

Recommended EMI/EMC Filter NAC-04-472



High voltage pulse noise type : NAP series Low leakage current type : NAM series

to connect with several devices.

*The EMI/EMC Filter is recommended

- ①Series name ②Single output ③Output wattage ④Universal input
 - ⑤Output 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	LFA10F-3R3-Y	LFA10F-5	LFA10F-12	LFA10F-15	LFA10F-24
MAX OUTPUT WATTAGE[W]	6.6	10	10.8	10.5	12
DC OUTPUT	3.3V 2A	5V 2A	12V 0.9A	15V 0.7A	24V 0.5A

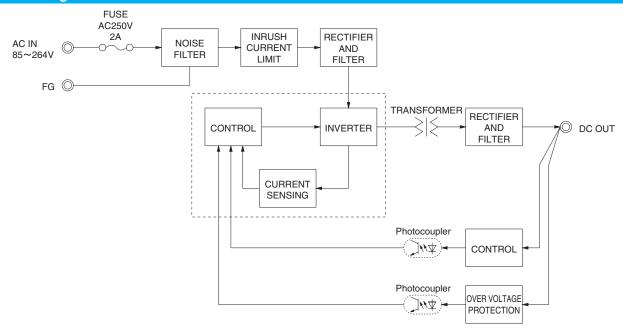
	MODEL		LFA10F-3R3-Y	LFA10F-5	LFA10F-12	LFA10F-15	LFA10F-24		
	VOLTAGE[V]		AC85 - 264 1 φ (Refe	r to Instruction Manual	1.1 and 3.2) *3				
	CURRENT[A]	ACIN 100V	0.18typ (lo=100%)						
	CORNENT[A]	ACIN 200V	0.11typ (Io=100%) 0.16typ (Io=100%)						
	FREQUENCY[Hz]		50 / 60 (47 - 440)						
INPUT	EEEIGIENGVI9/1	ACIN 100V	68.0typ	74.0typ	76.5typ	77.5typ	79.5typ		
	EFFICIENCY[%]	ACIN 200V	68.5typ	76.0typ	79.0typ	80.0typ	83.0typ		
	INDUCU CUDDENTIAL	ACIN 100V	15typ (lo=100%)						
	INRUSH CURRENT[A]	ACIN 200V	30typ (lo=100%)						
	LEAKAGE CURRENT[mA]		0.15/0.30max (ACIN 1	100V / 240V 60Hz, Io=	100%, According to IE	C60950-1 and DEN-AN)		
	VOLTAGE[V]		3.3	5	12	15	24		
	CURRENT[A]		2.0	2.0	0.9	0.7	0.5		
	LINE REGULATION[n	nV] *5	20max	20max	48max	60max	96max		
	LOAD REGULATION[mV] *5	40max	40max	100max	120max	150max		
İ		0 to +50°C	80max	80max	120max	120max	120max		
	RIPPLE[mVp-p]	-10 - 0℃	140max	140max	160max	160max	160max		
	*1	lo=0 - 35%	190max	160max	240max	240max	280max		
Ī		0 to +50°C	120max	120max	150max	150max	150max		
DUTPUT	RIPPLE NOISE[mVp-p] *1 TEMPERATURE REGULATION[mV]	-10 - 0℃	160max	160max	180max	180max	180max		
		lo=0 - 35%	240max	240max	300max	300max	320max		
		0 to +50°C	50max	50max	120max	150max	240max		
		-10 to +50°C	60max	60max	150max	180max	290max		
Ī	DRIFT[mV]	*2	20max	20max	48max	60max	96max		
_	START-UP TIME[ms] 20		200typ (ACIN 100V, lo=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%)						
Ī	OUTPUT VOLTAGE ADJUSTMENT F	RANGE[V]	2.85 to 3.63	Fixed ("Y" option is	available for adjusting	output voltage between	±10%)		
	OUTPUT VOLTAGE SETT	ING[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		
	OVERCURRENT PROTE	CTION	Works over 105% of	rating and recovers aut	omatically				
ROTECTION	OVERVOLTAGE PROTE	CTION	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		
IRCUIT AND	OPERATING INDICAT	ION	Not provided						
THERS	REMOTE SENSING		Not provided						
Ī	REMOTE ON/OFF		Not provided Not provided						
	INPUT-OUTPUT		AC3,000V 1minute, Cutoff current = 10mA, DC500V 50M Ω min (At Room Temperature)						
SOLATION	INPUT-FG		AC2,000V 1minute, C	C2,000V 1minute, Cutoff current = 10mA, DC500V 50M Ω min (At Room Temperature)					
	OUTPUT-FG		Λ C500V 1minute, Cutoff current = 25mA, DC500V 50M Ω min (At Room Temperature)						
	OPERATING TEMP., HUMID. AND	ALTITUDE	-10 to +70°C, 20 - 90°	-10 to +70°C, 20 - 90%RH (Non condensing) (Refer to Instruction Manual 3.2), 3,000m (10,000 feet) max *3					
NVIRONMENT	STORAGE TEMP., HUMID. AND A	ALTITUDE	-20 to +75°C, 20 - 90%RH (Non condensing), 9,000m (30,000 feet) max						
INVIRUNIMENT	VIBRATION		10 - 55Hz, 19.6m/s ² (0 - 55Hz, 19.6m/s² (2G), 3minutes period, 60minutes each along X, Y and Z axis					
	IMPACT		196.1m/s² (20G), 11n	96.1m/s² (20G), 11ms, once each X, Y and Z axis					
AFFTY AND	AGENCY APPROVAL	S	UL60950-1, C-UL (CSA60950-1), EN60950-1, EN50178 Complies with DEN-AN						
AFETY AND OISE	CONDUCTED NOISE		Complies with FCC-B,	VCCI-B, CISPR-B, EN	55011-B, EN55022-B				
EGULATIONS	CE MARKING		Low Voltage Directive	, EMC Directive					
ILGULATIONS	HARMONIC ATTENUA	ATOR	Complies with IEC610	000-3-2 (Class A) *6 (N	ot built-in to active filte	er) *4			
OTHERS	CASE SIZE/WEIGHT		50×22×73.5mm [1.9	97×0.87×2.89 inches] (W×H×D) / 55g max	(without chassis and o	cover)		
JIHEKO	COOLING METHOD		Convection (Refer to	Instruction Manual 3.1	and 3.2) *3				

This is the value that measured on measuring board with capacitor of 22 $\mu\,F$ 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

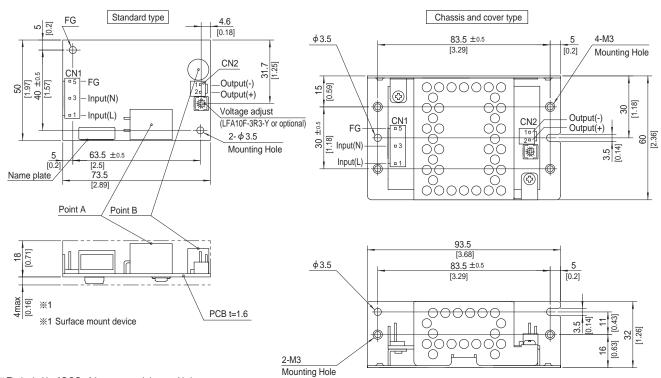
- factor Io=0-35% is different. Please refer to the Instruction Manual 1.7.
- Drift is the change in DC output for an eight hour period after a half-hour warm-up at 25°C, with the input voltage held constant at the rated input/output.
- Derating is required.
- When two or more units are operating it may not comply with the IEC61000-3-2.
- Please contact us about dynamic load and input response. Please contact us about another class.
- 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

LFA10F | COSEL

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.
- W 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	T	erminal	
014	4 4400704 0	1-1123722-5	Chain	1123721-1	
CN1	1-1123724-3	1-1123722-5	Loose	1318912-1	
ONIO	1-1123723-2	4 4400700 0	Chain	1123721-1	
CNZ	1-1123723-2	1-1123722-2	Loose	1318912-1	
(Mfr:Type Fleetrenies)					

(Mfr:Tyco Electronics)

- ※ I/O Connector is Mfr. Tyco Electronics
- $\ensuremath{\ensuremath{\%}}$ Option:-J1:(J.S.T) connector type. Refer to Instruction Manual 5.

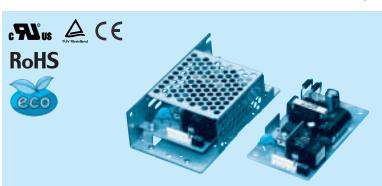
<PIN CONNECTION>

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

	CINZ						
		Pin No.	Output				
_		1	-V				
		2	+V				

CND

- ** Tolerance: ±1 [±0.04]
 ** Weight: 55g max (without chassis and cover)
 ** PCB material / thickness: CEM3 / 1.6mm
- * Optional chassis and cover material : Electric galvanizing steel board.
- * Dimensions in mm, []=inches
- Mounting torque (Mounting hole of chassis): 0.6N · m (6.3kgf · cm) max



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*The EMI/EMC Filter is recommended to connect with several devices.

