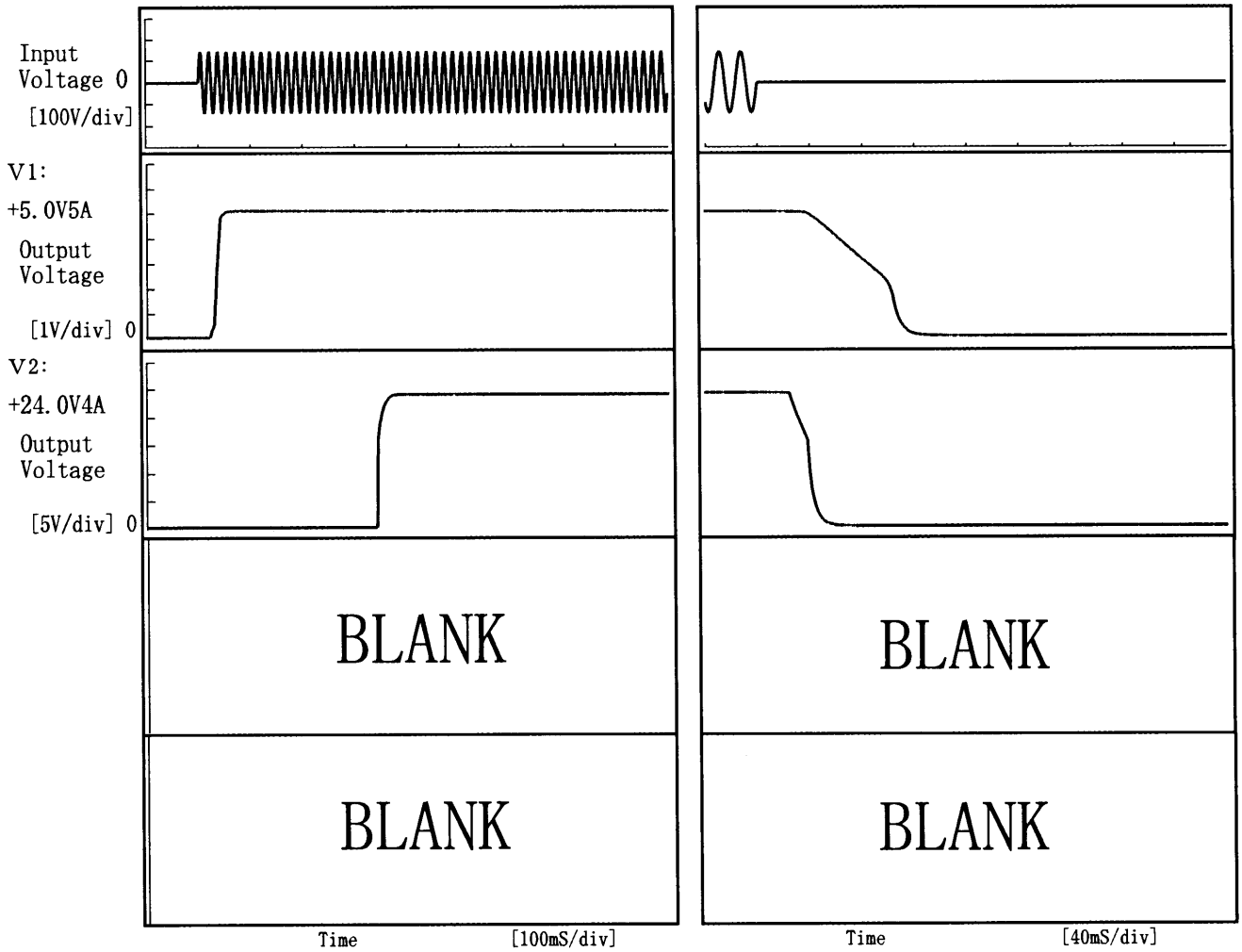
COSEL

| | | | |
|---|---|---|---|
| Model | LEB100F-0524 | | |
| Item | Rise and Fall Time<br>立上り、立下り時間 | Temperature<br>Testing Circuitry | 25℃<br>Figure A |
| Object | ———— | | |

Load Power 100 %

Input Volt. 100 V

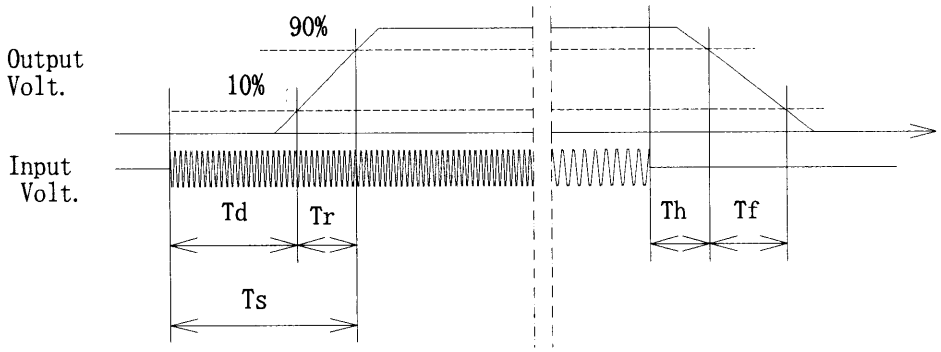
1. Graph




2. Values

[mS]

| Output \ Time | T d | T r | T s | T h | T f |
|---|---|---|---|---|---|
| V1 | 28.0 | 11.5 | 39.5 | 50.8 | 60.2 |
| V2 | 340.0 | 12.0 | 352.0 | 28.2 | 18.8 |
| — | — | — | — | — | — |
| — | — | — | — | — | — |



