

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

- 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.

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 φ (Refer	to Instruction Manual 1.	1 and 3.2) *3			
	CURRENT[A]	ACIN 100V	0.18typ (lo=100%)	0.26typ (lo=100%)			_	
	CORRENT[A]	ACIN 200V	0.11typ (lo=100%)	0.16typ (lo=100%)				
	FREQUENCY[Hz]		50 / 60 (47 - 440)					
INPUT	EFFICIENCY[%]	ACIN 100V	68.0typ	74.0typ	76.5typ	77.5typ	79.5typ	
	EFFICIENCI[/6]	ACIN 200V	68.5typ	76.0typ	79.0typ	80.0typ	83.0typ	
	INRUSH CURRENT[A]	ACIN 100V	15typ (lo=100%)					
	INKOSH COKKENT[A]	ACIN 200V	30typ (Io=100%)					
	LEAKAGE CURRENT	[mA]	0.15/0.30max (ACIN 10	00V / 240V 60Hz, lo=10	0%, According to IEC60	950-1 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\/m m1	0 to +50℃	80max	80max	120max	120max	120max	
	RIPPLE[mVp-p]	-10 - 0℃	140max	140max	160max	160max	160max	
		lo=0 - 35%	190max	160max	240max	240max	280max	
OUTPUT		0 to +50°C	120max	120max	150max	150max	150max	
	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℃	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 1minute 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	ilable for adjusting outpu	t voltage between ±10%	6)	
	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		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 (10,000 feet) max *3					
ENVIRONMENT	STORAGE TEMP., HUMID. AND A	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		, ,,	, once each X, Y and Z				
SAFETY AND	AGENCY APPROVAL	S			EN60065, EN50178 Cor	mplies with DEN-AN		
NOISE	CONDUCTED NOISE		· · · · · · · · · · · · · · · · · · ·	VCCI-B, CISPR-B, EN55				
REGULATIONS	HARMONIC ATTENU	ATOR	<u> </u>		built-in to active filter) *4			
OTHERS	CASE SIZE/WEIGHT		•			th chassis & cover : 150g	g max)	
	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 $\mu\,\text{F}$ 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

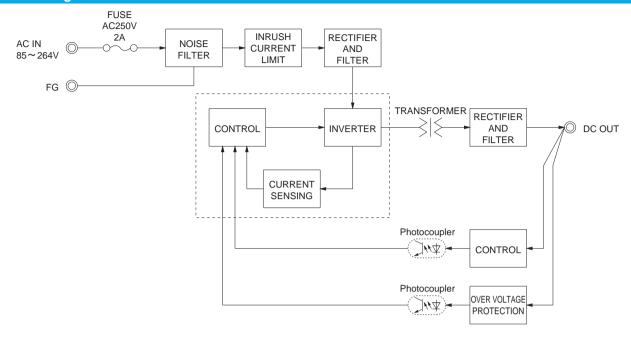
Please refer to the Instruction Manual 1.7.

- 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.

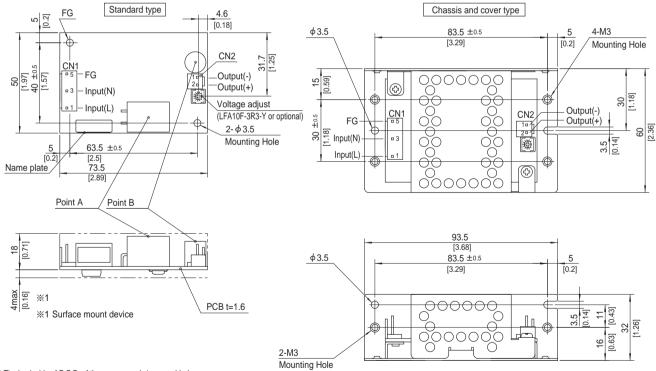
- Please contact us about dynamic load and input response
- Please contact us about another class.
- To meet the specifications. Do not operate over-loaded condition.
- Parallel operation is not possible.
- Derating is required when operated with chassis and cover.
- Sound noise may be generated by power supply in case of pulse

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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/C) Connector	Mating connector	Terminal		
ONIA	CN1 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	1-1123/22-2	Loose	1318912-1	
(Mfr:Tugo Electronics)					

(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				
Input				
AC(L)				
AC(N)				
FG				

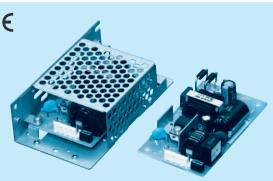
CINZ	
Pin No.	Output
1	-V
2	+V

CNS

- ** 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

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

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

- 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.

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 φ (Refer	to Instruction Manual 1	.1 and 3.2) *3			
	CURRENT[A]	ACIN 100V	0.24typ (lo=100%)	0.35typ (lo=100%)				
	CORRENT[A]	ACIN 200V	0.15typ (lo=100%)					
	FREQUENCY[Hz]		50 / 60 (47 - 440)					
NPUT	EFFICIENCY[%]	ACIN 100V	68.0typ	73.0typ	76.0typ	77.0typ	78.0typ	
	EFFICIENCI[/0]	ACIN 200V	69.0typ	76.0typ	78.5typ	80.0typ	81.5typ	
	INRUSH CURRENT[A]	ACIN 100V	15typ (Io=100%) (At co	old start) (Ta=25°C)				
	INKOSH COKKENT[A]	ACIN 200V	30typ (Io=100%) (At co	old start) (Ta=25℃)				
	LEAKAGE CURRENT	[mA]	0.15/0.30max (ACIN 1	00V / 240V 60Hz, lo=1	00%, According to IE	C60950-1 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	n V] * 5	20max	20max	48max	60max	96max	
	LOAD REGULATION[mV] *5	40max	40max	100max	120max	150max	
	DIDDI ElmV1	0 to +50°C		80max	120max	120max	120max	
	RIPPLE[mVp-p]	-10 - 0℃	140max	140max	160max	160max	160max	
	**	lo=0 - 35%	190max	160max	240max	240max	280max	
	DIDDI E NOISEE-W	0 to +50°C		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	
	TEMPERATURE REGULATION[IIIV]	-10 to +50℃	60max	60max	150max	180max	290max	
1	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 volt					
	HOLD-UP TIME[ms]		20typ (ACIN 100V, Io=100%)					
	OUTPUT VOLTAGE ADJUSTMENT I	RANGE[V]	2.85 to 3.63	<u> </u>		utput 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 ra	ating and recovers autor	natically			
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	
	OPERATING INDICAT	ION	Not provided					
THERS	REMOTE SENSING		Not provided					
	REMOTE ON/OFF		Not provided					
	INPUT-OUTPUT		AC3,000V 1minute, Cutoff current = 10mA, DC500V 50M Ω min (At Room Temperature)					
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		-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					
	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					
AFETY AND	AGENCY APPROVAL	S	, ,		<u>, , , , , , , , , , , , , , , , , , , </u>	Complies with DEN-AN		
IOISE	CONDUCTED NOISE		Complies with FCC-B, VCCI-B, CISPR-B, EN55011-B, EN55022-B					
	HARMONIC ATTENU	ATOR		00-3-2 (Class A) *6 (No		/		
OTHERS +	CASE SIZE/WEIGHT				, ,	(with chassis & cover : 1	90g max)	
UTHEKS	COOLING METHOD		Convection (Refer to In	nstruction Manual 3.1 a	nd 3.2) *3			

