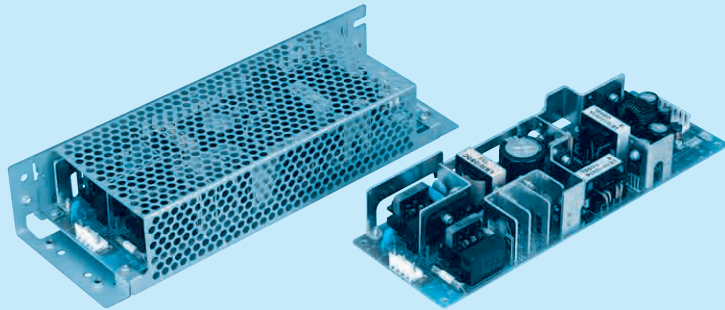




### Recommended EMI/EMC Filter NAC-06-472



High voltage pulse noise type : NAP series  
Low leakage current type : NAM series  
\* The EMI/EMC Filter is recommended  
to connect with several devices.

- ① Series name
  - ② Output wattage
  - ③ Universal input
  - ④ V1 Output voltage
  - ⑤ V2 Output voltage
  - ⑥ Optional \*1 \*8
- G : Low leakage current  
R : with Remote ON/OFF  
S : with Chassis  
SN : with Chassis & cover  
T : Vertical terminal block  
Y : with Potentiometer  
Z : with ZT

| MODEL     |    | LEB100F-0512     | LEB100F-0324    | LEB100F-0524    | LEB100F-0530        | LEB100F-0536        |
|-----------|----|------------------|-----------------|-----------------|---------------------|---------------------|
| DC OUTPUT | V1 | +5V 5A           | +3.3V 5A        | +5V 5A          | +5V 5A              | +5V 5A              |
|           | V2 | +12V 5(Peak 10)A | +24V 4(Peak 7)A | +24V 4(Peak 7)A | +30V 3.2(Peak 5.6)A | +36V 2.7(Peak 4.7)A |

## SPECIFICATIONS

|                                    | MODEL                              |                                      | LEB100F-0512                                                                                | LEB100F-0324                                                                   | LEB100F-0524    | LEB100F-0530    | LEB100F-0536    |                |             |                    |             |                    |
|------------------------------------|------------------------------------|--------------------------------------|---------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------|-----------------|-----------------|-----------------|----------------|-------------|--------------------|-------------|--------------------|
| INPUT                              | VOLTAGE[V]                         |                                      | AC85 - 264 1 ϕ or DC 120 - 370                                                              |                                                                                |                 |                 |                 |                |             |                    |             |                    |
|                                    | CURRENT[A]                         | ACIN 100V                            | 1.2typ (Io=100%)                                                                            | 1.4typ (Io=100%)                                                               |                 |                 |                 |                |             |                    |             |                    |
|                                    |                                    | ACIN 200V                            | 0.6typ (Io=100%)                                                                            | 0.7typ (Io=100%)                                                               |                 |                 |                 |                |             |                    |             |                    |
|                                    | FREQUENCY[Hz]                      |                                      | 50/60 (47 - 63) or DC                                                                       |                                                                                |                 |                 |                 |                |             |                    |             |                    |
|                                    | EFFICIENCY[%]                      | ACIN 100V                            | 74typ (Io=100%)                                                                             | 78typ (Io=100%)                                                                | 78typ (Io=100%) | 78typ (Io=100%) | 78typ (Io=100%) |                |             |                    |             |                    |
|                                    |                                    | ACIN 200V                            | 76typ (Io=100%)                                                                             | 80typ (Io=100%)                                                                | 80typ (Io=100%) | 80typ (Io=100%) | 80typ (Io=100%) |                |             |                    |             |                    |
|                                    | POWER FACTOR                       | ACIN 100V                            | 0.98typ                                                                                     | 0.99typ                                                                        |                 |                 |                 |                |             |                    |             |                    |
|                                    |                                    | ACIN 200V                            | 0.93typ                                                                                     |                                                                                |                 |                 |                 |                |             |                    |             |                    |
| OUTPUT                             | INRUSH CURRENT[A]                  | ACIN 100V                            | 15typ (Io=100%) (At cold start) (Ta=25℃)                                                    |                                                                                |                 |                 |                 |                |             |                    |             |                    |
|                                    |                                    | ACIN 200V                            | 30typ (Io=100%) (At cold start) (Ta=25℃)                                                    |                                                                                |                 |                 |                 |                |             |                    |             |                    |
|                                    | LEAKAGE CURRENT[ma]                |                                      | 0.75max (60Hz, According to IEC60950 and DEN-AN)                                            |                                                                                |                 |                 |                 |                |             |                    |             |                    |
|                                    | VOLTAGE[V]                         |                                      | +5                                                                                          | +12                                                                            | +3.3            | +24             | +5              | +30            | +5          | +36                |             |                    |
|                                    | CURRENT[A]                         |                                      | *2 0 - 5                                                                                    | 0 - 5 (Peak 10)                                                                | 0 - 5           | 0 - 4 (Peak 7)  | 0 - 5           | 0 - 4 (Peak 7) | 0 - 5       | 0 - 3.2 (Peak 5.6) | 0 - 5       | 0 - 2.7 (Peak 4.7) |
|                                    | TOTAL OUTPUT WATTAGE[W]            |                                      | *3 85 (Peak 145)                                                                            | 100 (Peak 172)                                                                 |                 | 100 (Peak 172)  |                 | 100 (Peak 172) |             | 100 (Peak 172)     |             |                    |
|                                    | LINE REGULATION[mV]                |                                      | 20max                                                                                       | 48max                                                                          | 20max           | 96max           | 20max           | 96max          | 20max       | 120max             | 20max       | 144max             |
|                                    | LOAD REGULATION[mV]                |                                      | 40max                                                                                       | 100max                                                                         | 40max           | 150max          | 40max           | 150max         | 40max       | 180max             | 40max       | 180max             |
| RIPPLE[mVp-p]                      | 0 to +50℃ *4                       | 80max                                | 120max                                                                                      | 80max                                                                          | 120max          | 80max           | 120max          | 80max          | 200max      | 80max              | 200max      |                    |
|                                    | -10 - 0℃ *4                        | 140max                               | 160max                                                                                      | 140max                                                                         | 160max          | 140max          | 160max          | 140max         | 240max      | 140max             | 240max      |                    |
| RIPPLE NOISE[mVp-p]                | 0 to +50℃ *4                       | 120max                               | 150max                                                                                      | 120max                                                                         | 150max          | 120max          | 150max          | 120max         | 300max      | 120max             | 300max      |                    |
|                                    | -10 - 0℃ *4                        | 160max                               | 180max                                                                                      | 160max                                                                         | 180max          | 160max          | 180max          | 160max         | 360max      | 160max             | 360max      |                    |
| TEMPERATURE REGULATION[mV]         | 0 to +50℃                          | 50max                                | 120max                                                                                      | 50max                                                                          | 240max          | 50max           | 240max          | 50max          | 300max      | 50max              | 300max      |                    |
|                                    | -10 to +50℃                        | 60max                                | 150max                                                                                      | 60max                                                                          | 290max          | 60max           | 290max          | 60max          | 350max      | 60max              | 350max      |                    |
| DRIFT[mV]                          |                                    | *5 20max                             | 48max                                                                                       | 20max                                                                          | 96max           | 20max           | 96max           | 20max          | 120max      | 20max              | 144max      |                    |
| START-UP TIME[ms]                  |                                    | *6 250max                            | 500max                                                                                      | 250max                                                                         | 500max          | 250max          | 500max          | 250max         | 500max      | 250max             | 500max      |                    |
| HOLD-UP TIME[ms]                   |                                    | *6 40typ                             | 20typ                                                                                       | 40typ                                                                          | 20typ           | 40typ           | 20typ           | 40typ          | 20typ       | 40typ              | 20typ       |                    |
| OUTPUT VOLTAGE ADJUSTMENT RANGE[V] |                                    | 4.5 - 5.5                            | Fixed                                                                                       | 2.85 - 3.60                                                                    | Fixed           | 4.5 - 5.5       | Fixed           | 4.5 - 5.5      | Fixed       | 4.5 - 5.5          | Fixed       |                    |
| OUTPUT VOLTAGE SETTING[V]          |                                    | —                                    | 11.5 - 12.5                                                                                 | —                                                                              | 23.0 - 25.0     | —               | 23.0 - 25.0     | —              | 28.7 - 31.5 | —                  | 34.5 - 37.5 |                    |
| PROTECTION CIRCUIT AND OTHERS      | OVERCURRENT PROTECTION             | V1                                   | Works over 105% of rating current and recovers automatically                                |                                                                                |                 |                 |                 |                |             |                    |             |                    |
|                                    |                                    | V2                                   | Works over 101% of peak current and recovers automatically                                  |                                                                                |                 |                 |                 |                |             |                    |             |                    |
|                                    | OVERVOLTAGE PROTECTION             | V1                                   | Works over 115% of rating, by zener diode clamping                                          |                                                                                |                 |                 |                 |                |             |                    |             |                    |
|                                    |                                    | V2                                   | Works at 115 - 140% of rating                                                               |                                                                                |                 |                 |                 |                |             |                    |             |                    |
| REMOTE ON/OFF                      |                                    | Option (Refer to Instruction Manual) |                                                                                             |                                                                                |                 |                 |                 |                |             |                    |             |                    |
| ISOLATION                          | INPUT-OUTPUT · RC                  |                                      | *7                                                                                          | AC3.000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (At Room Temperature) |                 |                 |                 |                |             |                    |             |                    |
|                                    | INPUT-FG                           |                                      |                                                                                             | AC2.000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (At Room Temperature) |                 |                 |                 |                |             |                    |             |                    |
|                                    | OUTPUT · RC-FG                     |                                      | *7                                                                                          | AC500V 1minute, Cutoff current = 100mA, DC500V 50MΩ min (At Room Temperature)  |                 |                 |                 |                |             |                    |             |                    |
| OUTPUT-OUTPUT(V1 · RC-V2)          |                                    | *7                                   | AC100V 1minute, Cutoff current = 100mA, DC100V 10MΩ min (At Room Temperature)               |                                                                                |                 |                 |                 |                |             |                    |             |                    |
| ENVIRONMENT                        | OPERATING TEMP.,HUMID.AND ALTITUDE |                                      | -10 to +70℃, 20 - 90%RH (Non condensing) (Refer to DERATING CURVE), 3,000m (10,000feet) max |                                                                                |                 |                 |                 |                |             |                    |             |                    |
|                                    | STORAGE TEMP.,HUMID.AND ALTITUDE   |                                      | -20 to +75℃, 20 - 90%RH (Non condensing), 9,000m (30,000feet) max                           |                                                                                |                 |                 |                 |                |             |                    |             |                    |
|                                    | VIBRATION                          |                                      | 10 - 55Hz, 19.6m/s <sup>2</sup> (2G), 3minutes period, 60minutes each along X, Y and Z axis |                                                                                |                 |                 |                 |                |             |                    |             |                    |
|                                    | IMPACT                             |                                      | 196.1m/s <sup>2</sup> (20G), 11ms, once each X, Y and Z axis                                |                                                                                |                 |                 |                 |                |             |                    |             |                    |
| SAFETY AND NOISE REGULATIONS       | AGENCY APPROVALS                   |                                      | UL60950-1, C-UL, EN60950-1, EN50178 Complies with DEN-AN and IEC60950-1 (At only AC input)  |                                                                                |                 |                 |                 |                |             |                    |             |                    |
|                                    | CONDUCTED NOISE                    |                                      | Complies with FCC-B, CISPR22-B, EN55022-B, VCCI-B                                           |                                                                                |                 |                 |                 |                |             |                    |             |                    |
|                                    | HARMONIC ATTENUATOR                |                                      | Complies with IEC61000-3-2 *9                                                               |                                                                                |                 |                 |                 |                |             |                    |             |                    |
| OTHERS                             | CASE SIZE/WEIGHT                   |                                      | 75×35×222mm [2.95×1.38×8.74 inches] (W×H×D) /420g max (with chassis & cover : 690g max)     |                                                                                |                 |                 |                 |                |             |                    |             |                    |
|                                    | COOLING METHOD                     |                                      | Convection                                                                                  |                                                                                |                 |                 |                 |                |             |                    |             |                    |