- ①Series name ②Single output ③Output wattage ④Universal input
- ⑤Output 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

	MODEL		LFA15F-3R3-Y	LFA15F-5	LFA15F-12	LFA15F-15	LFA15F-24			
	VOLTAGE[V]		AC85 - 264 1 ¢ (Refer to Instruction Manual 1.1 and 3.2) *3							
	OUDDENITE AT	ACIN 100V	0.24typ (lo=100%)							
	CURRENT[A]	ACIN 200V	0.15typ (Io=100%)							
	FREQUENCY[Hz]	•	50 / 60 (47 - 440)							
INPUT		ACIN 100V	68.0typ	73.0typ	76.0typ	77.0typ	78.0typ			
	EFFICIENCY[%]	ACIN 200V	69.0typ	76.0typ	78.5typ	80.0typ	81.5typ			
	INDUOLI OLIDDENITIAL	ACIN 100V	15typ (lo=100%) (At	cold start) (Ta=25°C)						
	INRUSH CURRENT[A]	ACIN 200V	30typ (lo=100%) (At	30typ (lo=100%) (At cold start) (Ta=25℃)						
	LEAKAGE CURRENT	[mA]	0.15/0.30max (ACIN	100V / 240V 60Hz, I	o=100%, According to	IEC60950-1 and DEN-	-AN)			
	VOLTAGE[V]		3.3	5	12	15	24			
	CURRENT[A]		3.0	3.0	1.3	1.0	0.7			
	LINE REGULATION[n	nV] *5	20max	20max	48max	60max	96max			
	LOAD REGULATION	mV] *5	40max	40max	100max	120max	150max			
		0 to +50°C	80max	80max	120max	120max	120max			
	RIPPLE[mVp-p]	-10 - 0℃	140max	140max	160max	160max	160max			
	*1	lo=0 - 35%	190max	160max	240max	240max	280max			
		0 to +50°C	120max	120max	150max	150max	150max			
DUTPUT	RIPPLE NOISE[mVp-p]	-10 - 0℃	160max	160max	180max	180max	180max			
	*1	lo=0 - 35%	240max	240max	300max	300max	320max			
	TEMPERATURE REQUILATIONSVI	0 to +50°C	50max	50max	120max	150max	240max			
	TEMPERATURE REGULATION[mV]	-10 to +50°C	60max	60max	150max	180max	290max			
	DRIFT[mV] *2		20max	20max	48max	60max	96max			
	START-UP TIME[ms]		200typ (ACIN 100V, Io=100%) *Start-up time is 700ms typ for less than 1 minute of applying input again from turning off the input voltage.							
	HOLD-UP TIME[ms]		20typ (ACIN 100V, Io=100%)							
	OUTPUT VOLTAGE ADJUSTMENT I	RANGE[V]	2.85 to 3.63 Fixed ("Y" option is available for adjusting output voltage between ±10%)							
	OUTPUT VOLTAGE SETT	ING[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			
	OVERCURRENT PROTE	ECTION	Works over 105% of	rating and recovers a	utomatically		•			
ROTECTION	OVERVOLTAGE PROTE	CTION	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			
IRCUIT AND	OPERATING INDICAT	TION	Not provided							
THERS	REMOTE SENSING		Not provided Not provided							
	REMOTE ON/OFF		Not provided							
	INPUT-OUTPUT		AC3,000V 1minute, 0	Cutoff current = 10m/	A, DC500V 50M Ω min	(At Room Temperature	e)			
SOLATION	INPUT-FG		AC2,000V 1minute, Cutoff current = 10mA, DC500V 50M Ω min (At Room Temperature)							
	OUTPUT-FG		AC500V 1minute, Cutoff current = 25mA, DC500V 50M Ω min (At Room Temperature)							
	OPERATING TEMP., HUMID. AND	ALTITUDE	-10 to +70°C, 20 - 90%RH (Non condensing) (Refer to Instruction Manual 3.2), 3,000m (10,000 feet) max *3							
NVIRONMENT	STORAGE TEMP., HUMID. AND A	ALTITUDE	-20 to +75°C, 20 - 90%RH (Non condensing), 9,000m (30,000 feet) max							
INVIRONIVIENT	VIBRATION		10 - 55Hz, 19.6m/s² (2G), 3minutes period, 60minutes each along X, Y and Z axis							
	IMPACT		196.1m/s² (20G), 11ms, once each X, Y and Z axis							
AFFTY AND	AGENCY APPROVAL	s	UL60950-1, C-UL (CSA60950-1), EN60950-1, EN50178 Complies with DEN-AN							
AFETY AND	CONDUCTED NOISE		Complies with FCC-B	, VCCI-B, CISPR-B, E	N55011-B, EN55022-	В	<u> </u>			
REGULATIONS	CE MARKING		Low Voltage Directive							
LEGILATIONS	HARMONIC ATTENU	ATOR			(Not built-in to active					
OTHERS	CASE SIZE/WEIGHT		50×22×87.5mm [1.	.97×0.87×3.44 inch	es] (W×H×D) / 80g r	max (without chassis ar	nd cover)			
/LI13	COOLING METHOD		Convection (Refer to	Convection (Refer to Instruction Manual 3.1 and 3.2) *3						

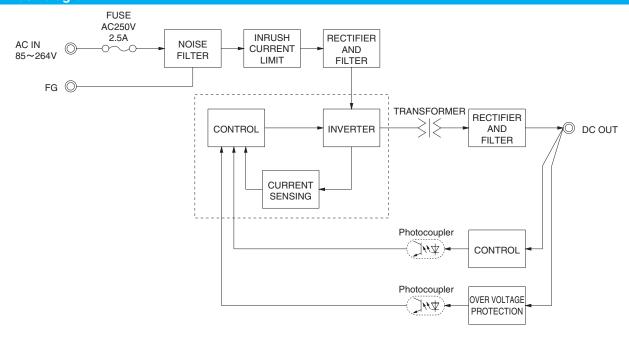
This is the value that measured on measuring board with capacitor of 22 µF at 150mm from output terminal.

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

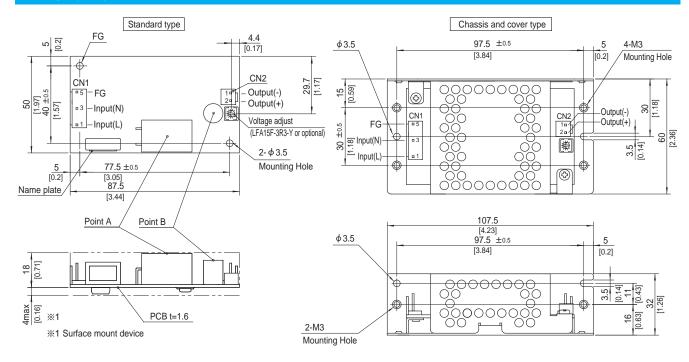
- factor Io=0-35% is different.
- Please refer to the Instruction Manual 1.7.
 Drift is the change in DC output for an eight hour period after
- a half-hour warm-up at 25°C, with the input voltage held constant at the rated input/output. Derating is required.
- When two or more units are operating it may not comply with the IEC61000-3-2.
- Please contact us about dynamic load and input response. Please contact us about another class.
- 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

LFA15F | COSEL

Block diagram



External view



- $\ensuremath{\mathbb{X}}$ 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/C) Connector	Mating connector	Terminal		
ONIA	1-1123724-3	1-1123722-5	Chain	1123721-1	
CNT	1-1123724-3	1-1123/22-5	Loose	1318912-1	
ONIO	4 4400700 0	1-1123722-2	Chain	1123721-1	
CNZ	1-1123723-2	1-1123/22-2	Loose	1318912-1	

(Mfr:Tvco Electronics)

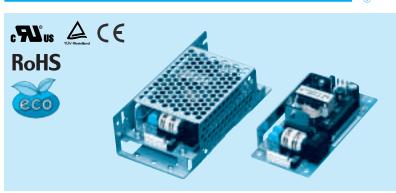
- ※ I/O Connector is Mfr. Tyco Electronics
- ※ Option:-J1:(J.S.T) connector type. Refer to Instruction Manual 5.

<PIN CONNECTION>

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

CINZ	
Pin No.	Output
1	-V
2	+V

- % Tolerance : ±1 [±0.04]
- * 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, []=inches
- \frak{M} Mounting torque (Mounting hole of chassis) : 0.6N \cdot m (6.3kgf \cdot cm) max





High voltage pulse noise type : NAP series Low leakage current type : NAM series

*The EMI/EMC Filter is recommended to connect with several devices.

- 2 Single output 3 Output wattage 4 Universal input
 - ⑤Output voltage

①Series name

- 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	LFA30F-3R3-Y	LFA30F-5	LFA30F-12	LFA30F-15	LFA30F-24
MAX OUTPUT WATTAGE[W]	19.8	30.0	30.0	30.0	31.2
DC OUTPUT	3.3V 6A	5V 6A	12V 2.5A	15V 2A	24V 1.3A

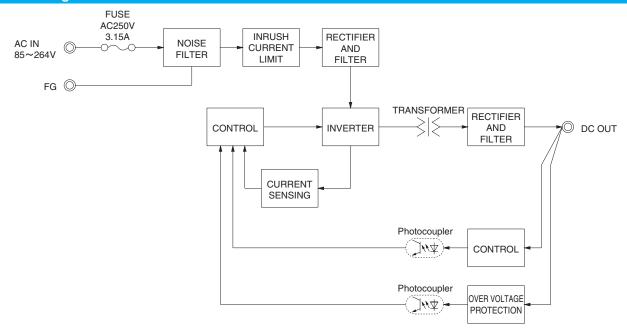
	MODEL		LFA30F-3R3-Y	LFA30F-5	LFA30F-12	LFA30F-15	LFA30F-24	
	VOLTAGE[V]		AC85 - 264 1 φ (Refe	er to Instruction Manu	ual 1.1 and 3.2) *3			
	CURRENT[A]	ACIN 100V	0.50typ (lo=100%) 0.65typ (lo=100%)					
	CORNENT[A]	ACIN 200V	0.30typ (lo=100%) 0.35typ (lo=100%)					
	FREQUENCY[Hz]		50 / 60 (47 - 440)					
INPUT	EFFICIENCY[%]	ACIN 100V	73typ	76typ	79typ	81typ	82typ	
	LITIOILING 1[70]	ACIN 200V	75typ	79typ	81typ	83typ	84typ	
	INRUSH CURRENT[A]	ACIN 100V	15typ (lo=100%) (At	, , ,				
	INNUSH CONNENT[A]	ACIN 200V	30typ (Io=100%) (At	cold start) (Ta=25°C)				
	LEAKAGE CURREN	T[mA]	0.30 / 0.65max (ACII	N 100V / 240V 60Hz,	Io=100%, According	to IEC60950-1 and D	EN-AN)	
	VOLTAGE[V]		3.3	5	12	15	24	
	CURRENT[A]		6.0	6.0	2.5	2.0	1.3	
	LINE REGULATION[mV] *5	20max	20max	48max	60max	96max	
	LOAD REGULATION	[mV] *5	40max	40max	100max	120max	150max	
	RIPPLE[mVp-p]	0 to +50°C *1	80max	80max	120max	120max	120max	
	NIPPLE[IIIVP-P]	-10-0℃ *1	140max	140max	160max	160max	160max	
	RIPPLE NOISE[mVp-p]	0 to +50°C *1	120max	120max	150max	150max	150max	
OUTPUT	HIPPLE NOISE[IIIVP-P]	-10-0℃ *1	160max	160max	180max	180max	180max	
	TEMPERATURE REGULATION(mV)	0 to +50°C	50max	50max	120max	150max	240max	
	TEMPERATURE REGULATION[IIIV]	-10 to +50℃	60max	60max	150max	180max	290max	
	DRIFT[mV] *2		20max	20max	48max	60max	96max	
	START-UP TIME[ms]		150typ (ACIN 100V, Io=100%)					
	HOLD-UP TIME[ms]		20typ (ACIN 100V, Io=100%)					
	OUTPUT VOLTAGE ADJUSTMENT RANGE[V]		2.85 to 3.63	, ,	available for adjusting o	output voltage between	· '	
	OUTPUT VOLTAGE SET	TING[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	
	OVERCURRENT PROT		Works over 105% of rating and recovers automatically					
PROTECTION	OVERVOLTAGE PROTE	CTION	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 INDICA	TION	Not provided					
OTHERS	REMOTE SENSING		Not provided					
	REMOTE ON/OFF		Not provided AC3,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (At Room Temperature)					
	INPUT-OUTPUT					·	<u> </u>	
ISOLATION	INPUT-FG		AC2,000V 1minute, Cutoff current = 10mA, DC500V 50M Ω min (At Room Temperature)					
	OUTPUT-FG		AC500V 1minute, Cutoff current = 25mA, DC500V 50M Ω min (At Room Temperature)					
	OPERATING TEMP., HUMID.AND		-10 to +70°C, 20 - 90%RH (Non condensing) (Refer to Instruction Manual 3.2), 3,000m (10,000feet) max *3					
ENVIRONMENT	STORAGE TEMP.,HUMID.AND	ALTITUDE	-20 to +75°C, 20 - 90%RH (Non condensing), 9,000m (30,000feet) max					
	VIBRATION		10 - 55Hz, 19.6m/s² (2G), 3minutes period, 60minutes each along X, Y and Z axis					
	IMPACT		196.1m/s ² (20G), 11ms, once each X, Y and Z axis UL60950-1, C-UL (CSA60950-1), EN60950-1, EN50178 Complies with DEN-AN					
SAFETY AND	AGENCY APPROVAL		, ,					
NOISE	CONDUCTED NOISE		<u> </u>	<u>, , , , , , , , , , , , , , , , , , , </u>	N55011-B, EN55022-	В		
REGULATIONS	CE MARKING		Low Voltage Directiv	·				
	HARMONIC ATTENU				ot built-in to active filte			
OTHERS	CASE SIZE/WEIGHT				es] (W×H×D) / 130g	max (without chassis	s and cover)	
	COOLING METHOD		Convection (Refer to	Instruction Manual 3.1	and 3.2) *3			

