



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					
	OUDDENITIAL	ACIN 100V	0.18typ (lo=100%)	0.26typ (Io=100%)	,			
	CURRENT[A]	ACIN 200V	0.11typ (lo=100%)					
	FREQUENCY[Hz]		50 / 60 (47 - 440)					
INPUT	EEEIOJENOVIO/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	
	INRUSH CURRENT[A]	ACIN 100V	15typ (lo=100%)					
	INKUSH CUKKENI[A]	ACIN 200V	30typ (lo=100%)					
	LEAKAGE CURRENT	[mA]	0.15/0.30max (ACIN 10	00V / 240V 60Hz, lo=10	0%, According to IEC609	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	n <b>V] *</b> 5	20max	20max	48max	60max	96max	
	LOAD REGULATION[	mV] *5	40max	40max	100max	120max	150max	
	DIDDI E[m\/n n]	0 to +50°C	80max	80max	120max	120max	120max	
	RIPPLE[mVp-p]		140max	140max	160max	160max	160max	
		lo=0 - 35%	190max	160max	240max	240max	280max	
	DIDDLE NOICEIV1	0 to +50°C	120max	120max	150max	150max	150max	
OUTPUT	RIPPLE NOISE[mVp-p]	-10 - 0℃	160max	160max	180max	180max	180max	
		lo=0 - 35%		240max	300max	300max	320max	
	TEMPERATURE REGULATION[mV]	0 to +50℃	50max	50max	120max	150max	240max	
	TEMP ENAPORE REGUERITOR(III)	-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 1minute of applying input again from turning off the input voltage					
	HOLD-UP TIME[ms]		20typ (ACIN 100V, Io=100%)					
	OUTPUT VOLTAGE ADJUSTMENT F		2.85 to 3.63	<del>' '</del>	lable for adjusting output		<del></del>	
	OUTPUT VOLTAGE SETT		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			ting and recovers autom	, ,	1		
PROTECTION	OVERVOLTAGE PROTE		4.00 to 5.25	5.75 to 7.00	13.80 to 16.80	17.25 to 21.00	27.60 to 33.60	
CIRCUIT AND	OPERATING INDICAT	ION	Not provided					
OTHERS	REMOTE SENSING		Not provided					
	REMOTE ON/OFF		Not provided					
001 47:0::	INPUT-OUTPUT		AC3,000V 1minute, Cutoff current = 10mA, DC500V 50M $\Omega$ min (At Room Temperature)					
SOLATION	INPUT-FG		AC2,000V 1minute, Cutoff current = 10mA, DC500V 50M $\Omega$ min (At Room Temperature)					
	OUTPUT-FG	AL TITLIBE	,		00V 50MΩ min (At Room			
	OPERATING TEMP.,HUMID.AND				Refer to Instruction Manu		eet) max *3	
ENVIRONMENT	STORAGE TEMP., HUMID. AND A	ALITIUDE	-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  196.1m/s² (20G), 11ms, once each X, Y and Z axis					
	IMPACT		· /·			anline with DEN AN		
SAFETY AND	AGENCY APPROVAL	ა			EN60065, EN50178 Con	nplies with DEN-AN		
NOISE REGULATIONS	CONDUCTED NOISE	ATOR		VCCI-B, CISPR-B, EN55				
VEGOLATIONS	HARMONIC ATTENU	ATUK	<u> </u>		built-in to active filter) *4			
OTHERS	CASE SIZE/WEIGHT				V X H X D) / 55g max (wit	n cnassis & cover : 150g	max)	
	COOLING METHOD		Convection (Refer to In	struction Manual 3.1 and	u 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

factor Io=0-35% is different.

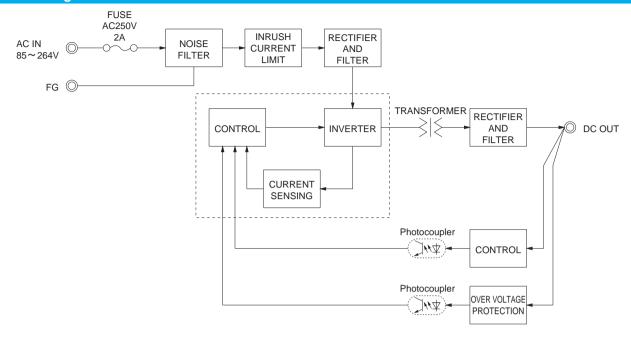
Please refer to the Instruction Manual 1.7.

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

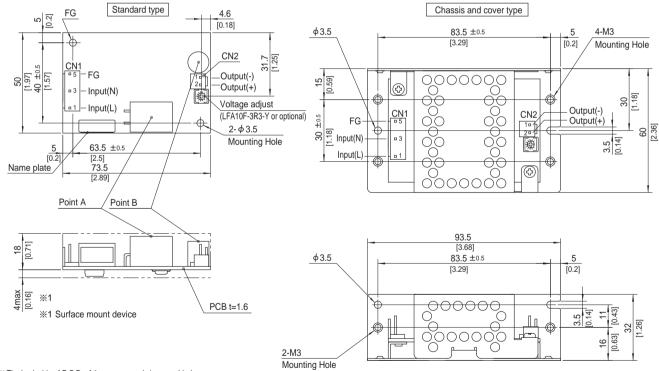
- Please contact us about dynamic load and input response
- Please contact us about another class.
- To meet the specifications. Do not operate over-loaded condition.
- Parallel operation is not possible.
- Derating is required when operated with chassis and cover.
  - Sound noise may be generated by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

## LFA10F | COSEL

#### Block diagram



#### **External view**



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

I/O Connector		I/O Connector Mating connector		erminal	
014	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	
CNZ	1-1123723-2	1-1123/22-2	Loose	1318912-1	
(Mfr:Type Fleetrenice)					

(Mfr:Tyco Electronics)

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

#### <PIN CONNECTION>

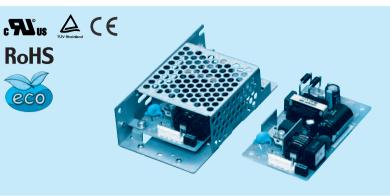
CN1				
Pin No.	Input			
1	AC(L)			
2				
3	AC(N)			
4				
5	FG			