\*1 Specification is changed at option, refer to Instruction Manual 5.

\*2 Peak loading for 10sec. And Duty 35% max, refer to Instruction Manual 4. In detail.

\*3 Refer to Instruction Manual 2.2 in detail.

\*4 This is the value that measured on measuring board with capacitor of 22 μF within 150mm from output terminal.Measured by 20MHz oscilloscope or Ripple-Noise meter (Equivalent to KEISOKU-GIKEN: RM101).

\*5 Drift is the change in DC output for an eight hour period after a half-hour warm-up at 25°C, with the input voltage held constant at the rated input/output.

\*6 ACIN 100V,Io=100%

\*7 Applicable when remote control (optional) is added.

\*8 Please contact us about safety approvals for the model with option.

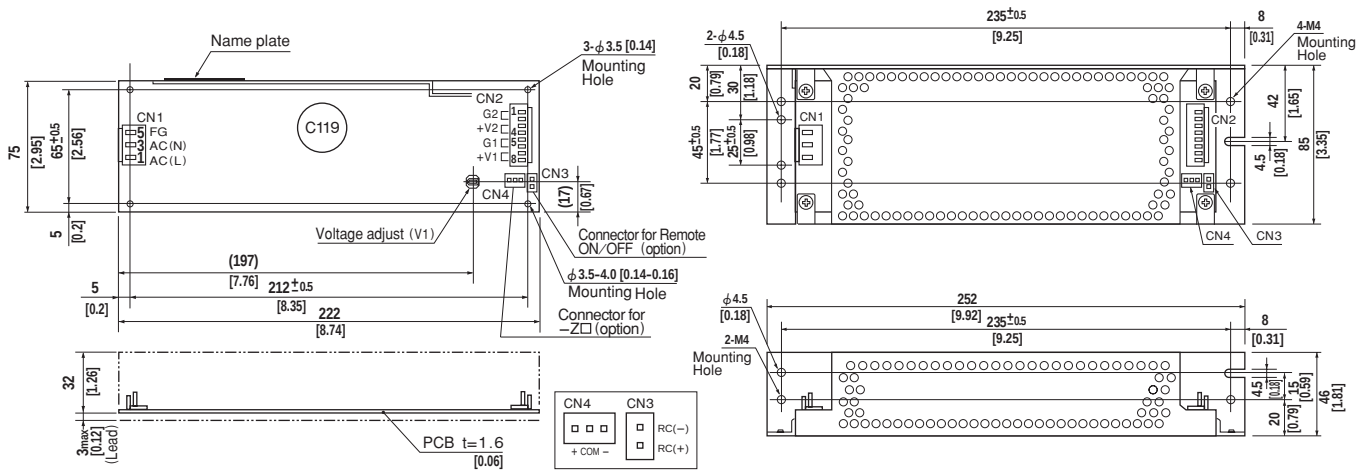
\*9 Please contact us about class C.

\* Series/Parallel operation is not possible.

\* Derating is required when operated with chassis and cover.

