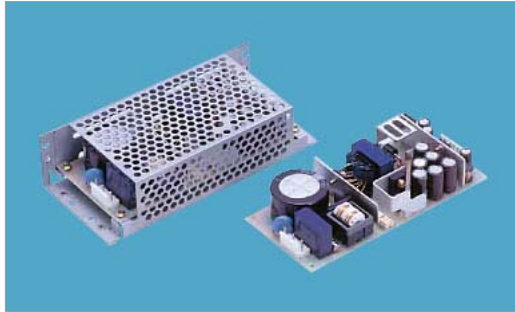


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## LDC30F



### Features

- Universal input (AC85-264V)
- Small and compact PCB construction
- UL recognized, TV approved, CSA certified
- Built-in Inrush Current Protection
- Built-in Over Current Protection
- Built-in Over Voltage Protection
- RoHS Compliant

### Safety Agency Approvals

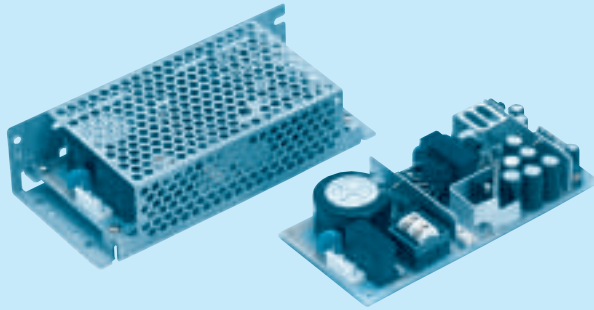
Complies with DEN-AN  
UL1950, CSA C22.2 No.234, EN60950, VDE0160

### EMI Compliance

FCC-B  
CISPR22-B  
EN55022-B  
VCCI-B

**2 year warranty(refer to Instruction Manual)**

| Model    | Input Voltage [V] | Output Wattage [W] | DC Output [V/A]                      |
|----------|-------------------|--------------------|--------------------------------------|
| LDC30F-1 | DC 110 - 370      | 33                 | -12 - 12V<br>0.3 - 3A<br>(peak 4.5A) |
|          | AC 85 - 264       |                    |                                      |
| LDC30F-2 | DC 110 - 370      | 34.5               | -15 - 15V<br>0.3 - 3A<br>(peak 4.5A) |
|          | AC 85 - 264       |                    |                                      |



- ① Series name  
 ② Multiple output  
 ③ Output wattage  
 ④ Universal input  
 ⑤ Output voltage combination  
 ⑥ Optional  
 C :with Coating  
 G :Low leakage current  
 S :with Chassis  
 SN:with Chassis & cover  
 Y :with Potentiometer

| MODEL     |    | LDC30F-1             | LDC30F-2             |
|-----------|----|----------------------|----------------------|
| DC OUTPUT | V1 | +5V 3.0(Peak 4.5)A   | +5V 3.0(Peak 4.5)A   |
|           | V2 | +12V 1.2(Peak 2.0)A  | +15V 1.0(Peak 2.0)A  |
|           | V3 | -12V 0.3(Peak 0.45)A | -15V 0.3(Peak 0.45)A |

