

Series name
Single output
Output wattage
Universal input
Output voltage
Optional
C: with Coating
G: Low leakage current
J1: VH(J.S.T.)connector type
S: with Chassis
SN: with Chassis & cover
Y: with Potentiometer

Specification is changed at option, refer to Instruction Manual.



This power supply is manufactured by SMD technology. The stress to P.C.B like twisting or bending causes the defect of the unit, so handle the unit with care.

| MODEL | LFA15F-3R3-Y | LFA15F-5 | LFA15F-12 | LFA15F-15 | LFA15F-24 |
|-----------------------|--------------|----------|-----------|-----------|-----------|
| MAX OUTPUT WATTAGE[W] | 9.9 | 15 | 15.6 | 15 | 16.8 |
| DC OUTPUT | 3.3V 3A | 5V 3A | 12V 1.3A | 15V 1A | 24V 0.7A |

SPECIFICATIONS

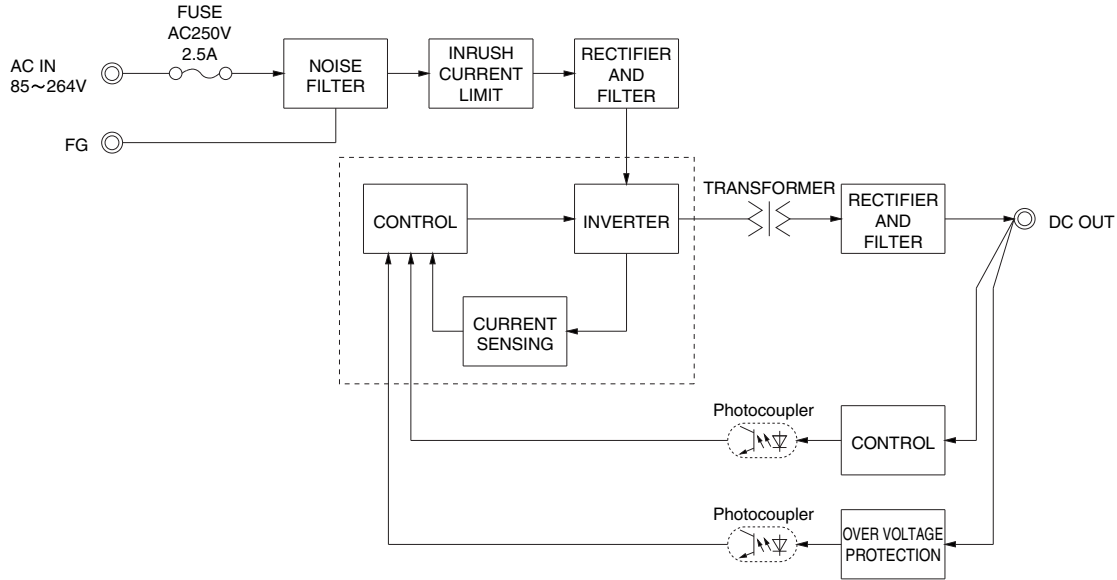
| | MODEL | LFA15F-3R3-Y | LFA15F-5 | LFA15F-12 | LFA15F-15 | LFA15F-24 | |
|------------------------------------|---|--|-------------------|-------------------|----------------|----------------|---------|
| INPUT | VOLTAGE[V] | AC85 - 264 1 φ (Refer to Instruction Manual 1.1 and 3.2) *3 | | | | | |
| | CURRENT[A] | ACIN 100V | 0.24typ (Io=100%) | 0.35typ (Io=100%) | | | |
| | | ACIN 200V | 0.15typ (Io=100%) | 0.20typ (Io=100%) | | | |
| | FREQUENCY[Hz] | 50 / 60 (47 - 440) | | | | | |
| | EFFICIENCY[%] | ACIN 100V | 68.0typ | 73.0typ | 76.0typ | 77.0typ | 78.0typ |
| | | ACIN 200V | 69.0typ | 76.0typ | 78.5typ | 80.0typ | 81.5typ |
| 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] | 0.15/0.30max (ACIN 100V / 240V 60Hz, Io=100%, According to IEC60950-1 and DEN-AN) | | | | | | |
| OUTPUT | VOLTAGE[V] | 3.3 | 5 | 12 | 15 | 24 | |
| | CURRENT[A] | 3.0 | 3.0 | 1.3 | 1.0 | 0.7 | |
| | LINE REGULATION[mV] | 20max | 20max | 48max | 60max | 96max | |
| | LOAD REGULATION[mV] | 40max | 40max | 100max | 120max | 150max | |
| | RIPPLE[mVp-p] | 0 to +50°C | 80max | 80max | 120max | 120max | 120max |
| | | -10 - 0°C | 140max | 140max | 160max | 160max | 160max |
| | | Io=0 - 35% | 190max | 160max | 240max | 240max | 280max |
| | RIPPLE NOISE[mVp-p] | 0 to +50°C | 120max | 120max | 150max | 150max | 150max |
| | | -10 - 0°C | 160max | 160max | 180max | 180max | 180max |
| | | Io=0 - 35% | 240max | 240max | 300max | 300max | 320max |
| | TEMPERATURE REGULATION[mV] | 0 to +50°C | 50max | 50max | 120max | 150max | 240max |
| | | -10 to +50°C | 60max | 60max | 150max | 180max | 290max |
| | DRIFT[mV] | 20max | 20max | 48max | 60max | 96max | |