\* A sound may occur from power supply at peak loading.

## External view



| I / O Connector     | Mating Connector | Terminal |
|---------------------|------------------|----------|
| <b>CN1</b>          | B3P5-VH          | VHR-5N   |
| <b>CN2</b>          | B8P-VH           | VHR-8N   |
| <b>CN3 (Option)</b> | B2B-XH-A         | XHP-2    |
| <b>CN4 (Option)</b> | B3B-XH-A         | XHP-3    |

| Pin No. | Input |
|---------|-------|
| 1       | AC(L) |
| 2       | AC(N) |
| 3       | AC(N) |
| 4       | FG    |
| 5       | FG    |

## (PIN CONNECTION)

| Pin No. | Output |
|---------|--------|
| 1, 2    | G 2    |
| 3, 4    | V 2    |
| 5, 6    | G 1    |
| 7, 8    | V 1    |

| Pin No. | Remote ON/OFF |
|---------|---------------|
| 1       | RC(+)         |
| 2       | RC(-)         |

| Pin No. | -Z  |
|---------|-----|
| 1       | +   |
| 2       | COM |
| 3       | -   |

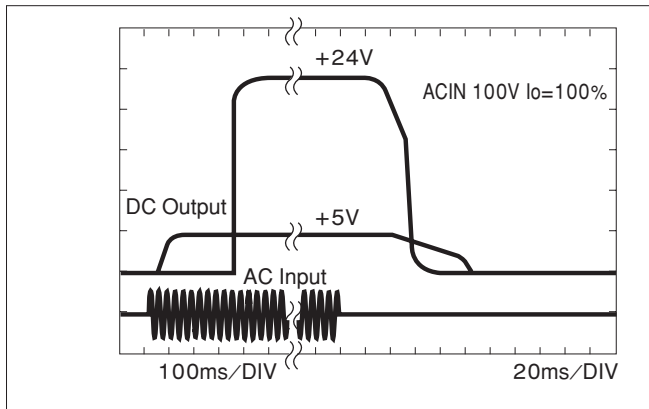
※Weight: 420g max  
(with chassis & cover : 690g max)  
※Tolerance:  $\pm 1$  [ $\pm 0.04$ ]  
※Dimensions in mm, [ ] = inches  
※PCB Material : CEM3  
※Chassis and cover is optional.  
※Mounting torque: 1.5N · m (16kgf · cm) max

(Mfr: J.S.T.)

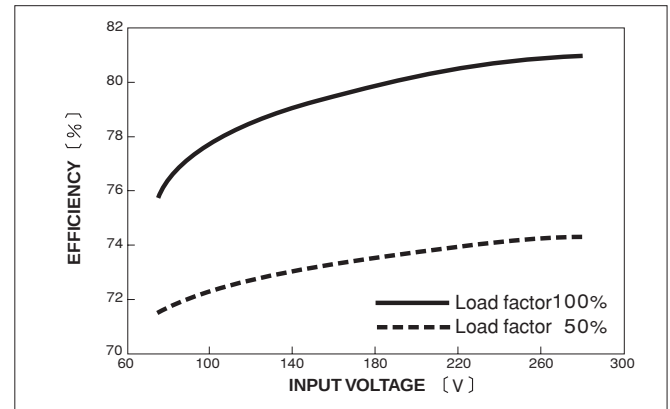
※Keep drawing current per pin below 5A for CN2

## Performance data

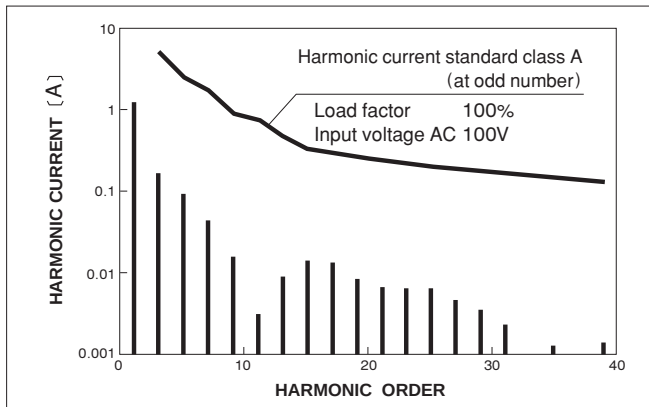
## RISE TIME &amp; FALL TIME (LEB100F-0524)



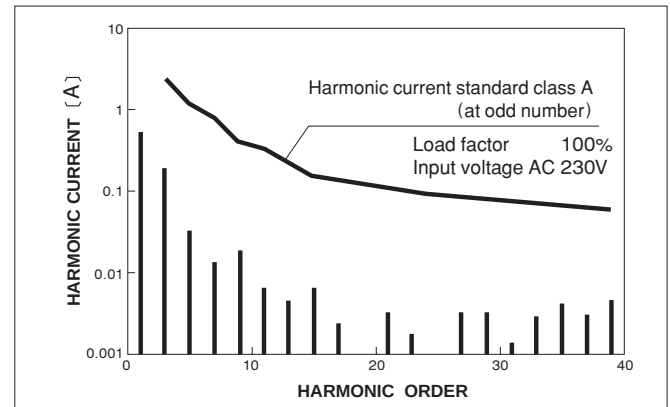
## EFFICIENCY (LEB100F-0524)



## INPUT HARMONIC CURRENT (LEB100F-0524)



## INPUT HARMONIC CURRENT (LEB100F-0524)



LEB 150 F -05 24 -□

① ② ③ ④ ⑤ ⑥

Recommended EMI/EMC Filter  
NAC-06-472

High voltage pulse noise type : NAP series  
Low leakage current type : NAM series  
\* The EMI/EMC Filter is recommended to connect with several devices.

- ① Series name  
② Output wattage  
③ Universal input  
④ V1 Output voltage  
⑤ V2 Output voltage  
⑥ Optional \*1 \*8  
G : Low leakage current  
R : with Remote ON/OFF  
S : with Chassis  
SN : with Chassis & cover  
T : Vertical terminal block  
Y : with Potentiometer  
Z : with ZT

| MODEL     |    | LEB150F-0512       | LEB150F-0324     | LEB150F-0524     | LEB150F-0530      | LEB150F-0536      |
|-----------|----|--------------------|------------------|------------------|-------------------|-------------------|
| DC OUTPUT | V1 | +5V 5A             | +3.3V 5A         | +5V 5A           | +5V 5A            | +5V 5A            |
|           | V2 | +12V 7.5(Peak 14)A | +24V 6(Peak 10)A | +24V 6(Peak 10)A | +30V 4.8(Peak 8)A | +36V 4(Peak 6.7)A |