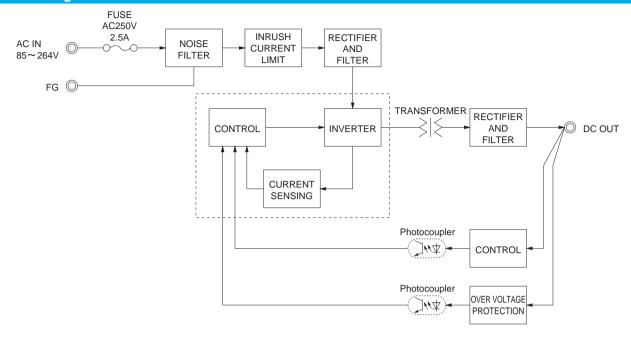
This is the value that measured on measuring board with capacitor of 22 $\mu\,\text{F}$ at 150mm from output terminal. Measured by 20MHz oscilloscope or Ripple-Noise meter (Equivalent to KEISOKU-GIKEN: RM103). A circuit reducing standby power is built in this unit. Therefore, the internal switch element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

operated, and the Ripple/Ripple Noise specification in load

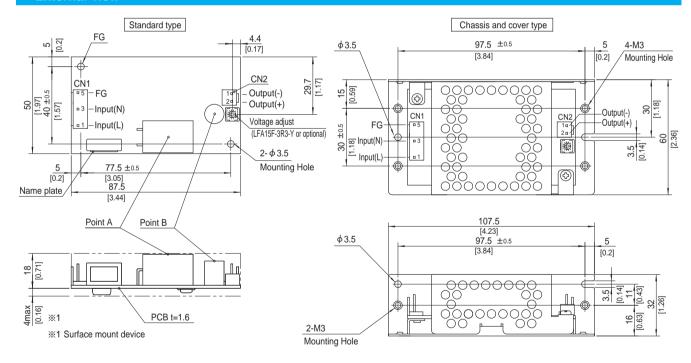
- Please refer to the Instruction Manual 1.7.
- Drift is the change in DC output for an eight hour period after a half-hour warm-up at 25°C, with the input voltage held constant at the rated input/output.
- Derating is required.
- When two or more units are operating it may not comply with the IEC61000-3-2.
- 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 | CO\$EL

Block diagram



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. ** Use the spacer of 8mm length or more regarding insulation.
- Wose 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.

ſ	I/O Connector		Mating connector	T	erminal
Г	014	4 4400704 0	1-1123722-5	Chain	1123721-1
	CN1 1-1123724-3		1-1123722-5	Loose	1318912-1
	ONIO	4 4400700 0	4 4400700 0	Chain	1123721-1
	CN2 1-1123723-2		1-1123722-2	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>

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CN2	
Pin No.	Output
1	-V
2	+V

- ※ 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.
- $\ensuremath{\,\times\,}$ Mounting torque (Mounting hole of chassis) : 0.6N $^{\circ}$ m (6.3kgf $^{\circ}$ cm) max

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

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

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

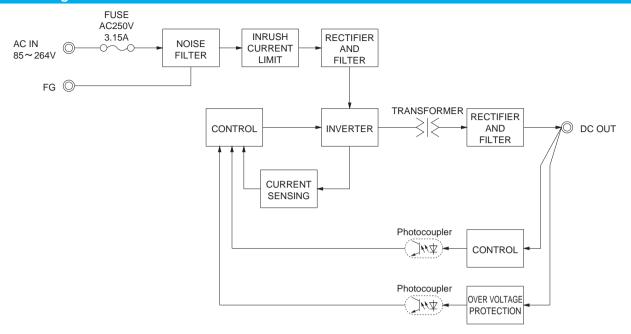
	MODEL		LFA30F-3R3-Y	LFA30F-5	LFA30F-12	LFA30F-15	LFA30F-24	
	VOLTAGE[V]		AC85 - 264 1 φ (Refe	r to Instruction Manual	1 1.1 and 3.2) *3			
	CURRENTIAL	ACIN 100V	0.50typ (lo=100%)	0.65typ (lo=100%)	,			
	CURRENT[A]	ACIN 200V	0.30typ (lo=100%)					
	FREQUENCY[Hz]		50 / 60 (47 - 440)					
NPUT	EFFICIENCY[%]	ACIN 100V	73typ	76typ	79typ	81typ	82typ	
	EFFICIENCI[%]	ACIN 200V	75typ	79typ	81typ	83typ	84typ	
	INRUSH CURRENT[A]	ACIN 100V	15typ (lo=100%) (At o	cold start) (Ta=25°C)				
	INKUSH CUKKENI[A]	ACIN 200V	30typ (Io=100%) (At o	cold start) (Ta=25°C)				
	LEAKAGE CURRENT	T[mA]	0.30 / 0.65max (ACIN	1 100V / 240V 60Hz, ld	=100%, According to	IEC60950-1 and DEN	-AN)	
	VOLTAGE[V]		3.3	5	12	15	24	
	CURRENT[A]		6.0	6.0	2.5	2.0	1.3	
	LINE REGULATION[I	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	
	KIPPLE[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	KIPPLE NOISE[IIIVP-P]	-10-0℃ *1	160max	160max	180max	180max	180max	
	TEMPERATURE REGULATION[mV]	0 to +50℃	50max	50max	120max	150max	240max	
	TEMI ENATONE NEODEATION[IIV]	-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 av	vailable for adjusting o	utput 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 r	rating and recovers aut	omatically			
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	
IRCUIT AND	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)					
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			%RH (Non condensing		,,,,	10,000feet) max *3	
NVIRONMENT	STORAGE TEMP., HUMID. AND	ALTITUDE	· ·	%RH (Non condensing	,			
	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 UL60950-1, C-UL (CSA60950-1), EN60950-1, EN60065, EN50178 Complies with DEN-AN					
SAFETY AND	AGENCY APPROVAL						AN	
VOISE	CONDUCTED NOISE		· ·	B, VCCI-B, CISPR-B, E				
REGULATIONS	HARMONIC ATTENU			00-3-2 (Class A) *6 (Not				
OTHERS	CASE SIZE/WEIGHT			.97 × 1.04 × 4.13 inche		max (with chassis & co	over : 260g max)	
	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 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.

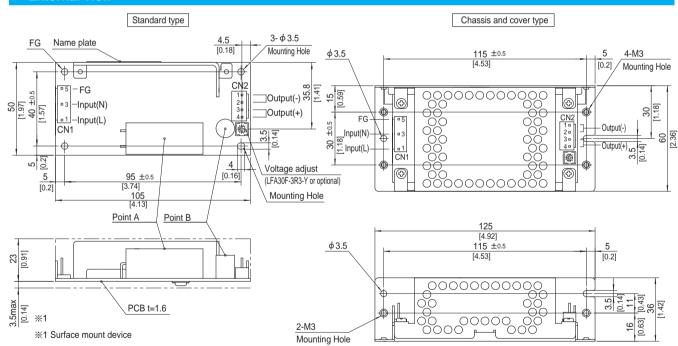
- When two or more units are operating it may not comply with the IEC61000-3-2. Please contact us for details.
- Please contact us about dynamic load and input response. Please contact us about another class.
- To meet the specifications. Do not operate over-loaded condition.
- Parallel operation is not possible.
- Derating is required when operated with chassis and cover.
- Sound noise may be generated by power supply in case of pulse load.



Block diagram



External view



- * 4 Mounting holes are existing.
- * The back side of P.C.B. of the power supply is assembled some SMDs. Be attention not to bump against the attached area by vibration.
- 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	4 4400704 0	1-1123722-5	Chain	1123721-1			
CNT	CN1 1-1123724-3	1-1123722-5	Loose	1318912-1			
ONIO	4 4400700 4	4 4400700 4	Chain	1123721-1			
CN2 1-1123723-4 1-11		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 5.

<PIN CONNECTION>

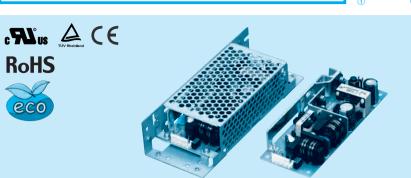
Input
AC(L)
AC(N)
FG

OIVE	
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
- % Keep drawing current per pin below 5A for CN2.