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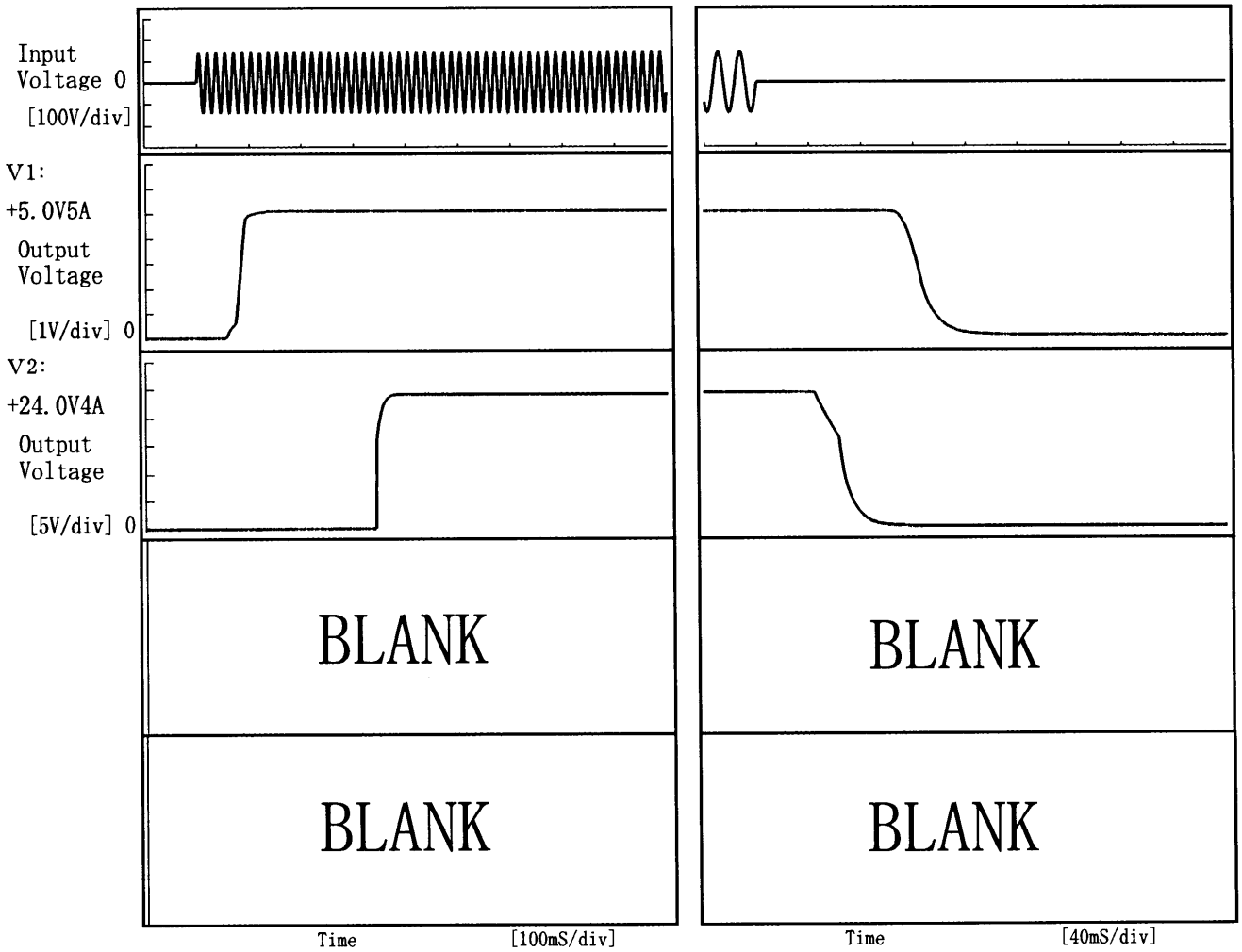
COSEL

| | | | |
|---|---|---|---|
| Model | LEB100F-0524 | | |
| Item | Rise and Fall Time<br>立上り、立下り時間 | Temperature<br>Testing Circuitry | 25℃<br>Figure A |
| Object | ———— | | |

Load Power 50 %

Input Volt. 100 V

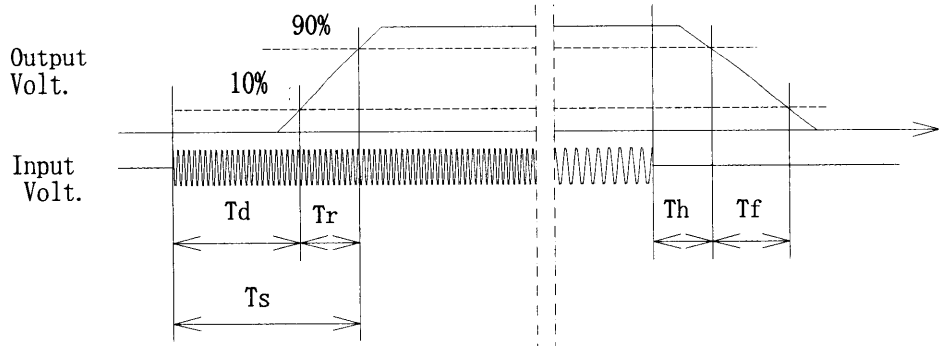
1. Graph




2. Values

[mS]

| Output \ Time | T d | T r | T s | T h | T f |
|---|---|---|---|---|---|
| V1 | 27.2 | 8.2 | 35.4 | 113.4 | 31.0 |
| V2 | 339.5 | 12.0 | 351.5 | 49.6 | 31.0 |
| — | — | — | — | — | — |
| — | — | — | — | — | — |






BC－3266

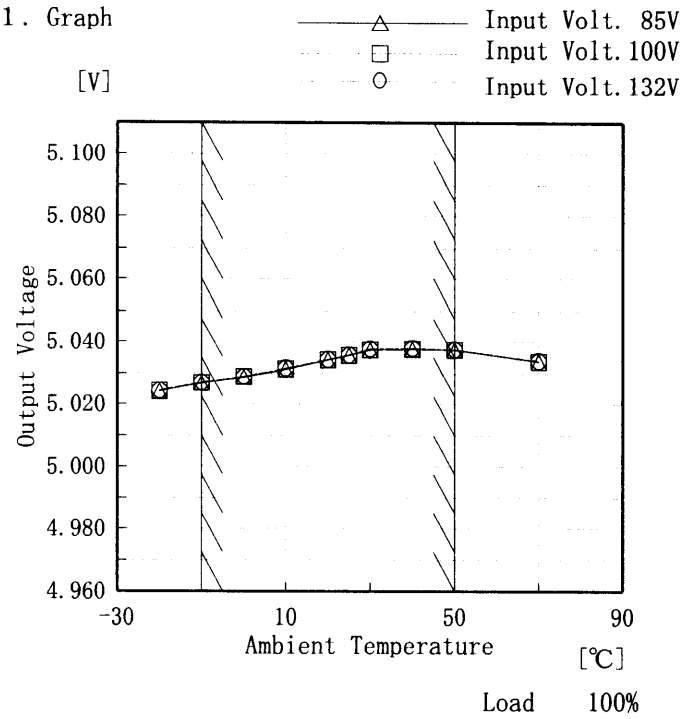
COSEL

| Model | LEB100F-0524 |
|---|---|
| Item | Ambient Temperature Drift<br>周囲温度変動 |