| START-UP TIME[ms] | 200typ (ACIN 100V, Io=100%) *Start-up time is 700ms typ for less than 1minute of applying input again from turning off the input voltage. | | | | | | |
| HOLD-UP TIME[ms] | 20typ (ACIN 100V, Io=100%) | | | | | | |
| OUTPUT VOLTAGE ADJUSTMENT RANGE[V] | 2.85 to 3.63 | Fixed ("Y" option is available for adjusting output voltage between ±10%) | | | | | |
| OUTPUT VOLTAGE SETTING[V] | 3.30 to 3.40 | 4.90 to 5.30 | 11.50 to 12.50 | 14.40 to 15.60 | 23.00 to 25.00 | | |
| PROTECTION CIRCUIT AND OTHERS | OVERCURRENT PROTECTION | Works over 105% of rating and recovers automatically | | | | | |
| | OVERVOLTAGE PROTECTION | 4.00 to 5.25 | 5.75 to 7.00 | 13.80 to 16.80 | 17.25 to 21.00 | 27.60 to 33.60 | |
| | OPERATING INDICATION | Not provided | | | | | |
| | REMOTE SENSING | Not provided | | | | | |
| ISOLATION | REMOTE ON/OFF | Not provided | | | | | |
| | INPUT-OUTPUT | 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) | | | | | |
| ENVIRONMENT | OUTPUT-FG | AC500V 1minute, Cutoff current = 25mA, DC500V 50MΩ min (At Room Temperature) | | | | | |
| | OPERATING TEMP., HUMID. AND ALTITUDE | -10 to +70°C, 20 - 90%RH (Non condensing) (Refer to DERATING CURVE), 3,000m (10,000 feet) max *3 | | | | | |
| | STORAGE TEMP., HUMID. AND ALTITUDE | -20 to +75°C, 20 - 90%RH (Non condensing), 9,000m (30,000 feet) max | | | | | |
| | VIBRATION | 10 - 55Hz, 19.6m/s ² (2G), 3minutes period, 60minutes each along X, Y and Z axis | | | | | |
| SAFETY AND NOISE REGULATIONS | IMPACT | 196.1m/s ² (20G), 11ms, once each X, Y and Z axis | | | | | |
| | AGENCY APPROVALS (At only AC input) | UL60950-1, C-UL (CSA60950-1), EN60950-1, EN50178 Complies with DEN-AN | | | | | |
| | CONDUCTED NOISE | Complies with FCC-B, VCCI-B, CISPR-B, EN55011-B, EN55022-B | | | | | |
| | CE MARKING | Low Voltage Directive, EMC Directive | | | | | |
| OTHERS | HARMONIC ATTENUATOR | Complies with IEC61000-3-2 (Not built-in to active filter *4) | | | | | |
| | CASE SIZE/WEIGHT | 50×22×87.5mm (W×H×D) / 80g max (without chassis and cover) | | | | | |
| | COOLING METHOD | Convection | | | | | |

*1 This is the value that measured on measuring board with capacitor of 22 μF at 150mm from output terminal. Measured by 20MHz oscilloscope or Ripple-Noise meter (Equivalent to KEISOKU-GIKEN: RM103). A circuit reducing standby power is built in this unit. Therefore, the internal switch element is intermittent operated, and the Ripple/Ripple Noise specification in