CN2

LFA50F





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

to connect with several devices.

*The EMI/EMC Filter is recommended

- 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.

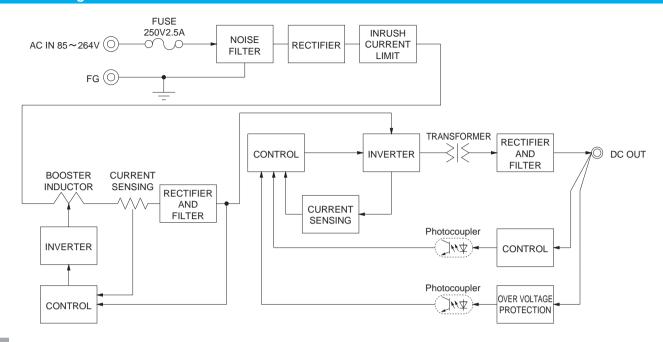
MODEL	LFA50F-3R3-Y	LFA50F-5	LFA50F-12	LFA50F-15	LFA50F-24	LFA50F-36	LFA50F-48
MAX OUTPUT WATTAGE[W]	33	50	51.6	52.5	50.4	50.4	52.8
DC OUTPUT	3.3V 10A	5V 10A	12V 4.3A	15V 3.5A	24V 2.1A	36V 1.4A	48V 1.1A

M	IODEL		LFA50F-3R3-Y	LFA50F-5	LFA50F-12	LFA50F-15	LFA50F-24	LFA50F-36	LFA50F-48		
VC	OLTAGE[V]		AC85 - 264 1 φ	(Refer to Instruc	tion Manual 1.1	and 3.2) *3	•				
01	UDDENITIAL	ACIN 100V	0.47typ (lo=100%) 0.67typ (lo=100%)								
(1	URRENT[A]	ACIN 200V	0.27typ (lo=100%)								
FF	REQUENCY[Hz]		50 / 60 (47 - 63)								
	=======================================	ACIN 100V	73.5typ	77.5typ	80.0typ	80.5typ	81.5typ	82.0typ	81.0typ		
NPUT EI	EFFICIENCY[%]	ACIN 200V	74.0typ	79.0typ	81.5typ	81.5typ	83.0typ	83.5typ	82.5typ		
		ACIN 100V	0.96typ	0.97typ			, ,,		, ,,		
PO	POWER FACTOR (Io=100%) ACIN 20		0.83typ	0.90typ							
	ACIN 100V		15tvp (lo=100%	(At cold start)	Ta=25℃)						
IN	IRUSH CURRENT[A]	ACIN 200V		(At cold start)							
LE	EAKAGE CURREN	Γ[mA]	*	, , , , ,		00%. According t	o IEC60950-1 ar	nd DEN-AN)			
	OLTAGE[V]	• •	3.3	5	12	15	24	36	48		
	URRENT[A]		10.0	10.0	4.3	3.5	2.1	1.4	1.1		
	INE REGULATION[mV1 *4	20max	20max	48max	60max	96max	144max	192max		
	OAD REGULATION		40max	40max	100max	120max	150max	240max	240max		
				80max	120max	120max	120max	150max	150max		
RI	IPPLE[mVp-p]			140max	160max	160max	160max	200max	200max		
		0 to +50°C *1		120max	150max	150max	150max	250max	250max		
UTPUT RII	IPPLE NOISE[mVp-p]	-10 - 0°C *1	160max	160max	180max	180max	180max	300max	300max		
		0 to +50℃		50max	120max	150max	240max	360max	480max		
TEN	TEMPERATURE REGULATION[mV]	-10 to +50°C		60max	150max	180max	290max	450max	600max		
DE	RIFT[mV]	*2	20max	20max	48max	60max	96max	144max	192max		
	START-UP TIME[ms]		350typ (ACIN 100V, Io=100%)								
	OLD-UP TIME[ms]		20typ (ACIN 100V, Io=100%)								
	JTPUT VOLTAGE ADJUSTMENT	RANGE[V]	2.85 to 3.63 Fixed ("Y"option is available for adjusting output voltage between ±10%)								
	UTPUT VOLTAGE SET		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		
	VERCURRENT PROT			% of rating and i			20.00 to 20.00	01.00 to 01.00	10.00 10 00.01		
	VERVOLTAGE 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		
	PERATING INDICA		Not provided	0.70 to 7.00	10.00 to 10.00	17.20 to 21.00	27.00 to 00.00	11.10 to 00.10	00.20 to 07.20		
	EMOTE SENSING		Not provided								
	EMOTE ON/OFF		Not provided Not provided								
	IPUT-OUTPUT		AC3,000V 1minute, Cutoff current = 10mA, DC500V 50M Ω min (At Room Temperature)								
	IPUT-FG		AC2,000V 1minute, Cutoff current = 10mA, DC500V 50M Ω min (At Room Temperature)								
_	UTPUT-FG		AC500V 1minute, Cutoff current = 10mA, DC500V 50M Ω min (At Room Temperature)								
	PERATING TEMP.,HUMID.AND	ALTITUDE	-10 to +70°C, 20 - 90%RH (Non condensing) (Refer to Instruction Manual 3.2), 3,000m (10,000feet) max *3								
STO	TORAGE TEMP., HUMID.AND		-10 to +70 C, 20 - 90%RH (Non condensing) (Refer to Instruction Manual 3.2), 3,000m (10,000feet) max *3								
NVIRONMENT	IBRATION	ALITIODE	-20 to +75 C, 20 - 90%RH (Non condensing), 9,000m (30,000feet) max 10 - 55Hz, 19.6m/s² (2G), 3minutes period, 60minutes each along X, Y and Z axis								
	MPACT			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							
	GENCY APPROVAL	S	UL60950-1, C-UL (CSA60950-1), EN60950-1, EN60065, EN50178 Complies with DEN-AN								
	ONDUCTED NOISE			CC-B, VCCI-B, (I DEIN-AIN			
	ARMONIC ATTENU			EC61000-3-2 (C		O. 1 D, LINOUZZ					
	ASE SIZE/WEIGHT					NXHXD) / 165/	max (with chass	sis & cover · 225/	may)		
OTHERS —	OOLING METHOD		fer to Instruction		, ,	J max (with chas	313 K CUVEI . 323(y max)			
	COLING WIL 1110D		Convection (Re	iei io iristruction	iviailual 3. 1 allu	J.Z) *3					

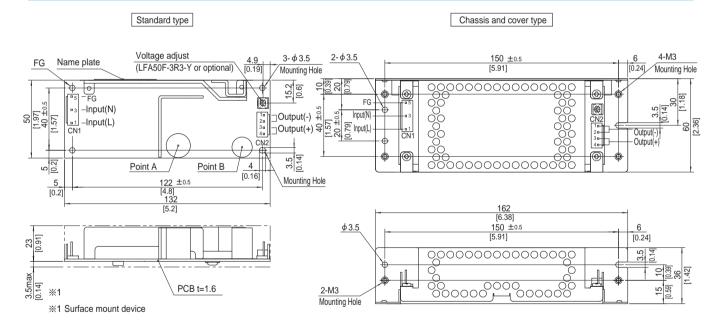
- This is the value that measured on measuring board with capacitor of 22 $\mu\,F$ at 150mm from output terminal.
 - Measured by 20MHz oscilloscope or Ripple-Noise meter (Equivalent to KEISOKU-GIKEN: RM103).
- Drift is the change in DC output for an eight hour period after a half-hour warm-up at 25°C, 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.

LFA50F | COSEL

Block diagram



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.