Testing Circuitry Figure A

Object V1:+5.0V5A

1. Graph

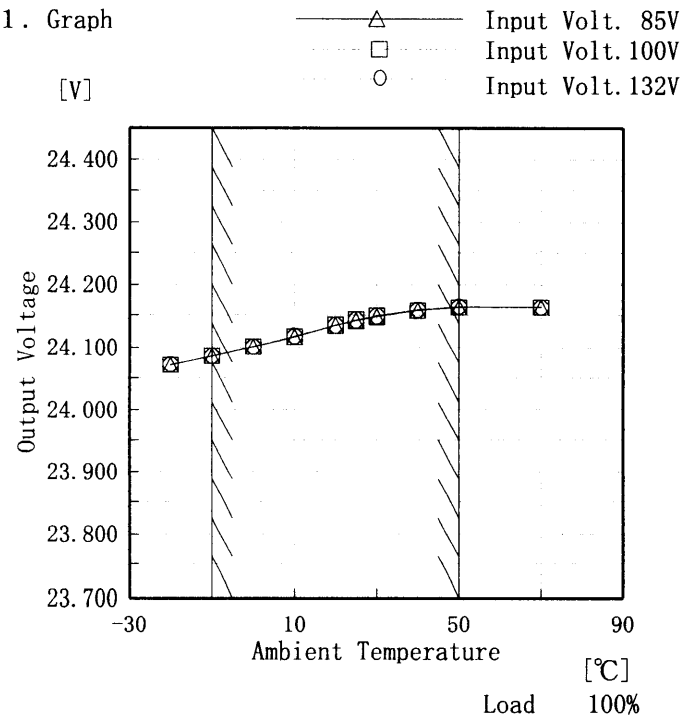



2. Values

| Ambient Temperature [℃] | Output Voltage [V] | | |
|---|---|---|---|
| | Input Volt. 85[V] | Input Volt. 100[V] | Input Volt. 132[V] |
| -20 | 5.024 | 5.024 | 5.024 |
| -10 | 5.027 | 5.027 | 5.027 |
| 0 | 5.029 | 5.029 | 5.029 |
| 10 | 5.031 | 5.031 | 5.032 |
| 20 | 5.034 | 5.034 | 5.034 |
| 25 | 5.036 | 5.036 | 5.036 |
| 30 | 5.037 | 5.038 | 5.038 |
| 40 | 5.038 | 5.038 | 5.038 |
| 50 | 5.037 | 5.038 | 5.038 |
| 70 | 5.034 | 5.034 | 5.034 |
| — | — | — | — |

Object V2:+24.0V4A

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. 85[V] | Input Volt. 100[V] | Input Volt. 132[V] |
| -20 | 24.071 | 24.071 | 24.072 |
| -10 | 24.086 | 24.086 | 24.086 |
| 0 | 24.101 | 24.101 | 24.101 |
| 10 | 24.117 | 24.117 | 24.118 |
| 20 | 24.135 | 24.135 | 24.135 |
| 25 | 24.142 | 24.143 | 24.143 |
| 30 | 24.148 | 24.149 | 24.149 |
| 40 | 24.158 | 24.158 | 24.159 |
| 50 | 24.163 | 24.163 | 24.164 |
| 70 | 24.163 | 24.163 | 24.163 |
| — | — | — | — |

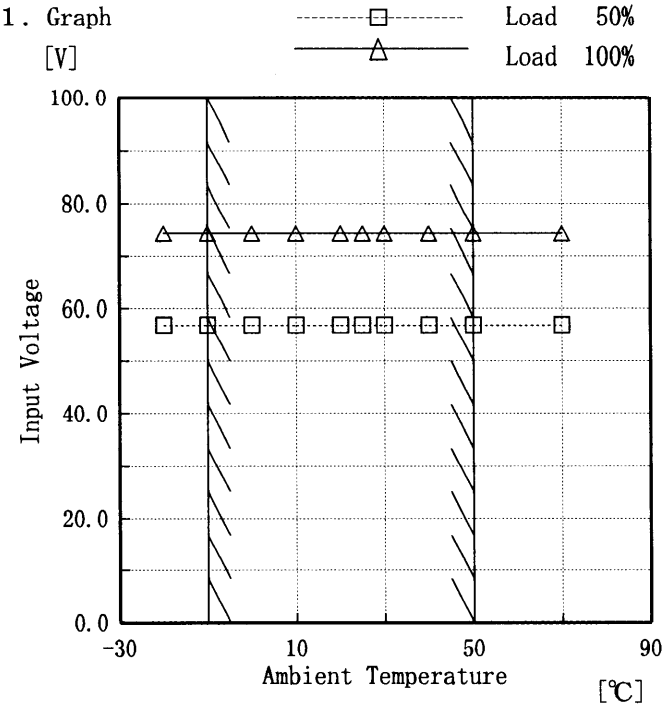
COSEL

| Model | LEB100F-0524 |
|---|---|
| Item | Minimum Input Voltage for Regulated Output Voltage<br>最低レギュレーション電圧 |

Testing Circuitry Figure A

Object V1:+5.0V5A

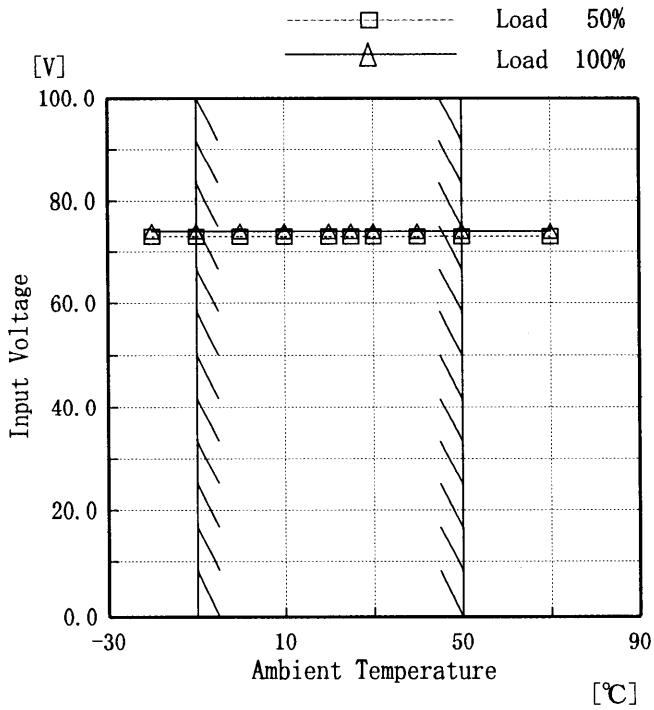
1. Graph




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:+24.0V4A




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 |
| — | — | — |

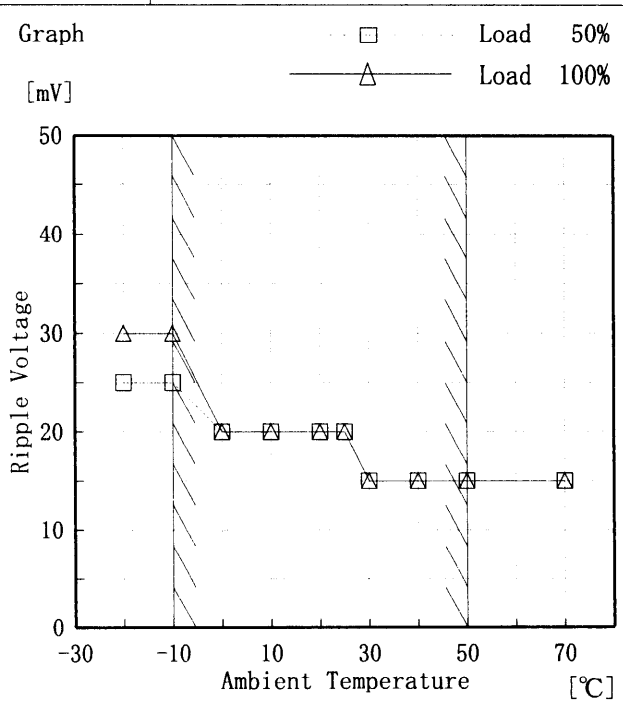
COSEL

| Model | LEB100F-0524 |
|---|---|
| Item | Ripple Voltage (by Ambient Temp.)<br>リップル電圧（周囲温度特性） |