CINZ	
Pin No.	Output
1	-V
2	+V

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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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	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 Manua	I 1.1 and 3.2) *3			
	OUDDENTIAL	ACIN 100V	0.24typ (lo=100%)					
	CURRENT[A]	ACIN 200V	0.15typ (lo=100%)	0.20typ (lo=100%)				
	FREQUENCY[Hz]		50 / 60 (47 - 440)					
NPUT	EEEIQIENIQ\(70/3	ACIN 100V	68.0typ	73.0typ	76.0typ	77.0typ	78.0typ	
	EFFICIENCY[%]	ACIN 200V	69.0typ	76.0typ	78.5typ	80.0typ	81.5typ	
	INDUOLI OUDDENITIAL	ACIN 100V	15typ (Io=100%) (At co	old start) (Ta=25°C)				
	INRUSH CURRENT[A]	ACIN 200V	30typ (Io=100%) (At co	old start) (Ta=25°C)				
	LEAKAGE CURRENT	[mA]	0.15/0.30max (ACIN 1	00V / 240V 60Hz, lo	=100%, 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	nV] *5	20max	20max	48max	60max	96max	
	LOAD REGULATION[	mV] *5	40max	40max	100max	120max	150max	
	DIDDI Et	0 to +50°C	80max	80max	120max	120max	120max	
	RIPPLE[mVp-p]	-10 - 0℃	140max	140max	160max	160max	160max	
	*1	lo=0 - 35%	190max	160max	240max	240max	280max	
		0 to +50°C	120max	120max	150max	150max	150max	
UTPUT	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[MV]	-10 to +50°C	60max	60max	150max	180max	290max	
	DRIFT[mV] *2		20max	20max	48max	60max	96max	
	START-UP TIME[ms]		200typ (ACIN 100V, Io=100%) *Start-up time is 700ms typ for less than 1minute of applying input again from turning off the input vol					
	HOLD-UP TIME[ms]		20typ (ACIN 100V, Io=100%)					
	OUTPUT VOLTAGE ADJUSTMENT F	RANGE[V]	2.85 to 3.63	Fixed ("Y"option is	available for adjusting o	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 au	tomatically			
ROTECTION	OVERVOLTAGE PROTE	CTION	4.00 to 5.25	5.75 to 7.00	13.80 to 16.80	17.25 to 21.00	27.60 to 33.60	
IRCUIT AND	OPERATING INDICAT	ION	Not provided					
THERS	REMOTE SENSING		Not provided					
	REMOTE ON/OFF		Not provided					
	INPUT-OUTPUT		AC3,000V 1minute, Cutoff current = 10mA, DC500V 50M $\Omega$ min (At Room Temperature)					
SOLATION	INPUT-FG		AC2,000V 1minute, Cutoff current = 10mA, DC500V 50M $\Omega$ min (At Room Temperature)					
	OUTPUT-FG		AC500V 1minute, Cutoff current = 25mA, DC500V 50M $\Omega$ min (At Room Temperature)					
	OPERATING TEMP., HUMID. AND					lanual 3.2), 3,000m (10,0	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				Complies with DEN-AN		
OISE	CONDUCTED NOISE		Complies with FCC-B, VCCI-B, CISPR-B, EN55011-B, EN55022-B					
REGULATIONS	HARMONIC ATTENU	ATOR			Not built-in to active filte			
OTHERS	CASE SIZE/WEIGHT		50×22×87.5mm [1.9	7×0.87×3.44 inches	s] (W×H×D) / 80g max	(with chassis & cover : 1	90g max)	
	COOLING METHOD		Convection (Refer to In	nstruction Manual 3.1	and 3.2) *3			

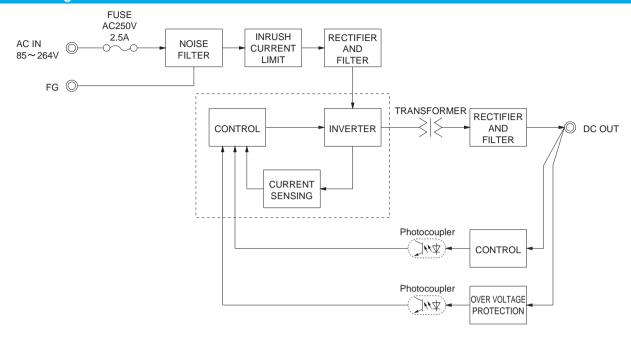
This is the value that measured on measuring board with capacitor of 22  $\mu\,\text{F}$  at 150mm from output terminal. Measured by 20MHz oscilloscope or Ripple-Noise meter (Equivalent to KEISOKU-GIKEN: RM103). A circuit reducing standby power is built in this unit. Therefore, the internal switch element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

operated, and the Ripple/Ripple Noise specification in load

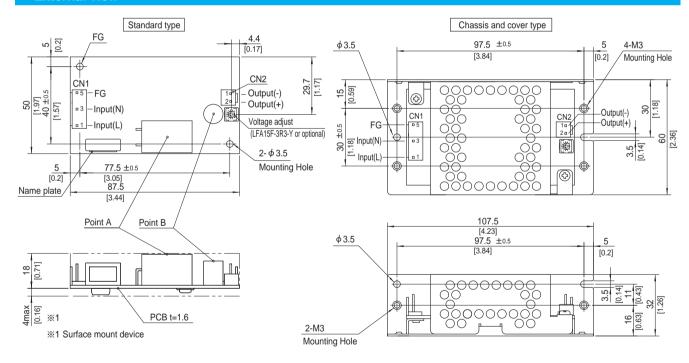
- Please refer to the Instruction Manual 1.7.
- Drift is the change in DC output for an eight hour period after a half-hour warm-up at 25°C, with the input voltage held constant at the rated input/output.
- Derating is required.
- When two or more units are operating it may not comply with the IEC61000-3-2.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

## LFA15F | CO\$EL

#### Block diagram



#### **External view**



- $\ensuremath{\ensuremath{\mathscr{Z}}}$  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.
- 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.

ſ	I/O Connector		Mating connector	T	erminal
Г	014	1-1123724-3	1-1123722-5	Chain 112372	
	CNT	1-1123724-3	1-1123/22-5	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>

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

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  $^{\bullet}$  m (6.3kgf  $^{\bullet}$  cm) max

c Sus 🛕 C E **RoHS** 000





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.