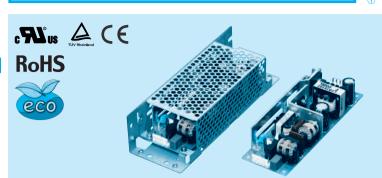
I/C	O Connector Mating connector		Terminal				
0014	4 4400704 0	1-1123722-5	Chain	1123721-1			
CNT	CN1 1-1123724-3	1-1123/22-5	Loose	1318912-1			
CNIO	N2 1-1123723-4 1-11	1-1123722-4	Chain	1123721-1			
CNZ	1-1123723-4	1-1123722-4	Loose	1318912-1			
(Mfr:Tyco Electronics)							

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

<PIN CONNECTION>

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

- ※ Tolerance : ±1 [±0.04]
- Weight: 165g max (with chassis & cover: 325g 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







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

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

- 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.

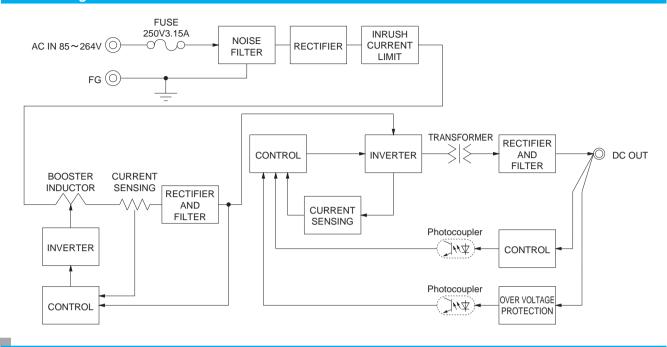
MODEL	LFA75F-3R3-Y	LFA75F-5	LFA75F-12	LFA75F-15	LFA75F-24	LFA75F-36	LFA75F-48
MAX OUTPUT WATTAGE[W]	49.5	75	75.6	75	76.8	75.6	76.8
DC OUTPUT	3.3V 15A	5V 15A	12V 6.3A	15V 5A	24V 3.2A	36V 2.1A	48V 1.6A

	MODEL		LFA75F-3R3-Y	LFA75F-5	LFA75F-12	LFA75F-15	LFA75F-24	LFA75F-36	LFA75F-48			
	VOLTAGE[V]		AC85 - 264 1 φ	AC85 - 264 1 φ (Refer to Instruction Manual 1.1 and 3.2) *3								
	OUDDENITAL	ACIN 100V	0.70typ (lo=100%)	1.00typ (lo=100	0%)	•						
	CURRENT[A]	ACIN 200V	0.40typ (lo=100%)									
	FREQUENCY[Hz]		50 / 60 (47 - 63)									
INPUT	EEEIOIENOV(0/1	ACIN 100V	73.5typ	78.0typ	81.5typ	81.5typ	82.5typ	82.5typ	82.5typ			
	EFFICIENCY[%]	ACIN 200V	75.0typ	80.0typ	83.0typ	83.0typ	84.5typ	84.5typ	84.5typ			
	DOMED FACTOR (L. 4000())	ACIN 100V	0.96typ	71 71								
	POWER FACTOR (Io=100%)	ACIN 200V	0.83typ	21 21								
	ACIN 100		15typ (lo=100%	(At cold start)	Ta=25℃)							
	INRUSH CURRENT[A]	ACIN 200V	30typ (lo=100%	(a) (At cold start)	Ta=25℃)							
	LEAKAGE CURREN	T[mA]	0.40 / 0.75max	(ACIN 100V / 24	0V 60Hz, lo=10	0%, According t	o IEC60950-1 ar	d 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		40max	40max	100max	120max	150max	240max	240max			
	DIDDLET V	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			
	DIDDLE MOIOEL V	0 to +50°C *1	120max	120max	150max	150max	150max	250max	250max			
UTPUT	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, Io=100%)									
	OUTPUT VOLTAGE ADJUSTMENT	RANGE[V]	2.85 to 3.63 Fixed ("Y"option is available for adjusting output voltage between ±10%)									
	OUTPUT VOLTAGE 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	recovers 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	OPERATING INDICA	TION	Not provided									
THERS	REMOTE SENSING		Not provided									
	REMOTE ON/OFF		Not provided									
	INPUT-OUTPUT		AC3,000V 1min	ute, Cutoff curre	nt = 10mA, DC5	00V 50MΩ min	(At Room Tempe	rature)				
SOLATION	INPUT-FG		AC2,000V 1minute, Cutoff current = 10mA, DC500V 50M Ω min (At Room Temperature)									
	OUTPUT-FG		AC500V 1minut	AC500V 1minute, Cutoff current = 25mA, DC500V 50MΩ min (At Room Temperature)								
	OPERATING TEMP., HUMID. AND	ALTITUDE	-10 to +70°C, 20 - 90%RH (Non condensing) (Refer to Instruction Manual 3.2), 3,000m (10,000feet) max *3									
NI/IDONIMENT	STORAGE TEMP., HUMID. AND	ALTITUDE	-20 to +75°C, 20 - 90%RH (Non condensing), 9,000m (30,000feet) max									
NVIRONMENT	VIBRATION		10 - 55Hz, 19.6	- 55Hz, 19.6m/s² (2G), 3minutes period, 60minutes each along X, Y and Z axis								
	IMPACT), 11ms, once ea			-					
AFETY AND	AGENCY APPROVAL	LS	UL60950-1, C-l	UL60950-1, C-UL (CSA60950-1), EN60950-1, EN60065, EN50178 Complies with DEN-AN								
IOISE	CONDUCTED NOISE		FCC-B, VCCI-B,	,	· · · · · · · · · · · · · · · · · · ·							
REGULATIONS	HARMONIC ATTENU	JATOR		EC61000-3-2 (C								
	CASE SIZE/WEIGHT					XHXD) / 230g	max (with chassi	s & cover : 440g	max)			
OTHERS	COOLING METHOD		fer to Instruction	- `	, ,		- 5	•				

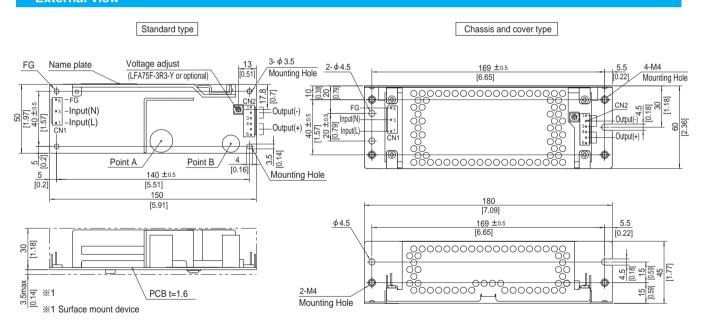
- This is the value that measured on measuring board with capacitor of 22 $\mu\,F$ at 150mm from output terminal.
 - Measured by 20MHz oscilloscope or Ripple-Noise meter (Equivalent to KEISOKU-GIKEN: RM103).
- Drift is the change in DC output for an eight hour period after a half-hour warm-up at 25°C, 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.

LFA75F | COSEL

Block diagram



External view



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

I/O Connector		/O Connector Mating connector		erminal			
CNIA	4 4400704 0	1-1123722-5	Chain	1123721-1			
CN1 1-1	1-1123724-3	1-1123722-5	Loose	1318912-1			
0110 4 4400700 0	4 4400700 0	Chain	1123721-1				
CN2 1-1123723-6		1-1123722-6	Loose	1318912-1			
(Mfr:Tyco Floctronics							

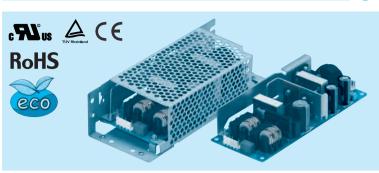
- * I/O Connector is Mfr. Tyco Electronics
- Option:-J1:(J.S.T) connector type. Refer to Instruction Manual 5.