Testing Circuitry　Figure A

Object　V1:+5.0V5A

1. Graph



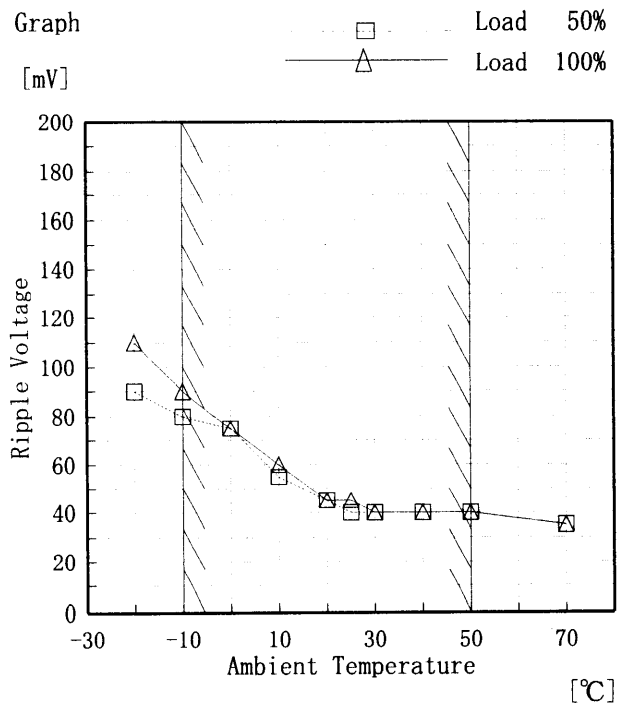

Input Volt.　100 V

2. Values

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

Object　V2:+24.0V4A

1. Graph




Input Volt.　100 V

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 [℃] | Ripple Output Voltage [mV] | |
|---|---|---|
| | Load 50% | Load 100% |
| -20 | 90 | 110 |
| -10 | 80 | 90 |
| 0 | 75 | 75 |
| 10 | 55 | 60 |
| 20 | 45 | 45 |
| 25 | 40 | 45 |
| 30 | 40 | 40 |
| 40 | 40 | 40 |
| 50 | 40 | 40 |
| 70 | 35 | 35 |
| — | — | — |

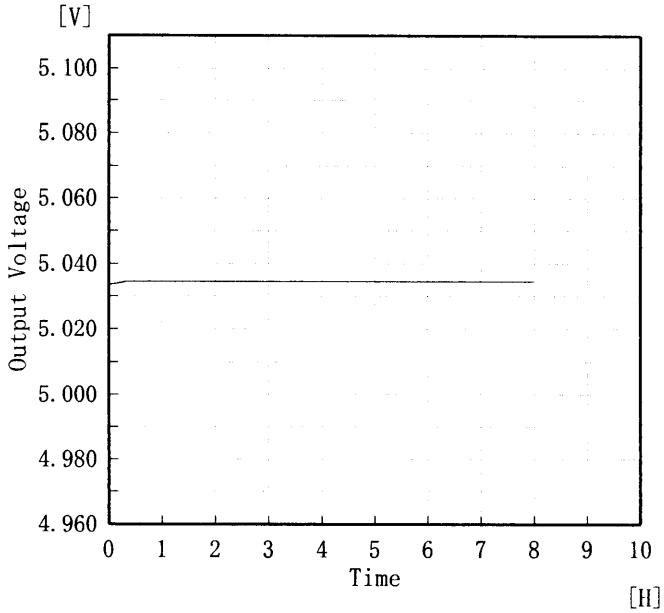
COSEL

| | |
|---|---|
| Model | LEB100F-0524 |
| Item | Time Lapse Drift<br>経時ドリフト |

Temperature 25℃
Testing Circuitry Figure A

Object V1:+5.0V5A

1. Graph



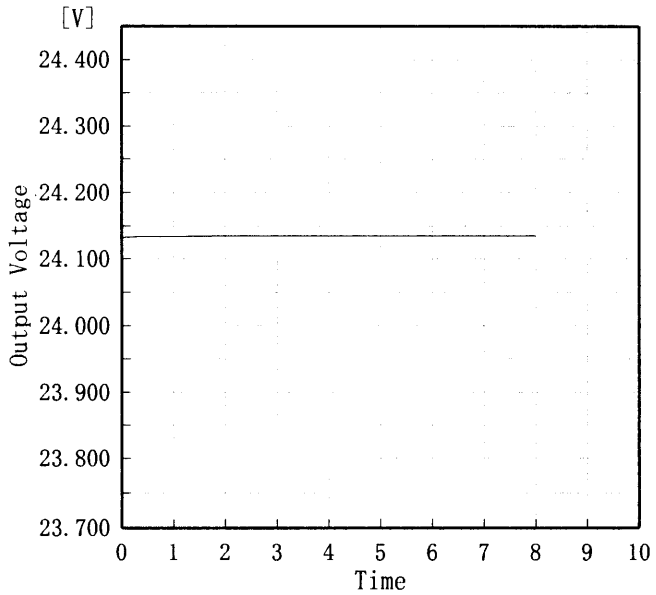

Input Volt. 100V
Load 100%

2. Values

| Time since start [H] | Output Voltage [V] |
|---|---|
| 0.0 | 5.033 |
| 0.5 | 5.035 |
| 1.0 | 5.035 |
| 2.0 | 5.035 |
| 3.0 | 5.035 |
| 4.0 | 5.035 |
| 5.0 | 5.035 |
| 6.0 | 5.035 |
| 7.0 | 5.035 |
| 8.0 | 5.035 |

Object V2:+24.0V4A

1. Graph




Input Volt. 100V
Load 100%

2. Values

| Time since start [H] | Output Voltage [V] |
|---|---|
| 0.0 | 24.130 |
| 0.5 | 24.134 |
| 1.0 | 24.134 |
| 2.0 | 24.135 |
| 3.0 | 24.135 |
| 4.0 | 24.135 |
| 5.0 | 24.135 |
| 6.0 | 24.135 |
| 7.0 | 24.135 |
| 8.0 | 24.135 |

COSEL

| Model | LEB100F-0524 | |
|---|---|---|
| Item | Output Voltage Accuracy<br>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 : 85～132 V
Load Current (V1) : 0～5 A
(V2) : 0～4 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　85～132 V
負荷電流 (V1)　0～5 A
(V2)　0～4 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 | 132 | 0 | 5.057 | ±15 | ±0.3 |
| Minimum Voltage | -10 | 85 | 5 | 5.027 | | |

| Object | V2:+24.0V4A |
|---|---|

| Item | Temperature [℃] | Input Voltage [V] | Output Current [A] | Output Voltage [V] | Output Voltage Accuracy [mV] | Output Voltage Accuracy (Ration) [%] |
|---|---|---|---|---|---|---|
| Maximum Voltage | 50 | 85 | 0 | 24.171 | ±42 | ±0.2 |
| Minimum Voltage | -10 | 85 | 4 | 24.088 | | |