- This is the value that measured on measuring board with capacitor of 22 $\mu\,F$ at 150mm from output terminal.

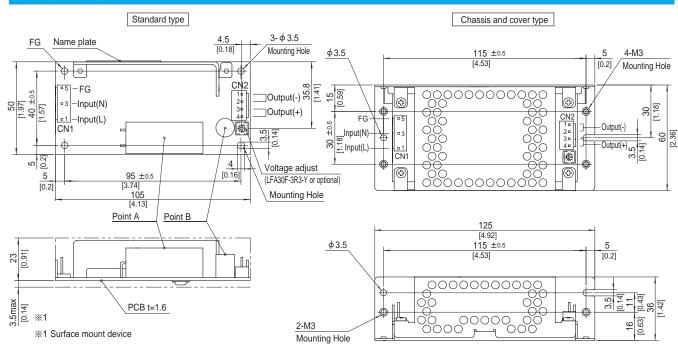
 Measured by 20MHz oscilloscope or Ripple-Noise meter (Equivalent to KEISOKU-GIKEN:
- Drift is the change in DC output for an eight hour period after a half-hour warm-up at $25\ensuremath{^{\circ}}\xspace$, with the input voltage held constant at the rated input/output.
- Derating is required.

- When two or more units are operating it may not comply with the IEC61000-3-2. Please contact us for details.
- Please contact us about dynamic load and input response.
- Please contact us about another class.
- To meet the specifications. Do not operate over-loaded condition.
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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.
- W 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/C	Connector	Mating connector	Т	erminal	
014	4 4400704 0	1-1123722-5	Chain	1123721-1	
CIVI	1-1123724-3	1-1123722-5	Loose	1318912-1	
ONIO	CN2 1-1123723-4	4 4400700 4	Chain	1123721-1	
CN2		1-1123722-4	Loose	1318912-1	
0 # T FI : : :					

(Mfr:Tyco Electronics)

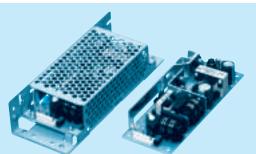
- ※ I/O Connector is Mfr. Tyco Electronics
- $\ \ \, \mbox{\@ifnextcolor}\mbox{\@ifnextco$

<PIN CONNECTION>

Input
AC(L)
AC(N)
FG

	CN2	
	Pin No.	Output
-	1, 2	-V
	3, 4	+V
7		

- % Tolerance : ±1 [±0.04]
 % Weight: 130g max (without chassis and cover)
- ※ PCB material / thickness : CEM3 / 1.6mm
- * Optional chassis and cover material : Electric galvanizing steel board.
- * Dimensions in mm, []=inches
- Mounting torque (Mounting hole of chassis): 0.6N · m (6.3kgf · cm) max
- * Keep drawing current per pin below 5A for CN2.





High voltage pulse noise type : NAP series Low leakage current type : NAM series

to connect with several devices

*The EMI/EMC Filter is recommended

- ①Series name
- 2 Single output 3 Output wattage 4 Universal input
- ⑤Output voltage
- ⑥Optional
 - 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.

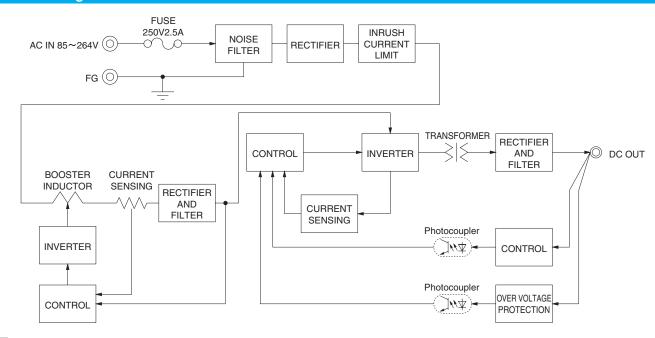
This power supply is manufactured by SMD technology. The stress to P.C.B like twisting or bending causes the defect of the unit, so handle the unit with care.

MODEL	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									

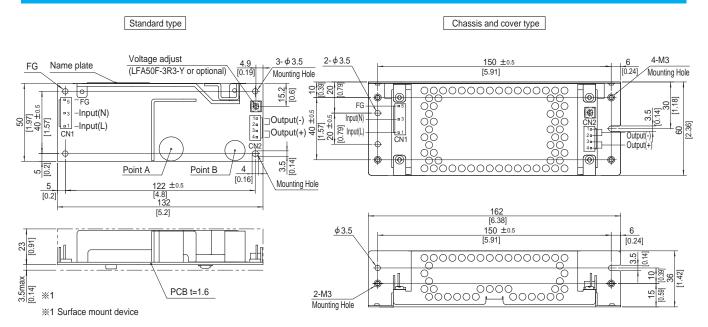
	MODEL		LFA50F-3R3-Y	LFA50F-5	LFA50F-12	LFA50F-15	LFA50F-24	LFA50F-36	LFA50F-48			
	VOLTAGE[V]		AC85 - 264 1 ¢	(Refer to Inst	ruction Manual	1.1 and 3.2) *3						
	CURRENT[A]	ACIN 100V	0.47typ (lo=100%) 0.67typ (lo=100%)									
	CURRENT[A]	ACIN 200V	0.27typ (lo=100%) 0.36typ (lo=100%)									
INPUT	FREQUENCY[Hz]		50 / 60 (47 - 6	3)								
	EFFICIENCY[%]	ACIN 100V	73.5typ	77.5typ	80.0typ	80.5typ	81.5typ	82.0typ	81.0typ			
	EFFICIENCI[%]	ACIN 200V	74.0typ	79.0typ	81.5typ	81.5typ	83.0typ	83.5typ	82.5typ			
	POWER FACTOR (Io=100%)	ACIN 100V	0.96typ	31 31								
	FOWER FACTOR (10=100 /6)	ACIN 200V	0.83typ	0.90typ								
	INRUSH CURRENT[A]	ACIN 100V	15typ (lo=100°									
	INNOSTI CONNENT[A]	ACIN 200V	30typ (Io=100°									
	LEAKAGE CURREN	T[mA]	0.40 / 0.75max	(ACIN 100V /	240V 60Hz, Io	=100%, Accordi	ng to IEC60950	0-1 and DEN-AN))			
	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[I	mV] *4	20max	20max	48max	60max	96max	144max	192max			
	LOAD REGULATION	[mV] *4	40max	40max	100max	120max	150max	240max	240max			
	RIPPLE[mVp-p]	0 to +50°C *1	80max	80max	120max	120max	120max	150max	150max			
	ımı Ezimab bi	-10-0℃ *1	140max	140max	160max	160max	160max	200max	200max			
	RIPPLE NOISE[mVp-p]	0 to +50°C *1		120max	150max	150max	150max	250max	250max			
OUTPUT	TIII T EE NOIGE[IIIVP P]	-10-0℃ *1		160max	180max	180max	180max	300max	300max			
	TEMPERATURE REGULATION[mV]		50max	50max	120max	150max	240max	360max	480max			
	TERRI ETIATOTIE TIEGOEATION(IIIV)	-10 to +50℃		60max	150max	180max	290max	450max	600max			
1	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%) 2.85 to 3.63 Fixed ("Y" option is available for adjusting output voltage between ±10%)									
	OUTPUT VOLTAGE ADJUSTMENT RANGE[V]		2.85 to 3.63			, , , , , , , , , , , , , , , , , , , 						
	OUTPUT VOLTAGE SET		3.30 to 3.40	4.90 to 5.30		14.40 to 15.60	23.00 to 25.00	34.50 to 37.50	46.00 to 50.0			
1	OVERCURRENT PROT		Works over 10		1							
	OVERVOLTAGE PROTE		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 67.2			
	OPERATING INDICA	TION	Not provided									
OTHERS	REMOTE SENSING		Not provided									
	REMOTE ON/OFF		Not provided									
+	INPUT-OUTPUT					DC500V 50MΩ I						
ISOLATION	INPUT-FG		AC2,000V 1minute, Cutoff current = 10mA, DC500V 50M Ω min (At Room Temperature)									
	OUTPUT-FG		AC500V 1minute, Cutoff current = 25mA, DC500V 50M Ω min (At Room Temperature)									
-	OPERATING TEMP., HUMID. AND		, , , , , , , , , , , , , , , , , , , ,									
ENVIRONMENT	STORAGE TEMP., HUMID.AND	ALTITUDE	-20 to +75°C, 20 - 90%RH (Non condensing), 9,000m (30,000feet) max									
-	VIBRATION			10 - 55Hz, 19.6m/s² (2G), 3minutes period, 60minutes each along X, Y and Z axis								
	IMPACT				each X, Y and							
SAFETY AND	AGENCY APPROVAL					1, EN50178 Con	-	I-AN				
NOISE	CONDUCTED NOISE				· · · · · · · · · · · · · · · · · · ·	55011-B, EN550	22-B					
REGULATIONS	CE MARKING		Low Voltage D									
	HARMONIC ATTENU		Complies with				NE / !!!					
OTHERS	CASE SIZE/WEIGHT						obg max (witho	ut chassis and c	over)			
	COOLING METHOD		Convection (Re	eter to Instruction	n Manual 3.1 ar	nd 3.2) *3						

