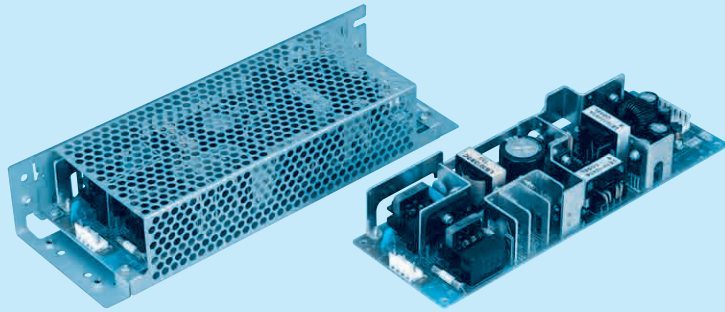




### Recommended EMI/EMC Filter NAC-06-472



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%) |                |           |                    |        |  |  |  |  |  |  |
|                                     |                                    | ACIN 200V                                                                                           | 76typ (Io=100%)                                                                | 80typ (Io=100%)  | 80typ (Io=100%) | 80typ (Io=100%) |                |           |                    |        |  |  |  |  |  |  |
|                                     | POWER FACTOR                       | ACIN 100V                                                                                           | 0.98typ                                                                        | 0.99typ          |                 |                 |                |           |                    |        |  |  |  |  |  |  |
| OUTPUT                              | INRUSH CURRENT[A]                  | ACIN 100V                                                                                           | 15typ (Io=100%) (At cold start) (Ta=25°C)                                      |                  |                 |                 |                |           |                    |        |  |  |  |  |  |  |
|                                     |                                    | ACIN 200V                                                                                           | 30typ (Io=100%) (At cold start) (Ta=25°C)                                      |                  |                 |                 |                |           |                    |        |  |  |  |  |  |  |
|                                     | 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 - 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     | 144max             |        |  |  |  |  |  |  |
| PROTECTION<br>CIRCUIT AND<br>OTHERS | LOAD REGULATION[mV]                | 40max                                                                                               | 100max                                                                         | 40max            | 150max          | 40max           | 150max         | 40max     | 180max             |        |  |  |  |  |  |  |
|                                     | RIPPLE[mVp-p]                      | 0 to +50°C *4                                                                                       | 80max                                                                          | 120max           | 80max           | 120max          | 80max          | 120max    | 200max             |        |  |  |  |  |  |  |
|                                     |                                    | -10 - 0°C *4                                                                                        | 140max                                                                         | 160max           | 140max          | 160max          | 140max         | 160max    | 240max             |        |  |  |  |  |  |  |
|                                     | RIPPLE NOISE[mVp-p]                | 0 to +50°C *4                                                                                       | 120max                                                                         | 150max           | 120max          | 150max          | 120max         | 150max    | 300max             |        |  |  |  |  |  |  |
|                                     |                                    | -10 - 0°C *4                                                                                        | 160max                                                                         | 180max           | 160max          | 180max          | 160max         | 180max    | 360max             |        |  |  |  |  |  |  |
|                                     | TEMPERATURE REGULATION[mV]         | 0 to +50°C                                                                                          | 50max                                                                          | 120max           | 50max           | 240max          | 50max          | 300max    | 50max              | 300max |  |  |  |  |  |  |
|                                     |                                    | -10 to +50°C                                                                                        | 60max                                                                          | 150max           | 60max           | 290max          | 60max          | 350max    | 60max              | 350max |  |  |  |  |  |  |
| ISOLATION                           | 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        |        |  |  |  |  |  |  |
|                                     | OVERCURRENT PROTECTION             | V1                                                                                                  | Works over 105% of rating current and recovers automatically                   |                  |                 |                 |                |           |                    |        |  |  |  |  |  |  |
|                                     |                                    | V2                                                                                                  | Works over 101% of peak current and recovers automatically                     |                  |                 |                 |                |           |                    |        |  |  |  |  |  |  |
| ENVIRONMENT                         | 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)                                                                |                                                                                |                  |                 |                 |                |           |                    |        |  |  |  |  |  |  |
|                                     | 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)  |                  |                 |                 |                |           |                    |        |  |  |  |  |  |  |
| SAFETY AND<br>NOISE<br>REGULATIONS  | OPERATING TEMP.HUMID.AND ALTITUDE  | -10 to +70°C, 20 - 90%RH (Non condensing) (Refer to DERATING CURVE), 3.000m (10.000feet) max        |                                                                                |                  |                 |                 |                |           |                    |        |  |  |  |  |  |  |
|                                     | STORAGE TEMP.HUMID.AND ALTITUDE    | -20 to +75°C, 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                                        |                                                                                |                  |                 |                 |                |           |                    |        |  |  |  |  |  |  |
| OTHERS                              | 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                                                                       |                                                                                |                  |                 |                 |                |           |                    |        |  |  |  |  |  |  |
|                                     | CASE SIZE/WEIGHT                   | 75 x 35 x 222mm [2.95 x 1.38 x 8.74 inches] (W x H x 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               |
|                     |                  | Chain: SVH-21T-P1.1  |
|                     |                  | Loose: BVH-21T-P1.1  |
| <b>CN2</b>          | B8P-VH           | VHR-8N               |
|                     |                  | 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 |