COSEL

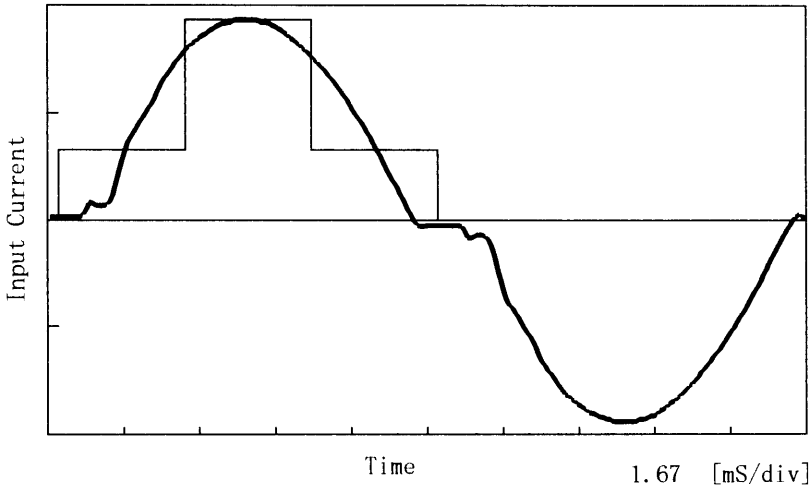
| | | | |
|---|---|---|---|
| Model | LEB100F-0524 | | |
| Item | Harmonic Current<br>高調波電流 | Temperature<br>Testing Circuitry | 25℃<br>Figure E |
| Object | ―――― | | |

1. Input Current Waveform

―― Input Current

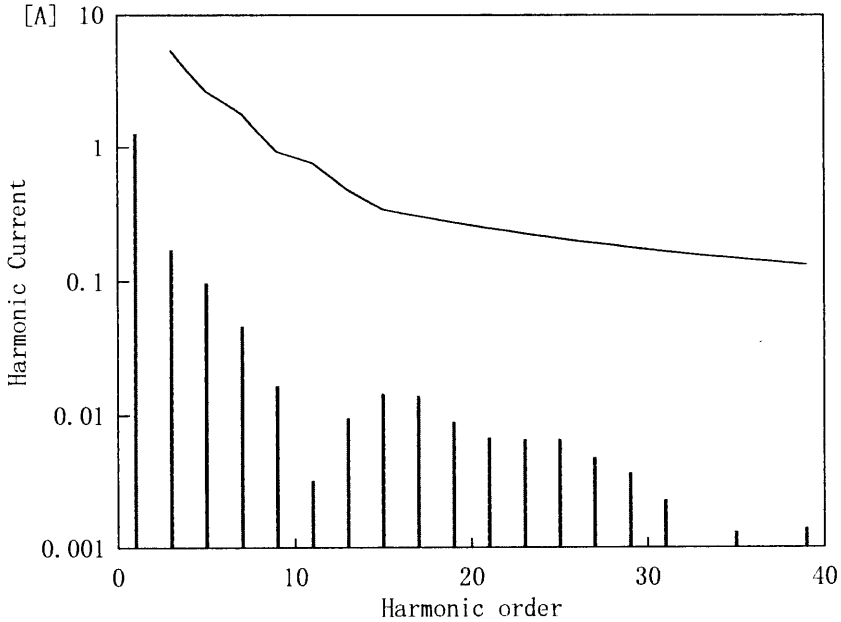
―― Envelope of the input current to classify equipment as Class D
ｸﾗｽDの機器を決定するための入力電流包絡線

1 A/div




| Conditions | Values |
|---|---|
| Input Voltage [V] | 99.9 |
| Input Current [A] | 1.303 |
| Active Power [W] | 128.5 |
| Apparent Power[VA] | 130.1 |
| Frequency [Hz] | 60 |
| Power Factor | 0.988 |
| Output Power [W] | 100 |

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 | — | 1.28630 |
| 2 | — | 0.00060 |
| 3 | 5.29530 | 0.17300 |
| 4 | — | 0.00030 |
| 5 | 2.62462 | 0.09730 |
| 6 | — | 0.00010 |
| 7 | 1.77277 | 0.04660 |
| 8 | — | 0.00010 |
| 9 | 0.92092 | 0.01660 |
| 10 | — | 0.00010 |
| 11 | 0.75976 | 0.00320 |
| 12 | — | 0.00010 |
| 13 | 0.48348 | 0.00960 |
| 14 | — | 0.00010 |
| 15 | 0.34535 | 0.01450 |
| 16 | — | 0.00000 |
| 17 | 0.30472 | 0.01390 |
| 18 | — | 0.00000 |
| 19 | 0.27264 | 0.00890 |
| 20 | — | 0.00010 |
| 21 | 0.24668 | 0.00680 |
| 22 | — | 0.00010 |
| 23 | 0.22523 | 0.00660 |
| 24 | — | 0.00000 |
| 25 | 0.20721 | 0.00660 |
| 26 | — | 0.00010 |
| 27 | 0.19186 | 0.00480 |
| 28 | — | 0.00000 |
| 29 | 0.17863 | 0.00360 |
| 30 | — | 0.00000 |
| 31 | 0.16710 | 0.00230 |
| 32 | — | 0.00000 |
| 33 | 0.15698 | 0.00100 |
| 34 | — | 0.00010 |
| 35 | 0.14801 | 0.00130 |
| 36 | — | 0.00000 |
| 37 | 0.14000 | 0.00100 |
| 38 | — | 0.00000 |
| 39 | 0.13283 | 0.00140 |
| 40 | — | 0.00010 |

COSEL

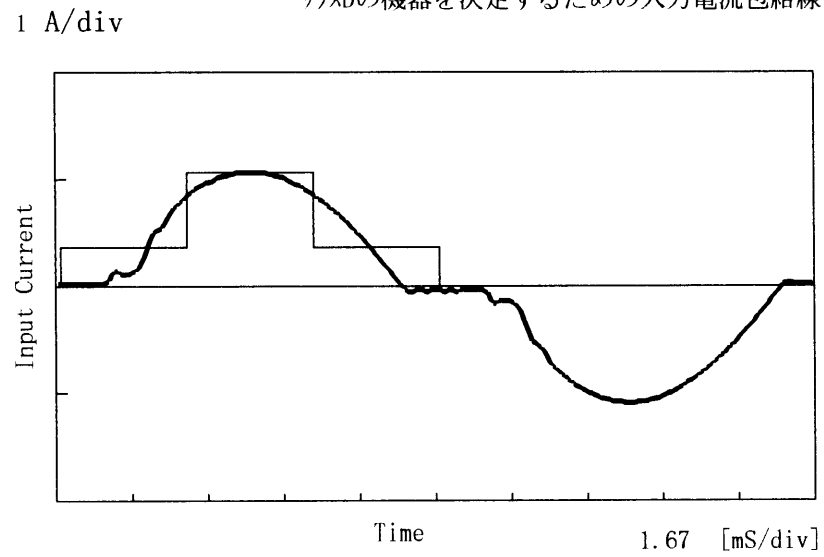
| | | | |
|---|---|---|---|
| Model | LEB100F-0524 | | |
| Item | Harmonic Current<br>高調波電流 | Temperature<br>Testing Circuitry | 25℃<br>Figure E |
| Object | ―――― | | |

