







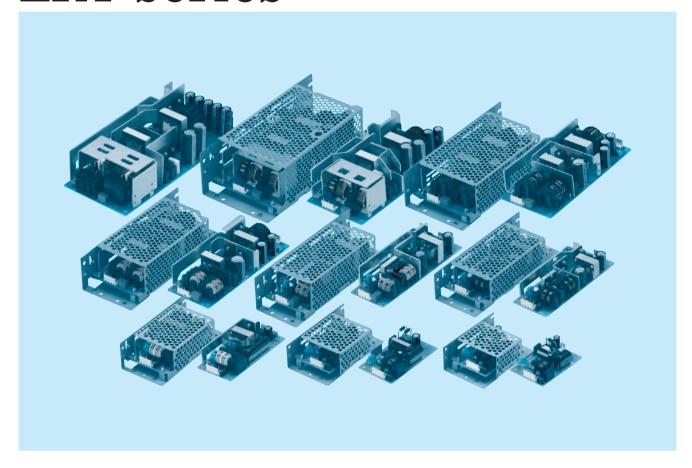








LFA-series



Feature

Small and compact PCB construction

Built-in inrush current, overcurrent and overvoltage protection circuits

Harmonic attenuator (Complies with IEC61000-3-2)

Universal input (AC85-264V)

Power factor correction (LFA50F-300F)

Built-in reducing standby power circuit (LFA10F, 15F)

Safety agency approvals

UL60950-1, C-UL(CSA60950-1), EN62368-1 Complies with DEN-AN

EMI

Complies with FCC-B, CISPR22-B, EN55011-B, EN55022-B, VCCI-B

5-year warranty (refer to Instruction Manual)

CE marking

Low Voltage Directive RoHS Directive

UKCA marking

Electrical Equipment Safety Regulations RoHS Regulations

EMS Compliance : EN61204-3, EN61000-6-2

EN61000-4-2

EN61000-4-3

EN61000-4-4

EN61000-4-5

EN61000-4-6

EN61000-4-8

EN61000-4-11

LFA10F

LF A 10 F -



Example recommended EMI/EMC filter NAC-04-472



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

*A higher current rating EMI/EMC filter may be recommended in view of the other devices that could be connected in parallel with the power supply. Series name
 Single output
 Output wattage

4)Universal 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. *Make sure necessary tests will be carried out on your end equipment with the power supply installed in accordance with any required EMC/EMI regulations.

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

SPECIFICATIONS

	MODEL		LFA10F-3R3-Y	LFA10F-5	LFA10F-12	LFA10F-15	LFA10F-24		
	VOLTAGE[V]		AC85 - 264 1 ¢ (Refer to "Derating", Instruction Manual 1 and 3) *3						
	ACIN 100V		0.18typ (lo=100%)						
	CURRENT[A]	ACIN 200V	0.11typ (lo=100%)						
	FREQUENCY[Hz]	FREQUENCY[Hz]							
INPUT	EFFICIENCY[9/1	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		
	INDUCTI CUDDENTIAL	ACIN 100V	15typ (lo=100%)						
	INRUSH CURRENT[A]	ACIN 200V	30typ (lo=100%)						
	LEAKAGE CURRENT	[mA]	0.15/0.30max (ACIN 10	00V / 240V 60Hz, lo=10	0%, According to IEC62	368-1 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		
	DIDDI Elm Ver est	0 to +50°C	80max	80max	120max	120max	120max		
	RIPPLE[mVp-p]	-10 - 0℃	140max	140max	160max	160max	160max		
	**	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 REGULATION[mV]	0 to +50°C	50max	50max	120max	150max	240max		
		-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 avai	lable for adjusting outpu	t 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 ra	ting and recovers autom	atically				
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		
CIRCUIT AND	OPERATING INDICAT	TION	Not provided						
OTHERS	REMOTE SENSING		Not provided						
	REMOTE ON/OFF		Not provided						
	INPUT-OUTPUT		AC3,000V 1minute, Cutoff current = 10mA, DC500V 50M Ω min (At Room Temperature)						
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 "Derating", Instruction Manual 3), 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						
	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								
SAFETY AND	AGENCY APPROVAL			A60950-1), EN62368-1 (.				
NOISE	CONDUCTED NOISE			VCCI-B, CISPR-B, EN55					
REGULATIONS	HARMONIC ATTENU	ATOR			built-in to active filter) *4				
OTHERS	CASE SIZE/WEIGHT		· ·		, , ,	h chassis & cover : 150g	max)		
	COOLING METHOD		Convection (Refer to "Derating", Instruction Manual 3) *3						

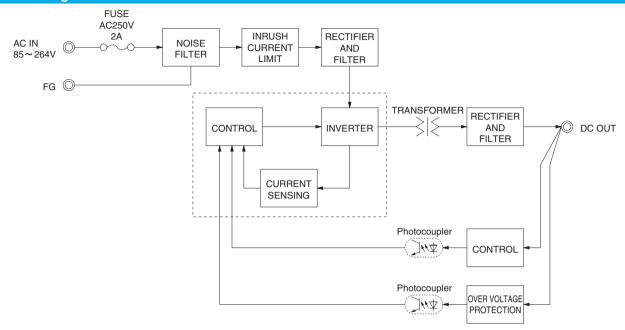
This is the value that measured on measuring board with capacitor of 22 $\mu\,\text{F}$ at 150mm from output terminal. Measured by 20MHz oscilloscope or Ripple-Noise meter (Equivalent to KEISOKU-GIKEN: RM103). A circuit reducing standby power is built in this unit. Therefore, the internal switch element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

factor Io=0-35% is different.

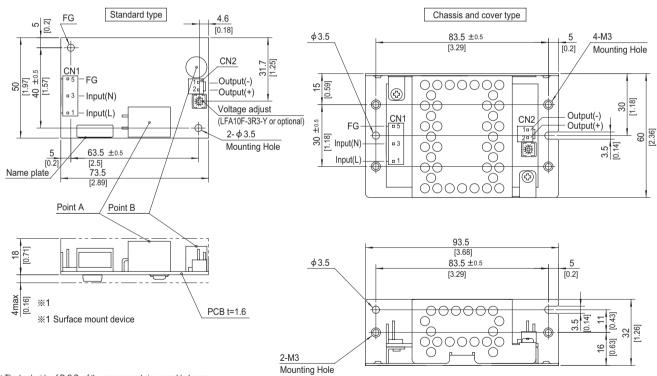
Please refer to the Instruction Manual 1.7.

- 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. May 14, 2025
- 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





External view



- $\ensuremath{\ensuremath{\%}}$ 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		Connector Mating connector		erminal		
ONIA	4 4400704 0	1-1123722-5	Chain	1123721-1		
CIVI	1-1123724-3	1-1123722-5	Loose	1318912-1		
ONIO	4 4400700 0	1-1123722-2	Chain	1123721-1		
CN2	1-1123723-2		Loose	1318912-1		
(Mfr:Tyco Floctronics)						

- $\ensuremath{\,\mathbb{X}}$ I/O Connector is Mfr. Tyco Electronics
- % Option:-J1:(J.S.T) connector type. Refer to Instruction Manual 6.

<PIN CONNECTION>

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

		CNZ	
No.	Input	Pin No.	Output
	AC(L)	-1	-V
		'	-v
	AC(N)	2	+V
			+v
	FG		

- % Tolerance : ± 1 [± 0.04] % Weight : 55g max (with chassis & cover : 150g max) % 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

LFA15F

LF A 15 F -



Example recommended EMI/EMC filter NAC-04-472



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

*A higher current rating EMI/EMC filter may be recommended in view of the other devices that could be connected in parallel with the power supply. Series name
 Single output
 Output wattage

4)Universal 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. *Make sure necessary tests will be carried out on your end equipment with the power supply installed in accordance with any required EMC/EMI regulations.