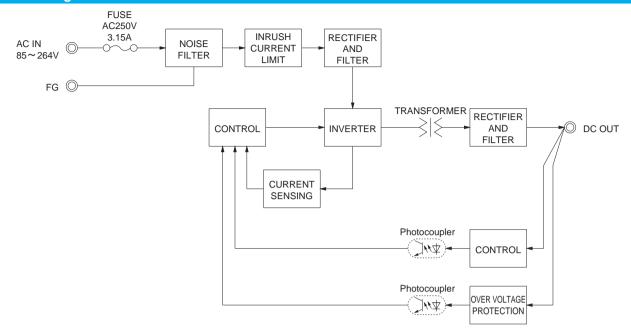
MODEL	LFA30F-3R3-Y	LFA30F-5	LFA30F-12	LFA30F-15	LFA30F-24
MAX OUTPUT WATTAGE[W]	19.8	30.0	30.0	30.0	31.2
DC OUTPUT	3.3V 6A	5V 6A	12V 2.5A	15V 2A	24V 1.3A

	MODEL		LFA30F-3R3-Y	LFA30F-5	LFA30F-12	LFA30F-15	LFA30F-24	
,	VOLTAGE[V]		AC85 - 264 1 φ (Refer to Instruction Manual 1.1 and 3.2) *3					
Γ.	CUDDENTIAL	ACIN 100V	0.50typ (lo=100%)	0.65typ (lo=100%)	,			
'	CURRENT[A]	ACIN 200V	0.30typ (lo=100%)	0.35typ (lo=100%)				
Ī	FREQUENCY[Hz]		50 / 60 (47 - 440)					
NPUT	EFFICIENCY[%]	ACIN 100V	73typ	76typ	79typ	81typ	82typ	
[ '	EFFICIENCT[%]	ACIN 200V	75typ	79typ	81typ	83typ	84typ	
	NRUSH 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℃)				
I	LEAKAGE CURREN	T[mA]	0.30 / 0.65max (ACIN	I 100V / 240V 60Hz, I	o=100%, According to	IEC60950-1 and DEN	I-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	
Γ.	RIPPLE[mVp-p]	0 to +50°C *1	80max	80max	120max	120max	120max	
L'	VII I EE[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 [ˈ	w Fr MOIOF[IIIAb-b]	-10-0℃ *1	160max	160max	180max	180max	180max	
١,	TEMPERATURE REGULATION[mV]	0 to +50℃	50max	50max	120max	150max	240max	
L'	ILMIFERATORE REGULATION[IIIV]	-10 to +50°C	60max	60max	150max	180max	290max	
ı	DRIFT[mV] *2		20max	20max	48max	60max	96max	
_ :	START-UP TIME[ms]		150typ (ACIN 100V, Io=100%)					
_ l	HOLD-UP TIME[ms]		20typ (ACIN 100V, Io=100%)					
(	OUTPUT VOLTAGE ADJUSTMENT RANGE[V]		2.85 to 3.63	Fixed ("Y"option is a	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	ECTION	Works over 105% of a	rating and recovers au	tomatically			
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					
-	NPUT-OUTPUT		AC3,000V 1minute, Cutoff current = 10mA, DC500V 50M $\Omega$ min (At Room Temperature)					
<u> </u>	NPUT-FG		AC2,000V 1minute, Cutoff current = 10mA, DC500V 50M $\Omega$ min (At Room Temperature)					
	OUTPUT-FG		AC500V 1minute, Cutoff current = 25mA, DC500V 50M $\Omega$ min (At Room Temperature)					
<b>⊢</b>	OPERATING TEMP.,HUMID.AND					Manual 3.2), 3,000m (	10,000feet) max *3	
-NVIRONMENI ⊢	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				
	MPACT		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					
-	AGENCY APPROVAL		, ,		<u> </u>		AN	
H	CONDUCTED NOISE		Complies with FCC-B, VCCI-B, CISPR-B, EN55011-B, EN55022-B					
	HARMONIC ATTENU		<u>'</u>	00-3-2 (Class A) *6 (No				
OTHERS -	CASE SIZE/WEIGHT		-		, ,	max (with chassis & co	over : 260g max)	
=	COOLING METHOD		Convection (Refer to	Instruction Manual 3.1	and 3.2) *3			

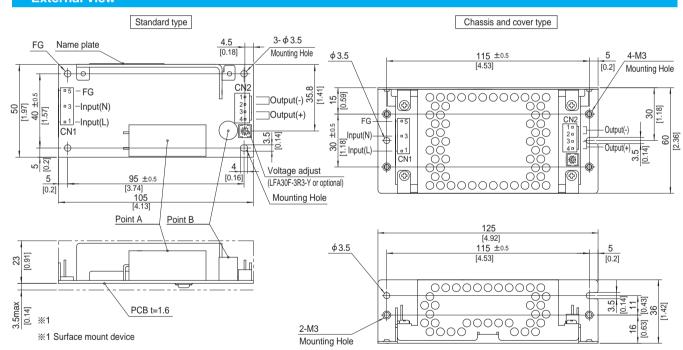
- This is the value that measured on measuring board with capacitor of 22 µ F at 150mm from output terminal. . Measured by 20MHz oscilloscope or Ripple-Noise meter (Equivalent to KEISOKU-GIKEN:
- Drift is the change in DC output for an eight hour period after a half-hour warm-up at
- 25°C, with the input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

## LFA30F | 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. 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	T	erminal	
ONIA	4 4400704 0	4 4400700 5	Chain	1123721-1	
CNT	1-1123724-3	1-1123722-5	Loose	1318912-1	
ONIO	4 4400700 4	1-1123722-4	Chain	1123721-1	
CNZ	1-1123723-4	1-1123722-4	Loose	1318912-1	
	(A.W. T				

(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				
Input				
AC(L)				
AC(N)				
FG				

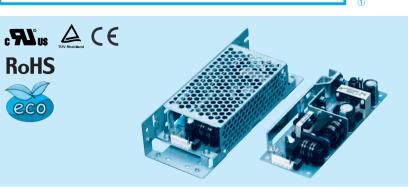
0.12							
Pin No.	Output						
1, 2	-V						
3, 4	+V						

- % Tolerance :  $\pm 1$  [  $\pm 0.04$  ] % 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

CN<sub>2</sub>

<sup>\*</sup> Keep drawing current per pin below 5A for CN2.

LFA50F



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.

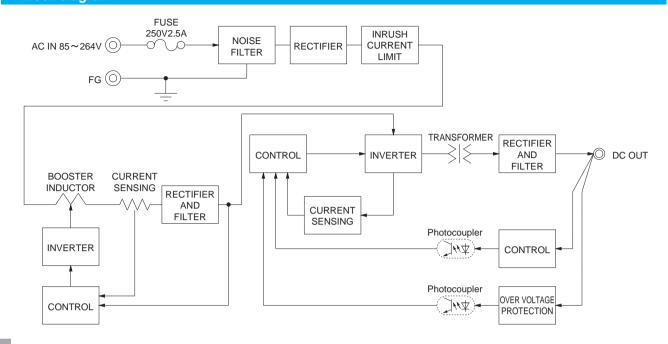
This power supply is manufactured by SMD technology. The stress to P.C.B like twisting or bending causes the defect of the unit, so handle the unit with care.