1. Input Current Waveform

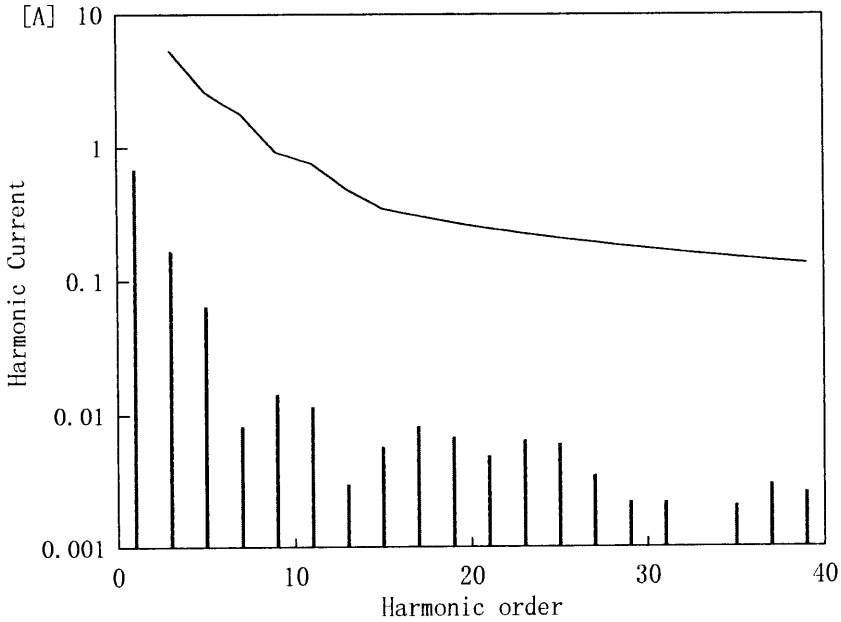
―― Input Current

―― 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] | 100.1 |
| Input Current [A] | 0.709 |
| Active Power [W] | 68.7 |
| Apparent Power[VA] | 71.1 |
| Frequency [Hz] | 60 |
| Power Factor | 0.966 |
| Output Power [W] | 50 |




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

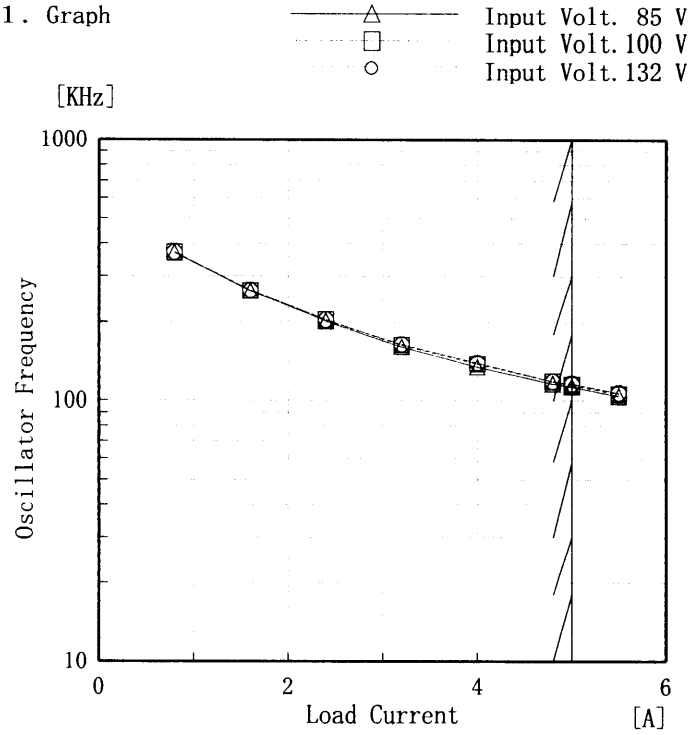
| Harmonics order 高調波次数 | Limits 限度値 [A] | Values 測定値 [A] |
|---|---|---|
| 1 | — | 0.68620 |
| 2 | — | 0.00060 |
| 3 | 5.28472 | 0.16630 |
| 4 | — | 0.00010 |
| 5 | 2.61938 | 0.06410 |
| 6 | — | 0.00000 |
| 7 | 1.76923 | 0.00820 |
| 8 | — | 0.00010 |
| 9 | 0.91908 | 0.01440 |
| 10 | — | 0.00000 |
| 11 | 0.75824 | 0.01170 |
| 12 | — | 0.00000 |
| 13 | 0.48252 | 0.00300 |
| 14 | — | 0.00000 |
| 15 | 0.34466 | 0.00570 |
| 16 | — | 0.00010 |
| 17 | 0.30411 | 0.00820 |
| 18 | — | 0.00010 |
| 19 | 0.27210 | 0.00670 |
| 20 | — | 0.00010 |
| 21 | 0.24618 | 0.00490 |
| 22 | — | 0.00000 |
| 23 | 0.22478 | 0.00640 |
| 24 | — | 0.00010 |
| 25 | 0.20679 | 0.00600 |
| 26 | — | 0.00010 |
| 27 | 0.19148 | 0.00350 |
| 28 | — | 0.00010 |
| 29 | 0.17827 | 0.00220 |
| 30 | — | 0.00010 |
| 31 | 0.16677 | 0.00220 |
| 32 | — | 0.00000 |
| 33 | 0.15666 | 0.00050 |
| 34 | — | 0.00000 |
| 35 | 0.14771 | 0.00210 |
| 36 | — | 0.00000 |
| 37 | 0.13973 | 0.00300 |
| 38 | — | 0.00000 |
| 39 | 0.13256 | 0.00260 |
| 40 | — | 0.00000 |

COSEL

| | |
|---|---|
| Model | LEB100F-0524 |
| Item | Oscillator Frequency<br>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. 85[V] | Input Volt. 100[V] | Input Volt. 132[V] |
| 0.8 | 368 | 370 | 371 |
| 1.6 | 263 | 264 | 265 |
| 2.4 | 202 | 204 | 204 |
| 3.2 | 161 | 164 | 165 |
| 4.0 | 134 | 138 | 139 |
| 4.8 | 116 | 118 | 118 |
| 5.0 | 113 | 115 | 116 |
| 5.5 | 104 | 106 | 107 |
| — | — | — | — |
| — | — | — | — |
| — | — | — | — |

COSEL

| | | |
|---|---|---|
| Model | LEB100F-0524 | |
| Item | Condensation<br>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] | 5.029 | Input Volt.: 100V, Load Current:5A |
| Line Regulation [mV] | 1 | Input Volt.: 85～132V, Load Current:5A |
| Load Regulation [mV] | 14 | Input Volt.: 100V, Load Current:0～5A |

| | |
|---|---|
| Object | V2:＋24.0V4A |

| Item | Data | Testing Conditions |
|---|---|---|
| Output Voltage [V] | 24.099 | Input Volt.: 100V, Load Current:4A |
| Line Regulation [mV] | 1 | Input Volt.: 85～132V, Load Current:4A |
| Load Regulation [mV] | 9 | Input Volt.: 100V, Load Current:0～4A |

COSEL

| | | | |
|---|---|---|---|
| Model | LEB100F-0524 | | |
| Item | Leakage Current 漏洩電流 | Temperature<br>Testing Circuitry | 25℃<br>Figure B |
| Object | ―――――― | | |