(Mfr: J.S.T.)

## CN1

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

## 〈PIN CONNECTION〉

## CN2

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

## CN3 (Option)

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

## CN4 (Option)

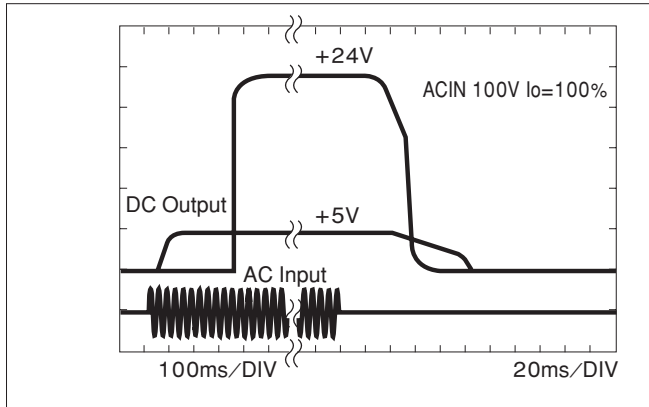
| Pin No. | -Z□ |
|---------|-----|
| 1       | +   |
| 2       | COM |
| 3       | -   |

※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

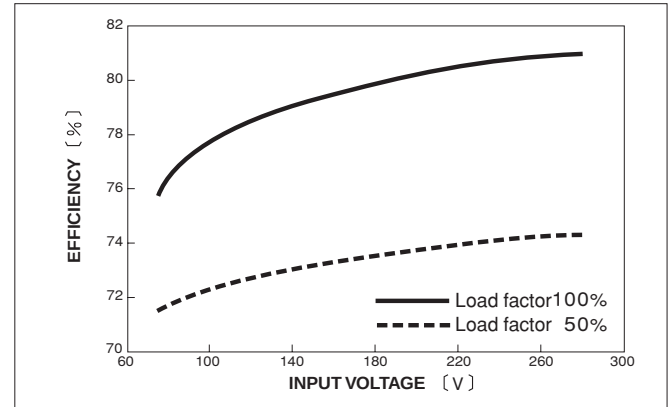
※Keep drawing current per pin below 5A for CN2

## Performance data

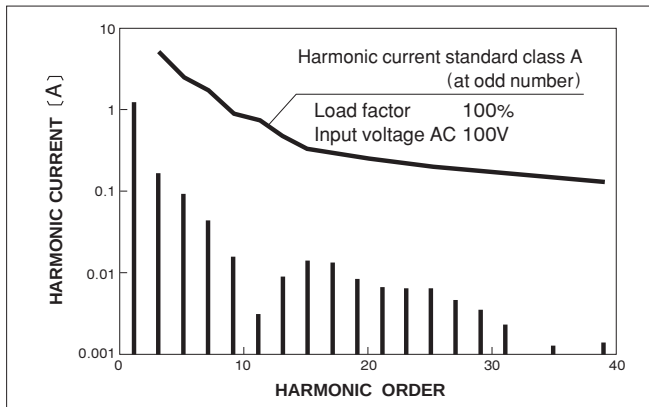
## RISE TIME &amp; FALL TIME (LEB100F-0524)