MODEL	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

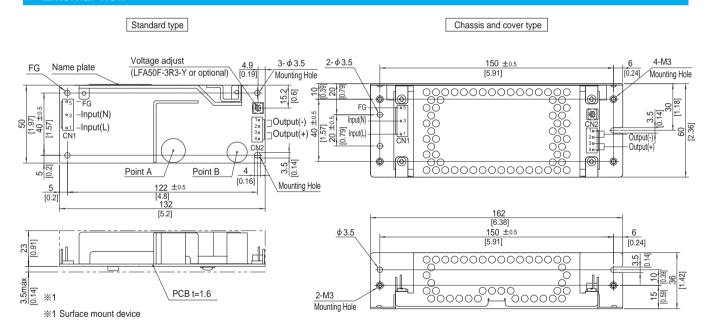
	MODEL		LFA50F-3R3-Y	LFA50F-5	LFA50F-12	LFA50F-15	LFA50F-24	LFA50F-36	LFA50F-48	
	VOLTAGE[V]		AC85 - 264 1 φ	(Refer to Instruc	ction Manual 1.1	and 3.2) *3				
	ACIN 100V		0.47typ (lo=100%)   0.67typ (lo=100%)							
	CURRENT[A]	ACIN 200V								
	FREQUENCY[Hz]		50 / 60 (47 - 63	)						
	EEEIOIENOV(0/1	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	
	DOMED FACTOR (I. 4000())	ACIN 100V	0.96typ							
	POWER FACTOR (Io=100%)	ACIN 200V	0.83typ	0.90typ						
		ACIN 100V	15typ (lo=100%	(a) (At cold start)	Ta=25℃)					
	INRUSH CURRENT[A]	ACIN 200V	30typ (lo=100%	(a) (At cold start) (	Ta=25℃)					
	LEAKAGE CURREN	T[mA]		, , , , ,		0%, According t	o IEC60950-1 an	d 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		40max	40max	100max	120max	150max	240max	240max	
		0 to +50°C *1	80max	80max	120max	120max	120max	150max	150max	
	RIPPLE[mVp-p]	-10 - 0°C *1		140max	160max	160max	160max	200max	200max	
		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	
			50max	50max	120max	150max	240max	360max	480max	
	TEMPERATURE REGULATION[mV]	-10 to +50°C		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			% of rating and						
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	41.40 to 50.40	55.20 to 67.20	
IRCUIT AND			Not provided							
THERS	REMOTE SENSING		Not provided							
	REMOTE ON/OFF		Not provided							
	INPUT-OUTPUT		AC3,000V 1minute, Cutoff current = 10mA, DC500V 50M $\Omega$ min (At Room Temperature)							
SOLATION	INPUT-FG		AC2,000V 1minute, Cutoff current = 10mA, DC500V 50M $\Omega$ min (At Room Temperature)							
	OUTPUT-FG		AC500V 1minute, Cutoff current = 25mA, DC500V 50M $\Omega$ min (At Room Temperature)							
	OPERATING TEMP., HUMID. AND	ALTITUDE								
	STORAGE TEMP., HUMID.AND		-20 to +75°C, 20 - 90 %KH (Non condensing), 9,000m (30,000feet) max							
NVIRONMENT	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 Z axis							
AFETY AND	AGENCY APPROVAL	_S		,· · · · · · · · · · · · · · · · · · ·			78 Complies with	n DEN-AN		
IOISE	CONDUCTED NOISE			CC-B, VCCI-B,	,	· · · · · · · · · · · · · · · · · · ·				
	HARMONIC ATTENU			EC61000-3-2 (C		,				
3020110						VXHXD) / 1650	max (with chase	sis & cover : 3250	n max)	
OTHERS	CASE SIZE/WEIGHT			50 × 26.5 × 132mm [1.97 × 1.04 × 5.20 inches] (W × H × D) / 165g max (with chassis & cover : 325g max)  Convection (Refer to Instruction Manual 3.1 and 3.2) *3						

- This is the value that measured on measuring board with capacitor of 22  $\mu\,F$  at 150mm from output terminal.
  - Measured by 20MHz oscilloscope or Ripple-Noise meter (Equivalent to KEISOKU-GIKEN: RM103).
- 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.

#### 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		
0.14	1-1123724-3	1-1123722-5	Chain	1123721-1	
CNT	1-1123724-3	1-1123/22-5	Loose	1318912-1	
CNO	1-1123723-4	1-1123722-4	Chain	1123721-1	
CINZ	1-1123723-4	1-1123/22-4	3-4 1-1123722-4	Loose	1318912-1
			(Mfr:Ty	co Electronics)	

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

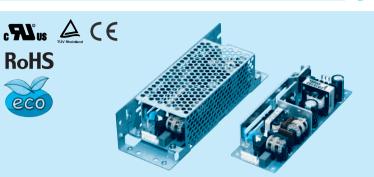
#### <PIN CONNECTION>

CN1		CN2	2	
Pin No.	Input	Pin	No.	Output
1 2	AC(L)	1,	2	-V
3	AC(N)	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
- \* Keep drawing current per pin below 5A for CN2.

eco

LFA75F





High voltage pulse noise type : NAP series

\*The EMI/EMC Filter is recommended

Low leakage current type : NAM series

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.

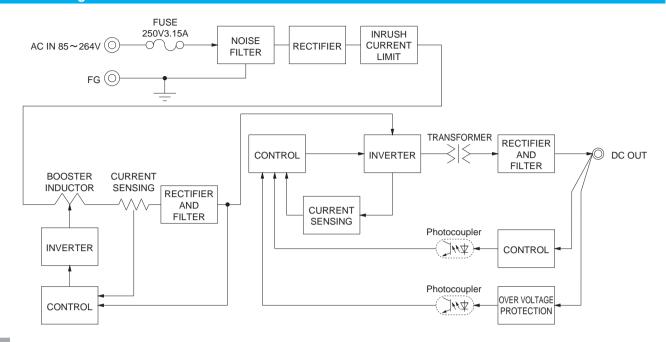
This power supply is manufactured by SMD technology. The stress to P.C.B like twisting or bending causes the defect of the unit, so handle the unit with care.