## SPECIFICATIONS

|                               | MODEL                                            | LEB150F-0512                                                                                    | LEB150F-0324                                                                   | LEB150F-0524     | LEB150F-0530    | LEB150F-0536    |                 |                |                  |             |
|-------------------------------|--------------------------------------------------|-------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------|------------------|-----------------|-----------------|-----------------|----------------|------------------|-------------|
| INPUT                         | VOLTAGE[V]                                       | AC85 - 264 1 φ or DC 120 - 370                                                                  |                                                                                |                  |                 |                 |                 |                |                  |             |
|                               | CURRENT[A]                                       | ACIN 100V                                                                                       | 1.6typ (Io=100%)                                                               | 2.0typ (Io=100%) |                 |                 |                 |                |                  |             |
|                               |                                                  | ACIN 200V                                                                                       | 0.8typ (Io=100%)                                                               | 1.0typ (Io=100%) |                 |                 |                 |                |                  |             |
|                               | FREQUENCY[Hz]                                    | 50/60 (47 - 63) or DC                                                                           |                                                                                |                  |                 |                 |                 |                |                  |             |
|                               | EFFICIENCY[%]                                    | ACIN 100V                                                                                       | 76typ (Io=100%)                                                                | 79typ (Io=100%)  | 79typ (Io=100%) | 79typ (Io=100%) |                 |                |                  |             |
|                               |                                                  | ACIN 200V                                                                                       | 79typ (Io=100%)                                                                | 82typ (Io=100%)  | 82typ (Io=100%) | 82typ (Io=100%) |                 |                |                  |             |
|                               | POWER FACTOR                                     | ACIN 100V                                                                                       | 0.98typ                                                                        | 0.99typ          |                 |                 |                 |                |                  |             |
|                               |                                                  | ACIN 200V                                                                                       | 0.93typ                                                                        |                  |                 |                 |                 |                |                  |             |
| INRUSH CURRENT[A]             | ACIN 100V                                        | 15typ (Io=100%) (At cold start) (Ta=25℃)                                                        |                                                                                |                  |                 |                 |                 |                |                  |             |
|                               | ACIN 200V                                        | 30typ (Io=100%) (At cold start) (Ta=25℃)                                                        |                                                                                |                  |                 |                 |                 |                |                  |             |
| LEAKAGE CURRENT[ma]           | 0.75max (60Hz, According to IEC60950 and DEN-AN) |                                                                                                 |                                                                                |                  |                 |                 |                 |                |                  |             |
| OUTPUT                        | VOLTAGE[V]                                       | +5                                                                                              | +12                                                                            | +3.3             | +24             | +5              | +30             | +5             | +36              |             |
|                               | CURRENT[A]                                       | *2 0 - 5                                                                                        | 0 - 7.5 (Peak 14)                                                              | 0 - 5            | 0 - 6 (Peak 10) | 0 - 5           | 0 - 6 (Peak 10) | 0 - 5          | 0 - 4 (Peak 6.7) |             |
|                               | TOTAL OUTPUT WATTAGE[W]                          | *3 115 (Peak 193)                                                                               |                                                                                | 150 (Peak 246)   |                 | 150 (Peak 246)  |                 | 150 (Peak 246) |                  |             |
|                               | LINE REGULATION[mV]                              | 20max                                                                                           | 48max                                                                          | 20max            | 96max           | 20max           | 96max           | 20max          | 144max           |             |
|                               | LOAD REGULATION[mV]                              | 40max                                                                                           | 100max                                                                         | 40max            | 150max          | 40max           | 150max          | 40max          | 180max           |             |
|                               | RIPPLE[mVp-p]                                    | 0 to +45℃ *4                                                                                    | 80max                                                                          | 120max           | 80max           | 120max          | 80max           | 200max         | 80max            | 200max      |
|                               |                                                  | -10 - 0℃ *4                                                                                     | 140max                                                                         | 160max           | 140max          | 160max          | 140max          | 240max         | 140max           | 240max      |
|                               | RIPPLE NOISE[mVp-p]                              | 0 to +45℃ *4                                                                                    | 120max                                                                         | 150max           | 120max          | 150max          | 120max          | 300max         | 120max           | 300max      |
|                               |                                                  | -10 - 0℃ *4                                                                                     | 160max                                                                         | 180max           | 160max          | 180max          | 160max          | 360max         | 160max           | 360max      |
|                               | TEMPERATURE REGULATION[mV]                       | 0 to +45℃                                                                                       | 50max                                                                          | 120max           | 50max           | 240max          | 50max           | 300max         | 50max            | 300max      |
|                               |                                                  | -10 to +45℃                                                                                     | 60max                                                                          | 150max           | 60max           | 290max          | 60max           | 350max         | 60max            | 350max      |
|                               | DRIFT[mV]                                        | *5                                                                                              | 20max                                                                          | 48max            | 20max           | 96max           | 20max           | 96max          | 20max            | 144max      |
|                               | START-UP TIME[ms]                                | *6                                                                                              | 250max                                                                         | 500max           | 250max          | 500max          | 250max          | 500max         | 250max           | 500max      |
|                               | HOLD-UP TIME[ms]                                 | *6                                                                                              | 40typ                                                                          | 20typ            | 40typ           | 20typ           | 40typ           | 20typ          | 40typ            | 20typ       |
|                               | OUTPUT VOLTAGE ADJUSTMENT RANGE[V]               |                                                                                                 | 4.5 - 5.5                                                                      | Fixed            | 2.85 - 3.60     | Fixed           | 4.5 - 5.5       | Fixed          | 4.5 - 5.5        | Fixed       |
|                               | OUTPUT VOLTAGE SETTING[V]                        |                                                                                                 | —                                                                              | 11.5 - 12.5      | —               | 23.0 - 25.0     | —               | 23.0 - 25.0    | —                | 28.7 - 31.5 |
| PROTECTION CIRCUIT AND OTHERS | OVERCURRENT PROTECTION                           | V1                                                                                              | Works over 105% of rating current and recovers automatically                   |                  |                 |                 |                 |                |                  |             |
|                               |                                                  | V2                                                                                              | Works over 101% of peak current and recovers automatically                     |                  |                 |                 |                 |                |                  |             |
|                               | OVERVOLTAGE PROTECTION                           | V1                                                                                              | Works over 115% of rating, by zener diode clamping                             |                  |                 |                 |                 |                |                  |             |
|                               |                                                  | V2                                                                                              | Works at 115 - 140% of rating                                                  |                  |                 |                 |                 |                |                  |             |
|                               | REMOTE ON/OFF                                    | Option (Refer to Instruction Manual)                                                            |                                                                                |                  |                 |                 |                 |                |                  |             |
| ISOLATION                     | INPUT-OUTPUT · RC                                | *7                                                                                              | AC3.000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (At Room Temperature) |                  |                 |                 |                 |                |                  |             |
|                               | INPUT-FG                                         |                                                                                                 | AC2.000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (At Room Temperature) |                  |                 |                 |                 |                |                  |             |
|                               | OUTPUT · RC-FG                                   | *7                                                                                              | AC500V 1minute, Cutoff current = 100mA, DC500V 50MΩ min (At Room Temperature)  |                  |                 |                 |                 |                |                  |             |
|                               | OUTPUT-OUTPUT(V1 · RC-V2)                        | *7                                                                                              | AC100V 1minute, Cutoff current = 100mA, DC100V 10MΩ min (At Room Temperature)  |                  |                 |                 |                 |                |                  |             |
| ENVIRONMENT                   | OPERATING TEMP.,HUMID.AND ALTITUDE               | -10 to +70℃, 20 - 90%RH (Non condensing) (Refer to DERATING CURVE), 3,000m (10,000feet) max     |                                                                                |                  |                 |                 |                 |                |                  |             |
|                               | STORAGE TEMP.,HUMID.AND ALTITUDE                 | -20 to +75℃, 20 - 90%RH (Non condensing), 9,000m (30,000feet) max                               |                                                                                |                  |                 |                 |                 |                |                  |             |
|                               | VIBRATION                                        | 10 - 55Hz, 19.6m/s <sup>2</sup> (2G), 3minutes period, 60minutes each along X, Y and Z axis     |                                                                                |                  |                 |                 |                 |                |                  |             |
|                               | IMPACT                                           | 196.1m/s <sup>2</sup> (20G), 11ms, once each X, Y and Z axis                                    |                                                                                |                  |                 |                 |                 |                |                  |             |
| SAFETY AND NOISE REGULATIONS  | AGENCY APPROVALS                                 | UL60950-1, C-UL, EN60950-1, EN50178 Complies with DEN-AN and IEC60950-1 (At only AC input)      |                                                                                |                  |                 |                 |                 |                |                  |             |
|                               | CONDUCTED NOISE                                  | Complies with FCC-B, CISPR22-B, EN55022-B, VCCI-B                                               |                                                                                |                  |                 |                 |                 |                |                  |             |
|                               | HARMONIC ATTENUATOR                              | Complies with IEC61000-3-2 *9                                                                   |                                                                                |                  |                 |                 |                 |                |                  |             |
| OTHERS                        | CASE SIZE/WEIGHT                                 | 85 x 40 x 222mm [3.35 x 1.57 x 8.74 inches] (W×H×D) /530g max (with chassis & cover : 870g max) |                                                                                |                  |                 |                 |                 |                |                  |             |
|                               | COOLING METHOD                                   | Convection                                                                                      |                                                                                |                  |                 |                 |                 |                |                  |             |

\*1 Specification is changed at option, refer to Instruction Manual 5.