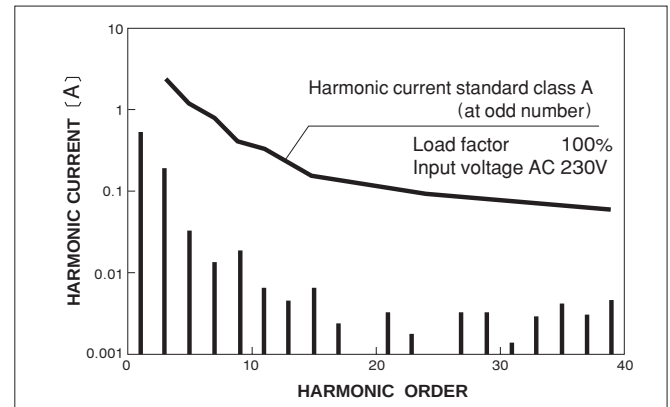
## EFFICIENCY (LEB100F-0524)



## INPUT HARMONIC CURRENT (LEB100F-0524)



## INPUT HARMONIC CURRENT (LEB100F-0524)



## LEB150F

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          |                 |                 |                 |           |                  |        |  |  |  |  |  |  |
| OUTPUT                        | INRUSH CURRENT[A]                  | ACIN 100V                                                                                           | 15typ (Io=100%) (At cold start) (Ta=25°C)                                      |                  |                 |                 |                 |           |                  |        |  |  |  |  |  |  |
|                               |                                    | ACIN 200V                                                                                           | 30typ (Io=100%) (At cold start) (Ta=25°C)                                      |                  |                 |                 |                 |           |                  |        |  |  |  |  |  |  |
|                               | 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 - 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)  | 150 (Peak 246)  |                 |           |                  |        |  |  |  |  |  |  |
|                               | LINE REGULATION[mV]                | 20max                                                                                               | 48max                                                                          | 20max            | 96max           | 20max           | 96max           | 20max     | 144max           |        |  |  |  |  |  |  |
| PROTECTION CIRCUIT AND OTHERS | LOAD REGULATION[mV]                | 40max                                                                                               | 100max                                                                         | 40max            | 150max          | 40max           | 150max          | 40max     | 180max           |        |  |  |  |  |  |  |
|                               | RIPPLE[mVp-p]                      | 0 to +45°C *4                                                                                       | 80max                                                                          | 120max           | 80max           | 120max          | 80max           | 200max    | 80max            | 200max |  |  |  |  |  |  |
|                               |                                    | -10 - 0°C *4                                                                                        | 140max                                                                         | 160max           | 140max          | 160max          | 140max          | 240max    | 140max           | 240max |  |  |  |  |  |  |
|                               | RIPPLE NOISE[mVp-p]                | 0 to +45°C *4                                                                                       | 120max                                                                         | 150max           | 120max          | 150max          | 120max          | 300max    | 120max           | 300max |  |  |  |  |  |  |
|                               |                                    | -10 - 0°C *4                                                                                        | 160max                                                                         | 180max           | 160max          | 180max          | 160max          | 360max    | 160max           | 360max |  |  |  |  |  |  |
|                               | TEMPERATURE REGULATION[mV]         | 0 to +45°C                                                                                          | 50max                                                                          | 120max           | 50max           | 240max          | 50max           | 300max    | 50max            | 300max |  |  |  |  |  |  |
|                               |                                    | -10 to +45°C                                                                                        | 60max                                                                          | 150max           | 60max           | 290max          | 60max           | 350max    | 60max            | 350max |  |  |  |  |  |  |
| ISOLATION                     | 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      |        |  |  |  |  |  |  |
|                               | OVERCURRENT PROTECTION             | V1                                                                                                  | Works over 105% of rating current and recovers automatically                   |                  |                 |                 |                 |           |                  |        |  |  |  |  |  |  |
|                               |                                    | V2                                                                                                  | Works over 101% of peak current and recovers automatically                     |                  |                 |                 |                 |           |                  |        |  |  |  |  |  |  |
| ENVIRONMENT                   | 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)                                                                |                                                                                |                  |                 |                 |                 |           |                  |        |  |  |  |  |  |  |
|                               | 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)  |                  |                 |                 |                 |           |                  |        |  |  |  |  |  |  |
| SAFETY AND NOISE REGULATIONS  | OPERATING TEMP.HUMID.AND ALTITUDE  | -10 to +70°C, 20 - 90%RH (Non condensing) (Refer to DERATING CURVE), 3,000m (10,000feet) max        |                                                                                |                  |                 |                 |                 |           |                  |        |  |  |  |  |  |  |
|                               | STORAGE TEMP.HUMID.AND ALTITUDE    | -20 to +75°C, 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                                        |                                                                                |                  |                 |                 |                 |           |                  |        |  |  |  |  |  |  |
| OTHERS                        | 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                                                                       |                                                                                |                  |                 |                 |                 |           |                  |        |  |  |  |  |  |  |
|                               | CASE SIZE/WEIGHT                   | 85 x 40 x 222mm [3.35 x 1.57 x 8.74 inches] (W x H x 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.