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	
	VOLTAGE[V]		AC85 - 264 1 ¢ (Refer	to "Derating", Instruction	Manual 1 and 3) *3			
	CURRENT[A]	ACIN 100V	0.24typ (lo=100%)	0.35typ (lo=100%)				
	CORNENT[A]	ACIN 200V	0.15typ (lo=100%) 0.20typ (lo=100%)					
INPUT	FREQUENCY[Hz]		50 / 60 (47 - 440)					
	EEEICIENCVI9/1	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	
	INRUSH CURRENT[A]	ACIN 100V	15typ (Io=100%) (At co	ld start) (Ta=25°C)				
	INNUSH CONNENT[A]	ACIN 200V	30typ (lo=100%) (At cold start) (Ta=25℃)					
	LEAKAGE CURRENT[mA]		0.15/0.30max (ACIN 10	00V / 240V 60Hz, lo=10	0%, According to IEC62	368-1 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	
	DIDDI Elm\/m m²	0 to +50°C	80max	80max	120max	120max	120max	
	RIPPLE[mVp-p]	-10 - 0℃	140max	140max	160max	160max	160max	
	**	lo=0 - 35%	190max	160max	240max	240max	280max	
	DIDDLE NOISE, V. 1	0 to +50°C	120max	120max	150max	150max	150max	
OUTPUT	RIPPLE NOISE[mVp-p]	-10 - 0℃	160max	160max	180max	180max	180max	
	*1	lo=0 - 35%	240max	240max	300max	300max	320max	
	TEMPERATURE REGULATION[mV]	0 to +50°C	50max	50max	120max	150max	240max	
	TEMPERATURE REGULATION[IIIV]	-10 to +50°C	60max	60max	150max	180max	290max	
	DRIFT[mV] *2		20max	20max	48max	60max	96max	
	START-UP TIME[ms]		200typ (ACIN 100V, lo=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 ava	ilable for adjusting outpu	t voltage between ±10%	b)	
	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 ra	ting and recovers autom	atically			
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	
CIRCUIT AND	OPERATING INDICAT	ION	Not provided					
OTHERS	REMOTE SENSING		Not provided					
	REMOTE ON/OFF		Not provided					
	INPUT-OUTPUT		AC3,000V 1minute, Cutoff current = 10mA, DC500V 50M Ω min (At Room Temperature)					
ISOLATION	INPUT-FG		AC2,000V 1minute, Cutoff current = 10mA, DC500V 50M Ω min (At Room Temperature)					
	OUTPUT-FG				00V 50MΩ min (At Roon			
	OPERATING TEMP.,HUMID.AND				Refer to "Derating", Instru		(10,000 feet) max *3	
ENVIRONMENT	STORAGE TEMP.,HUMID.AND	ALTITUDE	-20 to +75°C, 20 - 90%RH (Non condensing), 9,000m (30,000 feet) max					
	VIBRATION		, ,	,, , , , , , , , , , , , , , , , , , ,	ninutes each along X, Y	and Z axis		
	IMPACT 196.1m/s² (20G), 11ms, once each X, Y and Z axis							
SAFETY AND								
NOISE	CONDUCTED NOISE		<u> </u>	VCCI-B, CISPR-B, EN5				
REGULATIONS	HARMONIC ATTENU	ATOR			built-in to active filter) *4			
OTHERS	CASE SIZE/WEIGHT				V×H×D) / 80g max (wit	h chassis & cover : 190g	ı max)	
	COOLING METHOD		Convection (Refer to "Derating", Instruction Manual 3) *3					

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

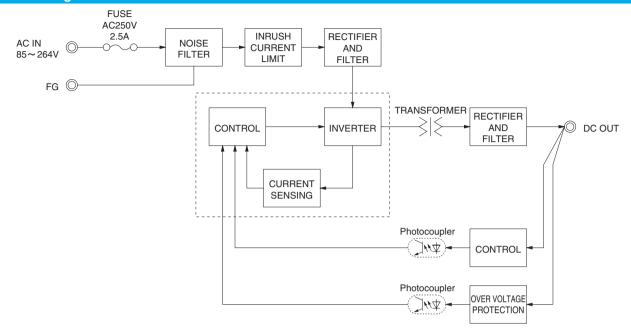
factor Io=0-35% is different.

Please refer to the Instruction Manual 1.7.

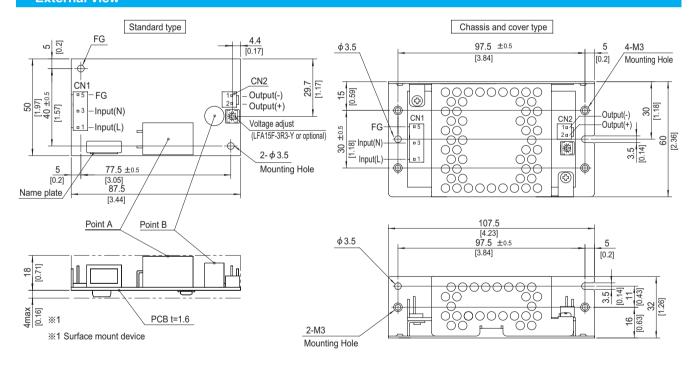
- Drift is the change in DC output for an eight hour period after a half-hour warm-up at 25°C, with the input voltage held constant at the rated input/output.
- Derating is required.
- When two or more units are operating it may not comply with the IEC61000-3-2. May 14, 2025
- Please contact us about 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

LFA-4





External view



- $\ensuremath{\ensuremath{\%}}$ 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		
CNT	1-1123724-3	1-1123722-5	Loose	1318912-1		
ONIO	4 4400700 0	1-1123722-2	Chain	1123721-1		
CN2	1-1123723-2	1-1123722-2	Loose	1318912-1		

(Mfr:Tvco Electronics)

- ※ I/O Connector is Mfr. Tyco Electronics
- ※ Option:-J1:(J.S.T) connector type. Refer to Instruction Manual 6.

<PIN CONNECTION>

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

Pin No.	Output	
1	-V	

- X Tolerance: ±1 [±0.04]
- * Weight: 80g max (with chassis & cover: 190g max)
- ※ 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

CN₂

2

LFA30F

LF A 30 F -



Example recommended EMI/EMC filter NAC-04-472



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

*A higher current rating EMI/EMC filter may be recommended in view of the other devices that could be connected in parallel with the power supply.

- Series name
 Single output
 Output wattage
- 4)Universal 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. *Make sure necessary tests will be carried out on your end equipment with the power supply installed in accordance with any required EMC/EMI regulations.

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

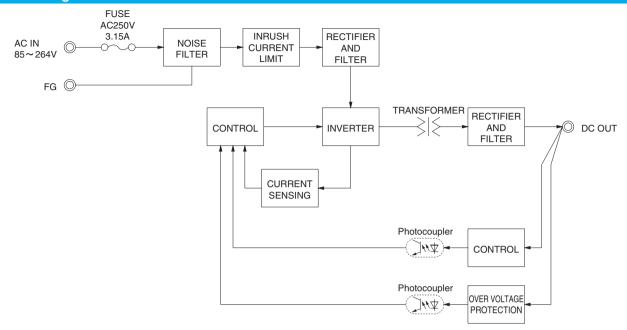
SPECIFICATIONS

	MODEL		LFA30F-3R3-Y	LFA30F-5	LFA30F-12	LFA30F-15	LFA30F-24		
	VOLTAGE[V]		AC85 - 264 1 φ (Refe	r to "Derating", Instruction	on Manual 1 and 3) *3				
	CUDDENTIAL	ACIN 100V	0.50typ (lo=100%)	0.65typ (lo=100%)					
	CURRENT[A]	ACIN 200V	0.30typ (lo=100%)	.30typ (lo=100%) 0.35typ (lo=100%)					
	FREQUENCY[Hz]		50 / 60 (47 - 440)						
INPUT	EEEIOIENOVIO/1	ACIN 100V	73typ	76typ	79typ	81typ	82typ		
	EFFICIENCY[%]	ACIN 200V	75typ	79typ	81typ	83typ	84typ		
	INRUSH CURRENT[A]	ACIN 100V	15typ (Io=100%) (At co	typ (lo=100%) (At cold start) (Ta=25℃)					
	INNUSH CURRENT[A]	ACIN 200V	30typ (lo=100%) (At co	30typ (lo=100%) (At cold start) (Ta=25°C)					
	LEAKAGE CURRENT[mA]		0.30 / 0.65max (ACIN	100V / 240V 60Hz, lo-	=100%, According to IE	C62368-1 and DEN-AN	١)		
	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		
	uit t re[iii v b-b]	-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°C	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	Fixed ("Y"option is ava	ailable for adjusting out	out voltage between ±1	0%)		
	OUTPUT VOLTAGE SET	UTPUT VOLTAGE SETTING[V]		4.90 to 5.30	11.50 to 12.50	14.40 to 15.60	23.00 to 25.00		
	OVERCURRENT PROT	ECTION	Works over 105% of ra	ating and recovers auto	matically				
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						
	INPUT-OUTPUT		AC3,000V 1minute, Cutoff current = 10mA, DC500V 50M Ω min (At Room Temperature)						
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 "Derating", Instruction Manual 3), 3,000m (10,000feet) max						
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/s² (20G), 11ms, once each X, Y and Z axis						
SAFETY AND	AGENCY APPROVAL				Complies with DEN-A	N			
NOISE	CONDUCTED NOISE			VCCI-B, CISPR-B, EN	· · · · · · · · · · · · · · · · · · ·				
REGULATIONS	HARMONIC ATTENU		<u>'</u>		built-in to active filter) *4				
OTHERS	CASE SIZE/WEIGHT				i] (W×H×D) / 130g ma	x (with chassis & cover	r : 260g max)		
	COOLING METHOD		Convection (Refer to "Derating", Instruction Manual 3) *3						

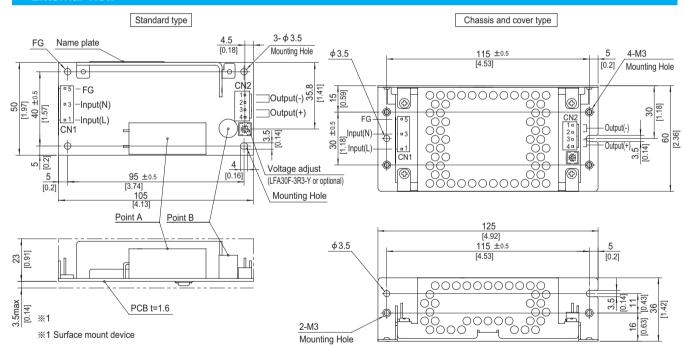
- This is the value that measured on measuring board with capacitor of 22 µ F at 150mm from output terminal. Measured by 20MHz oscilloscope or Ripple-Noise meter (Equivalent to KEISOKU-GIKEN:
- Drift is the change in DC output for an eight hour period after a half-hour warm-up at 25°C, with the input voltage held constant at the rated input/output. Derating is required.
- 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.
- 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.