\*2 Peak loading for 10sec. And Duty 35% max, refer to Instruction Manual 4. In detail.

\*3 Refer to Instruction Manual 2.2 in detail.

\*4 This is the value that measured on measuring board with capacitor of 22 μF within 150mm from output terminal. Measured by 20MHz oscilloscope or Ripple-Noise meter (Equivalent to KEISOKU-GIKEN: RM101).

\*5 Drift is the change in DC output for an eight hour period after a half-hour warm-up at 25°C, with the input voltage held constant at the rated input/output.

\*6 ACIN 100V, Io=100%

\*7 Applicable when remote control (optional) is added.

\*8 Please contact us about safety approvals for the model with option.

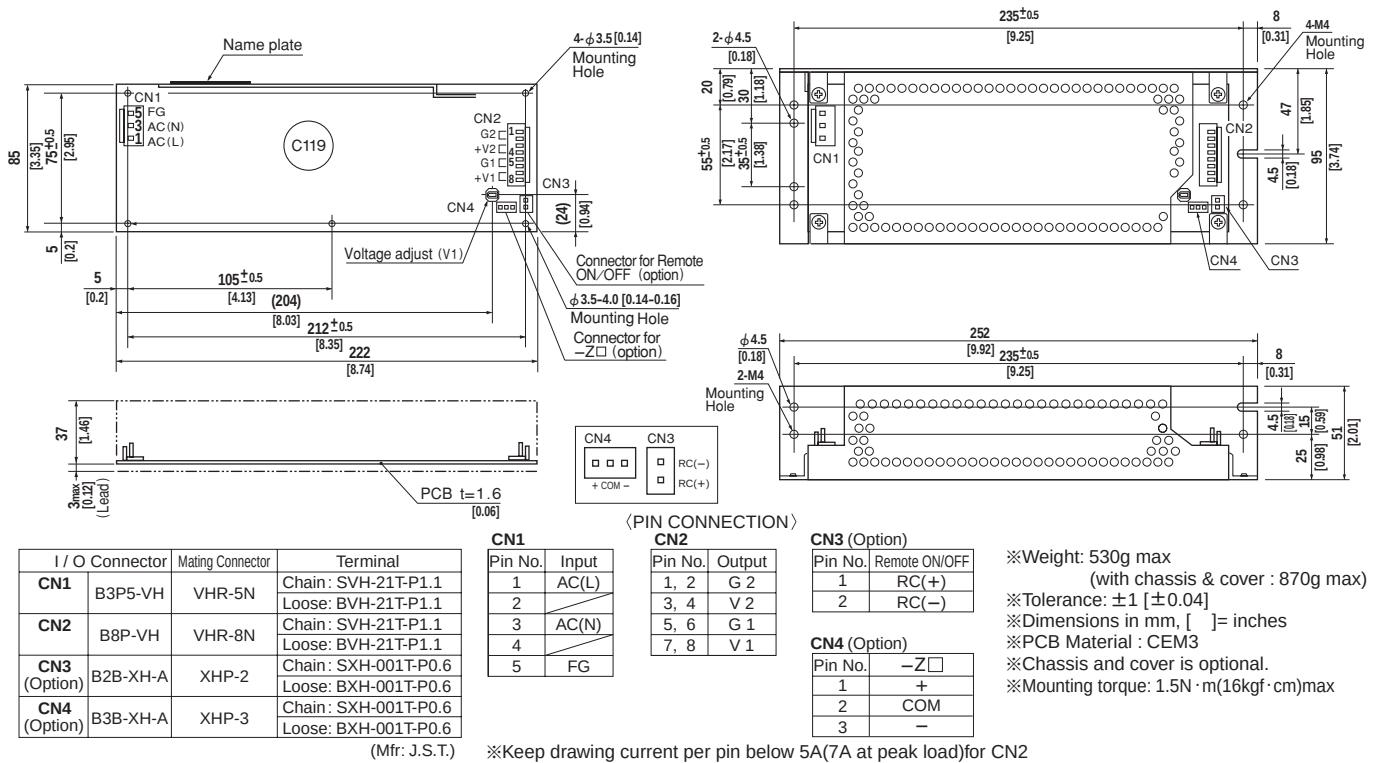
\*9 Please contact us about class C.

\* Series/Parallel operation is not possible.

\* Derating is required when operated with chassis and cover.

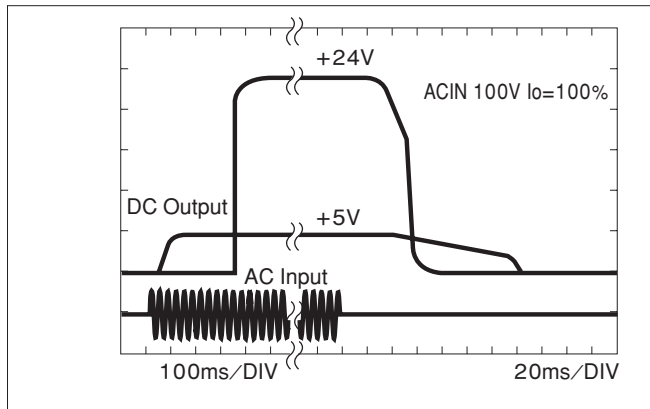
\* A sound may occur from power supply at peak loading.

## External view

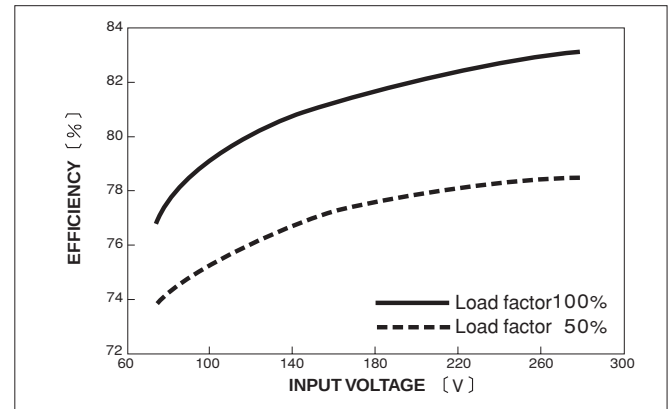


## Performance data

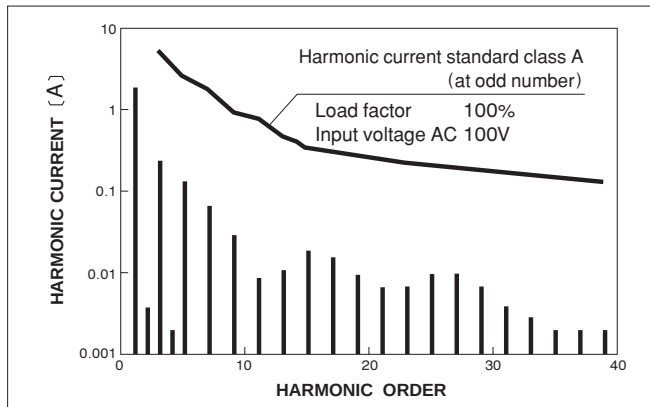
### ■ RISE TIME & FALL TIME (LEB150F-0524)