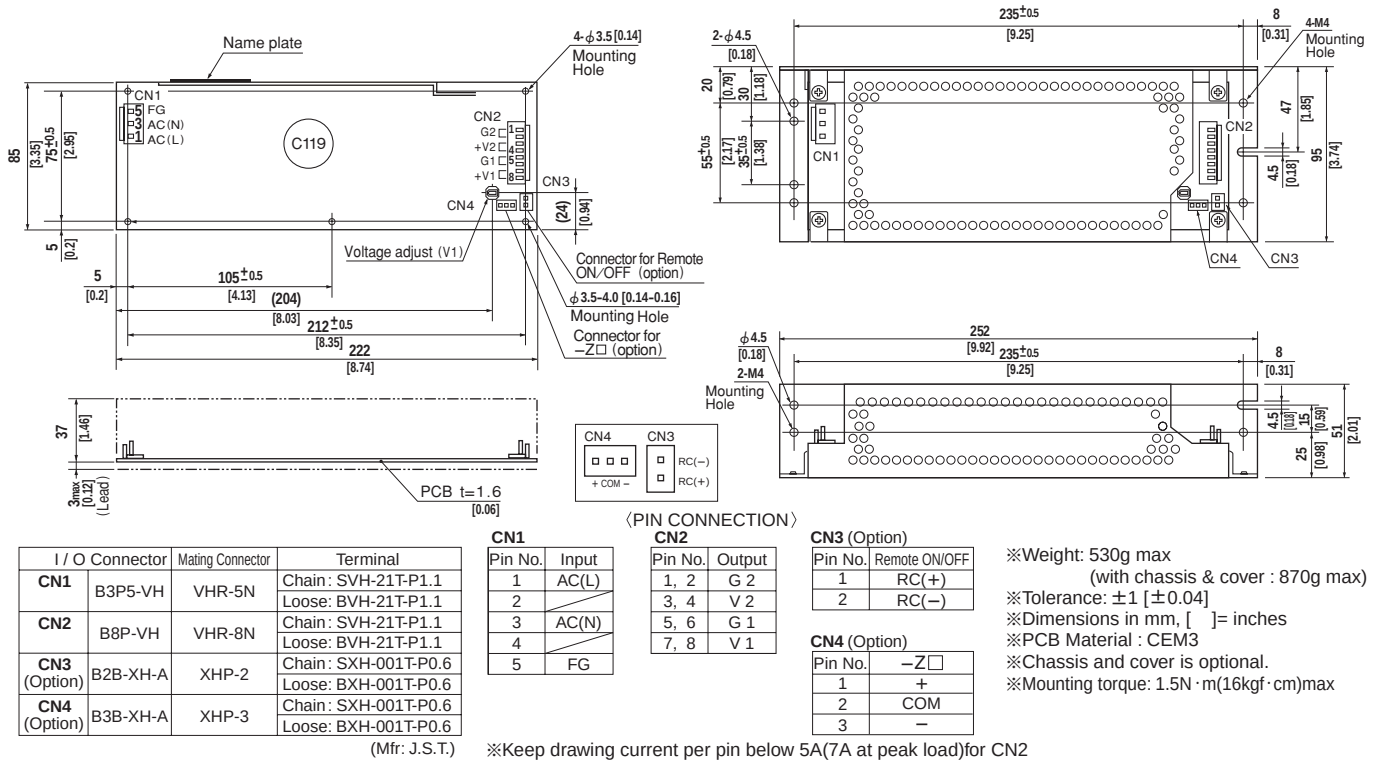
\*9 Please contact us about class C.