1. Results

| Standards | Leakage Current [mA] | | |
|---|---|---|---|
| | Input Volt. 85 [V] | Input Volt. 100 [V] | Input Volt. 132 [V] |
| (A) DENTORI | 0.17 | 0.19 | 0.25 |
| (B) IEC60950 | 0.17 | 0.20 | 0.25 |

| Standards | Leakage Current [mA] | | |
|---|---|---|---|
| | Input Volt. 170 [V] | Input Volt. 230 [V] | Input Volt. 264 [V] |
| (B) IEC60950 | — | — | — |

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-0524 | | |
| Item | Line Noise Tolerance<br>入力雑音耐量 | Temperature<br>Testing Circuitry | 25℃<br>Figure C |
| Object | V1:+5.0V5A | | |

1. Results

Conditions

Input Voltage :100 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:+24.0V4A |

1. Results

Conditions

Input Voltage :100 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-0524 | | |
| Item | Conducted Emission<br>雑音端子電圧 | Temperature<br>Testing Circuitry | 25℃<br>Figure D |
| Object | ―――――― | | |

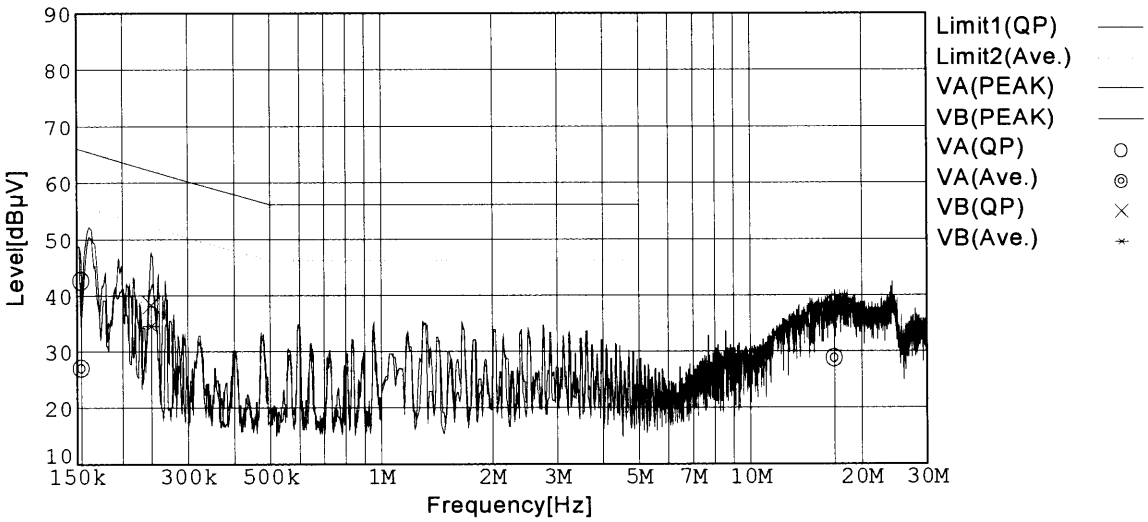
1. Graph

Remarks

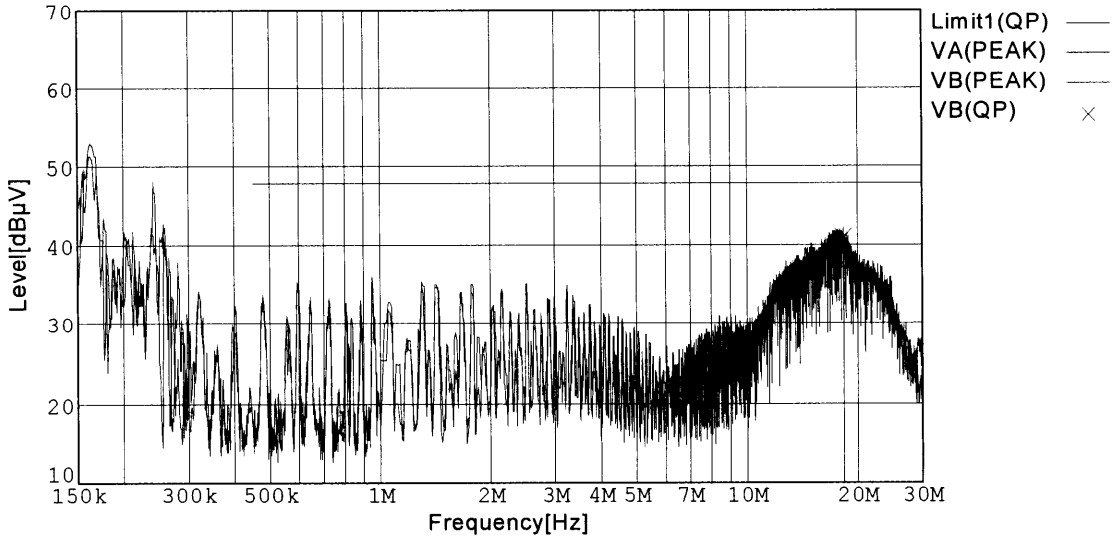
Input Volt. 100 V (VCCI Class B)
120 V (FCC Class B)