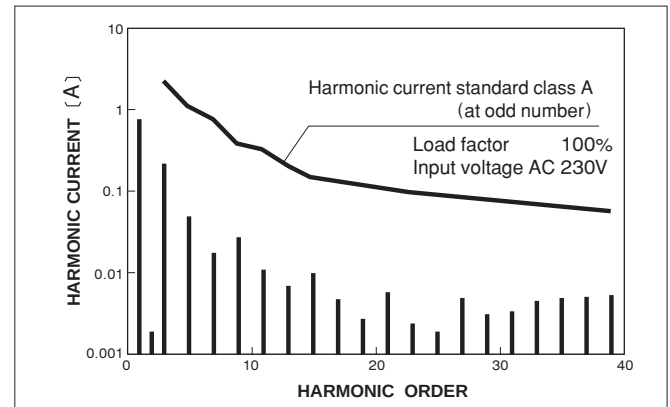
### ■ EFFICIENCY (LEB150F-0524)



### ■ INPUT HARMONIC CURRENT (LEB150F-0524)



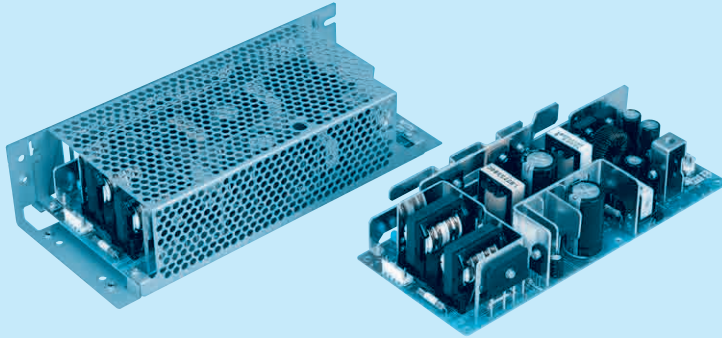
### ■ INPUT HARMONIC CURRENT (LEB150F-0524)



## LEB225F

LEB 225 F -05 24 -□

① ② ③ ④ ⑤ ⑥

Recommended EMI/EMC Filter  
NAC-06-472

High voltage pulse noise type : NAP series  
Low leakage current type : NAM series  
\* The EMI/EMC Filter is recommended  
to connect with several devices.

- ① Series name  
② Output wattage  
③ Universal input  
④ V1 Output voltage  
⑤ V2 Output voltage  
⑥ Optional \*1 \*8  
G : Low leakage current  
R : with Remote ON/OFF  
S : with Chassis  
SN : with Chassis & cover  
T : Vertical terminal block  
Y : with Potentiometer  
Z : with ZT

| MODEL     |    | LEB225F-0512      | LEB225F-0324     | LEB225F-0524     | LEB225F-0530       | LEB225F-0536      |
|-----------|----|-------------------|------------------|------------------|--------------------|-------------------|
| DC OUTPUT | V1 | +5V 5A            | +3.3V 5A         | +5V 5A           | +5V 5A             | +5V 5A            |
|           | V2 | +12V 10(Peak 20)A | +24V 9(Peak 14)A | +24V 9(Peak 14)A | +30V 7.2(Peak 11)A | +36V 6(Peak 9.3)A |