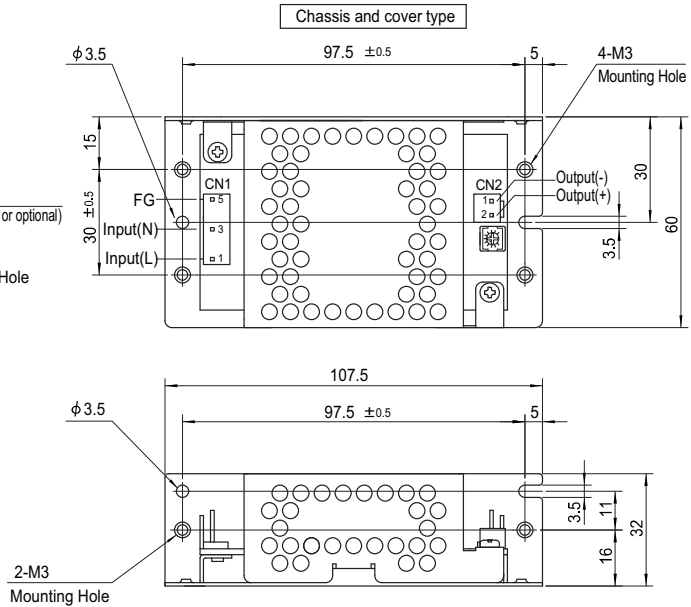
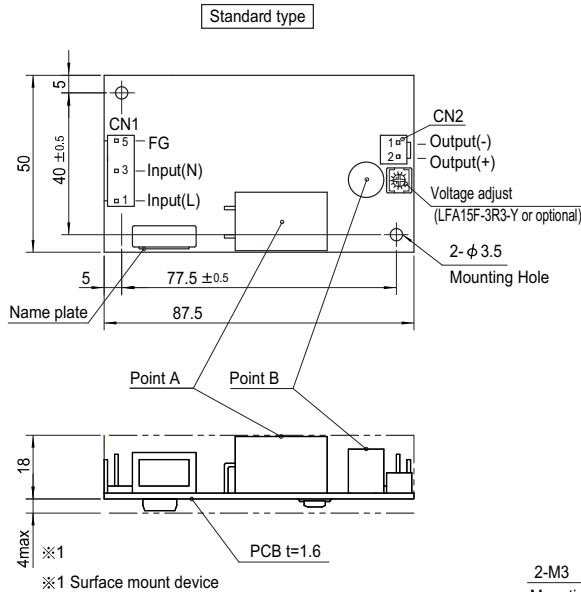
load factor Io=0-35% is different. Please refer to the Instruction Manual 1.7.
*2 Drift is the change in DC output for an eight hour period after a half-hour warm-up at 25°C, with the input voltage held constant at the rated input/output.
*3 Derating is required.
*4 When two or more units are operating it may not

comply with the IEC61000-3-2. Please contact us for details.
* To meet the specifications. Do not operate over-loaded condition. Parallel operation is not possible.
* Derating is required when operated with chassis and cover. Sound noise may be generated by power supply in case of pulse load.

Block diagram



External view



- ※ The back side of P.C.B. of the power supply is assembled some SMDs.
Be attention not to bump against the attached area by vibration.
- ※ Use the spacer of 8mm length or more regarding insulation.
And do not use press-fitting bush.
- ※ Point A, Point B are thermometry points. Please refer to Instruction Manual 3.

| I/O Connector | Mating connector | Terminal | Chain | Loose |
|---------------|------------------|-------------|-------|-----------|
| CN1 | 1-1123724-3 | 1-1123722-5 | Chain | 1123721-1 |
| | | | Loose | 1318912-1 |
| CN2 | 1-1123723-2 | 1-1123722-2 | Chain | 1123721-1 |
| | | | Loose | 1318912-1 |

(Mfr:Tyco Electronics AMP)

- ※ I/O Connector is Mfr. Tyco Electronics AMP
- ※ Option:-J1:(J.S.T) connector type. Refer to Instruction Manual 5.

<PIN CONNECTION>

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

| Pin No. | Output |
|---------|--------|
| 1 | -V |
| 2 | +V |

- ※ Tolerance : ±1
- ※ Weight : 80g max (without chassis and cover)
- ※ PCB material / thickness : CEM3 / 1.6mm
- ※ Optional chassis and cover material : Electric galvanizing steel board.
- ※ Dimensions in mm
- ※ Mounting torque (Mounting hole of chassis) : 0.6N · m (6.3kgf · cm) max