When two or more units are operating it may not comply with the IEC61000-3-2.





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.
- 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	O Connector	Mating connector	Terminal			
ONIA	N1 1-1123724-3	4 4400700 5	Chain	1123721-1		
CIVI		1-1123722-5	Loose	1318912-1		
ONIO	1-1123723-4	1-1123722-4	Chain	1123721-1		
CNZ	1-1123723-4	1-1123722-4	Loose	1318912-1		
(Mfr:Tyco Electronic						

- * I/O Connector is Mfr. Tyco Electronics
- Option:-J1:(J.S.T) connector type. Refer to Instruction Manual 6.

<PIN CONNECTION>

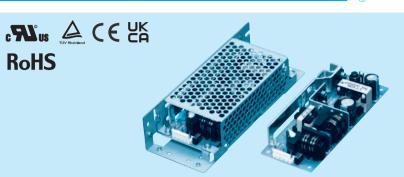
Input
AC(L)
AC(N)
FG

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

- % Tolerance : ± 1 [± 0.04] $\,\%$ Weight: 130g max (with chassis & cover : 260g max)
- ※ 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

LFA50F

LF A 50



Example recommended EMI/EMC filter NAC-04-472



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

*A higher current rating EMI/EMC filter may be recommended in view of the other devices that could be connected in parallel with the power supply. Series name
 Single output
 Output wattage

- 4)Universal 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. *Make sure necessary tests will be carried out on your end equipment with the power supply installed in accordance with any required EMC/EMI regulations.

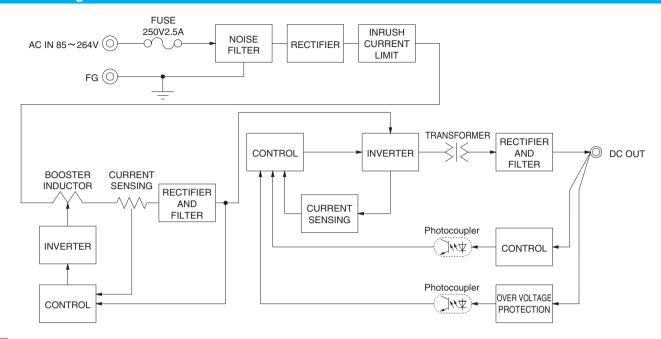
MODEL	LFA50F-3R3-Y	LFA50F-5	LFA50F-12	LFA50F-15	LFA50F-24	LFA50F-36	LFA50F-48
MAX OUTPUT WATTAGE[W]	33	50	51.6	52.5	50.4	50.4	52.8
DC OUTPUT	3.3V 10A	5V 10A	12V 4.3A	15V 3.5A	24V 2.1A	36V 1.4A	48V 1.1A

SPECIFICATIONS

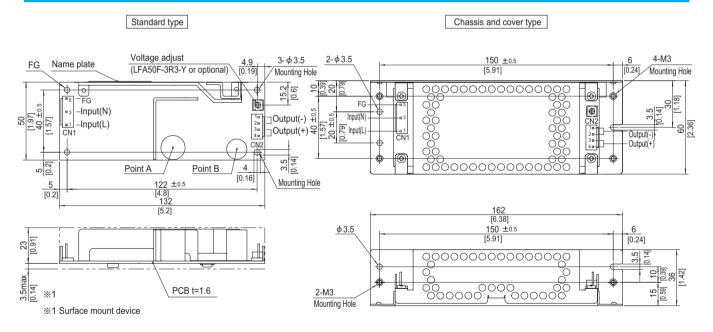
	MODEL		LFA50F-3R3-Y		LFA50F-12	LFA50F-15	LFA50F-24	LFA50F-36	LFA50F-48			
	VOLTAGE[V]		AC85 - 264 1 ϕ (Refer to "Derating", Instruction Manual 1 and 3) *3									
	CUDDENTIAL	ACIN 100V	0.47typ (lo=100%)	0.67typ (lo=100)%)							
	CURRENT[A]	ACIN 200V	0.27typ (lo=100%)									
	FREQUENCY[Hz]		50 / 60 (47 - 63)									
	EFFICIENCY[0/]	ACIN 100V	73.5typ	77.5typ	80.0typ	80.5typ	81.5typ	82.0typ	81.0typ			
NPUT	EFFICIENCY[%]	ACIN 200V	74.0typ	79.0typ	81.5typ	81.5typ	83.0typ	83.5typ	82.5typ			
	DOWED FACTOR (In 1000())	ACIN 100V	0.96typ	0.97typ	,							
	POWER FACTOR (Io=100%)	ACIN 200V	0.83typ 0.90typ									
		ACIN 100V	15typ (lo=100%	5typ (lo=100%) (At cold start) (Ta=25°C)								
	INRUSH CURRENT[A]	ACIN 200V		(At cold start)								
	LEAKAGE CURREN	T[mA]	0.40 / 0.75max (ACIN 100V / 240V 60Hz, lo=100%, According to IEC62368-1 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[mV] *4		20max	20max	48max	60max	96max	144max	192max			
	LOAD REGULATION	[mV] *4	40max	40max	100max	120max	150max	240max	240max			
	DIDDLES	0 to +50°C *1	80max	80max	120max	120max	120max	150max	150max			
	RIPPLE[mVp-p]	-10 - 0°C *1	140max	140max	160max	160max	160max	200max	200max			
OUTPUT		0 to +50°C *1	120max	120max	150max	150max	150max	250max	250max			
	RIPPLE NOISE[mVp-p]	-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, lo=100%)									
	OUTPUT VOLTAGE ADJUSTMENT	RANGE[V]	2.85 to 3.63	Fixed ("Y"option	is available for	adjusting output	voltage between	±10%)				
	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	34.50 to 37.50	46.00 to 50.00			
	OVERCURRENT PROT	ECTION	Works over 105	% of rating and i	ecovers automa	tically						
ROTECTION	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	41.40 to 50.40	55.20 to 67.20			
IRCUIT AND		TION	Not provided			1						
THERS	REMOTE SENSING		Not provided									
	REMOTE ON/OFF		Not provided									
	INPUT-OUTPUT		AC3,000V 1min	ute, Cutoff curre	nt = 10mA, DC5	00V 50M Ω min	(At Room Tempe	rature)				
SOLATION	INPUT-FG		AC2,000V 1min	ute, Cutoff curre	nt = 10mA, DC5	$00V 50M\Omega$ min	(At Room Tempe	rature)	,			
	OUTPUT-FG						t Room Tempera					
	OPERATING TEMP., HUMID. AND	ALTITUDE					<u>.</u>	ual 3), 3,000m (1	0,000feet) max			
	STORAGE TEMP., HUMID. AND			0 - 90%RH (Non					,			
NVIRONMENT	VIBRATION						g X, Y and Z axis	;				
	IMPACT), 11ms, once ea								
AFETY AND	AGENCY APPROVAL	LS		JL (CSA60950-1			N-AN					
IOISE	CONDUCTED NOISE					•						
IUISE	CONDUCTED NOISE Complies with FCC-B, VCCI-B, CISPR-B, EN55011-B, EN55022-B HARMONIC ATTENUATOR Complies with IEC61000-3-2 (Class A) *5											
	HARMONIC ATTENU	JATOR										
	CASE SIZE/WEIGHT					V×H×D) / 165a	max (with chass	sis & cover : 3250	max)			

- 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°C, 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/C	Connector	Mating connector	Terminal			
ONIA	1-1123724-3	1-1123722-5	Chain	1123721-1		
CIVI	1-1123724-3	1-1123722-5	Loose	1318912-1		
CNIO	1-1123723-4	1-1123722-4	Chain 1123721-1			
CINZ	1-1123723-4	1-1123722-4	Loose	1318912-1		
(Mfr:Tyco Electronics						

- ※ I/O Connector is Mfr. Tyco Electronics
- % Option:-J1:(J.S.T) connector type. Refer to Instruction Manual 6.

<PIN CONNECTION>

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

- CN2 Pin No Output 1.2 3.4 +V
- X Tolerance: ±1 [±0.04]
- Weight: 165g max (with chassis & cover: 325g max)
- * 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

LF A 75 F -



Example recommended EMI/EMC filter NAC-04-472



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

*A higher current rating EMI/EMC filter may be recommended in view of the other devices that could be connected in parallel with the power supply.

- Series name
 Single output
 Output wattage
- 4)Universal 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. *Make sure necessary tests will be carried out on your end equipment with the power supply installed in accordance with any required EMC/EMI regulations.