\* Series/Parallel operation is not possible.

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

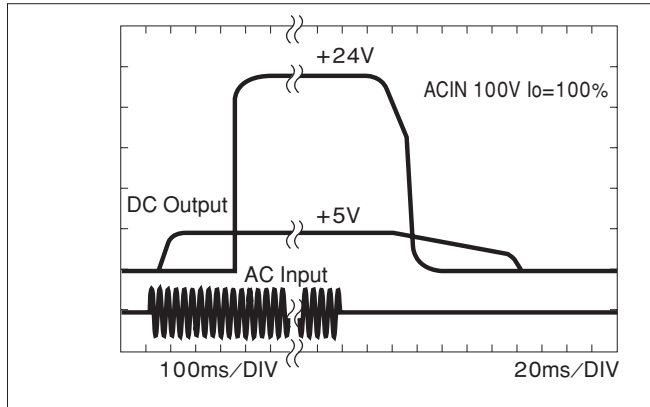
\* A sound may occur from power supply at peak loading.

## External view

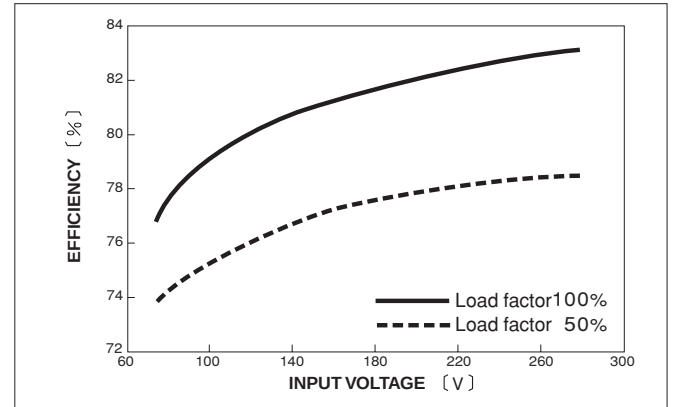


## Performance data

## RISE TIME &amp; 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          |                 |                 |                 |        |                  |
| OUTPUT                        | 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) |                                                                                                       |                  |                 |                 |                 |        |                  |
|                               | 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 - 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  | 144max           |
| OUTPUT                        | LOAD REGULATION[mV]               | 40max                                            | 100max                                                                                                | 40max            | 150max          | 40max           | 150max          | 40max  | 180max           |
|                               | RIPPLE[mVp-p]                     | 0 to +40℃ *4                                     | 80max                                                                                                 | 120max           | 80max           | 120max          | 80max           | 120max | 200max           |
|                               |                                   | -10 - 0℃ *4                                      | 140max                                                                                                | 160max           | 140max          | 160max          | 140max          | 240max | 240max           |
|                               | RIPPLE NOISE[mVp-p]               | 0 to +40℃ *4                                     | 120max                                                                                                | 150max           | 120max          | 150max          | 120max          | 300max | 300max           |
|                               |                                   | -10 - 0℃ *4                                      | 160max                                                                                                | 180max           | 160max          | 180max          | 160max          | 360max | 360max           |
|                               | TEMPERATURE REGULATION[mV]        | 0 to +40℃                                        | 50max                                                                                                 | 120max           | 50max           | 240max          | 50max           | 300max | 50max            |
|                               |                                   | -10 to +40℃                                      | 60max                                                                                                 | 150max           | 60max           | 290max          | 60max           | 350max | 60max            |
|                               | DRIFT[mV]                         | *5                                               | 20max                                                                                                 | 48max            | 20max           | 96max           | 20max           | 120max | 20max            |