<PIN CONNECTION>

CN1 CN2 Pin No. 1 2 3

Input	Pin No.	Output
AC(L)	1 to 3	-V
	1 10 3	- V
AC(N)	4 to 6	+V
	4106	+٧
FG		

- ※ 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



Recommended EMI/EMC Filter NAC-04-472

High voltage pulse noise type : NAP series

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

Low leakage current type : NAM series

 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

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	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

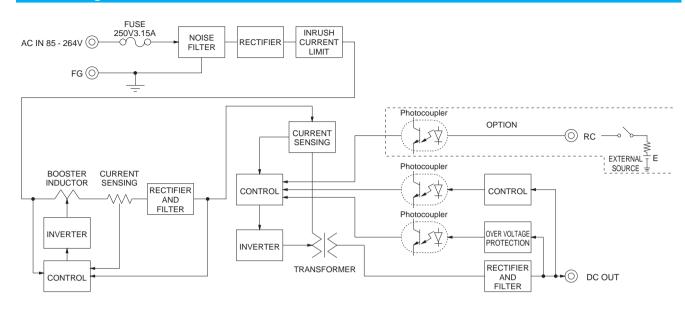
	MODEL		LFA100F-3R3-Y	LFA100F-5-Y	LFA100F-12	LFA100F-15	LFA100F-24	LFA100F-24-H	LFA100F-36	LFA100F-4
	VOLTAGE[V]		AC85 - 264 1	φ (Refer to Ins	struction Manu	al 1.1 and 3.2)	*4			
	CUDDENTIAL	ACIN 100V	0.9typ (lo=100%)	1.3typ (lo=10	0%)					
	CURRENT[A]	ACIN 200V	0.5typ (lo=100%)	0.7typ (lo=10	0%)					
INPUT	FREQUENCY[Hz]		50 / 60 (47 - 6	63)						
	EEEIGIENGVIII/I	ACIN 100V	77.0typ	82.0typ	82.0typ	83.0typ	84.0typ	84.0typ	84.0typ	84.5typ
INPUT	EFFICIENCY[%]	ACIN 200V	79.0typ	84.0typ	84.5typ	85.5typ	87.0typ	87.0typ	87.0typ	87.0typ
	DOMED FACTOR (In 4000())	ACIN 100V	0.98typ	0.99typ						
	POWER FACTOR (Io=100%)	ACIN 200V	0.92typ 0.95typ							
	ACIN 100V		15typ (lo=100%) (At cold start) (Ta=25℃)							
	INRUSH CURRENT[A]	ACIN 200V	30typ (Io=100%) (At cold start) (Ta=25°C)							
	LEAKAGE CURREN	T[mA]	0.40 / 0.75ma	x (ACIN 100V	/ 240V 60Hz,	lo=100%, Acc	ording to IEC6	0950-1 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		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 +50℃*2		80max	120max	120max	120max	240max	150max	150max
	Kii i EE[iii v p p]	-10 - 0℃ *2	140max	140max	160max	160max	160max	320max	200max	200max
	RIPPLE NOISE[mVp-p]		120max	120max	150max	150max	150max	300max	250max	250max
	mi i zz noioz[mi p p]	-10-0°C *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
	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, lo=100%) 2.85 to 3.63 4.50 to 5.50 Fixed ("Y"option is available for adjusting output voltage)							
	OUTPUT VOLTAGE ADJUSTMENT			4.50 to 5.50						
	OUTPUT VOLTAGE SET		3.30 to 3.40			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				works over 10		· ·			
PROTECTION				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
	OPERATING INDICA	TION	Not provided							
OTHERS	REMOTE SENSING		Not provided							
	REMOTE ON/OFF		Option (Refer to Instruction Manual)							
	INPUT-OUTPUT-RC	*6	(
ISOLATION	INPUT-FG OUTPUT-RC-FG	*6	AC2,000V 1 minute, Cutoff current = 10mA, DC500V 50M Ω min (At Room Temperature)							
	OUTPUT-RC	*6								
	OPERATING TEMP., HUMID. AND									
	STORAGE TEMP., HUMID. AND		,			0/ (1 (10,0001eet) 1	IIdX
ENVIRONMENT	VIBRATION	ALIIIODL		20 to +75°C, 20 - 90%RH (Non condensing), 9,000m (30,000feet) max 10 - 55Hz, 19.6m/s² (2G), 3minutes period, 60minutes each along X, Y and Z axis						
	IMPACT				e each X, Y an		on along A, T	2114 L UNIS		
SAFETY AND	AGENCY APPROVAL	S			50-1), EN6095		EN50178 Con	nolies with DF	N-AN	
NOISE	CONDUCTED NOISE				I-B, CISPR-B, I			p00 ******* DE		
	HARMONIC ATTENU		· ·	1EC61000-3-						
	CASE SIZE/WEIGHT				.32×6.10 inch	esl (WXHXD) / 280g max (with chassis &	cover : 480a m	ıax)
OTHERS	COOLING METHOD				ion Manual 3.1		,, 2009 max (oriaddid a	22.01 . 1009 11	,
*1 Consideration	on is changed at option, refer t	o Instruction				aa o.z, · ·	±9 Plans	e contact us about a	nother 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).
- 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.

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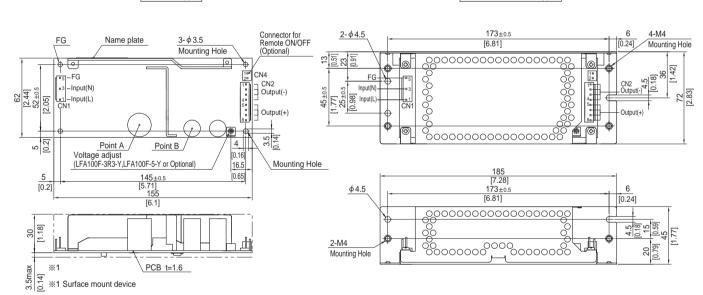
Block diagram



External view

* External size of option is different from standard model.

Standard type Chassis and cover type



- % 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	4 4400704 0	1-1123722-5	Chain	1123721-1	
CN1	CN1 1-1123724-3	1-1123722-5	Loose	1318912-1	
ONIO	1-1123723-8	4 4400700 0	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>

1 to 4 -V
5 to 8 +V

- % Keep drawing current per pin below 5A for CN2.
- % Tolerance : ±1 [±0.04]
- Weight: 280g max (with chassis & cover: 480g max)
- ※ PCB material : CEM3
- $\ensuremath{\mathbb{X}}$ 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 Livrabiation C E **RoHS** eco

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.