## SPECIFICATIONS

|                               | MODEL                                            | LEB225F-0512                                 | ★LEB225F-0324                                                                                     | LEB225F-0524     | LEB225F-0530    | ★LEB225F-0536   |                 |                |                   |                |                  |             |
|-------------------------------|--------------------------------------------------|----------------------------------------------|---------------------------------------------------------------------------------------------------|------------------|-----------------|-----------------|-----------------|----------------|-------------------|----------------|------------------|-------------|
| INPUT                         | VOLTAGE[V]                                       | AC85 - 264 1 φ or DC 120 - 370               |                                                                                                   |                  |                 |                 |                 |                |                   |                |                  |             |
|                               | CURRENT[A]                                       | ACIN 100V                                    | 1.9typ (Io=100%)                                                                                  | 3.0typ (Io=100%) |                 |                 |                 |                |                   |                |                  |             |
|                               |                                                  | ACIN 200V                                    | 1.0typ (Io=100%)                                                                                  | 1.5typ (Io=100%) |                 |                 |                 |                |                   |                |                  |             |
|                               | FREQUENCY[Hz]                                    | 50/60 (47 - 63) or DC                        |                                                                                                   |                  |                 |                 |                 |                |                   |                |                  |             |
|                               | EFFICIENCY[%]                                    | ACIN 100V                                    | 77typ (Io=100%)                                                                                   | 81typ (Io=100%)  | 81typ (Io=100%) | 81typ (Io=100%) |                 |                |                   |                |                  |             |
|                               |                                                  | ACIN 200V                                    | 79typ (Io=100%)                                                                                   | 83typ (Io=100%)  | 83typ (Io=100%) | 83typ (Io=100%) |                 |                |                   |                |                  |             |
|                               | POWER FACTOR                                     | ACIN 100V                                    | 0.98typ                                                                                           | 0.99typ          |                 |                 |                 |                |                   |                |                  |             |
|                               |                                                  | ACIN 200V                                    | 0.93typ                                                                                           |                  |                 |                 |                 |                |                   |                |                  |             |
| INRUSH CURRENT[A]             | ACIN 100V                                        | 15typ (Io=100%) (More than 3sec.to re-start) |                                                                                                   |                  |                 |                 |                 |                |                   |                |                  |             |
|                               | ACIN 200V                                        | 30typ (Io=100%) (More than 3sec.to re-start) |                                                                                                   |                  |                 |                 |                 |                |                   |                |                  |             |
| LEAKAGE CURRENT[ma]           | 0.75max (60Hz, According to IEC60950 and DEN-AN) |                                              |                                                                                                   |                  |                 |                 |                 |                |                   |                |                  |             |
| OUTPUT                        | VOLTAGE[V]                                       | +5                                           | +12                                                                                               | +3.3             | +24             | +5              | +30             | +5             | +36               |                |                  |             |
|                               | CURRENT[A]                                       | *2 0 - 5                                     | 0 - 10 (Peak 20)                                                                                  | 0 - 5            | 0 - 9 (Peak 14) | 0 - 5           | 0 - 9 (Peak 14) | 0 - 5          | 0 - 7.2 (Peak 11) | 0 - 5          | 0 - 6 (Peak 9.3) |             |
|                               | TOTAL OUTPUT WATTAGE[W]                          | *3 145 (Peak 265)                            |                                                                                                   | 225 (Peak 345)   |                 | 225 (Peak 345)  |                 | 225 (Peak 345) |                   | 225 (Peak 345) |                  |             |
|                               | LINE REGULATION[mV]                              | 20max                                        | 48max                                                                                             | 20max            | 96max           | 20max           | 96max           | 20max          | 120max            | 20max          | 144max           |             |
|                               | LOAD REGULATION[mV]                              | 40max                                        | 100max                                                                                            | 40max            | 150max          | 40max           | 150max          | 40max          | 180max            | 40max          | 180max           |             |
|                               | RIPPLE[mVp-p]                                    | 0 to +40℃ *4                                 | 80max                                                                                             | 120max           | 80max           | 120max          | 80max           | 120max         | 80max             | 200max         | 80max            | 200max      |
|                               |                                                  | -10 - 0℃ *4                                  | 140max                                                                                            | 160max           | 140max          | 160max          | 140max          | 160max         | 140max            | 240max         | 140max           | 240max      |
|                               | RIPPLE NOISE[mVp-p]                              | 0 to +40℃ *4                                 | 120max                                                                                            | 150max           | 120max          | 150max          | 120max          | 150max         | 120max            | 300max         | 120max           | 300max      |
|                               |                                                  | -10 - 0℃ *4                                  | 160max                                                                                            | 180max           | 160max          | 180max          | 160max          | 180max         | 160max            | 360max         | 160max           | 360max      |
|                               | TEMPERATURE REGULATION[mV]                       | 0 to +40℃                                    | 50max                                                                                             | 120max           | 50max           | 240max          | 50max           | 240max         | 50max             | 300max         | 50max            | 300max      |
|                               |                                                  | -10 to +40℃                                  | 60max                                                                                             | 150max           | 60max           | 290max          | 60max           | 290max         | 60max             | 350max         | 60max            | 350max      |
|                               | DRIFT[mV]                                        | *5                                           | 20max                                                                                             | 48max            | 20max           | 96max           | 20max           | 96max          | 20max             | 120max         | 20max            | 144max      |
|                               | START-UP TIME[ms]                                | *6                                           | 250max                                                                                            | 500max           | 250max          | 500max          | 250max          | 500max         | 250max            | 500max         | 250max           | 500max      |
|                               | HOLD-UP TIME[ms]                                 | *6                                           | 40typ                                                                                             | 20typ            | 40typ           | 20typ           | 40typ           | 20typ          | 40typ             | 20typ          | 40typ            | 20typ       |
|                               | OUTPUT VOLTAGE ADJUSTMENT RANGE[V]               |                                              | 4.5 - 5.5                                                                                         | Fixed            | 2.85 - 3.60     | Fixed           | 4.5 - 5.5       | Fixed          | 4.5 - 5.5         | Fixed          | 4.5 - 5.5        | Fixed       |
|                               | OUTPUT VOLTAGE SETTING[V]                        |                                              | —                                                                                                 | 11.5 - 12.5      | —               | 23.0 - 25.0     | —               | 23.0 - 25.0    | —                 | 28.7 - 31.5    | —                | 34.5 - 37.5 |
| PROTECTION CIRCUIT AND OTHERS | OVERCURRENT PROTECTION                           | V1                                           | Works over 105% of rating current and recovers automatically                                      |                  |                 |                 |                 |                |                   |                |                  |             |
|                               |                                                  | V2                                           | Works over 101% of peak current and recovers automatically                                        |                  |                 |                 |                 |                |                   |                |                  |             |
|                               | OVERVOLTAGE PROTECTION                           | V1                                           | Works over 115% of rating, by zener diode clamping                                                |                  |                 |                 |                 |                |                   |                |                  |             |
|                               |                                                  | V2                                           | Works at 115 - 140% of rating                                                                     |                  |                 |                 |                 |                |                   |                |                  |             |
|                               | REMOTE ON/OFF                                    | Option (Refer to Instruction Manual)         |                                                                                                   |                  |                 |                 |                 |                |                   |                |                  |             |
| ISOLATION                     | INPUT-OUTPUT · RC                                | *7                                           | AC3.000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (At Room Temperature)                    |                  |                 |                 |                 |                |                   |                |                  |             |
|                               | INPUT-FG                                         |                                              | AC2.000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (At Room Temperature)                    |                  |                 |                 |                 |                |                   |                |                  |             |
|                               | OUTPUT · RC-FG                                   | *7                                           | AC500V 1minute, Cutoff current = 100mA, DC500V 50MΩ min (At Room Temperature)                     |                  |                 |                 |                 |                |                   |                |                  |             |
|                               | OUTPUT-OUTPUT(V1 · RC-V2)                        | *7                                           | AC100V 1minute, Cutoff current = 100mA, DC100V 10MΩ min (At Room Temperature)                     |                  |                 |                 |                 |                |                   |                |                  |             |
| ENVIRONMENT                   | OPERATING TEMP.,HUMID.AND ALTITUDE               |                                              | -10 to +70℃, 20 - 90%RH (Non condensing) (Refer to DERATING CURVE), 3,000m (10,000feet) max       |                  |                 |                 |                 |                |                   |                |                  |             |
|                               | STORAGE TEMP.,HUMID.AND ALTITUDE                 |                                              | -20 to +75℃, 20 - 90%RH (Non condensing), 9,000m (30,000feet) max                                 |                  |                 |                 |                 |                |                   |                |                  |             |
|                               | VIBRATION                                        |                                              | 10 - 55Hz, 19.6m/s <sup>2</sup> (2G), 3minutes period, 60minutes each along X, Y and Z axis       |                  |                 |                 |                 |                |                   |                |                  |             |
|                               | IMPACT                                           |                                              | 196.1m/s <sup>2</sup> (20G), 11ms, once each X, Y and Z axis                                      |                  |                 |                 |                 |                |                   |                |                  |             |
| SAFETY AND NOISE REGULATIONS  | AGENCY APPROVALS                                 |                                              | UL60950-1, C-UL, EN60950-1, EN50178 Complies with DEN-AN and IEC60950-1 (At only AC input)        |                  |                 |                 |                 |                |                   |                |                  |             |
|                               | CONDUCTED NOISE                                  |                                              | Complies with FCC-B, CISPR22-B, EN55022-B, VCCI-B                                                 |                  |                 |                 |                 |                |                   |                |                  |             |
|                               | HARMONIC ATTENUATOR                              |                                              | Complies with IEC61000-3-2 *9                                                                     |                  |                 |                 |                 |                |                   |                |                  |             |
| OTHERS                        | CASE SIZE/WEIGHT                                 |                                              | 95 x 45 x 222mm [3.74 x 1.77 x 8.74 inches] (W×H×D) /700g max (with chassis & cover : 1,080g max) |                  |                 |                 |                 |                |                   |                |                  |             |
|                               | COOLING METHOD                                   |                                              | Convection                                                                                        |                  |                 |                 |                 |                |                   |                |                  |             |

\*1 Specification is changed at option, refer to Instruction Manual 5.

\*2 Peak loading for 10sec. And Duty 35% max, refer to Instruction Manual 4. In detail.

\*3 Refer to Instruction Manual 2.2 in detail.

\*4 This is the value that measured on measuring board with capacitor of 22 μF within 150mm from output terminal.Measured by 20MHz oscilloscope or Ripple-Noise meter (Equivalent to KEISOKU-GIKEN: RM101).

\*5 Drift is the change in DC output for an eight hour period after a half-hour warm-up at 25°C, with the input voltage held constant at the rated input/output.

\*6 ACIN 100V,Io=100%

\*7 Applicable when remote control (optional) is added.

\*8 Please contact us about safety approvals for the model with option.

\*9 Please contact us about class C.