- This is the value that measured on measuring board with capacitor of 22 μ F at 150mm from output terminal. Measured by 20MHz oscilloscope or Ripple-Noise meter (Equivalent to KEISOKU-GIKEN:
- 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.
- Derating is required. Please contact us about dynamic load and input response.
- Please contact us about another class.
- 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.





External view



- ¾ 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.
- W 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		
014	1-1123724-3	1-1123722-5	Chain	1123721-1	
CN1		1-1123722-5	Loose	1318912-1	
ONIO	1-1123723-4	1-1123722-4	Chain	1123721-1	
CN2	1-1123723-4		Loose	1318912-1	

(Mfr:Tyco Electronics)

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

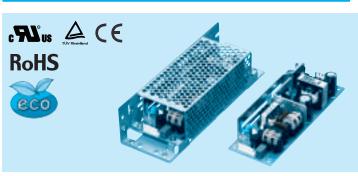
<PIN CONNECTION>

CN1		CN2	
Pin No.	Input	Pin No.	Output
1	AC(L)	1.2	-V
2		1, 2	-v
3	AC(N)	2.4	+V
4		3, 4	+ v
5	FG		

- ※ Tolerance: ±1 [±0.04]
- 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, []=inches
- Mounting torque (Mounting hole of chassis): 0.6N · m (6.3kgf · cm) max

LFA75F-15

MODEL





High voltage pulse noise type : NAP series Low leakage current type : NAM series

*The EMI/EMC Filter is recommended to connect with several devices.

LFA75F-24

- ①Series name ②Single output ③Output wattage ④Universal input
- ⑤Output voltage

LFA75F-36

- 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.

LFA75F-48

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.

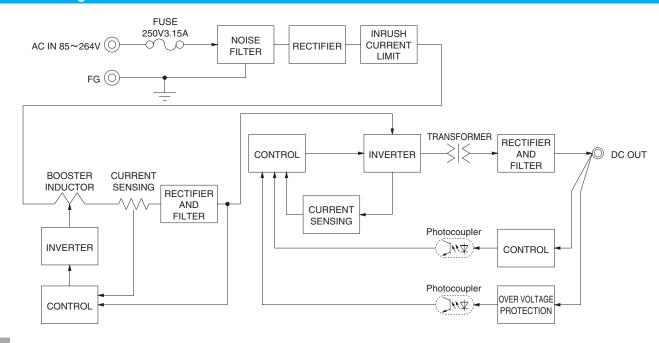
LFA75F-12

LFA75F-3R3-Y LFA75F-5

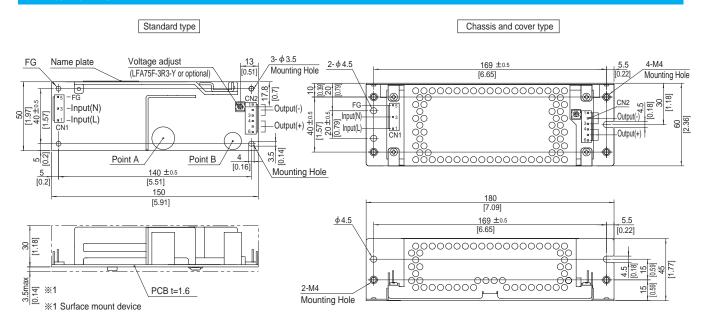
MAX OUTPU	UT WATTAGE[W]		49.5	75	75.6	75	76.8	75.6	76.8			
DC OUTPUT			3.3V 15A	5V 15A	12V 6.3A	15V 5A	24V 3.2A	36V 2.1A	48V 1.6A			
SPECIF	ICATIONS											
	MODEL		LFA75F-3R3-Y	LFA75F-5	LFA75F-12	LFA75F-15	LFA75F-24	LFA75F-36	LFA75F-48			
INPUT	VOLTAGE[V]		AC85 - 264 1 ¢	AC85 - 264 1 φ (Refer to Instruction Manual 1.1 and 3.2) *3								
	CUDDENTIAL	ACIN 100V	0.70typ (lo=100%)	.70typ (lo=100%) 1.00typ (lo=100%)								
	CURRENT[A] ACIN 200V		0.40typ (lo=100%)	0.50typ (Io=10	00%)							
	FREQUENCY[Hz]		50 / 60 (47 - 6	3)								
	EFFICIENCY[%]	ACIN 100V	73.5typ	78.0typ	81.5typ	81.5typ	82.5typ	82.5typ	82.5typ			
	EFFICIENCI[%]	ACIN 200V	75.0typ	80.0typ	83.0typ	83.0typ	84.5typ	84.5typ	84.5typ			
	POWER FACTOR (Io=100%)	ACIN 100V	0.96typ	0.97typ								
	POWEN FACION (IO=100%)	ACIN 200V	0.83typ	0.90typ								
	INRUSH CURRENT[A]	ACIN 100V	15typ (lo=100	%) (At cold start	t) (Ta=25°C)							
	INNUSTI CONNENT[A]	ACIN 200V		%) (At cold start								
	LEAKAGE CURREN	T[mA]	0.40 / 0.75max	(ACIN 100V / 2	240V 60Hz, lo=	=100%, Accordi	ng to IEC60950	-1 and DEN-AN)			
	VOLTAGE[V]		3.3	5	12	15	24	36	48			
	CURRENT[A]		15.0	15.0	6.3	5.0	3.2	2.1	1.6			
	LINE REGULATION[mV] *4	20max	20max	48max	60max	96max	144max	192max			
	LOAD REGULATION	[mV] *4	40max	40max	100max	120max	150max	240max	240max			
	RIPPLE[mVp-p]	0 to +50°C *1	80max	80max	120max	120max	120max	150max	150max			
	nirrec[iiivp-p]	-10-0℃ *1	140max	140max	160max	160max	160max	200max	200max			
	RIPPLE NOISE[mVp-p]	0 to +50°C *1	120max	120max	150max	150max	150max	250max	250max			
OUTPUT	HIFFEE NOISE[IIIVP-P]	-10-0℃ *1	160max	160max	180max	180max	180max	300max	300max			
	TEMPERATURE REGULATION[mV]	0 to +50℃	50max	50max	120max	150max	240max	360max	480max			
	TEMIT ENATONE NEGOCIATION[IIIV]	-10 to +50℃	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		2.85 to 3.63	, ,		or adjusting out						
	OUTPUT VOLTAGE SET		3.30 to 3.40	4.90 to 5.30		14.40 to 15.60	23.00 to 25.00	34.50 to 37.50	46.00 to 50.00			
	OVERCURRENT PROT				d recovers auto							
PROTECTION	OVERVOLTAGE PROTE		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			
CIRCUIT AND		TION	Not provided									
OTHERS	REMOTE SENSING		Not provided									
	REMOTE ON/OFF			Not provided AC3,000V 1minute, Cutoff current = 10mA, DC500V 50M Ω min (At Room Temperature)								
	INPUT-OUTPUT						<u> </u>					
ISOLATION	INPUT-FG		AC2,000V 1minute, Cutoff current = 10mA, DC500V 50M Ω min (At Room Temperature) AC500V 1minute, Cutoff current = 25mA, DC500V 50M Ω min (At Room Temperature)									
	OUTPUT-FG							<u> </u>				
	OPERATING TEMP., HUMID.AND			,	- 0,	(Refer to Instruc), 3,000m (10,0	000feet) max *3			
ENVIRONMENT	STORAGE TEMP.,HUMID.AND	ALTITUDE				, 9,000m (30,00						
	VIBRATION		10 - 55Hz, 19.6m/s² (2G), 3minutes period, 60minutes each along X, Y and Z axis 196.1m/s² (20G), 11ms, once each X, Y and Z axis									
	IMPACT			,			-B	A D.I.				
SAFETY AND	AGENCY APPROVAL					, EN50178 Com	•	-AN				
NOISE	CONDUCTED NOISE	•	•			5011-B, EN5502	22-B					
REGULATIONS	CE MARKING		-	irective, EMC D								
	HARMONIC ATTENU			IEC61000-3-2		//////////////////////////////////////	0	at abanasi s				
OTHERS	CASE SIZE/WEIGHT					(W×H×D) / 23	og max (withou	it chassis and c	over)			
	COOLING METHOD		Convection (Re	eter to Instructio	n Manual 3.1 an	d 3.2) *3						
41 This is	the value that measured or	moscurin	a hoard with canaci	tor of 22 HE at 150	mm 🛂 De	rating in required						

- This is the value that measured on measuring board with capacitor of 22 $\mu\,F$ at 150mm from output terminal.
 - Measured by 20MHz oscilloscope or Ripple-Noise meter (Equivalent to KEISOKU-GIKEN:
- 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.
- Derating is required. Please contact us about dynamic load and input response.
- Please contact us about another class.
- 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.