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

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

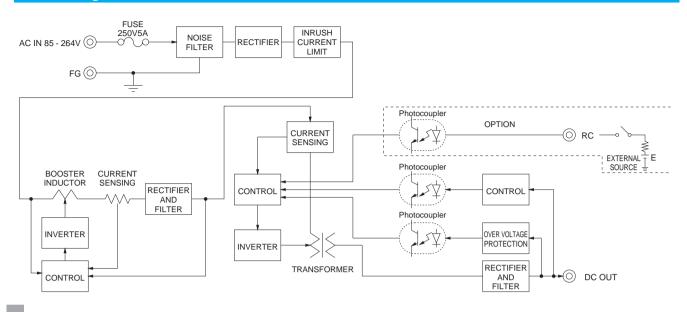
INPUT FREQU EFFICIE POWER FA INRUSH LEAKAN VOLTAG CURRE LINE RI LOAD F RIPPLE OUTPUT RIPPLE N TEMPERATUR DRIFT[m	EENT[A] UENCY[Hz] EIENCY[%] FACTOR (Io=100%) H CURRENT[A] AGE CURRENTAGE[V] EENT[A]	ACIN 100V ACIN 200V ACIN 200V ACIN 200V ACIN 100V ACIN 200V ACIN 200V ACIN 200V	1.4typ (lo=100%) 0.7typ (lo=100%) 50 / 60 (47 - 6 80.0typ 82.0typ 0.98typ 0.92typ	2.0typ (lo=10 1.0typ (lo=10	0%)	al 1.1 and 3.2)	*4				
INPUT FREQU EFFICIE POWER FA INRUSH LEAKAN VOLTAG CURRE LINE RI LOAD F RIPPLE OUTPUT RIPPLE N TEMPERATUR DRIFT[m	ELENCY[Hz] FACTOR (lo=100%) H CURRENT[A] AGE CURRENT AGE[V] EENT[A]	ACIN 200V ACIN 200V ACIN 200V ACIN 200V ACIN 200V ACIN 100V ACIN 200V	0.7typ (lo=100%) 50 / 60 (47 - 6 80.0typ 82.0typ 0.98typ 0.92typ	1.0typ (lo=10 63) 82.5typ 85.5typ	0%) 82.5typ	84 Otyp					
INPUT FREQU EFFICIE POWER FA INRUSH LEAKAA VOLTAC CURRE LINE RI LOAD F RIPPLE OUTPUT RIPPLE N TEMPERATUI DRIFT[m	ELENCY[Hz] FACTOR (lo=100%) H CURRENT[A] AGE CURRENT AGE[V] EENT[A]	ACIN 100V ACIN 200V ACIN 100V ACIN 200V ACIN 100V ACIN 200V	50 / 60 (47 - 6 80.0typ 82.0typ 0.98typ 0.92typ	82.5typ 85.5typ	82.5typ	84 Otyp					
INPUT POWER FA INRUSH LEAKA VOLTAG CURRE LINE RI LOAD F RIPPLE OUTPUT TEMPERATUI DRIFT[m	FACTOR (Io=100%) H CURRENT[A] AGE CURRENTAGE[V] EENT[A]	ACIN 200V ACIN 100V ACIN 200V ACIN 100V ACIN 200V	80.0typ 82.0typ 0.98typ 0.92typ	82.5typ 85.5typ		84 0tvp					
POWER FA INRUSH LEAKAA VOLTAC CURRE LINE RI LOAD F RIPPLE RIPPLE OUTPUT TEMPERATUI DRIFT[m	FACTOR (lo=100%) H CURRENT[A] AGE CURRENT AGE[V] EENT[A]	ACIN 200V ACIN 100V ACIN 200V ACIN 100V ACIN 200V	82.0typ 0.98typ 0.92typ	85.5typ		84 Otyp					
POWER FA INRUSH LEAKAA VOLTAC CURRE LINE RI LOAD F RIPPLE RIPPLE OUTPUT TEMPERATUI DRIFT[m	FACTOR (lo=100%) H CURRENT[A] AGE CURRENT AGE[V] EENT[A]	ACIN 100V ACIN 200V ACIN 100V ACIN 200V	0.98typ 0.92typ	85.5typ	85.0tvp		85.0typ	85.0typ	85.0typ	85.5typ	
INRUSH LEAKA VOLTAC CURRE LINE RI LOAD R RIPPLE RIPPLE N TEMPERATUI DRIFT[m	H CURRENT[A] AGE CURREN AGE[V] RENT[A]	ACIN 200V ACIN 100V ACIN 200V	0.92typ	0.99typ		86.5typ	87.5typ	87.5typ	87.5typ	88.0typ	
INRUSH LEAKA VOLTAC CURRE LINE RI LOAD R RIPPLE RIPPLE N TEMPERATUI DRIFT[m	H CURRENT[A] AGE CURREN AGE[V] RENT[A]	ACIN 100V ACIN 200V									
LEAKA VOLTAC CURRE LINE RI LOAD R RIPPLE RIPPLE N TEMPERATUI DRIFT[m	AGE CURREN AGE[V] RENT[A]	ACIN 200V	454 mg /1 - 400	0.95typ							
LEAKA VOLTAC CURRE LINE RI LOAD R RIPPLE RIPPLE N TEMPERATUI DRIFT[m	AGE CURREN AGE[V] RENT[A]		15typ (Io=100%) (At cold start) (Ta=25°C)								
OUTPUT VOLTAC CURRE LINE RI LOAD F RIPPLE RIPPLE TEMPERATUI DRIFT[m	AGE[V] RENT[A]		30typ (Io=100	%) (At cold sta	rt) (Ta=25°C)						
CURRE LINE RI LOAD F RIPPLE RIPPLE N TEMPERATUI DRIFT[m	RENT[A]	LEAKAGE CURRENT[mA]		x (ACIN 100V	/ 240V 60Hz,	lo=100%, Acco	ording to IEC60	0950-1 and DE	N-AN)		
LINE RI LOAD F RIPPLE RIPPLE N TEMPERATUI DRIFT[m			3.3	5	12	15	24	24	36	48	
OUTPUT RIPPLE N TEMPERATUI DRIFT[m		*5	30	30	12.5	10	6.3	6.3 (Peak 7.9)	4.2	3.2	
OUTPUT RIPPLE N TEMPERATUI DRIFT[m	REGULATION[I	mV] *7	20max	20max	48max	60max	96max	96max	144max	192max	
OUTPUT RIPPLE N TEMPERATUI DRIFT[m	REGULATION		40max	40max	100max	120max	150max	150max	240max	240max	
OUTPUT RIPPLE N TEMPERATUI DRIFT[m	E[m\/n n]	0 to +40°C *2	80max	80max	120max	120max	120max	240max	150max	150max	
TEMPERATUI DRIFT[m	-⊏[iu∧b-b]	-10 - 0°C *2	140max	140max	160max	160max	160max	320max	200max	200max	
TEMPERATUI	NOICEIV1	0 to +40℃*2	120max	120max	150max	150max	150max	300max	250max	250max	
DRIFT[m	RIPPLE NOISE[mVp-p]	-10 - 0°C *2	160max	160max	180max	180max	180max	360max	300max	300max	
DRIFT[m	TEMPERATURE REGULATION[mV]	0 to +40°C	50max	50max	120max	150max	240max	240max	360max	480max	
	TEMPERATURE REGULATION[IIV]	-10 to +40°C	60max	60max	150max	180max	290max	290max	450max	600max	
START-	[mV]	*3	20max	20max	48max	60max	96max	96max	144max	192max	
O IAICI-	START-UP TIME[ms]		350typ (ACIN 100V, Io=100%)								
HOLD-I	HOLD-UP TIME[ms]		20typ (ACIN 100V, Io=100%)								
OUTPUT VO	VOLTAGE ADJUSTMENT	RANGE[V]	2.85 to 3.63	4.50 to 5.50	Fixed ("Y"opti	on is available	for adjusting of	utput voltage)			
OUTPUT	JT 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	
OVERCU	CURRENT 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 OVERVO	OLTAGE 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 OPERA	ATING INDICA	TION	Not provided								
OTHERS REMOT	TE SENSING		Not provided								
REMOT	TE ON/OFF			Option (Refer to Instruction Manual)							
	F-OUTPUT-RC	*6				, DC500V 50M					
ISOLATION INPUT-F	r-FG		AC2,000V 1minute, Cutoff current = 10mA, DC500V 50M Ω min (At Room Temperature)								
OUTPU	UT-RC-FG	*6									
OUTPU	UT-RC	*6	AC100V 1minute, Cutoff current = 25mA, DC100V 10M Ω min (At Room Temperature)								
	NG TEMP.,HUMID.AND					g) (Refer to Ins		al 3.2), 3,000m	(10,000feet) r	max	
FNVIRONMENT	E TEMP.,HUMID.AND	ALTITUDE	-20 to +75°C, 20 - 90%RH (Non condensing), 9,000m (30,000feet) max								
VIBRAT		-		, , , ,	· ·	, 60minutes ea	ch along X, Y a	and Z axis			
IMPACT		_		,, ,	e each X, Y an						
0/11 E11 / 111D	ICY APPROVAI					0-1, EN60065,		nplies with DEI	N-AN		
	DUCTED NOISE					EN55011-B, EN	N55022-B				
REGULATIONS HARMO				IEC61000-3-2							
OTHERS	SIZE/WEIGHT					s] (WXHXD)	/ 390g max (wi	ith chassis & c	over : 650g ma	ıx)	
*1 Specification is change			Convection (F								

- *2 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℃, with the input voltage held constant
- *4 Derating is required. *5 () 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.
- *7 Please contact us about dynamic load and input response.
- 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.