Load 100 %

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




Limit1: [FCC Part15] Class B






BC－3266

COSEL

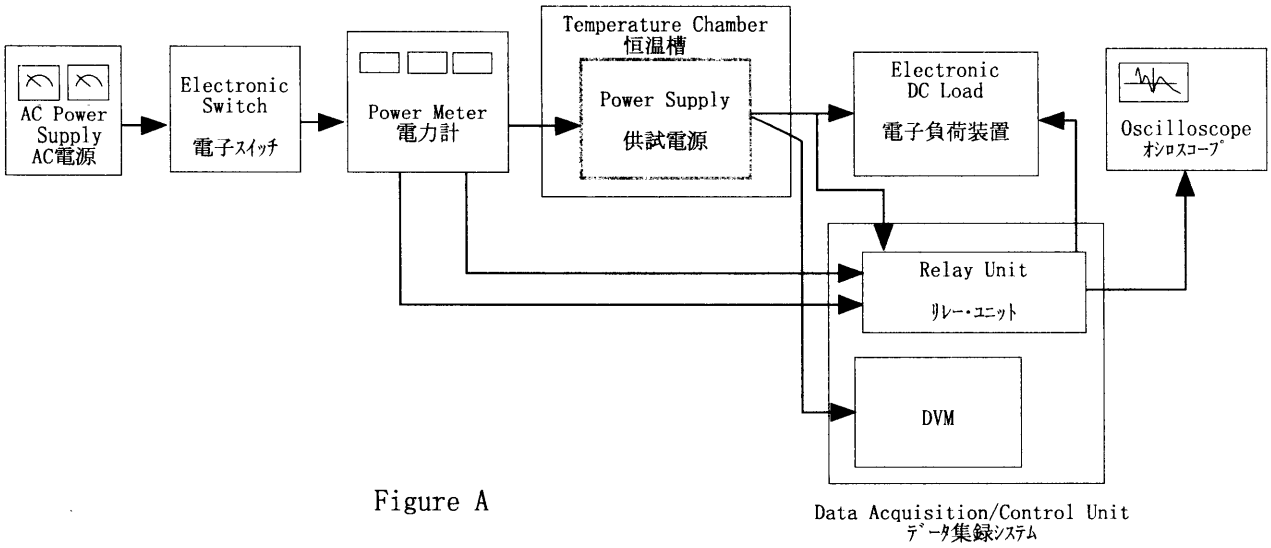



Figure A

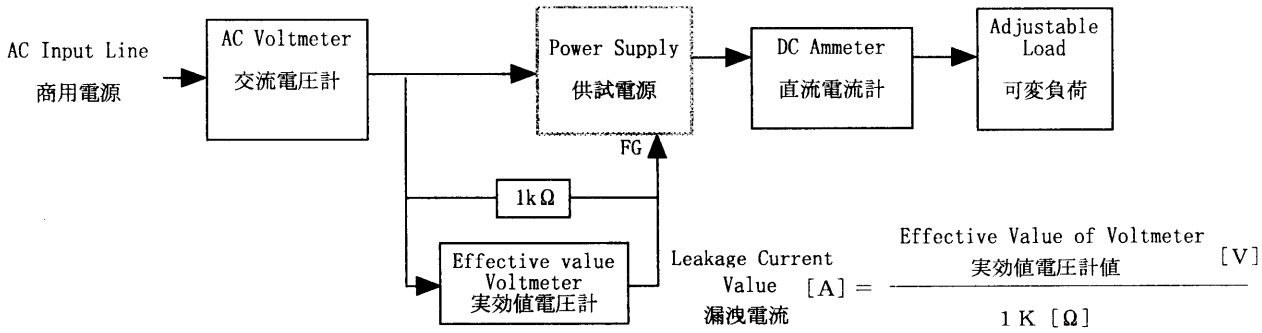



Figure B(DENTORI)

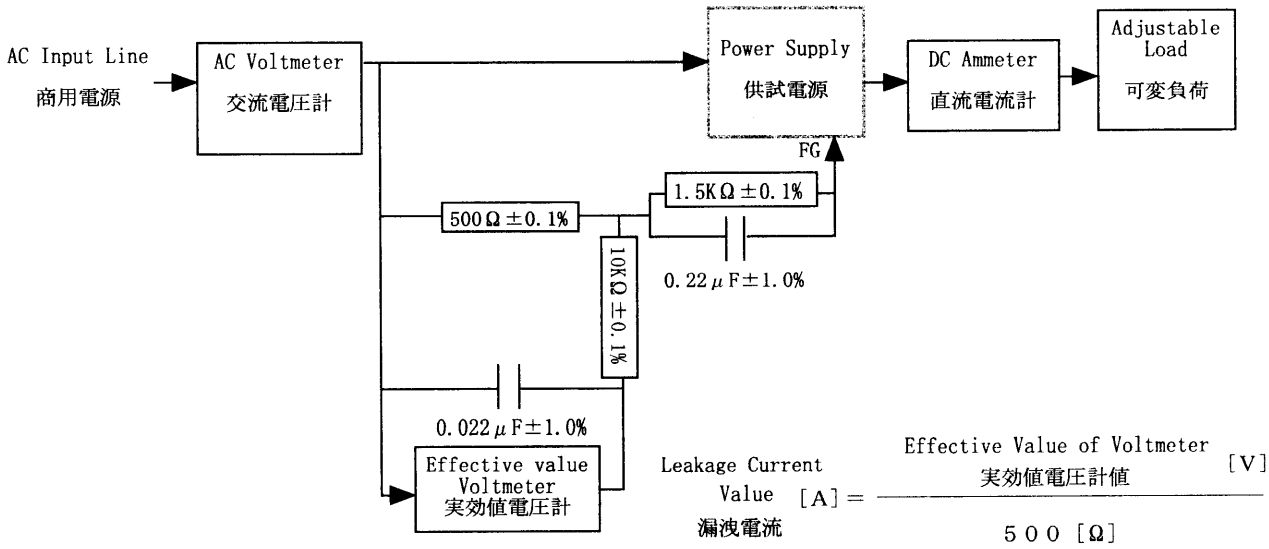



Figure B（IEC60950）

COSEL

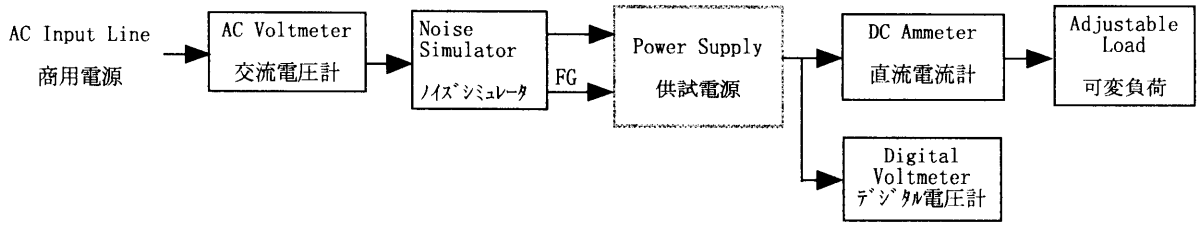



Figure C

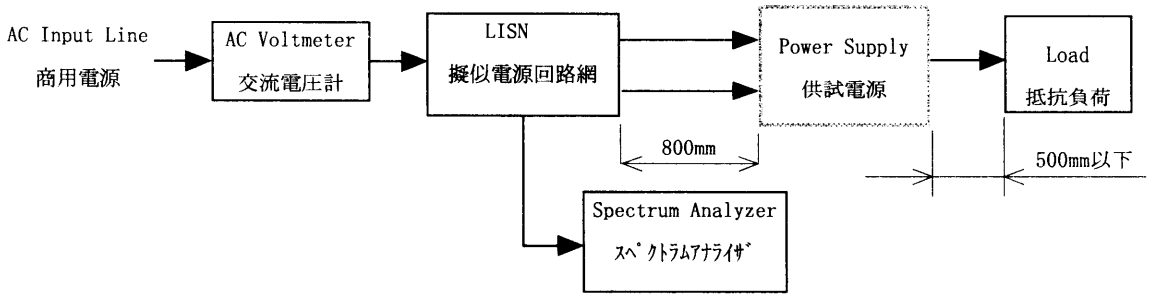



Figure D

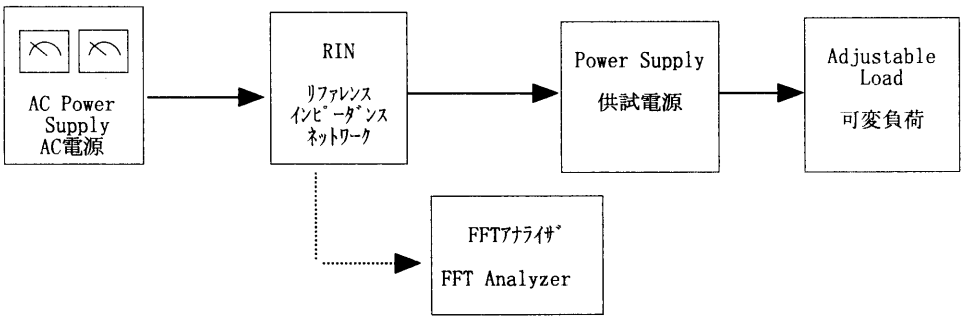



Figure E