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			
	CNIA	4 4400704 0	1-1123722-5	Chain	1123721-1		
	CN1 1-112372	1-1123724-3	1-1123722-5	Loose	1318912-1		
	CN2 1-1123723-6	1-1123722-6	Chain	1123721-1			
		1-1123/23-6	1-1123/22-6	Loose	1318912-1		
	(Mfr:Type Fleetrenies)						

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

<PIN CONNECTION>

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

CN2	
Pin No.	Output
1 to 3	-V
4 to 6	+V

- ※ Tolerance : ±1 [±0.04]
- Weight: 230g max (without chassis and cover)
- ※ PCB material / thickness : CEM3 / 1.6mm
- ※ Optional chassis and cover material: Electric galvanizing steel board.
- ※ Dimensions in mm, []=inches
- Mounting torque (Mounting hole of chassis) :1.5N · m (16kgf · cm) max

LFA

c Sus Livrheinted CE **RoHS**

Recommended EMI/EMC Filter NAC-04-472

High voltage pulse noise type : NAP series Low leakage current type : NAM series

*The EMI/EMC Filter is recommended

to connect with several devices

- ①Series name ②Single output ③Output wattage ④Universal input ⑤Output voltage
- © Optional *1
 C: with Coating
 G: Low leakage current
 H: with the function to be acceptable
 - to output peak current (only 24V)
 J1: VH(J.S.T.)connector type
 R: with Remote ON/OFF
 R2: with Remote ON/OFF

 - S: with Chassis
- SN: with Chassis & cover Y: with Potentiometer

Please refer to Instruction manual 5

MODEL	LFA100F-3R3-Y	LFA100F-5-Y	LFA100F-12	LFA100F-15	LFA100F-24	LFA100F-24-H	LFA100F-36	LFA100F-48
MAX OUTPUT WATTAGE[W] *5	66	100	102	100.5	103.2	103.2 (129.6)	100.8	100.8
DC OUTPUT *5	3.3V 20A	5V 20A	12V 8.5A	15V 6.7A	24V 4.3A	24V 4.3 (5.4)A	36V 2.8A	48V 2.1A

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

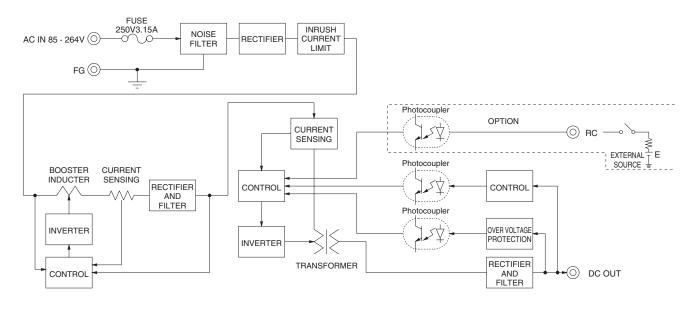
SPECIFICATIONS

so handle the unit with care.

	MODEL		LFA100F-3R3-Y	LFA100F-5-Y	LFA100F-12	LFA100F-15	LFA100F-24	LFA100F-24-H	LFA100F-36	LFA100F-48	
	VOLTAGE[V]		AC85 - 264 1	φ (Refer to I	nstruction Ma	nual 1.1 and	3.2) *4				
	OUDDENTIAL	ACIN 100V	0.9typ (Io=100%)	1.3typ (lo=10	00%)						
	CURRENT[A]	ACIN 200V	0.5typ (Io=100%) 0.7typ (Io=100%)								
	FREQUENCY[Hz] 5		50 / 60 (47 - 63)								
	EEEIOIENOVIO/1	ACIN 100V	77.0typ	82.0typ	82.0typ	83.0typ	84.0typ	84.0typ	84.0typ	84.5typ	
NPUT	EFFICIENCY[%]	ACIN 200V	79.0typ	84.0typ	84.5typ	85.5typ	87.0typ	87.0typ	87.0typ	87.0typ	
	DOWED FACTOR (In 1000()	ACIN 100V	0.98typ	0.99typ					•		
	POWER FACTOR (Io=100%)	ACIN 200V	0.92typ 0.95typ								
	INRUSH CURRENT[A]	ACIN 100V	15typ (lo=10	0%) (At cold s	start) (Ta=25°C	C)					
	INNUSH CONNENT[A]	ACIN 200V	30typ (Io=100%) (At cold start) (Ta=25℃)								
	LEAKAGE CURRENT	T[mA]	0.40 / 0.75m	ax (ACIN 100)	V / 240V 60H	Iz, Io=100%, <i>I</i>	According to I	EC60950-1 ai	nd DEN-AN)		
	VOLTAGE[V]		3.3	5	12	15	24	24	36	48	
	CURRENT[A]	*5	20	20	8.5	6.7	4.3	4.3 (Peak 5.4)	2.8	2.1	
	LINE REGULATION[I			20max	48max	60max	96max	96max	144max	192max	
	LOAD REGULATION		40max	40max	100max	120max	150max	150max	240max	240max	
OUTPUT	RIPPLE[mVp-p]	0 to +50°C *2		80max	120max	120max	120max	240max	150max	150max	
	ıııı ı EE[iiivp p]		140max	140max	160max	160max	160max	320max	200max	200max	
	RIPPLE NOISE[mVp-p]		120max	120max	150max	150max	150max	300max	250max	250max	
	TIII T EE NOISE[IIIVP-P]	-10-0℃ *2	160max	160max	180max	180max	180max	360max	300max	300max	
	TEMPERATURE REGULATION[mV]		50max	50max	120max	150max	240max	240max	360max	480max	
	, ,	-10 to +50℃		60max	150max	180max	290max	290max	450max	600max	
	L 1		20max	20max	48max	60max	96max	96max	144max	192max	
			350typ (ACIN 100V, Io=100%)								
	HOLD-UP TIME[ms]		20typ (ACIN 100V, Io=100%) 2.85 to 3.63 4.50 to 5.50 Fixed ("Y" option is available for adjusting output voltage)								
	OUTPUT VOLTAGE ADJUSTMENT										
	OUTPUT VOLTAGE SET								34.50 to 37.50		
	OVERCURRENT PROT								recovers auto		
PROTECTION	OVERVOLTAGE PROTE				13.80 to 16.80	17.25 to 21.00	27.60 to 33.60	27.60 to 33.60	41.40 to 50.40	55.20 to 67.2	
OTHERS	OPERATING INDICA	IION	Not provided								
UTILLIS	REMOTE SENSING REMOTE ON/OFF		Not provided	r to Instructio	n Manual)						
	INPUT-OUTPUT-RC	*6		ninute, Cutoff		»	OMO min (At	t Doom Tomp	oratura)		
	INPUT-FG	*0		ninute, Cutoff							
SOLATION	OUTPUT-RC-FG	*6									
	OUTPUT-RC	*6		nute, Cutoff c							
	OPERATING TEMP., HUMID.AND								000m (10,000	feet) may	
	STORAGE TEMP., HUMID.AND			, 20 - 90%RH					000111 (10,000	noot) max	
NVIRONMENT	VIBRATION			9.6m/s² (2G),	·				s		
	IMPACT			. ,,				., =	-		
SAFETY AND											
NOISE	CONDUCTED NOISE			h FCC-B, VCC							
REGULATIONS	HARMONIC ATTENU			h IEC61000-3							
	CASE SIZE/WEIGHT		<u> </u>				(D) / 280g ma	x (without ch	assis and cov	er)	
OTHERS	COOLING METHOD			Refer to Instru				,		,	
*1 Specificati	on is changed at option, refer	to Instructio	·			- /		e contact us about	another class		

- *1 Specification is changed at option, refer to Instruction Manual.
- This is the value that measured on measuring board with capacitor of 22 µ F at 150mm from output terminal. Measured by 20MHz oscilloscope or Ripple-Noise meter (Equivalent to KEISOKU-GIKEN: RM103).
- *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
- Derating is required. () means peak current. There is a possibility that an internal device is damaged when the specification is exceeded. Please contact us about the detail.
- Applicable when Remote ON/OFF (optional) is added.
- Please contact us about dynamic load and input response.
- *8 Please contact us about another class
- 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.

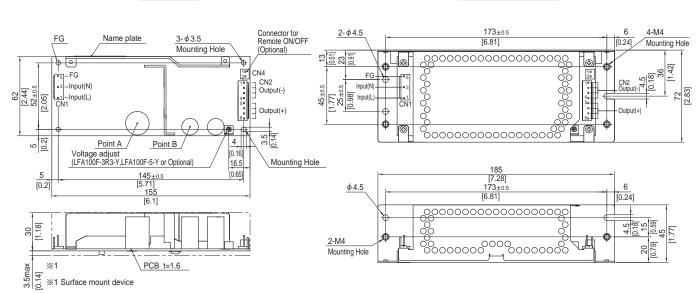




External view

* External size of option is different from standard model.

Standard type Chassis and cover type



- ¾ 4 Mounting holes are existing.
- $\ensuremath{\,\times\,}$ 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/C) Connector	Mating connector			
014	1-1123724-3	23724-3 1-1123722-5		1123721-1	
CN1	1-1123724-3	1-1123722-5	Loose	1318912-1	
ONIO	1-1123723-8	1-1123722-8	Chain	1123721-1	
CN2	1-1123723-8	1-1123722-8	Loose	1318912-1	

(Mfr:Tyco Electronics)

- * I/O Connector is Mfr. Tyco Electronics
- ※ Option:-J1:VH(J.S.T) connector type.

<PIN CONNECTION>

CN1 Pin No. Input AC(L) 3 AC(N) FG

CN2	
Pin No.	Output
1 to 4	-V
5 to 8	+V

- % Keep drawing current per pin below 5A for CN2.
- % Tolerance : ±1 [±0.04]
- * Weight : 280g max (without chassis and cover)
- * PCB material : CEM3
- ※ Optional chassis and cover material : Electric galvanizing steel board.
- * Dimensions in mm, []=inches
- Mounting torque (Mounting hole of chassis) :1.5N · m (16kgf · cm) max

Connector type

CN4 Option (Mfr:J.S.T)

PIN No.	Contents
1	RC(+)
2	RC(-)

Barrier strip type

Model B2B-XH-A Mating Connector (Terminal) XHP-2

BXH-001T-P0.6 or SXH-001T-P0.6 LFA

c Sus Livrheinted CE **RoHS**

Recommended EMI/EMC Filter NAC-04-472

High voltage pulse noise type : NAP series Low leakage current type : NAM series

*The EMI/EMC Filter is recommended

to connect with several devices

to output peak current (only 24V)
J1: VH(J.S.T.)connector type
R: with Remote ON/OFF
R2: with Remote ON/OFF S: with Chassis SN: with Chassis & cover Y: with Potentiometer

①Series name ②Single output ③Output wattage ④Universal input

⑤Output voltage

© Optional *1
C: with Coating
G: Low leakage current
H: with the function to be acceptable

Please refer to Instruction manual 5.