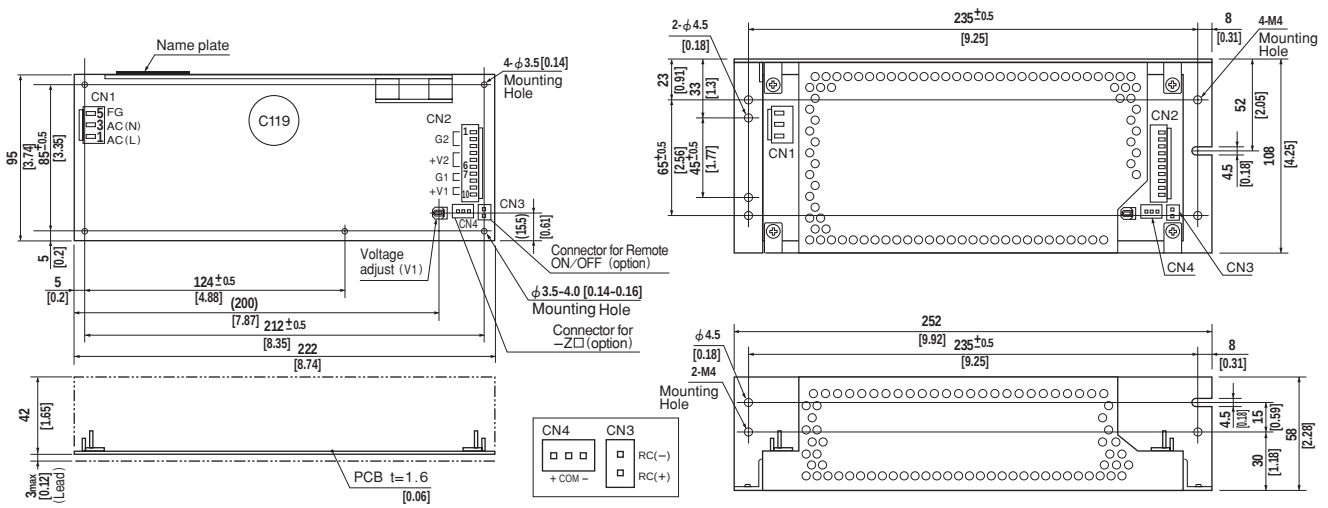
\* Series/Parallel operation is not possible.

\* Derating is required when operated with chassis and cover.

\* A sound may occur from power supply at peak loading.

★marked models are pending for safety approvals. Consult with us for delivery.

## External view



LEB

## (PIN CONNECTION)

| I / O Connector     | Mating Connector | Terminal             |
|---------------------|------------------|----------------------|
| <b>CN1</b>          | B3P5-VH          | VHR-5N               |
|                     |                  | Chain: SVH-21T-P1.1  |
|                     |                  | Loose: BVH-21T-P1.1  |
| <b>CN2</b>          | B10P-VH          | VHR-10N              |
|                     |                  | Chain: SVH-21T-P1.1  |
|                     |                  | Loose: BVH-21T-P1.1  |
| <b>CN3 (Option)</b> | B2B-XH-A         | XHP-2                |
|                     |                  | Chain: SXH-001T-P0.6 |
|                     |                  | Loose: BXH-001T-P0.6 |
| <b>CN4 (Option)</b> | B3B-XH-A         | XHP-3                |
|                     |                  | Chain: SXH-001T-P0.6 |
|                     |                  | Loose: BXH-001T-P0.6 |

| CN1 | Pin No. | Input |
|-----|---------|-------|
|     | 1       | AC(L) |
|     | 2       |       |
|     | 3       | AC(N) |
|     | 4       |       |
|     | 5       | FG    |

| CN2 | Pin No. | Output |
|-----|---------|--------|
|     | 1, 2, 3 | G 2    |
|     | 4, 5, 6 | V 2    |
|     | 7, 8    | G 1    |
|     | 9, 10   | V 1    |

| CN3 (Option) | Pin No. | Remote ON/OFF |
|--------------|---------|---------------|
|              | 1       | RC(+)         |
|              | 2       | RC(-)         |

| CN4 (Option) | Pin No. | -Z□ |
|--------------|---------|-----|
|              | 1       | +   |
|              | 2       | COM |
|              | 3       | -   |

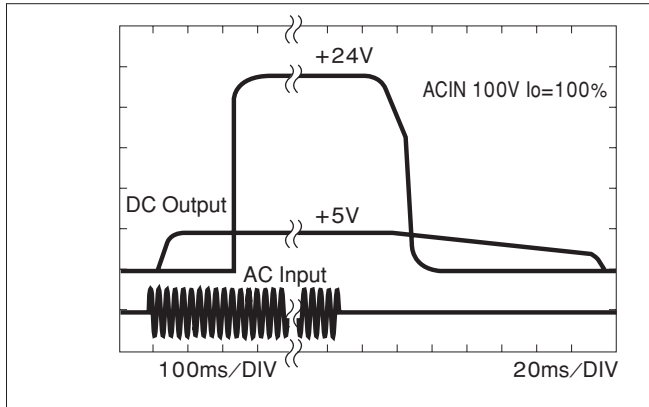
※Weight: 700g max  
(with chassis & cover : 1,080g max)  
※Tolerance: ±1 [±0.04]  
※Dimensions in mm, [ ] = inches  
※PCB Material : CEM3  
※Chassis and cover is optional.  
※Mounting torque: 1.5N · m(16kgf · cm)max

(Mfr: J.S.T.)

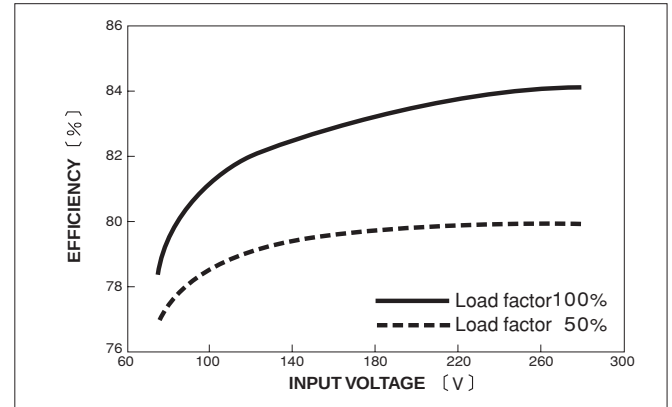
※Keep drawing current per pin below 5A (7A at peak load) for CN2

## Performance data

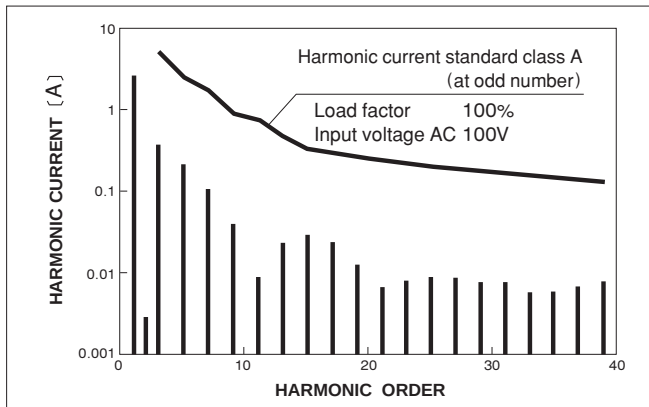
## RISE TIME &amp; FALL TIME (LEB225F-0524)



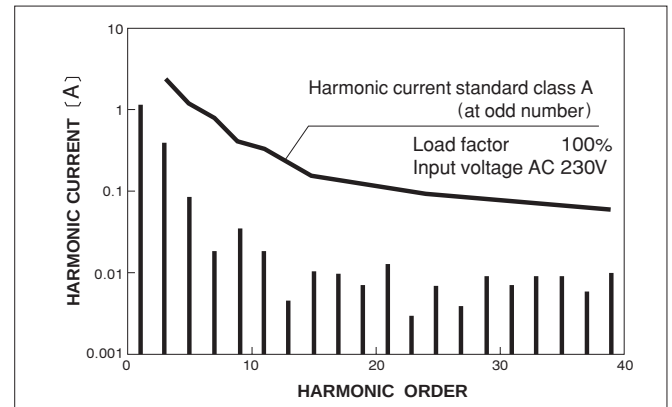
## EFFICIENCY (LEB225F-0524)



## INPUT HARMONIC CURRENT (LEB225F-0524)



## INPUT HARMONIC CURRENT (LEB225F-0524)



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Система менеджмента качества компании отвечает требованиям в соответствии с ГОСТ Р ИСО 9001, ГОСТ РВ 0015-002 и ЭС РД 009

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