|                               | START-UP TIME[ms]                 | *6                                               | 250max                                                                                                | 500max           | 250max          | 500max          | 250max          | 500max | 250max           |
|                               | HOLD-UP TIME[ms]                  | *6                                               | 40typ                                                                                                 | 20typ            | 40typ           | 20typ           | 40typ           | 20typ  | 40typ            |
| 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                                            |                  |                 |                 |                 |        |                  |
| ISOLATION                     | OVERVOLTAGE PROTECTION            | V1                                               | Works over 115% of rating, by zener diode clamping                                                    |                  |                 |                 |                 |        |                  |
|                               |                                   | V2                                               | Works at 115 - 140% of rating                                                                         |                  |                 |                 |                 |        |                  |
| ENVIRONMENT                   | REMOTE ON/OFF                     | Option (Refer to Instruction Manual)             |                                                                                                       |                  |                 |                 |                 |        |                  |
|                               | 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)                         |                  |                 |                 |                 |        |                  |
| SAFETY AND NOISE REGULATIONS  | OUTPUT-OUTPUT(V1 · RC-V2)         | *7                                               | AC100V 1minute, Cutoff current = 100mA, DC100V 10MΩ min (At Room Temperature)                         |                  |                 |                 |                 |        |                  |
|                               | 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           |                  |                 |                 |                 |        |                  |
| OTHERS                        | IMPACT                            |                                                  | 196.1m/s <sup>2</sup> (20G), 11ms, once each X, Y and Z axis                                          |                  |                 |                 |                 |        |                  |
|                               | AGENCY APPROVALS                  |                                                  | UL60950-1, C-UL, EN60950-1, EN50178 Complies with DEN-AN and IEC60950-1 (At only AC input)            |                  |                 |                 |                 |        |                  |
| OTHERS                        | 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 x H x 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℃, 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

| 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 |

(Mfr: J.S.T.)

## CN1

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

## (PIN CONNECTION)

## 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)

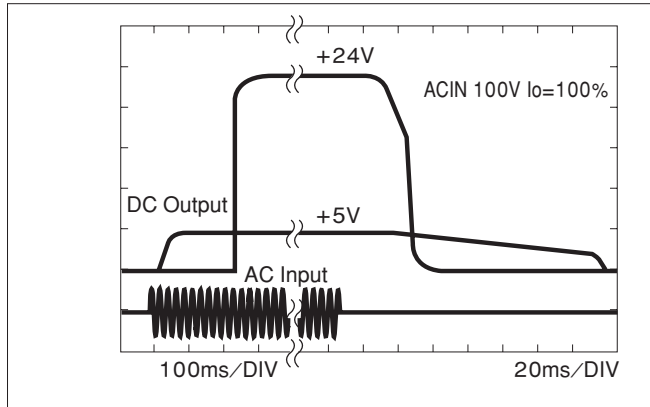
| Pin No. | -Z□ |
|---------|-----|
| 1       | +   |
| 2       | COM |
| 3       | -   |