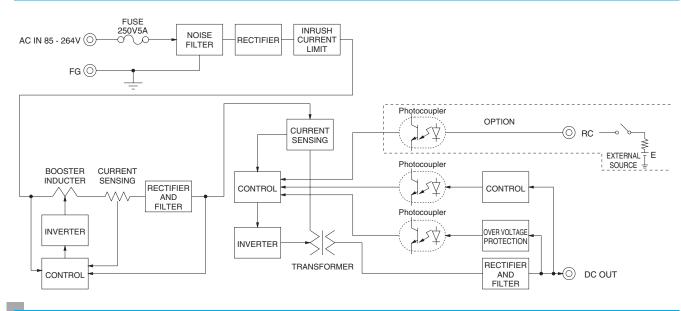
This power supply is manufactured by SMD technology. The stress to P.C.B like twisting or bending causes the defect of the unit, so handle the unit with care.

MODEL	LFA150F-3R3-Y	LFA150F-5-Y	LFA150F-12	LFA150F-15	LFA150F-24	LFA150F-24-H	LFA150F-36	LFA150F-48
MAX OUTPUT WATTAGE[W] *5	99	150	150	150	151.2	151.2 (189.6)	151.2	153.6
DC OUTPUT *5	3.3V 30A	5V 30A	12V 12.5A	15V 10A	24V 6.3A	24V 6.3 (7.9)A	36V 4.2A	48V 3.2A

	MODEL		LFA150F-3R3-Y	LFA150F-5-Y	LFA150F-12	LFA150F-15	LFA150F-24	LFA150F-24-H	LFA150F-36	LFA150F-48	
	VOLTAGE[V]		AC85 - 264 1 φ (Refer to Instruction Manual 1.1 and 3.2) *4								
	CURRENT[A]	ACIN 100V		2.0typ (lo=10							
	CONNENT[A]	ACIN 200V	0.7typ (Io=100%) 1.0typ (Io=100%)								
	FREQUENCY[Hz]		50 / 60 (47 -	63)							
INPUT	EFFICIENCY[%]	ACIN 100V	80.0typ	82.5typ	82.5typ	84.0typ	85.0typ	85.0typ	85.0typ	85.5typ	
	EFFICIENCT[%]	ACIN 200V	82.0typ	85.5typ	85.0typ	86.5typ	87.5typ	87.5typ	87.5typ	88.0typ	
	POWER FACTOR (Io=100%)	ACIN 100V	0.98typ	0.99typ							
	POWER PACION (IO=100%)	ACIN 200V	0.92typ	71 71							
	INRUSH CURRENT[A]	ACIN 100V	15typ (Io=100%) (At cold start) (Ta=25°C)								
	INNOSTI CONNENT[A]	ACIN 200V	30typ (Io=10	Otyp (Io=100%) (At cold start) (Ta=25°C)							
	LEAKAGE CURRENT	T[mA]	0.40 / 0.75max (ACIN 100V / 240V 60Hz, Io=100%, According to IEC60950-1 and DEN-AN)								
	VOLTAGE[V]		3.3	5	12	15	24	24	36	48	
	CURRENT[A]	*5	30	30	12.5	10	6.3	6.3 (Peak 7.9)	4.2	3.2	
	LINE REGULATION[I	mV] *7	20max	20max	48max	60max	96max	96max	144max	192max	
	LOAD REGULATION	[mV] *7	40max	40max	100max	120max	150max	150max	240max	240max	
ОИТРИТ	RIPPLE[mVp-p]	0 to +40℃ *2	80max	80max	120max	120max	120max	240max	150max	150max	
	RIPPLE[mvp-p]	-10-0℃ *2	140max	140max	160max	160max	160max	320max	200max	200max	
	DIDDI E NOICE[m\/n n]	0 to +40℃ *2	120max	120max	150max	150max	150max	300max	250max	250max	
	RIPPLE NOISE[mVp-p]	-10 - 0℃ *2	160max	160max	180max	180max	180max	360max	300max	300max	
	TEMPERATURE REGULATION[mV]	0 to +40℃	50max	50max	120max	150max	240max	240max	360max	480max	
	TEMPERATURE REGULATION[IIIV]	-10 to +40°C	60max	60max	150max	180max	290max	290max	450max	600max	
	DRIFT[mV] *3		20max	20max	48max	60max	96max	96max	144max	192max	
	START-UP TIME[ms]		350typ (ACIN	I 100V, Io=10	0%)			•		•	
	HOLD-UP TIME[ms]		20typ (ACIN 100V, Io=100%)								
	OUTPUT VOLTAGE ADJUSTMENT	RANGE[V]	2.85 to 3.63	4.50 to 5.50	Fixed ("Y" o	ption is availat	ole for adjustin	g output volta	ge)		
	OUTPUT VOLTAGE SET	TING[V]	3.30 to 3.40	5.00 to 5.15	11.50 to 12.50	14.40 to 15.60	23.00 to 25.00	23.00 to 25.00	34.50 to 37.50	46.00 to 50.00	
	OVERCURRENT PROT	ECTION	Works over 1	105% of rating) (works over	101% of pea	k current at op	otion -H) and	recovers auto	matically	
PROTECTION	OVERVOLTAGE PROTE	ECTION	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	27.60 to 33.60	41.40 to 50.40	55.20 to 67.20	
CIRCUIT AND	OPERATING INDICA	TION	Not provided								
OTHERS	REMOTE SENSING		Not provided								
	REMOTE ON/OFF		Option (Refer to Instruction Manual)								
	INPUT-OUTPUT-RC	*6	AC3,000V 1n	ninute, Cutoff	current = 10r	nA, DC500V 5	$50 \mathrm{M}\Omega$ min (At	t Room Temp	erature)		
ISOLATION	INPUT-FG		,				$50 { m M}\Omega$ min (At				
ISOLATION	OUTPUT-RC-FG	*6					MΩ min (At F				
	OUTPUT-RC	*6				·	MΩ min (At F				
	OPERATING TEMP., HUMID.AND	ALTITUDE *4	-10 to +70℃	, 20 - 90%RH	(Non conden	sing) (Refer to	Instruction N	lanual 3.2), 3,	000m (10,000	feet) max	
ENVIRONMENT	STORAGE TEMP., HUMID. AND	ALTITUDE		20 to +75°C, 20 - 90%RH (Non condensing), 9,000m (30,000feet) max							
LIVINONWENT	VIBRATION		10 - 55Hz, 19	9.6m/s² (2G),	3minutes peri	od, 60minute	s each along 2	X, Y and Z axi	S		
	IMPACT			0G), 11ms, oı							
SAFETY AND	AGENCY APPROVAL	LS					78 Complies v	with DEN-AN			
NOISE	CONDUCTED NOISE			h FCC-B, VCC		·	EN55022-B				
REGULATIONS	HARMONIC ATTENU	JATOR		h IEC61000-3							
OTHERS	CASE SIZE/WEIGHT							x (without ch	assis and cov	er)	
O.HEHO	COOLING METHOD		Convection (Refer to Instru	ction Manual 3	3.1 and 3.2) *4					

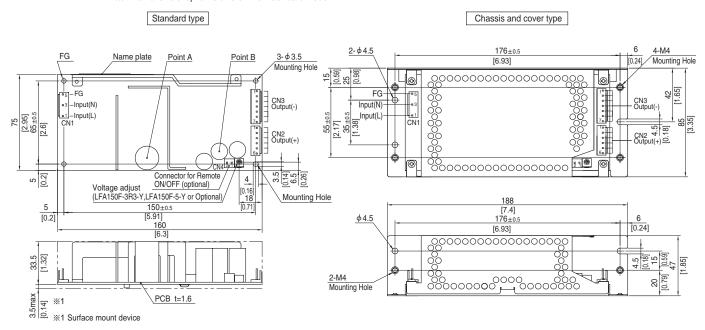
- Specification is changeed at option, refer to Instruction Manual
- This is the value that measured on measuring board with capacitor of 22 µ F at 150mm from output terminal. Measured by 20MHz oscilloscope or Ripple-Noise meter (Equivalent to KEISOKU-GIKEN: RM103).
- Drift is the change in DC output 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
- Derating is required. () means peak current. There is a possibility that an internal device is damaged when the specification is exceeded. Please contact us about the detail.
- Applicable when remote control (optional) is added.
- Please contact us about dynamic load and input response.
- Please contact us about another class
- 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.





External view

* External size of option is different from standard model.



- % 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		
	NIA	1-1123724-3	1-1123722-5	Chain	1123721-1	
C	INI	1-1123724-3	1-1123722-5	Loose	1318912-1	
	NIO	1-1123723-6	1-1123722-6	Chain	1123721-1	
C	INZ	1-1123723-6	1-1123722-6	Loose	1318912-1	
	NIO	1-1123723-7	1-1123722-7	Chain	1123721-1	
C	N3	1-1123723-7	1-1123/22-/	Loose	1318912-1	

(Mfr:Tyco Electronics)

- * I/O Connector is Mfr. Tyco Electronics
- % Option:-J1:VH(J.S.T) connector type.

<PIN CONNECTION>

CN1		CN2			CN3	
Pin No.	Input	Pin No.	Output		Pin No.	Output
1	AC(L)					
2						
3	AC(N)	1 to 6	+V		1 to 7	-V
4						
5	FG					
w Kaan		 	Jan EA for t	2012	CNIO	

- ※ Keep drawing current per pin below 5A for CN2,CN3.
- % Tolerance : ±1 [±0.04]
- Weight: 390g max (without chassis and cover)
- ※ PCB material : CEM3 ※ Optional chassis and cover material: Electric galvanizing steel board.
- ※ Dimensions in mm, []=inches
- $\ensuremath{\textrm{\%}}$ Mounting torque (Mounting hole of chassis) :1.5N $^{\bullet}$ m (16kgf $^{\bullet}$ cm) max

Connector type

CN4 Option (Mfr:J.S.T)

PIN No.	Contents
1	RC(+)
2	RC(-)

Barrier strip type

Model B2B-XH-A Mating Connector (Terminal) XHP-2

BXH-001T-P0.6 or SXH-001T-P0.6





High voltage pulse noise type : NAP series Low leakage current type : NAM series

Recommended EMI/EMC Filter NAC-06-472

①Series name

2 Single output 3 Output wattage 4 Universal input

⑤Output voltage

 Optional *1
 C : with Coating
 G : Low leakage current H: with the function to be acceptable

to output peak current (only 24V)
J1: VH(J.S.T.)connector type
R: with Remote ON/OFF
R2: with Remote ON/OFF

S: with Chassis

SN: with Chassis & cover

T : Vertical terminal block Y: with Potentiometer

Please refer to Instruction

manual 5.