MODEL	LFA75F-3R3-Y	LFA75F-5	LFA75F-12	LFA75F-15	LFA75F-24	LFA75F-36	LFA75F-48
MAX OUTPUT 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

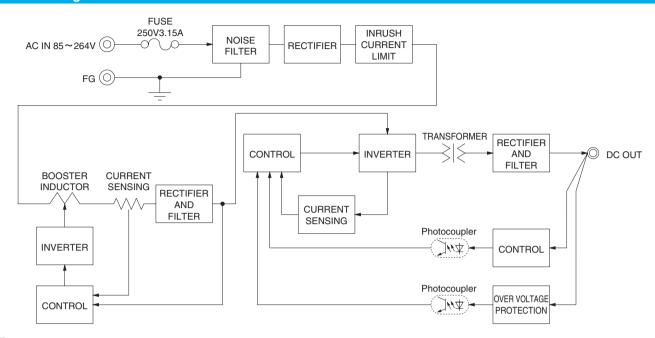
SPECIFICATIONS

	MODEL		LFA75F-3R3-Y	LFA75F-5	LFA75F-12	LFA75F-15	LFA75F-24	LFA75F-36	LFA75F-48			
	VOLTAGE[V]		AC85 - 264 1 φ (Refer to "Derating", Instruction Manual 1 and 3) *3									
	OUDDENITAL	ACIN 100V	0.70typ (lo=100%) 1.00typ (lo=100%)									
	CURRENT[A]	ACIN 200V	0.40typ (lo=100%) 0.50typ (lo=100%)									
	FREQUENCY[Hz]		50 / 60 (47 - 63)									
	EFFICIENCY[0/1	ACIN 100V	73.5typ	78.0typ	81.5typ	81.5typ	82.5typ	82.5typ	82.5typ			
NPUT	EFFICIENCY[%]	ACIN 200V	75.0typ	80.0typ	83.0typ	83.0typ	84.5typ	84.5typ	84.5typ			
	DOWED FACTOR (In 1009/)	ACIN 100V	0.96typ	0.97typ								
	POWER FACTOR (Io=100%)	ACIN 200V	0.83typ	· · · · · · · · · · · · · · · · · · ·								
	INRUSH CURRENT[A]	ACIN 100V	15typ (lo=100%	(At cold start)	Га=25°С)							
	INNUSH CONNENT[A]	ACIN 200V	30typ (lo=100%) (At cold start) (Ta=25℃)									
	LEAKAGE CURREN	T[mA]	0.40 / 0.75max	0.40 / 0.75max (ACIN 100V / 240V 60Hz, lo=100%, According to IEC62368-1 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			
ОИТРИТ	nir r L L [iii v p-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			
	HIFFEE NOISE[IIIVP-P]	-10-0℃ *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 (350typ (ACIN 100V, Io=100%)								
	HOLD-UP TIME[ms]		20typ (ACIN 100V, lo=100%)									
	OUTPUT VOLTAGE ADJUSTMENT	RANGE[V]	2.85 to 3.63	Fixed ("Y"option		djusting output vol		, '				
	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	34.50 to 37.50	46.00 to 50.00			
	OVERCURRENT PROT	ECTION	Works over 105	% of rating and	ecovers automa	tically						
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	41.40 to 50.40	55.20 to 67.20			
IRCUIT AND		TION	Not provided									
THERS	REMOTE SENSING		Not provided					,				
	REMOTE ON/OFF		Not provided				1					
	INPUT-OUTPUT					00V 50M Ω min (
SOLATION	INPUT-FG					00V 50M Ω min (
	OUTPUT-FG					OV 50M Ω min (A						
	OPERATING TEMP., HUMID. AND	ALTITUDE				fer to "Derating",		ual 3), 3,000m (1	0,000feet) max			
NVIRONMENT	STORAGE TEMP., HUMID. AND	ALTITUDE				000m (30,000fee		,				
	VIBRATION					nutes each alon	X, Y and Z axis	3				
	IMPACT		196.1m/s² (20G), 11ms, once each X, Y and Z axis									
AFETY AND	AGENCY APPROVAL				,,	omplies with DEN						
IOISE	CONDUCTED NOISE		<u> </u>			011-B, EN55022-	В					
REGULATIONS			<u> </u>	EC61000-3-2 (C			1	,				
OTHERS	CASE SIZE/WEIGHT					×H×D) / 230g r	nax (with chassi	s & cover : 440g	max)			
	COOLING METHOD		Convection (Re	fer to "Derating",	Instruction Manu	ual 3) *3						

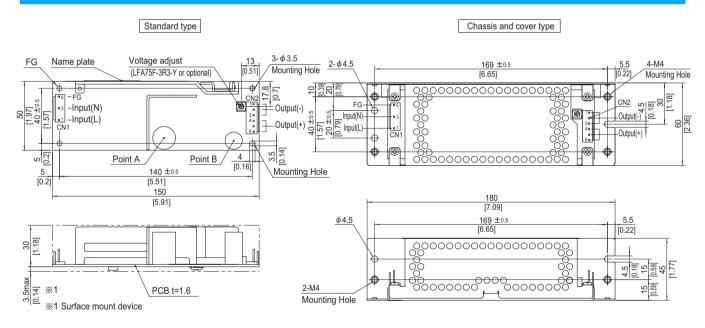
- This is the value that measured on measuring board with capacitor of 22 $\mu\,F$ at 150mm from output terminal.
 - Measured by 20MHz oscilloscope or Ripple-Noise meter (Equivalent to KEISOKU-GIKEN:
- Drift is the change in DC output for an eight hour period after a half-hour warm-up at 25°C, with the 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.

LFA-10 Downloaded from Arrow.com.





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	T	erminal
CNI	1-1123724-3	1-1123722-5	Chain	1123721-1
CNT	1-1123724-3	1-1123722-5	Loose	1318912-1
0140	1-1123723-6	1-1123722-6	Chain	1123721-1
CNZ	1-1123723-6	1-1123/22-6	Loose	1318912-1
			/ N 46 m T	aa Flastuanisa)

- (Mfr:Tyco Electronics)
- * I/O Connector is Mfr. Tyco Electronics Option:-J1:(J.S.T) connector type. Refer to Instruction Manual 6.

<PIN CONNECTION>

CN1 Pin No. Input AC(L) 2 AC(N)

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

- ※ Tolerance : ±1 [±0.04]
- Weight: 230g max (with chassis & cover: 440g max)
- ※ 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

LFA100F

LF A 100 F -



Example recommended EMI/EMC filter NAC-04-472



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

*A higher current rating EMI/EMC filter may be recommended in view of the other devices that could be connected in parallel with the power supply. Series name
 Single output
 Output wattage

4)Universal input ⑤Output voltage

(a) Output voltage
(b) 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

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. *Make sure necessary tests will be carried out on your end equipment with the power supply installed in accordance with any required EMC/EMI regulations.

Please refer to Instruction manual 6.

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

SPECIFICATIONS

	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	AC85 - 264 1 φ (Refer to "Derating", Instruction Manual 1 and 3) *4							
	CURRENT[A]	ACIN 100V	0.9typ (lo=100%)	1.3typ (lo=10	0%)						
	CONNENT[A]	ACIN 200V	0.5typ (lo=100%) 0.7typ (lo=100%)								
	FREQUENCY[Hz]		50 / 60 (47 - 6	3)							
	EFFICIENCY[%]	ACIN 100V	77.0typ	82.0typ	82.0typ	83.0typ	84.0typ	84.0typ	84.0typ	84.5typ	
INPUT	EFFICIENCI[76]	ACIN 200V	79.0typ	84.0typ	84.5typ	85.5typ	87.0typ	87.0typ	87.0typ	87.0typ	
	POWER FACTOR (Io=100%)	ACIN 100V	0.98typ	0.99typ							
	FOWER PACTOR (IO=100%)	ACIN 200V	0.92typ								
	INRUSH CURRENT[A]	ACIN 100V	15typ (Io=100%) (At cold start) (Ta=25°C)								
	ACIN 200V		30typ (lo=100								
	LEAKAGE CURREN	T[mA]	0.40 / 0.75ma	x (ACIN 100V	/ 240V 60Hz,	lo=100%, Acc	ording to IEC62	2368-1 and DE	N-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	mV] *7	20max	20max	48max	60max	96max	96max	144max	192max	
	LOAD REGULATION	[mV] *7	40max	40max	100max	120max	150max	150max	240max	240max	
OUTPUT	DIDDI E[m\/n n]	0 to +50℃ *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 NOICEIm/n n1	0 to +50℃*2	120max	120max	150max	150max	150max	300max	250max	250max	
	RIPPLE NOISE[mVp-p]	-10 - 0°C *2	160max	160max	180max	180max	180max	360max	300max	300max	
	TEMPERATURE REGULATION[mV]	0 to +50°C	50max	50max	120max	150max	240max	240max	360max	480max	
	TEMPERATURE REGULATION[MV]	-10 to +50°C	60max	60max	150max	180max	290max	290max	450max	600max	
Ī	DRIFT[mV]	*3	20max	20max	48max	60max	96max	96max	144max	192max	
	START-UP TIME[ms]	350typ (ACIN	350typ (ACIN 100V, Io=100%)								
	HOLD-UP TIME[ms]	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"opti	on is available	for adjusting of	output voltage)			
	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	05% of rating (works over 10	1% of peak cur	rent at option -	H) and recove	rs automaticall	у	
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					Ω min (At Roo				
ISOLATION	INPUT-FG		AC2,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (At Room Temperature)								
ISOLATION	OUTPUT-RC-FG	*6									
	OUTPUT-RC	*6	AC100V 1min	ute, Cutoff cur	rent = 25mA, [C100V 10MΩ	min (At Room	n Temperature)			
	OPERATING TEMP., HUMID. AND A	ALTITUDE *4	-10 to +70℃,	20 - 90%RH (ľ	Non condensin	g) (Refer to "D	erating", Instru	ction Manual 3	3), 3,000m (10,	000feet) max	
ENVIRONMENT	STORAGE TEMP., HUMID. AND	ALTITUDE	-20 to +75℃,	20 - 90%RH (ľ	Non condensin	g), 9,000m (30	0,000feet) max				
ENVIRONMENT	VIBRATION		10 - 55Hz, 19	0 - 55Hz, 19.6m/s² (2G), 3minutes period, 60minutes each along X, Y and Z axis							
	IMPACT				e each X, Y an						
SAFETY AND	AGENCY APPROVAL	LS	UL60950-1, C	-UL (CSA609	50-1), EN6236	8-1 Complies v	with DEN-AN				
NOISE	CONDUCTED NOISE		Complies with	FCC-B, VCCI	-B, CISPR-B, I	EN55011-B, EI	N55022-B				
REGULATIONS	HARMONIC ATTENU	JATOR		1EC61000-3-2							
OTHERS	CASE SIZE/WEIGHT		62×33.5×15	5mm [2.44×1	.32 × 6.10 inch	es] (WXHXD) / 280g max (with chassis &	cover: 480g m	nax)	
OTTIENS	COOLING METHOD		Convection (F	Refer to "Deratin	ıg", Instruction I	Manual 3) *4					