※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

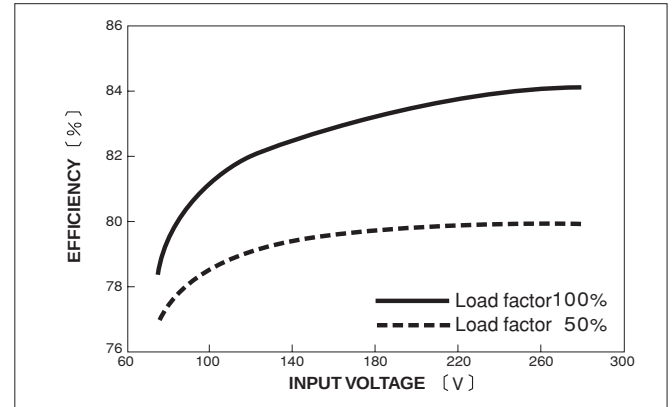
※Keep drawing current per pin below 5A (7A at peak load) for CN2

## Performance data

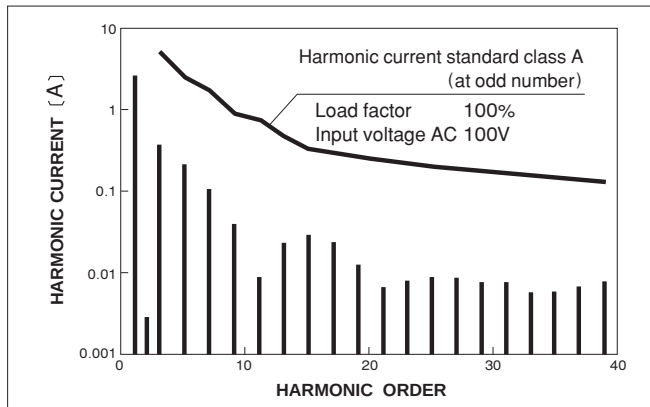
## RISE TIME &amp; FALL TIME (LEB225F-0524)



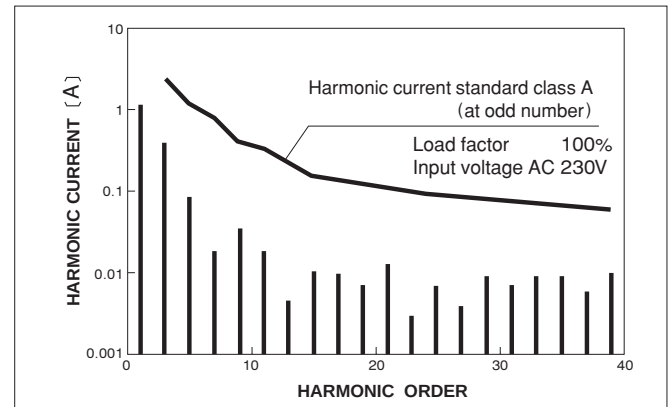
## EFFICIENCY (LEB225F-0524)



