

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.

e the unit with care.



| MODEL                 | LFA50F-3R3-Y | LFA50F-5 | LFA50F-12 | LFA50F-15 | LFA50F-24 | LFA50F-36 | LFA50F-48 |
|-----------------------|--------------|----------|-----------|-----------|-----------|-----------|-----------|
| MAX OUTPUT WATTAGE[W] | 33           | 50       | 51.6      | 52.5      | 50.4      | 50.4      | 52.8      |
| DC OUTPUT             | 3.3V 10A     | 5V 10A   | 12V 4.3A  | 15V 3.5A  | 24V 2.1A  | 36V 1.4A  | 48V 1.1A  |

### SPECIFICATIONS

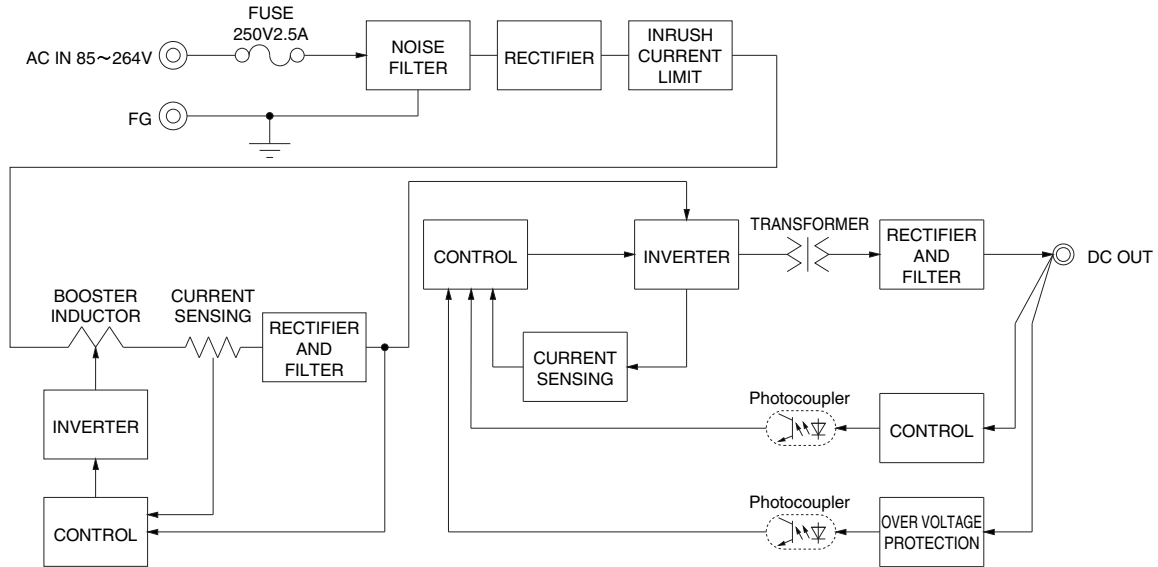
|                               | MODEL                                                                               | LFA50F-3R3-Y                                                                                    | LFA50F-5          | LFA50F-12                                                                 | LFA50F-15         | LFA50F-24      | LFA50F-36      | LFA50F-48      |         |
|-------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|-------------------|---------------------------------------------------------------------------|-------------------|----------------|----------------|----------------|---------|
| INPUT                         | VOLTAGE[V]                                                                          | AC85 - 264 1 φ (Refer to Instruction Manual 1.1 and 3.2) *3                                     |                   |                                                                           |                   |                |                |                |         |
|                               | CURRENT[A]                                                                          | ACIN 100V                                                                                       | 0.47typ (Io=100%) |                                                                           | 0.67typ (Io=100%) |                |                |                |         |
|                               |                                                                                     | ACIN 200V                                                                                       | 0.27typ (Io=100%) |                                                                           | 0.36typ (Io=100%) |                |                |                |         |
|                               | FREQUENCY[Hz]                                                                       | 50 / 60 (47 - 63)                                                                               |                   |                                                                           |                   |                |                |                |         |
|                               | EFFICIENCY[%]                                                                       | ACIN 100V                                                                                       | 73.5typ           | 77.5typ                                                                   | 80.0typ           | 80.5typ        | 81.5typ        | 82.0typ        | 81.0typ |
|                               |                                                                                     | ACIN 200V                                                                                       | 74.0typ           | 79.0typ                                                                   | 81.5typ           | 81.5typ        | 83.0typ        | 83.5typ        | 82.5typ |
|                               | POWER FACTOR (Io=100%)                                                              | ACIN 100V                                                                                       | 0.96typ           |                                                                           | 0.97typ           |                |                |                |         |
| ACIN 200V                     |                                                                                     | 0.83typ                                                                                         |                   | 0.90typ                                                                   |                   |                |                |                |         |
| 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]           | 0.40 / 0.75max (ACIN 100V / 240V 60Hz, Io=100%, According to IEC60950-1 and DEN-AN) |                                                                                                 |                   |                                                                           |                   |                |                |                |         |
| OUTPUT                        | VOLTAGE[V]                                                                          | 3.3                                                                                             | 5                 | 12                                                                        | 15                | 24             | 36             | 48             |         |
|                               | CURRENT[A]                                                                          | 10.0                                                                                            | 10.0              | 4.3                                                                       | 3.5               | 2.1            | 1.4            | 1.1            |         |
|                               | LINE REGULATION[mV]                                                                 | 20max                                                                                           | 20max             | 48max                                                                     | 60max             | 96max          | 144max         | 192max         |         |
|                               | LOAD REGULATION[mV]                                                                 | 40max                                                                                           | 40max             | 100max                                                                    | 120max            | 150max         | 240max         | 240max         |         |
|                               | RIPPLE[mVp-p]                                                                       | 0 to +50°C *1                                                                                   | 80max             | 80max                                                                     | 120max            | 120max         | 120max         | 150max         | 150max  |
|                               |                                                                                     | -10 -0°C *1                                                                                     | 140max            | 140max                                                                    | 160max            | 160max         | 160max         | 200max         | 200max  |
|                               | RIPPLE NOISE[mVp-p]                                                                 | 0 to +50°C *1                                                                                   | 120max            | 120max                                                                    | 150max            | 150max         | 150max         | 250max         | 250max  |
|                               |                                                                                     | -10 -0°C *1                                                                                     | 160max            | 160max                                                                    | 180max            | 180max         | 180max         | 300max         | 300max  |
|                               | TEMPERATURE REGULATION[mV]                                                          | 0 to +50°C                                                                                      | 50max             | 50max                                                                     | 120max            | 150max         | 240max         | 360max         | 480max  |
|                               |                                                                                     | -10 to +50°C                                                                                    | 60max             | 60max                                                                     | 150max            | 180max         | 290max         | 450max         | 600max  |
|                               | DRIFT[mV]                                                                           | *2                                                                                              | 20max             | 20max                                                                     | 48max             | 60max          | 96max          | 144max         | 192max  |
|                               | START-UP TIME[ms]                                                                   | 350typ (ACIN 100V, Io=100%)                                                                     |                   |                                                                           |                   |                |                |                |         |
|                               | 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 | 34.50 to 37.50 | 46.00 to 50.00 |         |
| 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 | 41.40 to 50.40 | 55.20 to 67.20 |         |
|                               | 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 (10,000feet) max *3 |                   |                                                                           |                   |                |                |                |         |
|                               | 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     |                   |                                                                           |                   |                |                |                |         |
| SAFETY AND NOISE REGULATIONS  | IMPACT                                                                              | 196.1m/s <sup>2</sup> (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                                                                      |                   |                                                                           |                   |                |                |                |         |
|                               | CASE SIZE/WEIGHT                                                                    | 50×26.5×132mm (W×H×D) / 165g 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).