## SPECIFICATIONS

|                                    |                                    |                                                                                    |                                                                                             |                    |                     |                    |                    |                     |
|------------------------------------|------------------------------------|------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|--------------------|---------------------|--------------------|--------------------|---------------------|
|                                    | MODEL                              |                                                                                    | LDC30F-1                                                                                    |                    | LDC30F-2            |                    |                    |                     |
| INPUT                              | VOLTAGE[V]                         |                                                                                    | AC85 - 264 1 $\phi$ or DC110 - 370                                                          |                    |                     |                    |                    |                     |
|                                    | CURRENT[A]                         | ACIN 100V                                                                          | 0.8typ (Io=100%)                                                                            |                    |                     |                    |                    |                     |
|                                    | FREQUENCY[Hz]                      |                                                                                    | 47 - 440 or DC                                                                              |                    |                     |                    |                    |                     |
|                                    | EFFICIENCY[%]                      | ACIN 100V                                                                          | 72typ (Io=100%)                                                                             |                    |                     |                    |                    |                     |
|                                    | INRUSH CURRENT[A]                  | ACIN 100V                                                                          | 25typ (Io=100%) (At cold start)                                                             |                    |                     |                    |                    |                     |
|                                    |                                    | ACIN 200V                                                                          | 50typ (Io=100%) (At cold start)                                                             |                    |                     |                    |                    |                     |
|                                    | LEAKAGE CURRENT[ma]                |                                                                                    | 0.75max (60Hz, According to UL, CSA, VDE and DEN-AN)                                        |                    |                     |                    |                    |                     |
| OUTPUT                             | VOLTAGE[V]                         |                                                                                    | +5                                                                                          | +12                | -12                 | +5                 | +15                | -15                 |
|                                    | CURRENT[A]                         |                                                                                    | *1 0 - 3.0 (Peak 4.5)                                                                       | 0 - 1.2 (Peak 2.0) | 0 - 0.3 (Peak 0.45) | 0 - 3.0 (Peak 4.5) | 0 - 1.0 (Peak 2.0) | 0 - 0.3 (Peak 0.45) |
|                                    | LINE REGULATION[mV]                |                                                                                    | 20max                                                                                       | 48max              | 48max               | 20max              | 60max              | 60max               |
|                                    | LOAD REGULATION[mV]                |                                                                                    | 100max                                                                                      | 120max             | 150max              | 100max             | 120max             | 150max              |
|                                    | RIPPLE[mVp-p]                      | 0 to +50°C *2                                                                      | 100max                                                                                      | 120max             | 120max              | 100max             | 120max             | 120max              |
|                                    |                                    | -10 - 0°C *2                                                                       | 150max                                                                                      | 160max             | 160max              | 150max             | 160max             | 160max              |
|                                    | RIPPLE NOISE[mVp-p]                | 0 to +50°C *2                                                                      | 120max                                                                                      | 150max             | 150max              | 120max             | 150max             | 150max              |
|                                    |                                    | -10 - 0°C *2                                                                       | 170max                                                                                      | 180max             | 180max              | 170max             | 180max             | 180max              |
|                                    | TEMPERATURE REGULATION[mV]         | 0 to +50°C                                                                         | 50max                                                                                       | 350max             | 350max              | 50max              | 350max             | 350max              |
|                                    |                                    | -10 to +50°C                                                                       | 60max                                                                                       | 420max             | 420max              | 60max              | 420max             | 420max              |
|                                    | DRIFT[mV]                          |                                                                                    | *3 20max                                                                                    | —                  | —                   | 20max              | —                  | —                   |
|                                    | START-UP TIME[ms]                  |                                                                                    | 100max (ACIN 85V, Io=100%)                                                                  |                    |                     |                    |                    |                     |
| HOLD-UP TIME[ms]                   |                                    | 10typ (ACIN 85V, Io=100%), 20typ (ACIN 100V, Io=100%), 100typ (ACIN 200V, Io=100%) |                                                                                             |                    |                     |                    |                    |                     |
| OUTPUT VOLTAGE ADJUSTMENT RANGE[V] |                                    | Fixed                                                                              | Fixed                                                                                       | Fixed              | Fixed               | Fixed              | Fixed              |                     |
| OUTPUT VOLTAGE SETTING[V]          |                                    | 4.9 to 5.3                                                                         | 11.4 to 12.6                                                                                | -11.4 to -12.6     | 4.9 to 5.3          | 14.25 to 15.75     | -14.25 to -15.75   |                     |
| PROTECTION CIRCUIT AND OTHERS      | OVERCURRENT PROTECTION             |                                                                                    | Works over 105% of rating and recovers automatically                                        |                    |                     |                    |                    |                     |
|                                    | OVERVOLTAGE PROTECTION             |                                                                                    | Works at 115 - 140% of rating (+5V only)                                                    |                    |                     |                    |                    |                     |
|                                    | OPERATING INDICATION               |                                                                                    | Not provided                                                                                |                    |                     |                    |                    |                     |
|                                    | REMOTE SENSING                     |                                                                                    | Not provided                                                                                |                    |                     |                    |                    |                     |
|                                    | REMOTE ON/OFF                      |                                                                                    | Not provided                                                                                |                    |                     |                    |                    |                     |
| ISOLATION                          | INPUT-OUTPUT                       |                                                                                    | AC3,000V 1minute, Cutoff current = 10mA, DC500V 50M $\Omega$ min (At Room Temperature)      |                    |                     |                    |                    |                     |
|                                    | INPUT-FG                           |                                                                                    | AC2,000V 1minute, Cutoff current = 10mA, DC500V 50M $\Omega$ min (At Room Temperature)      |                    |                     |                    |                    |                     |
|                                    | OUTPUT-FG                          |                                                                                    | AC500V 1minute, Cutoff current = 100mA, DC500V 50M $\Omega$ min (At Room Temperature)       |                    |                     |                    |                    |                     |
|                                    | OUTPUT-OUTPUT(V1-V2,V3)            |                                                                                    | AC100V 1minute, Cutoff current = 100mA, DC100V 10M $\Omega$ min (At Room Temperature)       |                    |                     |                    |                    |                     |
| ENVIRONMENT                        | OPERATING TEMP.,HUMID.AND ALTITUDE |                                                                                    | -10 to +60°C, 20 - 90%RH (Non condensing) (Refer to DERATING CURVE), 3,000m (10,000feet)    |                    |                     |                    |                    |                     |
|                                    | STORAGE TEMP.,HUMID.AND ALTITUDE   |                                                                                    | -20 to +75°C, 20 - 90%RH (Non condensing), 9,000m (30,000feet)                              |                    |                     |                    |                    |                     |
|                                    | 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, EN60950-1, EN50178, CSA C22.2 No.234 Complies with DEN-AN and IEC60950-1         |                    |                     |                    |                    |                     |
|                                    | CONDUCTED NOISE                    |                                                                                    | Complies with FCC-B, CISPR22-B, EN55022-B, VCCI-B                                           |                    |                     |                    |                    |                     |
| OTHERS                             | CASE SIZE/WEIGHT                   |                                                                                    | 65 X 26 X 140mm (W X H X D) / 220g max (without chassis and cover)                          |                    |                     |                    |                    |                     |
|                                    | COOLING METHOD                     |                                                                                    | Convection                                                                                  |                    |                     |                    |                    |                     |