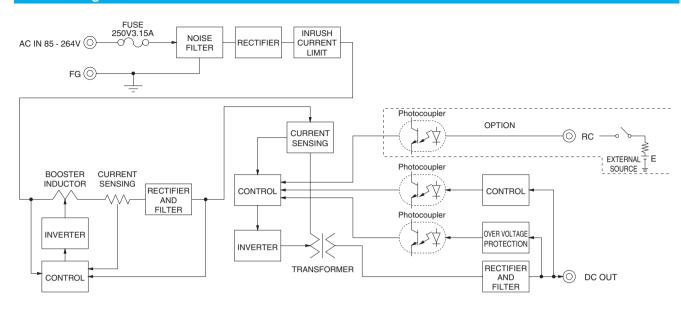
- Specification is changed at option, refer to Instruction Manual. This is the value that measured on measuring board with
- capacitor of 22 µ F at 150mm from output terminal.

 Measured by 20MHz oscilloscope or Ripple-Noise meter (Equivalent to KEISOKU-GIKEN: RM103).
- 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
- Applicable when Remote ON/OFF (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.

LFA-12

May 14, 2025

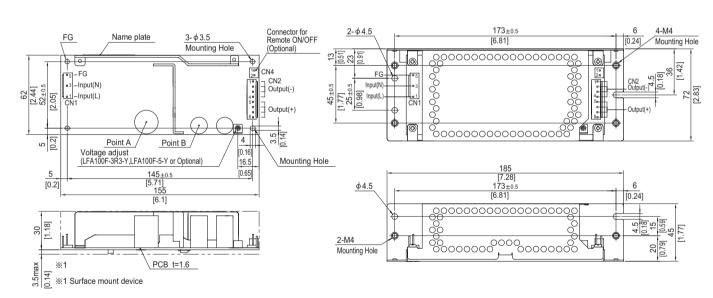




External view

* External size of option is different from standard model.

Chassis and cover type Standard type



- % 4 Mounting holes are existing.
- * 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.
- 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
CN1 1-112372		4 4400704 0	1-1123722-5	Chain	1123721-1
	CNT	1-1123724-3	1-1123722-5	Loose	1318912-1
	ONIO	1-1123723-8	4 4400700 0	Chain	1123721-1
	CNZ	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		CN2				
Pin No.	Input		Pin No.	Output		
1	AC(L)		1 to 4	-V		
2			1 10 4	-v		
3	AC(N)		5 to 8	+V		
4			5106	+ν		
5	FG					

- % Keep drawing current per pin below 5A for CN2.
- ** Tolerance : ±1 [±0.04]
- Weight: 280g max (with chassis & cover: 480g max)
- ※ 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

LFA150F

LF A 150 F -



Example recommended EMI/EMC filter NAC-04-472



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

*A higher current rating EMI/EMC filter may be recommended in view of the other devices that could be connected in parallel with the power supply. Series name
 Single output
 Output wattage

4)Universal input

⑤Output voltage

(a) Output voltage
(b) 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

manual 6.

SN: with Chassis & cover

Y: with Potentiometer Please refer to Instruction

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. *Make sure necessary tests will be carried out on your end equipment with the power supply installed in accordance with any required EMC/EMI regulations.

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

SPECIFICATIONS

MODEL

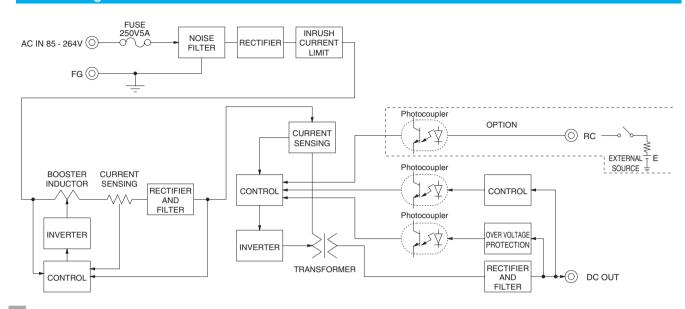
	MODEL		LFA150F-3R3-Y	LFA150F-5-Y	LFA150F-12	LFA150F-15	LFA150F-24	LFA150F-24-H	LFA150F-36	LFA150F-48
	VOLTAGE[V]		AC85 - 264 1 φ (Refer to "Derating", Instruction Manual 1 and 3) *4							
	OUDDENTIAL	ACIN 100V	1.4typ (lo=100%)	2.0typ (lo=10	0%)				-	
	CURRENT[A] ACIN 200V		0.7typ (lo=100%)	1.0typ (lo=10	0%)					
	FREQUENCY[Hz]		50 / 60 (47 - 6	63)						
	EEEIOIENOVIO/1	ACIN 100V	80.0typ	82.5typ	82.5typ	84.0typ	85.0typ	85.0typ	85.0typ	85.5typ
INPUT	EFFICIENCY[%]	ACIN 200V	82.0typ	85.5typ	85.0typ	86.5typ	87.5typ	87.5typ	87.5typ	88.0typ
	DOWED FACTOR (In 1000()	ACIN 100V	0.98typ	0.99typ						
	POWER FACTOR (lo=100%)	ACIN 200V	0.92typ	21 21						
	INRUSH CURRENT[A]	ACIN 100V	15typ (lo=100	5typ (lo=100%) (At cold start) (Ta=25℃)						
	INNUSH CURRENT[A]	ACIN 200V	30typ (lo=100)%) (At cold sta	art) (Ta=25°C)					
	LEAKAGE CURREN	T[mA]	0.40 / 0.75ma	x (ACIN 100V	/ 240V 60Hz,	Io=100%, Acc	ording to IEC6	2368-1 and DE	EN-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[mV] *7	20max	20max	48max	60max	96max	96max	144max	192max
	LOAD REGULATION	[mV] *7	40max	40max	100max	120max	150max	150max	240max	240max
	RIPPLE[mVp-p]	0 to +40℃*2	80max	80max	120max	120max	120max	240max	150max	150max
	KIPPLE[IIIVP-P]	-10 - 0°C *2	140max	140max	160max	160max	160max	320max	200max	200max
	DIDDI E NOICE(m.Vm. m1	0 to +40℃ *2	120max	120max	150max	150max	150max	300max	250max	250max
OUTPUT	RIPPLE NOISE[mVp-p]	-10-0℃ *2	160max	160max	180max	180max	180max	360max	300max	300max
	TEMPEDATURE REQUIRATIONSVI	0 to +40°C	50max	50max	120max	150max	240max	240max	360max	480max
	TEMPERATURE REGULATION[mV]	-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 100V, Io=100%)							
	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"opti	ion is available	for adjusting o	utput voltage)		
	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	05% of rating (works over 10	1% of peak cur	rent at option -	H) and recove	rs automatical	у
PROTECTION	OVERVOLTAGE PROTE	ECTION		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	7.100,000 Timilate, Galein Gallein Tollin i, 20000 Tollin Timilate, Galein Gallein Tollin i, 20000 Tollin i, 2							
ISOLATION	INPUT-FG		AC2,000V 1minute, Cutoff current = 10mA, DC500V 50M Ω min (At Room Temperature)							
	OUTPUT-RC-FG	*6								
	OUTPUT-RC	*6	AC100V 1minute, Cutoff current = 25mA, DC100V 10M Ω min (At Room Temperature)							
	OPERATING TEMP., HUMID. AND		-10 to +70°C, 20 - 90%RH (Non condensing) (Refer to "Derating", Instruction Manual 3), 3,000m (10,000feet) max							
ENVIRONMENT	STORAGE TEMP.,HUMID.AND	ALTITUDE	-20 to +75°C, 20 - 90%RH (Non condensing), 9,000m (30,000feet) max							
	VIBRATION			0 - 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										
SAFETY AND	AGENCY APPROVAL			•	50-1), EN6236					,
NOISE	CONDUCTED NOISE		<u> </u>		I-B, CISPR-B,	EN55011-B, EI	N55022-B			
REGULATIONS	TIPATIMOTHIO PATTERIO		<u> </u>	IEC61000-3-2						
OTHERS	CASE SIZE/WEIGHT				.46 × 6.30 inche		/ 390g max (w	ith chassis & c	cover : 650g ma	ax)
	COOLING METHOD				ing", Instructior	Manual 3) *4				
*1 Specificati	on is changeed at option, refer	to Instructio	n Manual.	at the rated input/or	utput.		*8 Pleas	se contact us about	another class.	