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

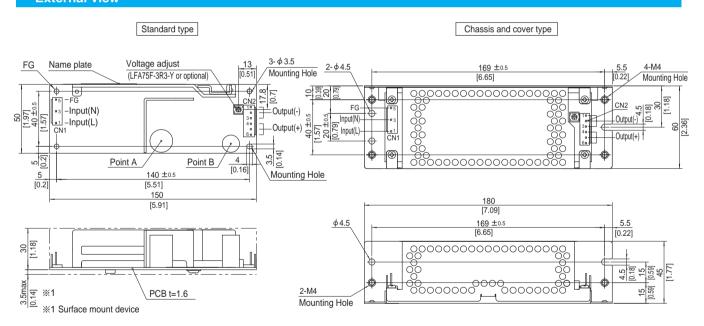
	MODEL		LFA75F-3R3-Y	LFA75F-5	LFA75F-12	LFA75F-15	LFA75F-24	LFA75F-36	LFA75F-48	
	VOLTAGE[V]		AC85 - 264 1 φ (Refer to Instruction Manual 1.1 and 3.2) *3							
	ACIN 100V		0.70typ (lo=100%)							
	CURRENT[A]	ACIN 200V	71 7 7 71 7							
	FREQUENCY[Hz]		50 / 60 (47 - 63	)						
	EEEIOIENOV(0/1	ACIN 100V	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	
	DOMED FACTOR (I. 4000())	ACIN 100V	0.96typ	31 31 31 31 31 31						
	POWER FACTOR (Io=100%)	ACIN 200V	0.83typ	0.90typ						
	INDUCUI CURRENTIAL	ACIN 100V	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 an	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	
	DIDDI Elmiya al	0 to +50°C *1	80max	80max	120max	120max	120max	150max	150max	
	RIPPLE[mVp-p]	-10 - 0℃ *1	140max	140max	160max	160max	160max	200max	200max	
	DIDDLE MOIOEL W	0 to +50°C *1	120max	120max	150max	150max	150max	250max	250max	
UTPUT	RIPPLE NOISE[mVp-p]	-10 - 0℃ *1	160max	160max	180max	180max	180max	300max	300max	
	TEMPERATURE REGULATION[mV]	0 to +50℃	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 a	djusting output vo	ltage between ±1	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 automatically							
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 1minute, Cutoff current = 10mA, DC500V 50M $\Omega$ min (At Room Temperature)							
SOLATION	INPUT-FG		AC2,000V 1minute, Cutoff current = 10mA, DC500V 50M $\Omega$ min (At Room Temperature)							
	OUTPUT-FG		AC500V 1minute, Cutoff current = 25mA, DC500V 50M $\Omega$ 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							
NVIRONMENT	STORAGE TEMP., HUMID. AND	ALTITUDE	-20 to +75°C, 20 - 90%RH (Non condensing), 9,000m (30,000feet) max							
NVIKONWENT	VIBRATION		10 - 55Hz, 19.6	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	LS	UL60950-1, C-l	JL (CSA60950-1	), EN60950-1, E	N60065, EN501	78 Complies with	DEN-AN		
NOISE	CONDUCTED NOISE		Complies with F	CC-B, VCCI-B,	CISPR-B, EN550	011-B, EN55022	-B			
EGULATIONS	HARMONIC ATTENU	JATOR	Complies with I	EC61000-3-2 (C	lass A) *5					
OTHERS	CASE SIZE/WEIGHT		50×33.5×150	mm [1.97×1.32>	<5.91 inches] (W	×H×D) / 230g	max (with chassi	s & cover : 440g	max)	
THERS	COOLING METHOD		Convection (Re	fer to Instruction	Manual 3.1 and	3.2) *3				

- This is the value that measured on measuring board with capacitor of 22  $\mu\,F$  at 150mm from output terminal.
  - Measured by 20MHz oscilloscope or Ripple-Noise meter (Equivalent to KEISOKU-GIKEN: RM103).
- 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.

#### Block diagram



#### **External view**



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

I/O Connector		Mating connector	Terminal		
CN1 1-1123724-3 1-1123722-5		Chain	1123721-1		
CN1 1-1123	1-1123724-3	1-1123722-5	Loose	1318912-1	
CNO	4 4400700 6	1-1123722-6	Chain	1123721-1	
CINZ	CN2 1-1123723-6 1-1123722		Loose	1318912-1	
			(Mfr:Ty	co Electronics)	

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

#### <PIN CONNECTION>

## CN1

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

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

- ※ 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

LFA

c Sus 🛕 C 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,

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.

MODEL	LFA100F-3R3-Y	LFA100F-5-Y	LFA100F-12	L FΔ100F-15	I FΔ100F-24	I FΔ100F-24-H	L FΔ100F-36	I FΔ100F-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**

so handle the unit with care.