## INPUT HARMONIC CURRENT (LEB225F-0524)



## INPUT HARMONIC CURRENT (LEB225F-0524)



# Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

## Cosel:

[LEB100F-0512-SNT](#) [LEB100F-0524-Z32](#) [LEB100F-0524-Z34](#) [LEB150F-0524-RY](#) [LEB225F-0524-SN](#) [LEB225F-0524-SNY](#) [LEB225F-0524-RY](#) [LEB225F-0536-SN](#) [LEB225F-0324-SN](#) [LEB225F-0324-SNT](#) [LEB225F-0324-T](#) [LEB225F-0512-TY](#) [LEB225F-0524](#) [LEB150F-0536](#) [LEB225F-0324](#) [LEB225F-0524-S](#) [LEB225F-0524-SNR](#) [LEB225F-0524-T](#) [LEB225F-0530](#) [LEB150F-0512-S](#) [LEB150F-0524-SN](#) [LEB150F-0524-SNY](#) [LEB150F-0524-SNZ31](#) [LEB150F-0524-SNZ35](#) [LEB150F-0524-U](#) [LEB100F-0524-RY](#) [LEB100F-0524-SNY](#) [LEB100F-0524-SZ32](#) [LEB100F-0524-SZ35](#) [LEB100F-0524-T](#) [LEB100F-0536-SNT](#) [LEB100F-0512-C](#) [LEB100F-0512-SNRT](#) [LEB100F-0512-SNZ25](#) [LEB100F-0512-SZ22](#) [LEB100F-0512-Z21](#) [LEB100F-0524-GR](#) [LEB100F-0524-SNZ32](#) [LEB100F-0524-SR](#) [LEB100F-0536-RY](#) [LEB100F-0536-SN](#) [LEB100F-0536-Y](#) [LEB100F-0512](#) [LEB100F-0512-SZ23](#) [LEB100F-0512-SZ25](#) [LEB100F-0512-Y](#) [LEB100F-0524-G](#) [LEB100F-0524-RT](#) [LEB100F-0524-SN](#) [LEB225F-0536-R](#) [LEB100F-0324-T](#) [LEB100F-0324-Y](#) [LEB100F-0512-GR](#) [LEB100F-0512-SNY](#) [LEB100F-0512-SZ21](#) [LEB225F-0524-SNC](#) [LEB225F-0524-SNGT](#) [LEB225F-0524-SNT](#) [LEB225F-0524-SNZ35](#) [LEB225F-0530-S](#) [LEB225F-0536](#) [LEB225F-0512-SNZ25](#) [LEB225F-0512-Y](#) [LEB225F-0524-CR](#) [LEB225F-0524-CY](#) [LEB225F-0524-G](#) [LEB225F-0524-R](#) [LEB150F-0524-Y](#) [LEB150F-0524-Z34](#) [LEB150F-0530](#) [LEB150F-0536-SN](#) [LEB225F-0512-SN](#) [LEB225F-0512-SNR](#) [LEB150F-0512-SNT](#) [LEB150F-0512-Z25](#) [LEB150F-0524-S](#) [LEB150F-0524-SNRT](#) [LEB150F-0524-SNT](#) [LEB150F-0524-TY](#) [LEB225F-0524-SZ35](#) [LEB225F-0524-TY](#) [LEB225F-0524-U](#) [LEB225F-0524-Y](#) [LEB150F-0512-G](#) [LEB150F-0512-R](#) [LEB100F-0530-Y](#) [LEB100F-0536-C](#) [LEB100F-0536-R](#) [LEB225F-0524-CRY](#) [LEB225F-0524-GY](#) [LEB225F-0524-SNG](#) [LEB100F-0524-ST](#) [LEB100F-0524-SZ31](#) [LEB100F-0524-SZ34](#) [LEB100F-0524-U](#) [LEB100F-0524-Y](#) [LEB100F-0524-Z35](#) [LEB100F-0524-CT](#) [LEB100F-0524-GT](#) [LEB100F-0524-R](#)

## Данный компонент на территории Российской Федерации

**Вы можете приобрести в компании MosChip.**

Для оперативного оформления запроса Вам необходимо перейти по данной ссылке:

<http://moschip.ru/get-element>

Вы можете разместить у нас заказ для любого Вашего проекта, будь то серийное производство или разработка единичного прибора.

В нашем ассортименте представлены ведущие мировые производители активных и пассивных электронных компонентов.

Нашей специализацией является поставка электронной компонентной базы двойного назначения, продукции таких производителей как XILINX, Intel (ex.ALTERA), Vicor, Microchip, Texas Instruments, Analog Devices, Mini-Circuits, Amphenol, Glenair.

Сотрудничество с глобальными дистрибьюторами электронных компонентов, предоставляет возможность заказывать и получать с международных складов практически любой перечень компонентов в оптимальные для Вас сроки.

На всех этапах разработки и производства наши партнеры могут получить квалифицированную поддержку опытных инженеров.

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

### Офис по работе с юридическими лицами:

105318, г.Москва, ул.Щербаковская д.3, офис 1107, 1118, ДЦ «Щербаковский»

Телефон: +7 495 668-12-70 (многоканальный)

Факс: +7 495 668-12-70 (доб.304)

E-mail: [info@moschip.ru](mailto:info@moschip.ru)

Skype отдела продаж:

moschip.ru

moschip.ru\_4

moschip.ru\_6

moschip.ru\_9