\*1 Peak load for 10sec. or less is acceptable if the total wattage is less than the rated wattage(-1: 33W, -2: 34.5W).When the load of +5V is OA, other output can be drawn by 80% of rated current.

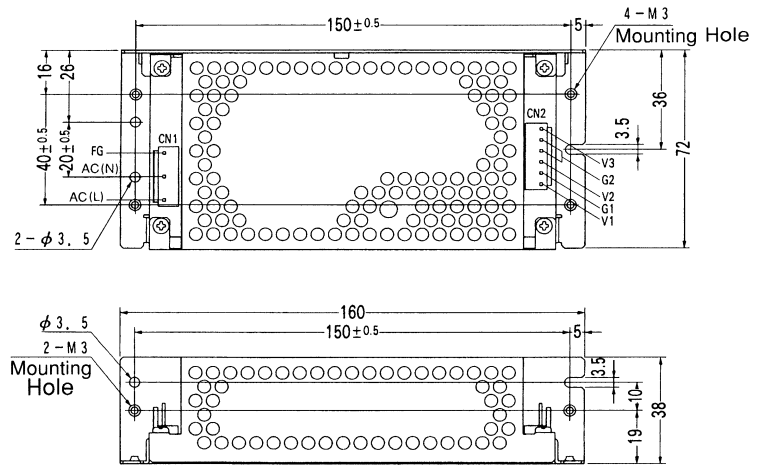
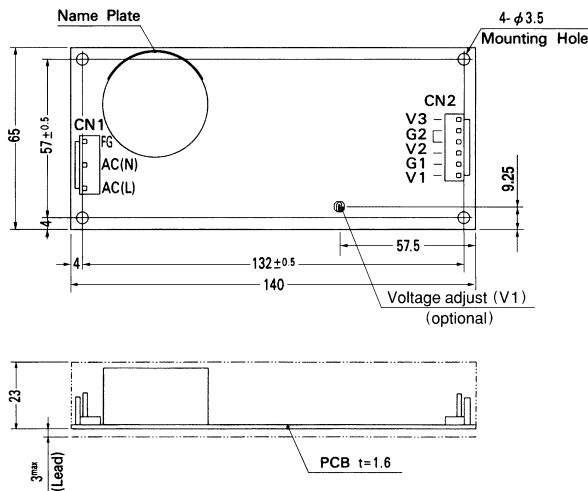
\*2 Measured by 20MHz oscilloscope or Ripple-Noise meter (equivalent to KEISOKU-GIKEN:RM101).