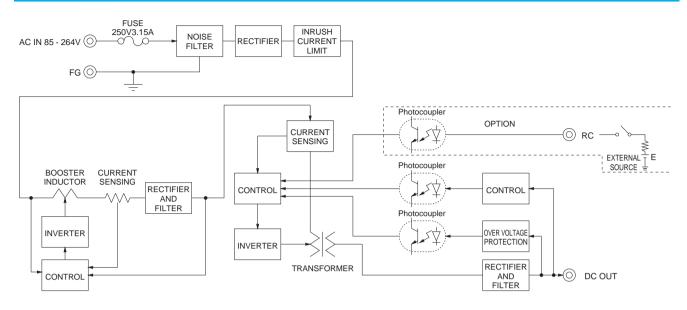
	MODEL		LFA100F-3R3-Y	LFA100F-5-Y	LFA100F-12	LFA100F-15	LFA100F-24	LFA100F-24-H	LFA100F-36	LFA100F-4	
	VOLTAGE[V]		AC85 - 264 1	φ (Refer to Ins	struction Manu	al 1.1 and 3.2)	*4				
	CURRENT[A]	ACIN 100V	0.9typ (lo=100%)	1.3typ (lo=10	0%)						
	CORRENT[A]	ACIN 200V	0.5typ (lo=100%)								
	FREQUENCY[Hz]		50 / 60 (47 - 63)								
	EFFICIENCY[0/]	ACIN 100V	77.0typ	82.0typ	82.0typ	83.0typ	84.0typ	84.0typ	84.0typ	84.5typ	
NPUT	EFFICIENCY[%]	ACIN 200V	79.0typ	84.0typ	84.5typ	85.5typ	87.0typ	87.0typ	87.0typ	87.0typ	
	POWER FACTOR (Io=100%)	ACIN 100V	0.98typ	0.98typ 0.99typ							
	POWER FACTOR (IO=100%)	ACIN 200V	0.92typ 0.95typ								
	INRUSH CURRENT[A]	ACIN 100V	15typ (lo=100%) (At cold start) (Ta=25℃)								
	INICOSTI CONNENT[A]	ACIN 200V	30typ (Io=100%) (At cold start) (Ta=25℃)								
	LEAKAGE CURREN	T[mA]	0.40 / 0.75max (ACIN 100V / 240V 60Hz, Io=100%, According to IEC60950-1 and DEN-AN)								
	VOLTAGE[V]		3.3	5	12	15	24	24	36	48	
	CURRENT[A]	*5	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	<del></del>	40max	40max	100max	120max	150max	150max	240max	240max	
	RIPPLE[mVp-p]  RIPPLE NOISE[mVp-p]  TEMPERATURE REGULATION[mV]	0 to +50°C *2	80max	80max	120max	120max	120max	240max	150max	150max	
		-10-0℃ *2	140max	140max	160max	160max	160max	320max	200max	200max	
			120max	120max	150max	150max	150max	300max	250max	250max	
UTPUT		-10 - 0°C *2	160max	160max	180max	180max	180max	360max	300max	300max	
			50max	50max	120max	150max	240max	240max	360max	480max	
		-10 to +50℃ *3	60max	60max	150max	180max	290max	290max	450max	600max	
	DRIFT[mV]	20max	20max	48max	60max	96max	96max	144max	192max		
			350typ (ACIN 100V, Io=100%)								
			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						, , ,			10.00 . 50.0	
	OUTPUT VOLTAGE SET		3.30 to 3.40	l	l	14.40 to 15.60	23.00 to 25.00	23.00 to 25.00	34.50 to 37.50	46.00 to 50.0	
	OVERCURRENT PROT					<del></del>	rent at option -			i e	
PROTECTION	OVERVOLTAGE PROTI		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 67.2	
THERS	OPERATING INDICA	IION	Not provided								
JIIILKS	REMOTE SENSING		Not provided Option (Refer to Instruction Manual)								
	REMOTE ON/OFF INPUT-OUTPUT-RC	*6	<del> </del>			DCE00V FOW	IΩ min (At Roo	am Tamparatur	۵)		
	INPUT-FG	*0				,					
SOLATION	OUTPUT-RC-FG	*6	AC2,000V 1minute, Cutoff current = 10mA, DC500V 50M $\Omega$ min (At Room Temperature)  AC500V 1minute, Cutoff current = 25mA, DC500V 50M $\Omega$ min (At Room Temperature)								
	OUTPUT-RC	*6					2 min (At Room 2 min (At Room				
	OPERATING TEMP., HUMID. AND						struction Manu		(10 000feet) i	may	
	STORAGE TEMP., HUMID. AND					0, (			1 (10,0001001)	IIUX	
NVIRONMENT	VIBRATION			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 ar						
AFETY AND	AGENCY APPROVA	LS					EN50178 Con	nplies with DEI	N-AN		
IOISE	CONDUCTED NOISE				I-B, CISPR-B,						
REGULATIONS			· ·	1EC61000-3-		· · - , <b>-</b> ·					
	CASE SIZE/WEIGHT					esl (W×H×D	) / 280g max (	with chassis &	cover : 480a m	nax)	
OTHERS	COOLING METHOD				ion Manual 3.1		,ga/(			/	
*1 Consideration	ion is changed at option, refer	to Instruction		at the rated input/or			±º Plone	e contact us about a	nother class		

- \$1 Specification is changed 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 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.

## LFA100F | COSEL

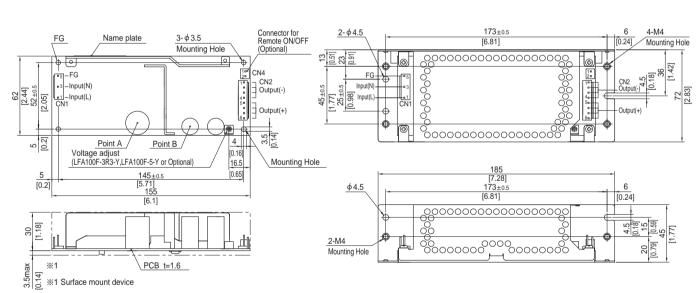
#### Block diagram



#### **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	O Connector	Mating connector			
014	1-1123724-3	1-1123722-5	Chain	1123721-1	
CNT	1-1123724-3	1-1123722-5	Loose	1318912-1	
ONIO	1-1123723-8		Chain	1123721-1	
CN2	1-1123723-8	1-1123722-8	Loose	1318912-1	

(Mfr:Tyco Electronics)

- \* I/O Connector is Mfr. Tyco Electronics
- $\label{eq:connector} \mbox{$\%$ Option:-J1:VH(J.S.T) connector type.}$

#### <PIN CONNECTION>

# CN1 CN2 Pin No. Input 1 AC(L) 2 3 AC(N) 5 FG

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

- % Tolerance : ±1 [±0.04]
- Weight: 280g max (with chassis & cover: 480g max)
- ※ PCB material : CEM3
- $\ensuremath{\mathrm{\%}}$  Optional chassis and cover material : Electric galvanizing steel board.
- \* Dimensions in mm, [ ]=inches
- \*\* Mounting torque (Mounting hole of chassis) :1.5N \* m (16kgf \* cm) max

#### Connector type

CN4 Option (Mfr:J.S.T)

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

Barrier strip type

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

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

c Sus 🛕 C 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,

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.

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**

so handle the unit with care.