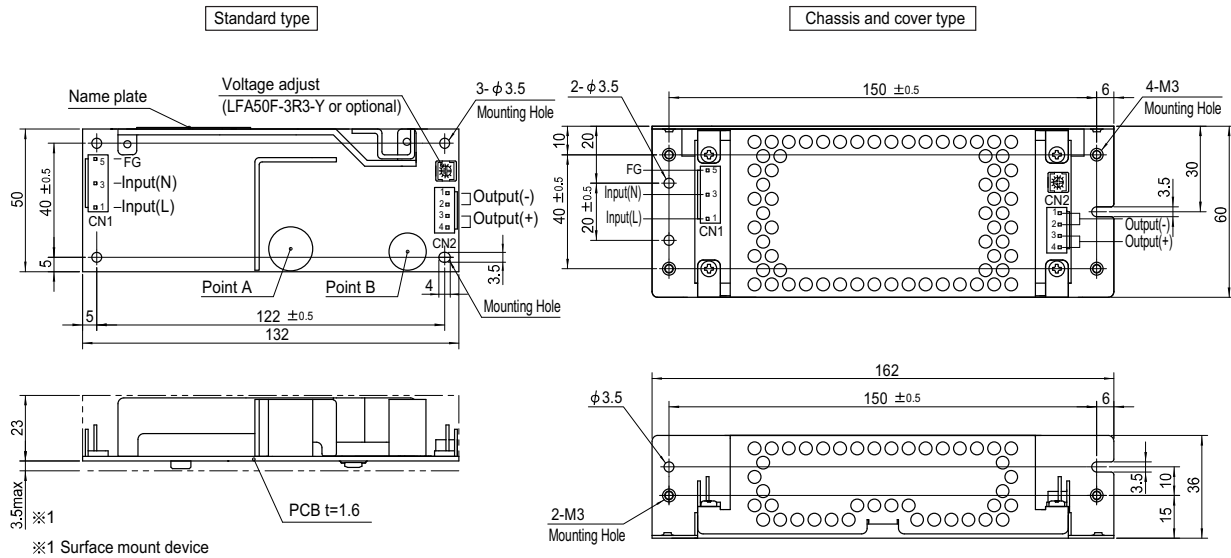
\*2 Drift is the change in DC output for an eight hour period after a half-hour warm-up at 25°C, with the input voltage held constant at the rated input/output.

\*3 Derating is required.  
\* 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



- ※ 4 Mounting holes are existing.
- ※ 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        |
|---------------|------------------|-----------------|
| CN1           | 1-1123724-3      | Chain 1123721-1 |
|               |                  | Loose 1318912-1 |
| CN2           | 1-1123723-4      | 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>

| CN1     |       | CN2     |        |
|---------|-------|---------|--------|
| Pin No. | Input | Pin No. | Output |
| 1       | AC(L) | 1, 2    | -V     |
| 2       |       | 3, 4    | +V     |
| 3       | AC(N) |         |        |
| 4       |       |         |        |
| 5       | FG    |         |        |

- ※ Tolerance : ±1
- ※ Weight : 165g 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

※ Keep drawing current per pin below 5A for CN2.