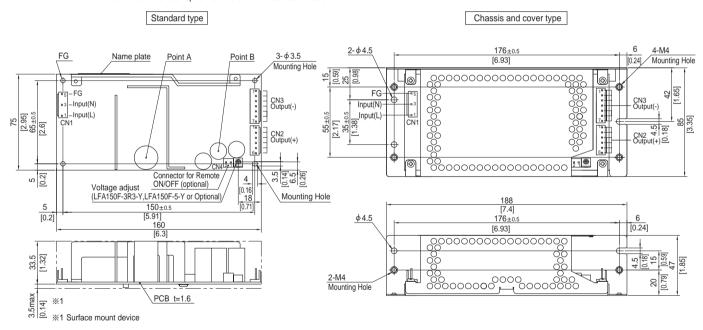
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Block diagram



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.
- And do not use press-fitting bush.
- * Point A, Point B are thermometry points. Please refer to Instruction Manual 3.

1/0	O Connector	Mating connector	Т	erminal
CNIA	1-1123724-3	1-1123722-5	Chain	1123721-1
CIVI	1-1123724-3	1-1123722-5	Loose	1318912-1
ONIC	1-1123723-6	1-1123722-6	Chain	1123721-1
CNZ	1-1123723-6	1-1123/22-6	Loose	1318912-1
ONIC	1-1123723-7	1-1123722-7	Chain	1123721-1
CNS	3 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					

- ※ 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.
- ※ 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

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 Su'us 🛕 (E **RoHS** eco

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

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

Recommended EMI/EMC Filter NAC-06-472

- 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
 - 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.

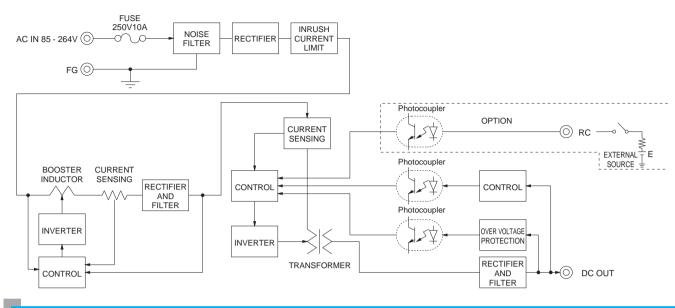
	MODEL		LFA240F-24	LFA240F-24-H	LFA240F-36	LFA240F-48			
	VOLTAGE[V]		AC85 - 264 1 φ (Refer to Ins	struction Manual 1.1 and 3.2)	*4	·			
	OUDDENITAL	ACIN 100V	3.3typ (lo=100%)						
	CURRENT[A]	ACIN 200V	1.7typ (lo=100%)	typ (Io=100%)					
	FREQUENCY[Hz]		50 / 60 (47 - 63)						
	EFFICIENCY[%]	ACIN 100V	84.5typ	84.5typ	84.5typ	84.5typ			
NPUT	ACIN 200V		87.5typ	87.5typ	87.5typ	87.5typ			
	POWER FACTOR (In 100V) ACIN 100V		21 21 21						
	POWER FACTOR (Io=100%)	ACIN 200V	71						
	INDUCH CURRENTIAL	ACIN 100V	15 / 30typ (Io=100%) (Primary inrush current /Secondary inrush current) (More then 3 sec. to re-start)						
	INRUSH CURRENT[A]	ACIN 200V	30 / 30typ (lo=100%) (Primary inrush current /Secondary inrush current) (More then 3 sec. to re-start)						
	LEAKAGE CURREN	T[mA]	0.40 / 0.75max (ACIN 100V / 240V 60Hz, lo=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			
ОИТРИТ	RIPPLE[mVp-p]	0 to +40℃*2	120max	240max	150max	150max			
	KIFFEE[IIIVP-P]	-10 - 0°C *2	160max	320max	200max	200max			
	RIPPLE NOISE[mVp-p]	0 to +40℃ *2	150max	300max	250max	250max			
	KIFFEE NOISE[IIIVP-P]	-10-0℃ *2	180max	360max	300max	300max			
	TEMPERATURE REGULATION[mV]	0 to +40°C	240max	240max	360max	480max			
	TEMPERATURE REGULATION[IIV]	-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, lo=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			
L	OVERCURRENT PROT		Works over 105% of rating	(works over 101% of peak of	current at option -H) and r				
ROTECTION	OVERVOLTAGE PROTE	ECTION	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						
THERS	REMOTE SENSING		Not provided						
	REMOTE ON/OFF		Option (Refer to Instruction Manual)						
	INPUT-OUTPUT-RC	*6	7.100,000 Timilate, Caten Carretti Territ, 20000 Territ, Timilate, Caten Carretti						
SOLATION ⊢	INPUT-FG		AC2,000V 1minute, Cutoff current = 10mA, DC500V 50M Ω min (At Room Temperature)						
	OUTPUT-RC-FG	*6	AC500V 1minute, Cutoff current = 25mA, DC500V 50M Ω min (At Room Temperature)						
	OUTPUT-RC	*6	AC100V 1minute, Cutoff current = 25mA, DC100V 10M Ω min (At Room Temperature)						
H	OPERATING TEMP., HUMID. AND		-10 to +70℃, 20 - 90%RH (Non condensing) (Refer to Instruction Manual 3.2), 3,000m (10,000feet) max						
NVIRONMENT -	STORAGE TEMP., HUMID. AND	ALTITUDE	-20 to +75°C, 20 - 90%RH (Non condensing), 9,000m (30,000feet) max						
	VIBRATION		10 - 55Hz, 19.6m/s ² (2G), 3		each along X, Y and Z ax	ris			
	IMPACT		196.1m/s² (20G), 11ms, once each X, Y and Z axis						
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	AGENCY APPROVAL		UL60950-1, C-UL (CSA609		, ,	ith DEN-AN			
	CONDUCTED NOISE		Complies with FCC-B, VCC		EN55022-B				
	HARMONIC ATTENU		Complies with IEC61000-3-						
OTHERS +	CASE SIZE/WEIGHT		84×46.5×180mm [3.31×			ssis & cover : 880g max)			
-	COOLING METHOD		Convection (Refer to Instruc	ction Manual 3.1 and 3.2) *	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℃, 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.
- *7 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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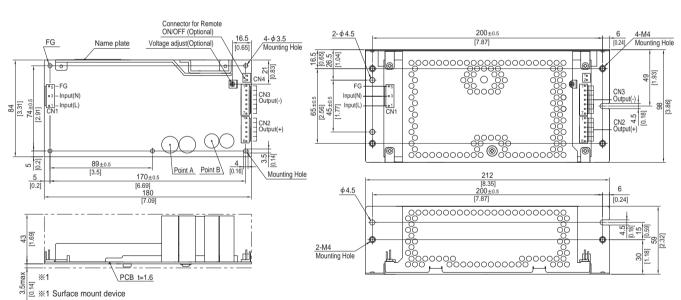
Block diagram



External view

* External size of option is different from standard model.