- 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.

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External view

* External size of option is different from standard model.

Standard type Chassis and cover type 176±0.5 4-M4 $2 - \phi 4.5$ FG Name plate Point A Point B $3 - \phi 3.5$ [6.93] [0.24] Mounting Hole Mounting Hole 15 [0.59] 25 [0.98] 42 [1.65] եյ−FG FG-CN3 Output(-) CN3 Output(-) -3 -Input(N) Input(N) 75 [2.95] 65±0.5 [2.6] _1_Input(L) CN1 Input(L) 3.35 18 CN2 416. CN2 Output(+) 29 🕸 CN4 2, 1 Connector for Remote ON/OFF (optional) 5 4 Voltage adjust ON/OFF (optional) / (LFA150F-3R3-Y,LFA150F-5-Y or Optional)/ Mounting Hole 150±0.5 [7.4] [5.91] [0.2] $\phi 4.5$ 176±0.5 [0.24] [6.93] 4.5 [0.18] 15 [0.59] 47 33.5 [1.32] 2-M4 8 Mounting Hole PCB t=1.6

- $\,\,\%\,\,4$ Mounting holes are existing. $\,\,\%\,\,$ 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/O Connector		Mating connector	Terminal	
CNIA	1-1123724-3	1-1123722-5	Chain	1123721-1
CIVI	1-1123724-3	1-1123722-5	Loose	1318912-1
ONIO	1-1123723-6	1-1123722-6	Chain	1123721-1
CNZ	1-1123723-6	1-1123722-6	Loose	1318912-1
ONIO	4 4400700 7	1-1123722-7	Chain	1123721-1
CN3	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>

0		•				
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					

- % Keep drawing current per pin below 5A for CN2,CN3.
- ※ Tolerance : ±1 [±0.04]
- Weight: 390g max (with chassis & cover: 650g max)
- ※ PCB material : CEM3
- ※ Optional chassis and cover material : Electric galvanizing steel board.
- $\ensuremath{\mathbb{X}}$ Dimensions in mm, []=inches
- Mounting torque (Mounting hole of chassis):1.5N · m (16kgf · cm) max

Connector type

CN4 Option	n (Mfr:J.S.T)

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

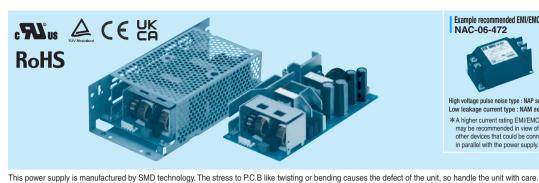
Barrier strip type

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

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

LFA240F

LF A 240 ()



Example recommended EMI/EMC filter NAC-06-472



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

*A higher current rating EMI/EMC filter may be recommended in view of the other devices that could be connected in parallel with the power supply. Series name
 Single output
 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

with Chassis & cover T: Vertical terminal block

Y: with Potentiometer

Please refer to Instruction

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

*Make sure necessary tests will be carried out on your end equipment with the power supply installed in accordance with any required EMC/EMI regulations.

SPECIFICATIONS

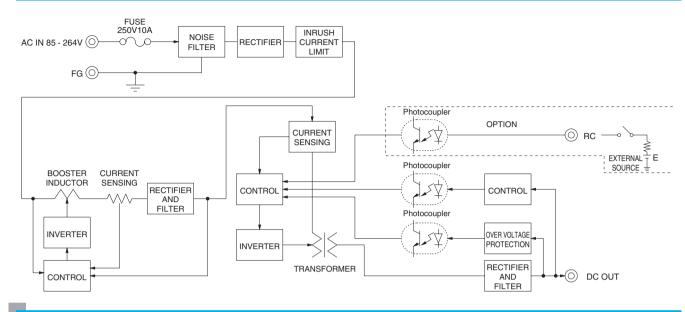
	MODEL		LFA240F-24	LFA240F-24-H	LFA240F-36	LFA240F-48			
	VOLTAGE[V]		AC85 - 264 1 φ (Refer to "Derating", Instruction Manual 1 and 3) *4						
	OUDDENTIAL	ACIN 100V	3.3typ (lo=100%)						
	CURRENT[A]	ACIN 200V	1.7typ (lo=100%)						
	FREQUENCY[Hz]		50 / 60 (47 - 63)						
	EFFICIENCY[0/]	ACIN 100V	84.5typ	84.5typ	84.5typ	84.5typ			
INPUT	EFFICIENCY[%]	ACIN 200V	87.5typ	87.5typ	87.5typ	87.5typ			
	DOWED FACTOR (In 1000()	ACIN 100V	0.99typ						
	POWER FACTOR (lo=100%)	ACIN 200V	0.95typ						
	INDUCU CUDDENTIAL	ACIN 100V	5 / 30typ (Io=100%) (Primary inrush current /Secondary inrush current) (More than 3 sec. to re-start)						
	INRUSH CURRENT[A]	ACIN 200V	30 / 30typ (lo=100%) (Primary inrush current /Secondary inrush current) (More than 3 sec. to re-start)						
	LEAKAGE CURREN	T[mA]	0.40 / 0.75max (ACIN 100V	/ 240V 60Hz, lo=100%, Acc	cording to IEC62368-1 and DI	EN-AN)			
	VOLTAGE[V]		24	24	36	48			
	CURRENT[A]	*5	10	10 (Peak12.5)	6.7	5			
	LINE REGULATION[I	mV] *7	96max	96max	144max	192max			
	LOAD REGULATION	[mV] *7	150max	150max	240max	240max			
	RIPPLE[mVp-p]	0 to +40℃*2	120max	240max	150max	150max			
	NIPPLE[IIIVP-P]	-10-0℃ *2	160max	320max	200max	200max			
	RIPPLE NOISE[mVp-p]	0 to +40℃ *2	150max	300max	250max	250max			
OUTPUT	HIPPLE NOISE[IIIVP-P]	-10-0℃ *2	180max	360max	300max	300max			
	TEMPEDATURE RECUIL ATION(#W/I	0 to +40°C	240max	240max	360max	480max			
	TEMPERATURE REGULATION[mV]	-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 SETTING[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 rating (works over 101% of peak cu	rrent at option -H) and recove	ers automatically			
PROTECTION	OVERVOLTAGE PROTE	CTION	27.60 to 33.60	27.60 to 33.60	41.40 to 50.40	55.20 to 67.20			
	OPERATING INDICA	TION	Not provided						
OTHERS	REMOTE SENSING		Not provided						
	REMOTE ON/OFF		Option (Refer to Instruction Manual)						
	INPUT-OUTPUT-RC	*6	AC3,000V 1minute, Cutoff current = 10mA, DC500V 50M Ω min (At Room Temperature)						
ISOLATION	INPUT-FG		AC2,000V 1minute, Cutoff current = 10mA, DC500V 50M Ω min (At Room Temperature)						
.002/11/011	OUTPUT-RC-FG	*6	7.00001 Immidtely dutent durient Zenizity Zedebot detti Immi (7.00001 Teniperature)						
	OUTPUT-RC	*6	()						
	OPERATING TEMP., HUMID. AND A								
ENVIRONMENT	STORAGE TEMP., HUMID. AND	ALTITUDE	-20 to +75℃, 20 - 90%RH (Non condensing), 9,000m (30,000feet) max						
	VIBRATION			minutes period, 60minutes e	ach along X, Y and Z axis				
	IMPACT		196.1m/s² (20G), 11ms, once each X, Y and Z axis UL60950-1, C-UL (CSA60950-1), EN62368-1 Complies with DEN-AN						
SAFETY AND	AGENCY APPROVAL								
NOISE	CONDUCTED NOISE		Complies with FCC-B, VCCI-B, CISPR-B, EN55011-B, EN55022-B						
REGULATIONS	TIPAT INTO TATALETA		Complies with IEC61000-3-						
OTHERS	CASE SIZE/WEIGHT		•		O) / 550g max (with chassis &	cover : 880g max)			
	COOLING METHOD		Convection (Refer to "Derating", Instruction Manual 3) *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.
- *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.