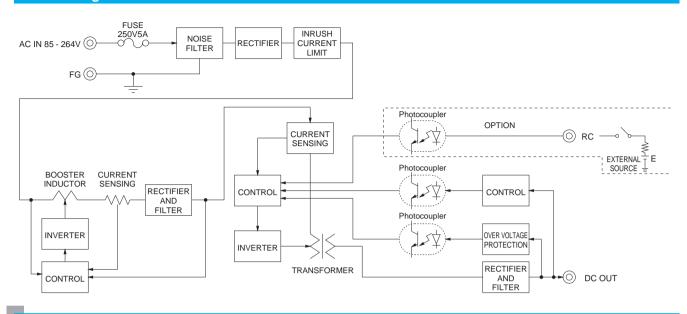
	MODEL		LFA150F-3R3-Y	LFA150F-5-Y	LFA150F-12	LFA150F-15	LFA150F-24	LFA150F-24-H	LFA150F-36	LFA150F-4	
	VOLTAGE[V]		AC85 - 264 1	φ (Refer to Ins	struction Manu	al 1.1 and 3.2)	*4				
	OUDDENITAL	ACIN 100V	1.4typ (lo=100%)	2.0typ (lo=10	0%)						
	CURRENT[A]	ACIN 200V	0.7typ (lo=100%)	1.0typ (lo=10	0%)						
	FREQUENCY[Hz]		50 / 60 (47 - 63)								
	EEEIOIENOVIO/I	ACIN 100V	80.0typ	82.5typ	82.5typ	84.0typ	85.0typ	85.0typ	85.0typ	85.5typ	
IPUT	EFFICIENCY[%]	ACIN 200V	82.0typ	85.5typ	85.0typ	86.5typ	87.5typ	87.5typ	87.5typ	88.0typ	
	BOWER ELOTOR (I. 4000())	ACIN 100V	0.98typ	0.99typ							
	POWER FACTOR (Io=100%)	ACIN 200V	0.92typ								
		ACIN 100V	15typ (Io=100%) (At cold start) (Ta=25°C)								
	INRUSH CURRENT[A]	ACIN 200V	30typ (Io=100%) (At cold start) (Ta=25°C)								
	LEAKAGE CURREN		0.40 / 0.75max (ACIN 100V / 240V 60Hz, lo=100%, According to IEC60950-1 and DEN-AN)								
	VOLTAGE[V]		3.3	5	12	15	24	24	36	48	
	CURRENT[A]	*5	30	30	12.5	10	6.3	6.3 (Peak 7.9)	4.2	3.2	
	LINE REGULATION[	mV] *7	20max	20max	48max	60max	96max	96max	144max	192max	
	LOAD REGULATION	[mV] *7	40max	40max	100max	120max	150max	150max	240max	240max	
	DIDDI Electronia	0 to +40°C *2	80max	80max	120max	120max	120max	240max	150max	150max	
	RIPPLE[mVp-p]	-10 - 0°C *2	140max	140max	160max	160max	160max	320max	200max	200max	
	DIDDI E NOISE[m\/n n]	0 to +40℃*2	120max	120max	150max	150max	150max	300max	250max	250max	
UTPUT	RIPPLE NOISE[mVp-p]	-10 - 0°C *2	160max	160max	180max	180max	180max	360max	300max	300max	
	TEMPERATURE REGULATION[mV]	0 to +40°C	50max	50max	120max	150max	240max	240max	360max	480max	
	TEMPERATURE REGULATION[IIIV]	-10 to +40°C	60max	60max	150max	180max	290max	290max	450max	600max	
	DRIFT[mV] *3		20max	20max	48max	60max	96max	96max	144max	192max	
	START-UP TIME[ms] 3		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	on 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 50.0	
	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	
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	27.60 to 33.60	41.40 to 50.40	55.20 to 67.2	
IRCUIT AND	OPERATING INDICA	TION	Not provided								
THERS	REMOTE SENSING		Not provided								
	REMOTE ON/OFF		Option (Refer	to Instruction	Manual)						
	INPUT-OUTPUT-RC	*6	AC3,000V 1minute, Cutoff current = 10mA, DC500V 50M $\Omega$ min (At Room Temperature)								
SOLATION	INPUT-FG		AC2,000V 1n	ninute, Cutoff o	current = 10mA	, DC500V 50N	$1\Omega$ min (At Roo	om Temperatur	e)		
BOLATION	OUTPUT-RC-FG	*6	AC500V 1minute, Cutoff current = 25mA, DC500V 50M $\Omega$ min (At Room Temperature)								
	OUTPUT-RC	*6	AC100V 1mir	nute, Cutoff cui	rrent = 25mA, I	OC100V 10MΩ	2 min (At Room	n Temperature)	)		
	OPERATING TEMP., HUMID. AND	ALTITUDE *4	-10 to +70°C,	20 - 90%RH (	Non condensin	g) (Refer to In:	struction Manu	al 3.2), 3,000n	n (10,000feet) ı	max	
NVIRONMENT	STORAGE TEMP., HUMID. AND	ALTITUDE	-20 to +75°C,	20 - 90%RH (	Non condensin	g), 9,000m (30	0,000feet) max				
AVIRONWENT	VIBRATION		10 - 55Hz, 19	9.6m/s² (2G), 31	minutes period	, 60minutes ea	ich along X, Y a	and Z axis			
	IMPACT				e each X, Y ar						
AFETY AND	AGENCY APPROVAL	LS			50-1), EN6095			nplies with DE	N-AN		
OISE	CONDUCTED NOISE		Complies with	h FCC-B, VCC	I-B, CISPR-B,	EN55011-B, El	N55022-B				
EGULATIONS	HARMONIC ATTENU	JATOR		n IEC61000-3-							
THERE	CASE SIZE/WEIGHT		75×37.0×16	60mm [2.95×1	.46×6.30 inche	es] (W×H×D)	/ 390g max (w	ith chassis & c	over : 650g ma	ix)	
OTHERS	CASE SIZE/WEIGHT COOLING METHOD		0	Refer to Instruc		4 100					

- \$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℃, 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.

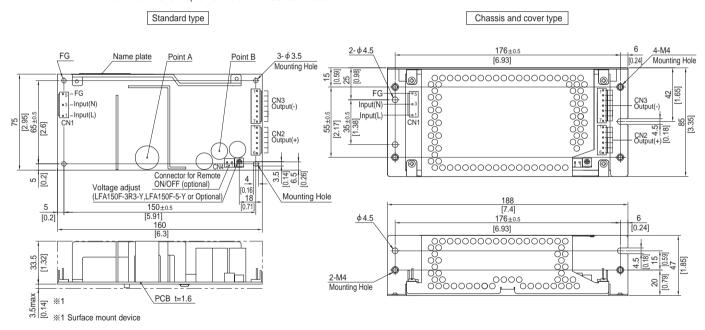
## LFA150F | COSEL

#### Block diagram



#### **External view**

\* External size of option is different from standard model.



- \*\* 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.
- $\ensuremath{\text{\#}}$  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		
CNIA	1-1123724-3	1-1123722-5	Chain	1123721-1	
CIVI	1-1123724-3	1-1123722-5	Loose	1318912-1	
ONIO	1-1123723-6	4 4400700 0	Chain	1123721-1	
CNZ	1-1123723-6	1-1123722-6	Loose	1318912-1	
ONIO	1-1123723-7	4 4400700 7	Chain	1123721-1	
CN3	1-1123/23-/	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.	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: CEM3Optional 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

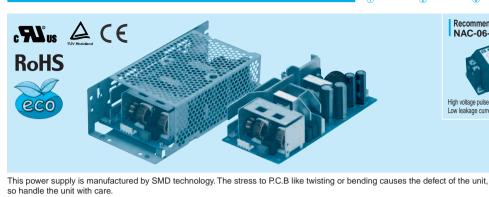
CN4 Option (Mfr:J.S.T)

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



Recommended EMI/EMC Filter NAC-06-472

Low leakage current type: NAM series

High voltage pulse noise type : NAP series

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.