Chassis and cover type Standard 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			
ŀ	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		
	0.10	4 4400700 7	4 4400700 7	Chain	1123721-1		
	CN3	1-1123723-7	1-1123722-7	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. Outpu				
1	AC(L)									
2										
3	AC(N)		1 to 6	+V		1 to 7	-V			
4										
5	FG									
W Keep drawing current per pin below EA for CN2 CN2										

- % 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

c**71**°us △ (€ **RoHS** ec0

Recommended EMI/EMC Filter NAC-06-472



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

(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 (Tyco Electronics) connector type
(Except 3.3V and 5V)
H: VH (J.S.T.) connector type
(Except 3.3V and 5V)
R: with Remote ON/OFF
S: with Remote ON/OFF
S: with Chassis
SNF: with Chassis & cover & fan
(Only 5V, 12V and 24V)
T1: Holizontal terminal block
Please refer to Instruction manual 5.

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.

MC	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
MA	MAX OUTPUT WATTAGE[W] *5		198	300	324	330	336	336 (456)	330	338.4	336
D.C.	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		Forced air	3.3V 60A	5V 60A	12V 27A	15V 22A	24V 14A	24V 14 (19)A	30V 11A	36V 9.4A	48V 7A

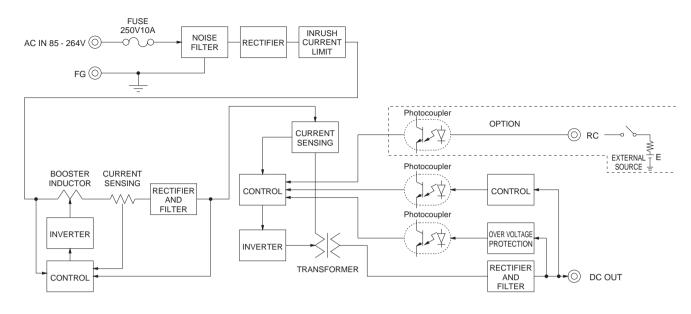
	MODEL		LFA300F-3R3-TY	LFA300F-5-TY	LFA300F-12-TY	LFA300F-15-TY	LFA300F-24-TY	LFA300F-24-HTY	LFA300F-30-TY	LFA300F-36-TY	LFA300F-48-TY		
	VOLTAGE[V]	AC85 - 264 1 φ (Refer to Instruction Manual 1.1 and 3.2) *4											
	ACIN 100V		27typ (lo=100%) 4.1typ (lo=100%)										
	CURRENT[A]	ACIN 200V	1.4\yp (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	EFFICIENCT[%]	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									
	FOWER FACTOR (IO=100/0)	ACIN 200V	0.92typ	0.95typ									
	INRUSH CURRENT[A]	ACIN 100V	15 / 30typ (I	o=100%) (Pr	imary inrush o	current /Secor	ndary inrush o	urrent) (More	then 3 sec. to	re-start)			
	INKOSH COKKENT[A]	ACIN 200V	30 / 30typ (I	30 / 30typ (Io=100%) (Primary inrush current /Secondary inrush current) (More then 3 sec. to re-start)									
	LEAKAGE CURRENT[mA]		0.45 / 0.75max (ACIN 100V / 240V 60Hz, lo=100%, According to IEC60950-1 and DEN-AN)										
	VOLTAGE[V]		3.3	5	12	15	24	24	30	36	48		
	CUDDENTIAL	Convection	40	40	17	14	12.5	12.5 (Peak19)	10	8.4	6.3		
	CURRENT[A] *5	Forced air	60	60	27	22	14	14 (Peak19)	11	9.4	7		
	LINE REGULATION[mV] *7	20max	20max	48max	60max	96max	96max	144max	144max	192max		
	LOAD REGULATION	[mV] *7	40max	40max	100max	120max	150max	150max	240max	240max	240max		
	DIDDI E[m\/n n1	0 to +40°C *2	80max	80max	120max	120max	120max	240max	150max	150max	150max		
	RIPPLE[mVp-p]	-10 - 0°C *2	140max	140max	160max	160max	160max	320max	200max	200max	200max		
OUTPUT	RIPPLE NOISE[mVp-p]	0 to +40°C *2	120max	120max	150max	150max	150max	300max	250max	250max	250max		
OUIFUI		-10 - 0°C *2	160max	160max	180max	180max	180max	360max	300max	300max	300max		
	TEMPERATURE REGULATION[mV]	0 to +40°C	50max	50max	120max	150max	240max	240max	360max	360max	480max		
	TEMPERATURE REGULATION[IIIV]	-10 to +40°C	60max	60max	150max	180max	290max	290max	450max	450max	600max		
	DRIFT[mV] *3		20max	20max	48max	60max	96max	96max	144max	144max	192max		
	START-UP TIME[ms]		350typ (ACIN 100V, Io=100%)										
	HOLD-UP TIME[ms]		20typ (ACIN	100V, Io=10									
	OUTPUT VOLTAGE ADJUSTMENT	RANGE[V]	2.85 to 3.63	4.50 to 5.50		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 SET		3.30 to 3.40	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 PROT						eak current at						
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		
	OPERATING INDICA	Not provided											
OTHERS	REMOTE SENSING		Not provided										
	REMOTE ON/OFF		Option (Refer to Instruction Manual)										
	INPUT-OUTPUT-RC	*6	rice (coor riminate) eaten earrein reining 2 edeer com== rimin (ric rice in reiniperature)										
ISOLATION	INPUT-FG		AC2,000V 1minute, Cutoff current = 10mA, DC500V 50M Ω min (At Room Temperature)										
looz/mon	OUTPUT-RC-FG	*6	(
	OUTPUT-RC	*6	The real minute, eaten canonic Zenzi, zeroet remain (raricem remperature)										
	VIBRATION		-10 to +70℃, 20 - 90%RH (Non condensing) (Refer to Instruction Manual 3.2), 3,000m (10,000feet) max										
ENVIRONMENT			-20 to +75°C, 20 - 90%RH (Non condensing), 9,000m (30,000feet) max										
			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		UL60950-1, C-UL (CSA60950-1), EN60950-1, EN60065, EN50178 Complies with DEN-AN										
NOISE	CONDUCTED NOISE		Complies with FCC-B, VCCI-B, CISPR-B, EN55011-B, EN55022-B										
REGULATIONS			Complies with IEC61000-3-2 (Class A) *8										
OTHERS	CASE SIZE/WEIGHT		95×52.5×222mm [3.74×2.07×8.74 inches] (W×H×D) (without terminal block) / 810g max (with chassis & cover : 1,270g max)										
	COOLING METHOD	Convection / Forced air (Refer to Instruction Manual 3.1 and 3.2) *4											

- *1 Specification is changeed at option, refer to Instruction Manual.
- *2 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 control (optional) is added.
- *7 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.

LFA300F | COSEL

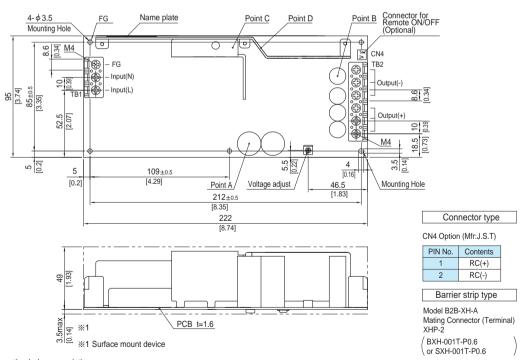
Block diagram



External view

* External size of option is different from standard model.

Standard type



- $\ensuremath{\ensuremath{\%}}$ 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.
- * 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 (with chassis & cover: 1,270g max)
 PCB material: CEM3
- ※ Dimensions in mm, []=inches
- * Screw tightening torque: M4 1.6N · m (16.9kgf · cm) max

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