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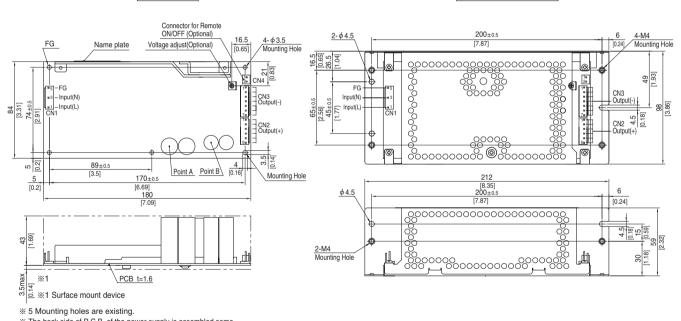


External view

* External size of option is different from standard model.



Chassis and cover type



- % 5 Mounting holes are existing.
- * 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.
- 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		
CN1 1-1123724-3 1-1123722-5		Chain	1123721-1		
CIVI	1-1123724-3	1-1123/22-5	Loose	1318912-1	
ONIO	1-1123723-6	1-1123722-6	Chain	1123721-1	
CN2		1-1123/22-6	Loose	1318912-1	
CNIO	1-1123723-7	1-1123722-7	Chain	1123721-1	
CN3	1-1123723-7	1-1123/22-7	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			1 to 6	+V		1 to 7	-V
3	AC(N)						
4							
5	FG						

- $\ensuremath{\ensuremath{\%}}$ Keep drawing current per pin below 5A for CN2,CN3.
- % Tolerance : ±1 [±0.04]
- Weight: 550g max (with chassis & cover: 880g max)
- * 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

LFA300F

A 300 (4)



Example recommended EMI/EMC filter NAC-06-472



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

*A higher current rating EMI/EMC filter may be recommended in view of the other devices that could be connected in parallel with the power supply. (1) Series name
(2) Single output
(3) Output wattage
(4) Universal input
(5) Output voltage
(6) Optional *1
C: with Coating
G: Low leakage current
H: with the function to be acceptable
to output peak current
(Only 24V, 30V, 36V and 48V)
J: EP (flow Electronics) connector type
(Except 3.3V and 5V)
J: VH (J.S.T.) connector type

(Except 3.3V and 5V)

J1 : VH (J.S.T.) connector type (Except 3.3V and 5V)
R: with Remote ON/OFF
R2: with Remote ON/OFF
S: with Chassis & cover & fan (Only 5V, 12V and 24V)
T1: Holizontal terminal block

Please refer to Instruction manual 6.

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. *Make sure necessary tests will be carried out on your end equipment with the power supply installed in accordance with any required EMC/EMI regulations.

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
DC OUTPUT *5	Forced air	3.3V 60A	5V 60A	12V 27A	15V 22A	24V 14A	24V 14 (19)A	30V 11A	36V 9.4A	48V 7A

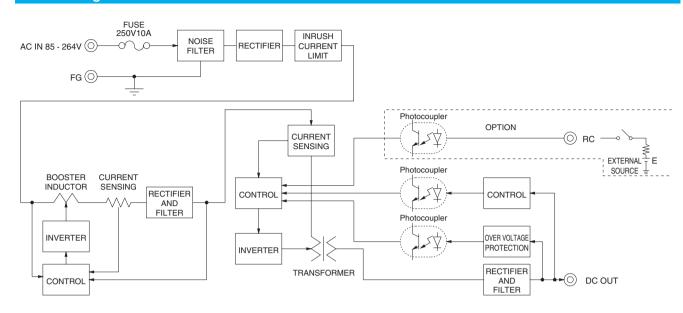
SPECIFICATIONS

	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		
	VOLTAGE[V]		AC85 - 264 1 φ (Refer to "Derating", Instruction Manual 1 and 3) *4									
	CURRENT[A]	ACIN 100V	2.7typ (lo=100%)	4.1typ (lo=1	00%)							
	CONNENT[A]	ACIN 200V	1.4\pr (lo=100\%) 2.0\typ (lo=100\%)									
	FREQUENCY[Hz]		50 / 60 (47 - 63)									
	EFFICIENCY[%]	ACIN 100V	75.0typ	79.0typ	80.0typ	81.5typ	85.0typ	85.0typ	85.5typ	85.5typ	85.5typ	
INPUT	LITIOILINO I[/0]	ACIN 200V	77.0typ	82.5typ	83.0typ	84.5typ	88.0typ	88.0typ	88.0typ	88.0typ	88.0typ	
	POWER FACTOR (Io=100%)	ACIN 100V	0.98typ	0.99typ								
	1 ON E11 1 A O 1 O 11 (10 = 100 /0)	ACIN 200V	0.92typ	0.95typ								
	INRUSH CURRENT[A]	ACIN 100V	, , ,			current /Secor						
		ACIN 200V		0 / 30typ (Io=100%) (Primary inrush current /Secondary inrush current) (More than 3 sec. to re-start) .45 / 0.75max (ACIN 100V / 240V 60Hz, Io=100%, According to IEC62368-1 and DEN-AN)								
	LEAKAGE CURREN											
	VOLTAGE[V]		3.3	5	12	15	24	24	30	36	48	
	CURRENT[A] *5	Convection		40	17	14	12.5	12.5 (Peak19)	10	8.4	6.3	
		Forced air	60	60	27	22	14	14 (Peak19)	11	9.4	7	
	LINE REGULATION[20max	20max	48max	60max	96max	96max	144max	144max	192max	
	LOAD REGULATION		40max	40max	100max	120max	150max	150max	240max	240max	240max	
	RIPPLE[mVp-p]	0 to +40℃*2	80max	80max	120max	120max	120max	240max	150max	150max	150max	
	IIII I EE[IIIVP-P]	-10 - 0℃ *2		140max	160max	160max	160max	320max	200max	200max	200max	
OUTPUT	RIPPLE NOISE[mVp-p]	0 to +40°C *2		120max	150max	150max	150max	300max	250max	250max	250max	
	IIII I EE NOICE[IIIVP P]	-10 - 0℃ *2	160max	160max	180max	180max	180max	360max	300max	300max	300max	
	TEMPERATURE REGULATION[mV]	0 to +40℃		50max	120max	150max	240max	240max	360max	360max	480max	
		-10 to +40℃	60max	60max	150max	180max	290max	290max	450max	450max	600max	
	DRIFT[mV] *3			20max	48max	60max	96max	96max	144max	144max	192max	
	START-UP TIME[ms]		350typ (ACIN 100V, Io=100%)									
	HOLD-UP TIME[ms]			I 100V, Io=10		I				T	T	
	OUTPUT VOLTAGE ADJUSTMENT RANGE[V]			4.50 to 5.50		13.50 to 16.50		21.60 to 27.50	27.00 to 33.00	1	39.60 to 52.80	
	OUTPUT VOLTAGE SET			5.00 to 5.15	12.00 to 12.48			24.00 to 24.96	30.00 to 31.20		48.00 to 49.92	
	OVERCURRENT PROTECTION				, · · · · · · · · · · · · · · · · · · ·	er 101% of pe				, ,		
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	27.60 to 33.60	34.50 to 42.00	41.40 to 50.40	55.20 to 67.20	
CIRCUIT AND OTHERS	OPERATING INDICA	Not provided										
OTTLENS	REMOTE SENSING		Not provided Option (Refer to Instruction Manual)									
	REMOTE ON/OFF		Option (Refer to Instruction Manual) AC3,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (At Room Temperature)									
	INPUT-OUTPUT-RC *6		AC2,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (At Room Temperature) AC2,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (At Room Temperature)									
ISOLATION	INPUT-FG	*6										
	OUTPUT-RC *6 OUTPUT-RC *6		AC500V 1minute, Cutoff current = 25mA, DC500V 50MΩ min (At Room Temperature) AC100V 1minute, Cutoff current = 25mA, DC100V 10MΩ min (At Room Temperature)									
		ALTITUDE ±4										
	OPERATING TEMP.,HUMID.AND ALTITUDE *4											
ENVIRONMENT	STORAGE TEMP.,HUMID.AND ALTITUDE VIBRATION		-20 to +/5 C, 20 - 90%HH (Non condensing), 9,000m (30,000feet) max 10 - 55Hz, 19.6m/s² (2G), 3minutes period, 60minutes each along X, Y and Z axis									
	IMPACT		-	. ,	· · · · · ·	Y and Z axis		119 A, 1 alla 2	- 4/10	-1		
SAFETY AND	AGENCY APPROVA	LS	·			62368-1 Con		-N-AN				
NOISE	CONDUCTED NOISE					R-B, EN5501	<u> </u>					
REGULATIONS			-	ith IEC61000			. D, LINOSOZ					
	CASE SIZE/WEIGHT					es] (WXHXD)	(without termin	nal block) / 810	a max (with ch	assis & cover	1 270g max)	
OTHERS	COOLING METHOD					rating", Instru	<u>`</u>		y max (will to	145515 & 60761	1,210g max)	
	COOLING WETTIOD		COLIVECTION	, i olocu all	TITOLET TO DE	raing , mont	- wailua	0) ***				

- 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.