MODEL	LFA240F-24	LFA240F-24-H	LFA240F-36	LFA240F-48
MAX OUTPUT WATTAGE[W] *5	240	240 (300)	241.2	240
DC OUTPUT *5	24V 10A	24V 10 (12.5)A	36V 6.7A	48V 5A

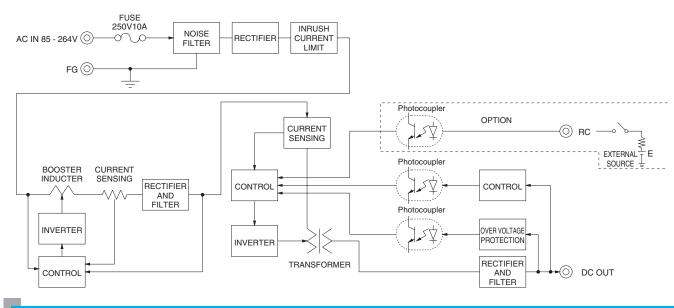
SPECIFICATIONS

so handle the unit with care.

	MODEL		LFA240F-24	LFA240F-24-H	LFA240F-36	LFA240F-48				
	VOLTAGE[V]		AC85 - 264 1 \(\phi \) (Refer to Instruction Manual 1.1 and 3.2) *4							
	CUDDENTIAL	ACIN 100V	3.3typ (Io=100%)							
	CURRENT[A]	ACIN 200V	/ 1.7typ (Io=100%)							
	FREQUENCY[Hz]		50 / 60 (47 - 63)							
INPUT	EFFICIENCY[0/]	ACIN 100V	84.5typ	84.5typ	84.5typ	84.5typ				
	EFFICIENCY[%]	ACIN 200V	87.5typ	87.5typ	87.5typ	87.5typ				
	DOWED FACTOR (In 100%) ACIN		0.99typ	•		•				
	POWER FACTOR (Io=100%) ACIN		0.95typ							
	INRUSH CURRENT[A]	ACIN 100V	15 / 30typ (Io=100%) (Primary inrush current /Secondary inrush current) (More then 3 sec. to re-start)							
	INNUSH CURRENT[A]	ACIN 200V	30 / 30typ (Io=100%) (Pr	0 / 30typ (Io=100%) (Primary inrush current /Secondary inrush current) (More then 3 sec. to re-start)						
	LEAKAGE CURREN	T[mA]	0.40 / 0.75max (ACIN 100	OV / 240V 60Hz, Io=100%	, According to IEC60950-1	and DEN-AN)				
	VOLTAGE[V]		24	24	36	48				
	CURRENT[A]	*5	10	10 (Peak12.5)	6.7	5				
	LINE REGULATION[mV] *7		96max	96max	144max	192max				
	LOAD REGULATION	[mV] *7	150max	150max	240max	240max				
	DIDDI Elm\/= =1	0 to +40℃ *2	120max	240max	150max	150max				
	RIPPLE[mVp-p]	-10 - 0°C *2	160max	320max	200max	200max				
	DIDDLE NOICEIVe1	0 to +40℃ *2	150max	300max	250max	250max				
OUTPUT	RIPPLE NOISE[mVp-p]	-10 - 0°C *2	180max	360max	300max	300max				
	TEMPERATURE REGULATION[mV]	0 to +40°C	240max	240max	360max	480max				
	TEMPERATURE REGULATION[IIIV]	-10 to +40°C	290max	290max	450max	600max				
	DRIFT[mV]	*3	96max	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]	Fixed ("Y" option is available for adjusting output voltage)							
	OUTPUT VOLTAGE SET	TING[V]	23.00 to 25.00	23.00 to 25.00	34.50 to 37.50	46.00 to 50.00				
	OVERCURRENT PROT	ECTION	Works over 105% of ratir	ng (works over 101% of pe	ak current at option -H) and	I recovers automatically				
PROTECTION	OVERVOLTAGE PROTE	ECTION	27.60 to 33.60	27.60 to 33.60	41.40 to 50.40	55.20 to 67.20				
CIRCUIT AND	OPERATING INDICA	TION	Not provided		•	•				
OTHERS	REMOTE SENSING		Not provided							
	REMOTE ON/OFF		Option (Refer to Instructi	on Manual)						
	INPUT-OUTPUT-RC	*6		,	$^\prime$ 50M Ω min (At Room Tem	,				
ISOLATION	INPUT-FG				$^\prime$ 50M Ω min (At Room Tem					
ISOLATION	OUTPUT-RC-FG	*6			$50 { m M}\Omega$ min (At Room Tempe					
	OUTPUT-RC	*6	AC100V 1minute, Cutoff	current = 25mA, DC100V 1	$OM\Omega$ min (At Room Tempe	rature)				
	OPERATING TEMP., HUMID. AND	ALTITUDE *4	-10 to +70℃, 20 - 90%RI	H (Non condensing) (Refer	to Instruction Manual 3.2), 3	,000m (10,000feet) max				
ENVIRONMENT	STORAGE TEMP., HUMID.AND	ALTITUDE								
LIA A ILI O IAINI E IA I	VIBRATION				tes each along X, Y and Z a	ris				
	IMPACT		196.1m/s² (20G), 11ms, once each X, Y and Z axis							
SAFETY AND	AGENCY APPROVAL	LS	UL60950-1, C-UL (CSA60	0950-1), EN60950-1, EN50	178 Complies with DEN-AN					
NOISE	CONDUCTED NOISE			CI-B, CISPR-B, EN55011-E	B, EN55022-B					
REGULATIONS	HARMONIC ATTENU	JATOR	Complies with IEC61000-							
OTHERS	CASE SIZE/WEIGHT		84×46.5×180mm [3.31]	$\times 1.83 \times 7.09$ inches] (W \times H	IXD) / 550g max (without o	hassis and cover)				
OITERS	COOLING METHOD		Convection (Refer to Instr	uction Manual 3.1 and 3.2)	*4	<u> </u>				
alad On a lift a sti		r to Instructi	on Manual at the reted input		* Please contact us abou					

- *1 Specification is changeed at option, refer to Instruction Manual. This is the value that measured on measuring board with
- capacitor of 22 µ F at 150mm from output terminal. Measured by 20MHz oscilloscope or Ripple-Noise meter (Equivalent to KEISOKU-GIKEN: RM103).
- 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
- Derating is required. () means peak current. There is a possibility that an internal device is damaged when the specification is exceeded. Please contact us about the detail.
- Applicable when remote control (optional) is added.
- Please contact us about dynamic load and input response.
- *8 Please contact us about another class
- 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.



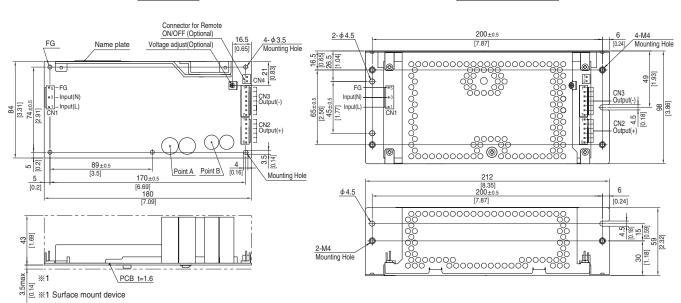


External view

* External size of option is different from standard model.

Standard type

Chassis and cover type



- * The back side of P.C.B. of the power supply is assembled some
- 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/C	Connector	Mating connector	Terminal		
CNI	1-1123724-3	1-1123722-5	Chain	1123721-1	
CIVI	1-1123/24-3	1-1123722-5	Loose	1318912-1	
CNIO	1-1123723-6	1-1123722-6	Chain	1123721-1	
CINZ	1-1123723-6	1-1123722-0	Loose	1318912-1	
0110	4 4400700 7	1-1123722-7	Chain	1123721-1	
CN3 1-1123723-7		1-1123722-7	Loose	1318912-1	

(Mfr:Tvco Electronics)

- % I/O Connector is Mfr. Tyco Electronics
- * Option:-J1:VH(J.S.T) connector type.

<PIN CONNECTION>

CN1			CN2		CN3				
Pin No.	Input		Pin No.	Output		Pin No.	Output		
1	AC(L)								
2									
3	AC(N)		1 to 6	+V		1 to 7	-V		
4									
5	FG								
W. K									

- % Keep drawing current per pin below 5A for CN2,CN3.
- % Tolerance : ±1 [±0.04]
- % Weight: 550g max (without chassis and cover)
- * PCB material : CEM3
- * Optional chassis and cover material: Electric galvanizing steel board.
- * Dimensions in mm, []=inches
- Mounting torque (Mounting hole of chassis) :1.5N · m (16kgf · cm) max

Connector type

CN4 Option (Mfr:J.S.T)

PIN No.	Contents	
1	RC(+)	
2	RC(-)	

Barrier strip type

Model B2B-XH-A Mating Connector (Terminal) XHP-2

BXH-001T-P0 6 or SXH-001T-P0.6 c Sus Livrheinted CE **RoHS**



High voltage pulse noise type : NAP series Low leakage current type : NAM series

Recommended EMI/EMC Filter NAC-06-472

- ①Series name
 ②Single output
 ③Output wattage
 ④Universal input
 ⑤Output voltage
 ⑥Optional *1
 C: with Coating
 G: Low leakage current
 H: with the function to be acceptable
 to output peak current

- H: with the function to be acceptable to output peak current (Only 24V, 30V, 36V and 48V)

 J: EP (190e Electronics) connector type (Except 3.3V and 5V)

 J: VH (J.-S.T.) connector type (Except 3.3V and 5V)

 R: with Remote ON/OFF

 R2: with Remote ON/OFF

 S2: with Chassis
 SNF: with Chassis & cover & fan (Only 5V, 12V and 24V)