\*3 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.

\* Avoid prolonged use under over-load.

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

## External view



## &lt;PIN CONNECTION&gt;

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

| CN2     |        |
|---------|--------|
| Pin No. | Output |
| 1       | V3     |
| 2       | G2     |
| 3       | G2     |
| 4       | V2     |
| 5       | G1     |
| 6       | V1     |

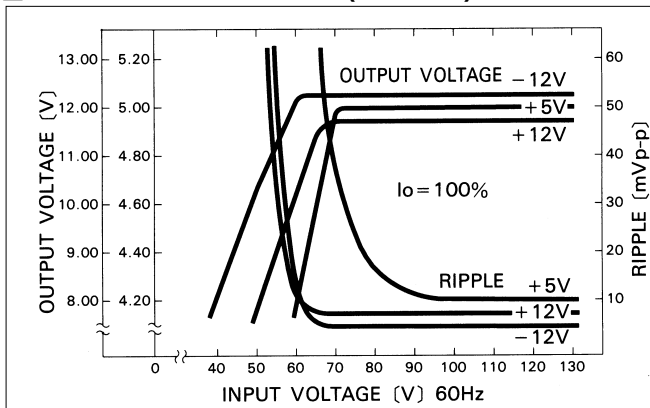
| I/O Connector | Mating Connector | Terminal           |
|---------------|------------------|--------------------|
| CN1           | B3P5-VH          | VHR-5N             |
|               |                  | Chain:SVH-21T-P1.1 |
| CN2           | B6P-VH           | VHR-6N             |
|               |                  | Chain:SVH-21T-P1.1 |
|               |                  |                    |
|               |                  |                    |

(Mfr: J.S.T.)

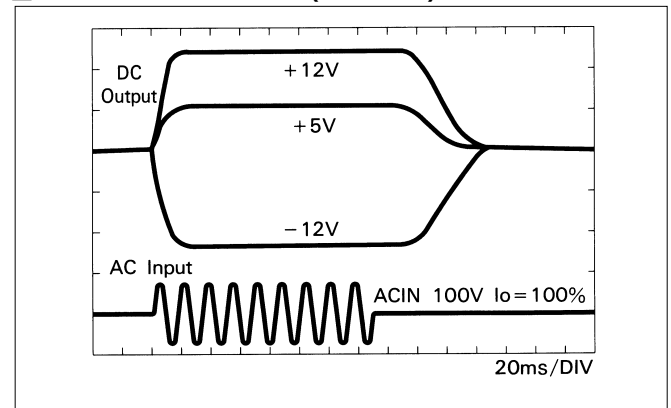
- ※ Weight: 220g or less (without chassis and cover)
- ※ Tolerance: ±1
- ※ Dimensions in mm.
- ※ PCB Material: Glass composite (CEM3)
- ※ Chassis and cover is optional.
- ※ Mounting torque: 0.6N·m (6.3kgf·cm) max

## Performance data

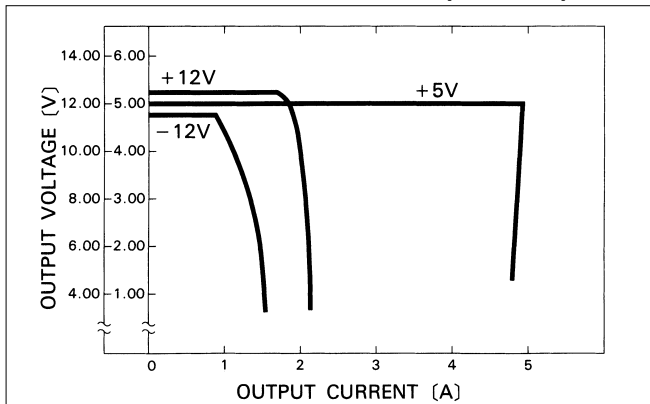
## ■ STATIC CHARACTERISTICS (LDC30F-1)



## ■ RISE TIME &amp; FALL TIME (LDC30F-1)



## ■ OVERCURRENT CHARACTERISTICS (LDC30F-1)



## ■ DERATING CURVE