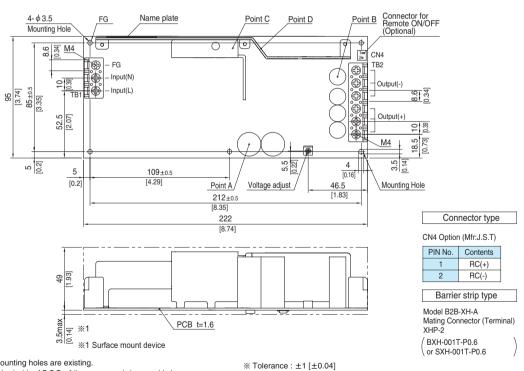




External view

* External size of option is different from standard model.

Standard type



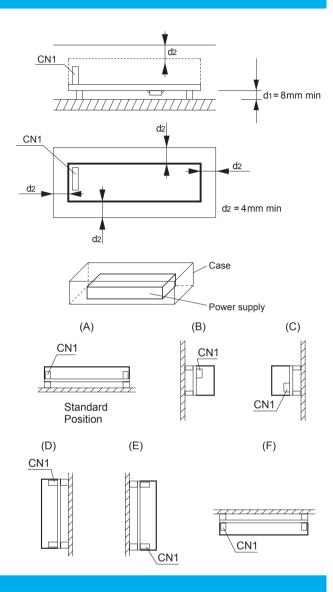
- \times 5 Mounting holes are existing.
- $\ensuremath{\mathbb{X}}$ The back side of P.C.B. of the power supply is assembled some SMDs.
- Be attention not to bump against the attached area by vibration.
- $\ensuremath{\,\times\,}$ Use the spacer of 8mm length or more regarding insulation. And do not 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.
- Weight: 810g max (with chassis & cover: 1,270g max)
 PCB material: CEM3
- * Dimensions in mm, []=inches
- * Screw tightening torque: M4 1.6N · m (16.9kgf · cm) max



Assembling and Installation Method

Installation method

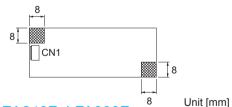
- ■This power supply is manufactured by SMD technology. The stress to P.C.B like twisting or bending causes the defect of the unit, so handle the unit with care.
- ■In case of metal chassis, keep the distance between d1 & d2 for to insulate between lead of component and metal chassis, use the spacer of 8mm or more between d1. If it is less than d1 & d2, insert the insulation sheet between power supply and metal chassis.
- ■There is a possibility that it is not possible to cool enough when the power supply is used by the sealing up space as showing in right figure.Please use it after confi rming the temperature of point A and point B of Instruction Manual 3.
- ■(F) mounting is not possible when unit is with case cover, but if need to operate unit by (F) positioning with case cover, temperature / load derating is necessary. For more details, please contact our sales or engineering departments.



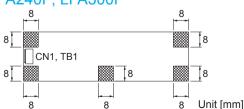
Mounting screw

■The mounting screw should be M3. The hatched area shows the allowance of metal parts for mounting.

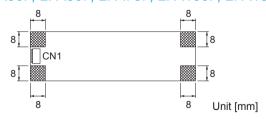
LFA10F, LFA15F



LFA240F, LFA300F



LFA30F, LFA50F, LFA75F, LFA100F, LFA150F



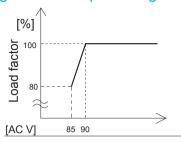
- ■If metallic fi ttings are used on the component side of the board,ensure there is no contact with surface mounted components.
- ■This product uses SMD technology.Please avoid the PCB installation method which includes the twisting stress or the bending stress.

 *Recommendation to electrically connect FG to metal chassis for reducing noise.

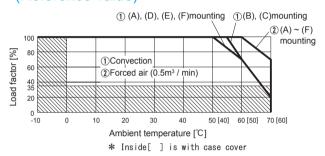


Derating

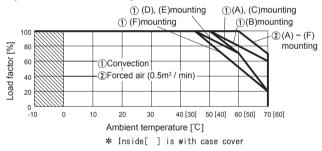
Derating curve for input voltage



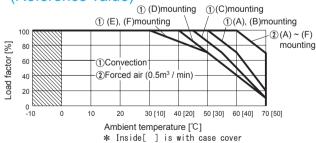
■ LFA10F Ambient temperature derating curve (Reference value)



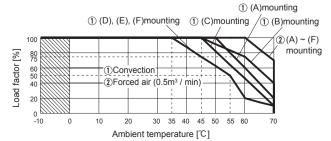
LFA30F Ambient temperature derating curve (Reference value)



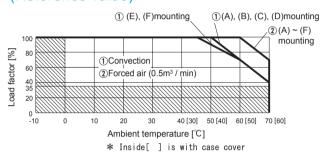
LFA75F Ambient temperature derating curve (Reference value)



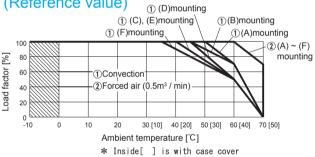
LFA100F Ambient temperature derating curve (Reference value)



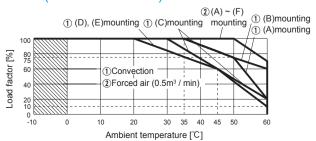
●LFA15F Ambient temperature derating curve (Reference value)



●LFA50F Ambient temperature derating curve (Reference value)

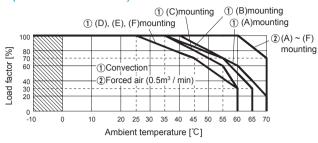


●LFA100F-□-SN Ambient temperature derating curve (Reference value)

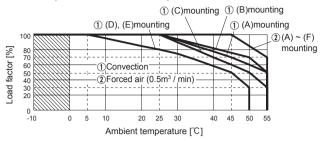


Derating

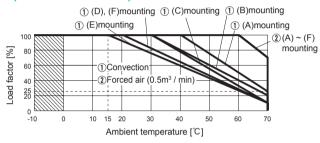
●LFA150F Ambient temperature derating curve (Reference value)



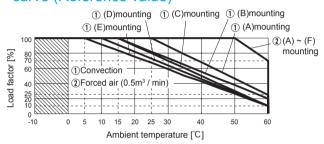
■LFA150F-□-SN Ambient temperature derating curve (Reference value)



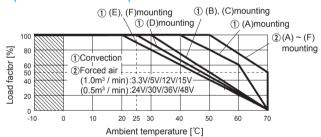
LFA240F Ambient temperature derating curve (Reference value)



●LFA240F-□-SN Ambient temperature derating curve (Reference value)



LFA300F Ambient temperature derating curve (Reference value)



Output	Output power[W]						
voltage	①Convection	②Forced air					
3.3V	132.0	198.0					
5V	200.0	300.0					
12V	204.0	324.0					
15V	210.0	330.0					
24V	300.0	336.0					
30V	300.0	330.0					
36V	302.4	338.4					
48V	302.4	336.0					

- ■The operative ambient temperature is different by with / without chassis cover or mounting position.

 Note: In the hatched area, the specification of Ripple, Ripple Noise is different from other area.
- ■Make sure the temperature at point A and point B is less than the temperatures shown in Instruction Manual 3.
- ■The ambient temperature should be measured 5 to 10 cm away from the power supply so that it won't be influenced by the heat from the power supply. Please consult us for more details.

Instruction Manual

◆ It is neccessary to read the "Instruction Manual" and "Before using our product" before you use our product.

Instruction Manual https://www.cosel.co.jp/redirect/catalog/en/LFA/
Before using our produc https://en.cosel.co.jp/technical/caution/index.html









Basic Characteristics Data

Model	Circuit method	Switching frequency	Input	Inrush current	PCB/Pattern			Series/Parallel operation availability *2	
iviouei	[kHz] *1 [A] protection		Material	Single sided	Double sided	Series operation	Parallel operation		
LFA10F	Flyback converter	100	0.26	LF	CEM-3	Yes		Yes	No
LFA15F	Flyback converter	100	0.35	Thermistor	CEM-3	Yes		Yes	No
LFA30F	Flyback converter	130	0.65	Thermistor	CEM-3	Yes		Yes	No
LFA50F	Active filter	60-440	0.67	Thermistor	CEM-3	Yes		Yes	No
LFASUF	Flyback converter	130							
LFA75F	Active filter	60-440	1.0	Thermistor	CEM-3	Yes		Yes	No
LFA/SF	Flyback converter	130	1.0		CLIVI-3	res		ies	INO
LFA100F	Active filter	60	1.3	Thermistor	CEM-3		Yes	Yes	No
LFATOUF	Forward converter	140	1.3				res	ies	INO
LFA150F	Active filter	60	2.0	Thermistor	CEM-3		Yes	Yes	No
LFATSUF	Forward converter	140	2.0		CEIVI-3		162	162	INO
LFA240F	Active filter	60	3.3	SCR	CEM-3	Voc	Yes	Yes	No
LFM24UF	Forward converter	140	ა.ა	JUN	GEIVI-3		162	169	INU
LFA300F	Active filter	60	4.1	000	CEM-3		Yes	Yes	No
LFASUUF	Forward converter	140	4.1	SCR			168	168	INO

^{*1} The value of input current is at ACIN 100V and rated load. *2 Refer to Instruction Manual 2.