 TI: Holizontal terminal block

	Please refer to instruction manual 5.										
	MODEL		LFA300F-3R3-TY	LFA300F-5-TY	LFA300F-12-TY	LFA300F-15-TY	LFA300F-24-TY	LFA300F-24-HTY	LFA300F-30-TY	LFA300F-36-TY	LFA300F-48-TY
MAX OUTPUT WATTAGE[W] *5		198	300	324	330	336	336 (456)	330	338.4	336	
DC OUTPUT *5	Convection	3.3V 40A	5V 40A	12V 17A	15V 14A	24V 12.5A	24V 12.5 (19)A	30V 10A	36V 8.4A	48V 6.3A	
	Forced air	3 3V 60A	5V 60A	12V 27A	15V 22A	24V 14A	24V 14 (19)A	30V 11A	36V 9 4A	48V 7A	

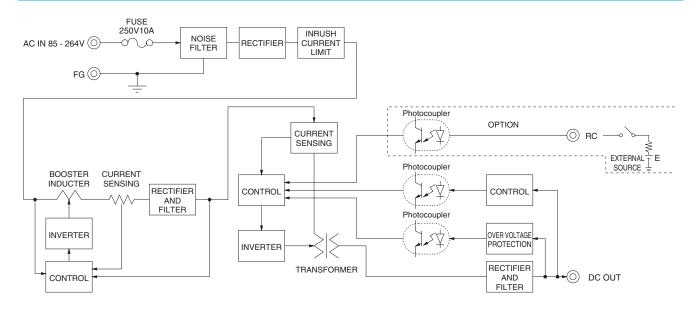
This power supply is manufactured by SMD technology. The stress to P.C.B like twisting or bending causes the defect of the unit,

INPUT FR POV INF LE VO CU LIN LO RIF OUTPUT RIP TEMI	CURRENT[A]	AOIN 400V	LFA300F-3R3-TY AC85 - 264				LFA300F-24-TY		LFA300F-30-TY	LFA300F-36-TY	LFA300F-48-TY	
INPUT FR FR POV INF LE VO CU LIN LO RIF OUTPUT RIP TEMI DRI	CURRENT[A]	AOIN 400V	AC85 - 264	1 d (Refer t								
INPUT EF POV INF LE VO CU LIN LO RIF OUTPUT RIP TEMI DRI	CURRENT[A]	A OIN 400V	AC85 - 264 1 ϕ (Refer to Instruction Manual 1.1 and 3.2) *4									
INPUT EF POV INF LE VO CU LIN LO RIF OUTPUT RIP TEMI		ACIN 100V	2.7typ (lo=100%) 4.1typ (lo=100%)									
INPUT POV INF LE VO CU LIN LO RIF OUTPUT RIP TEMI	REQUENCY[Hz]	ACIN 200V										
POVI INFE LE VO CU LIN LO RIF OUTPUT RIP TEMI		FREQUENCY[Hz]		50 / 60 (47 - 63)								
POVI INFE LE VO CU LIN LO RIF OUTPUT RIP TEMI		ACIN 100V	75.0typ	79.0typ	80.0typ	81.5typ	85.0typ	85.0typ	85.5typ	85.5typ	85.5typ	
INF LE VO CU LIN LO RIF OUTPUT RIP TEMI	EFFICIENCY[%]	ACIN 200V	77.0typ	82.5typ	83.0tvp	84.5typ	88.0typ	88.0typ	88.0typ	88.0typ	88.0typ	
INF LE VO CU LIN LO RIF OUTPUT RIP TEMI		ACIN 100V	0.98typ	0.99typ								
LE VO CU LIN LO RIF OUTPUT RIP TEMI	POWER FACTOR (Io=100%)	ACIN 200V	0.92typ 0.95typ									
LE VO CU LIN LO RIF OUTPUT RIP TEMI		ACIN 100V	15 / 30typ (Io=100%) (Primary inrush current /Secondary inrush current) (More then 3 sec. to re-start)									
OUTPUT RIP TEMI DR	NRUSH CURRENT[A]	ACIN 200V	30 / 30typ (10=100%) (Primary inrush current /Secondary inrush current) (More then 3 sec. to re-start)									
CU LIN LO RIF OUTPUT RIP TEMI	LEAKAGE CURRENT[mA		0.45 / 0.75max (ACIN 100V / 240V 60Hz, Io=100%, According to IEC60950-1 and DEN-AN)									
CU LIN LO RIF OUTPUT RIP TEMI	VOLTAGE[V]		3.3	5	12	15	24	24	30	36	48	
OUTPUT RIP TEMI		Convection	40	40	17	14	12.5	12.5 (Peak19)	10	8.4	6.3	
OUTPUT RIP TEMI	TIRRENIIAI *5 +		60	60	27	22	14	14 (Peak19)	11	9.4	7	
OUTPUT RIP TEMI	.INE REGULATION[r	nV] *7	20max	20max	48max	60max	96max	96max	144max	144max	192max	
OUTPUT RIP TEMI	OAD REGULATION	[mV] *7	40max	40max	100max	120max	150max	150max	240max	240max	240max	
OUTPUT RIP TEMI		0 to +40°C *2	80max	80max	120max	120max	120max	240max	150max	150max	150max	
TEMI DR	RIPPLE[mVp-p]	-10 - 0℃ *2	140max	140max	160max	160max	160max	320max	200max	200max	200max	
TEMI DR	RIPPLE NOISE[mVp-p]	0 to +40°C *2	120max	120max	150max	150max	150max	300max	250max	250max	250max	
DR		-10-0℃ *2	160max	160max	180max	180max	180max	360max	300max	300max	300max	
DR	TEMPERATURE REGULATION[mV]	0 to +40℃	50max	50max	120max	150max	240max	240max	360max	360max	480max	
		-10 to +40℃	60max	60max	150max	180max	290max	290max	450max	450max	600max	
	PRIFT[mV]	*3	20max	20max	48max	60max	96max	96max	144max	144max	192max	
ST	START-UP TIME[ms]		350typ (ACIN 100V, Io=100%)									
	HOLD-UP TIME[ms]		20typ (ACIN 100V, Io=100%)									
OUT	OUTPUT VOLTAGE ADJUSTMENT RANGE[V]		2.85 to 3.63	4.50 to 5.50	10.80 to 13.20	13.50 to 16.50	21.60 to 27.50	21.60 to 27.50	27.00 to 33.00	32.40 to 39.60	39.60 to 52.80	
	OUTPUT VOLTAGE SETTING[V]						24.00 to 24.96					
ov	VERCURRENT PROT	ECTION	Works over	105% of ra	ting (works	over 101% (of peak curre	ent at option	-H) and rec	overs autom	natically	
PROTECTION OVERVOLTAGE PROTECTION		CTION	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	27.60 to 33.60	34.50 to 42.00	41.40 to 50.40	55.20 to 67.20	
			Not provided									
OTHERS RE	REMOTE SENSING		Not provided									
RE	REMOTE ON/OFF		Option (Refer to Instruction Manual)									
INF	INPUT-OUTPUT-RC *6											
INF	INPUT-FG		AC2,000V 1minute, Cutoff current = 10mA, DC500V 50M Ω min (At Room Temperature)									
ISOLATION OU	OUTPUT-RC-FG	AC500V 1minute, Cutoff current = 25mA, DC500V 50MΩ min (At Room Temperature)										
OL	OUTPUT-RC *6		AC100V 1minute, Cutoff current = 25mA, DC100V 10M Ω min (At Room Temperature)									
OPE	OPERATING TEMP., HUMID. AND ALTITUDE *4											
ENIVIDONMENT STO	STORAGE TEMP., HUMID. AND ALTITUDE		-20 to +75°C, 20 - 90%RH (Non condensing), 9,000m (30,000feet) max									
ENVIRONMENT VIE	VIBRATION		10 - 55Hz, 19.6m/s² (2G), 3minutes period, 60minutes each along X, Y and Z axis									
IMI	IMPACT		196.1m/s ² (20G), 11ms, once each X, Y and Z axis									
SAFETY AND AG	GENCY APPROVAL	.s	UL60950-1	, C-UL (CSA	60950-1), E	N60950-1, E	N50178 Cor	mplies with	DEN-AN			
	CONDUCTED NOISE		Complies w	ith FCC-B, \	/CCI-B, CISF	PR-B, EN550	11-B, EN550)22-B				
REGULATIONS HA	IARMONIC ATTENU	ATOR	Complies with IEC61000-3-2 (Class A) *8									
			DEVEDEN	222mm [3.74×2.07×8.74 inches] (W×H×D) (without terminal block) / 810g max								
CO	ASE SIZE/WEIGHT		90 X 52.5 X	222111111 [3. <i>1</i>	4 ^ 2.07 ^ 0.7	74 menesj (v	V ∧ ⊓ ∧ ∪) (W	itiiout teiiiii	nai biock) /	o rug max		

- Specification is changeed at option, refer to Instruction Manual
- This is the value that measured on measuring board with capacitor of 22 µ F at 150mm from output terminal. Measured by 20MHz oscilloscope or Ripple-Noise meter (Equivalent to KEISOKU-GIKEN: RM103).
- 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
- Derating is required. () means peak current. There is a possibility that an internal device is damaged when the specification is exceeded. Please contact us about the detail..
- Applicable when remote control (optional) is added.
- Please contact us about dynamic load and input response.
- Please contact us about another class
- 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.



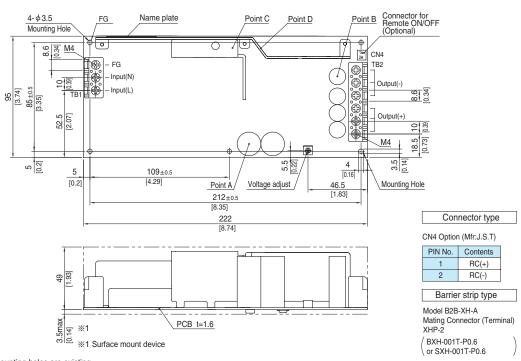




External view

* External size of option is different from standard model.

Standard type



- $\ensuremath{\mathbb{X}}$ 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, Point C, Point D are thermometry points. Please refer to Instruction Manual 3.
- % Keep drawing current per pin below 20A for TB2.

- ※ Tolerance: ±1 [±0.04]
- Weight: 810g max (without chassis and cover)PCB material: CEM3
- ※ Dimensions in mm, []=inches
- * Screw tightening torque : M4 1.6N · m (16.9kgf · cm) max