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

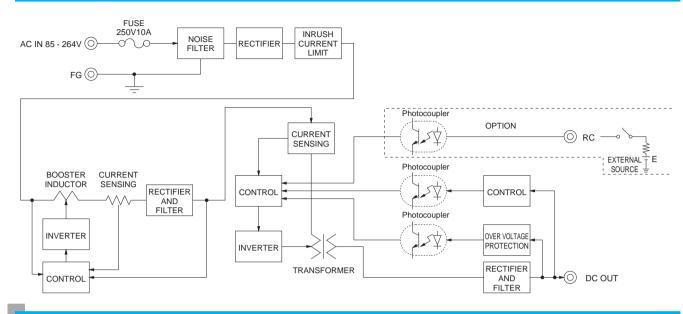
	MODEL		LFA240F-24	LFA240F-24-H	LFA240F-36	LFA240F-48				
	VOLTAGE[V]		AC85 - 264 1 $\phi$ (Refer to Instruction Manual 1.1 and 3.2) *4							
	CUDDENTIAL	ACIN 100V	3.3typ (lo=100%)							
	CURRENT[A]	ACIN 200V	1.7typ (lo=100%)							
	FREQUENCY[Hz]		50 / 60 (47 - 63)							
	EEEIOIENOVI0/1	ACIN 100V	84.5typ	84.5typ	84.5typ	84.5typ				
INPUT	EFFICIENCY[%]	ACIN 200V	87.5typ	87.5typ	87.5typ	87.5typ				
	DOMED FACTOR (In 4000())	ACIN 100V	0.99typ	•						
	POWER FACTOR (Io=100%)	ACIN 200V	0.95typ							
	INDUCUI 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 (Io=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				
	DIDDI ElmVa al	0 to +40℃*2	120max	240max	150max	150max				
	RIPPLE[mVp-p]	-10 - 0°C *2	160max	320max	200max	200max				
	DIDDI E NOISE[m\/n n1	0 to +40℃*2	150max	300max	250max	250max				
OUTPUT	RIPPLE NOISE[mVp-p]	-10 - 0°C *2	180max	360max	300max	300max				
	TEMPERATURE RECUI ATION(#4)/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 SET	TING[V]	23.00 to 25.00	23.00 to 25.00	34.50 to 37.50	46.00 to 50.00				
	OVERCURRENT PROT	ECTION	Works over 105% of rating	(works over 101% of pea	k current at option -H) and	recovers automatically				
PROTECTION	OVERVOLTAGE PROTE	ECTION	27.60 to 33.60	27.60 to 33.60	41.40 to 50.40	55.20 to 67.20				
	OPERATING INDICA	TION	Not provided		<u> </u>					
OTHERS	REMOTE SENSING		Not provided							
	REMOTE ON/OFF		Option (Refer to Instruction Manual)							
	INPUT-OUTPUT-RC	*6	AC3,000V 1minute, Cutoff	current = 10mA, DC500V	50MΩ min (At Room Tem	perature)				
IOOL ATION	INPUT-FG		AC2,000V 1minute, Cutoff current = 10mA, DC500V 50M $\Omega$ min (At Room Temperature)							
ISOLATION	OUTPUT-RC-FG	*6	AC500V 1minute, Cutoff current = 25mA, DC500V 50M $\Omega$ min (At Room Temperature)							
	OUTPUT-RC	*6	AC100V 1minute, Cutoff cu	urrent = 25mA, DC100V 1	0MΩ min (At Room Temp	erature)				
	OPERATING TEMP., HUMID. AND	ALTITUDE *4	-10 to +70°C, 20 - 90%RH	(Non condensing) (Refer	to Instruction Manual 3.2),	3,000m (10,000feet) max				
	STORAGE TEMP., HUMID.AND									
ENVIRONMENT	VIBRATION		10 - 55Hz, 19.6m/s² (2G), 3			ıxis				
	IMPACT		196.1m/s² (20G), 11ms, on		<u> </u>					
SAFETY AND	AGENCY APPROVAL	LS	UL60950-1, C-UL (CSA609		065, EN50178 Complies v	vith DEN-AN				
NOISE	CONDUCTED NOISE		Complies with FCC-B, VCC							
REGULATIONS	HARMONIC ATTENU	JATOR	Complies with IEC61000-3	3-2 (Class A) *8						
OTUEDO	CASE SIZE/WEIGHT		84×46.5×180mm [3.31×	` /	HXD) / 550g max (with ch	assis & cover : 880g max)				
OTHERS	COOLING METHOD		Convection (Refer to Instru			<u> </u>				

- \$1 Specification is changeed at option, refer to Instruction Manual. This is the value that measured on measuring board with
- capacitor of 22 µ F at 150mm from output terminal.

  Measured by 20MHz oscilloscope or Ripple-Noise meter (Equivalent to KEISOKU-GIKEN: RM103).
- Drift is the change in DC output for an eight hour period after a half-hour warm-up at 25°C, with the input voltage held constant
- at the rated input/output. Derating is required.
- ( ) means peak current. There is a possibility that an internal device is damaged when the specification is exceeded. Please contact us about the detail.
- Applicable when remote control (optional) is added.
- \*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.

## LFA240F | COSEL

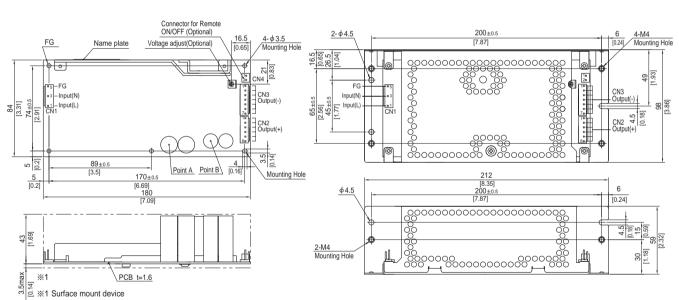
#### Block diagram



#### **External view**

\* External size of option is different from standard model.

Standard type Chassis and cover type



- ¾ 5 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/C	) Connector	Mating connector	Terminal		
CNIA	4 4400704 0	1_1122722E	Chain	1123721-1	
CIVI	1-1123724-3		Loose	1318912-1	
ONIO	4 4400700 0	4 4400700 0	Chain	1123721-1	
CNZ	1-1123723-6	1-1123722-6	Loose	1318912-1	
ONIO	1-1123723-7	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>

С	N1		CN2		CN3			
F	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: 550g max (with chassis & cover: 880g max)
- \* PCB material : CEM3
- \* Optional chassis and cover material : Electric galvanizing steel board.
- 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

LF A 300

**RoHS** 

ec0

LFA



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.

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 OUTDUT	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

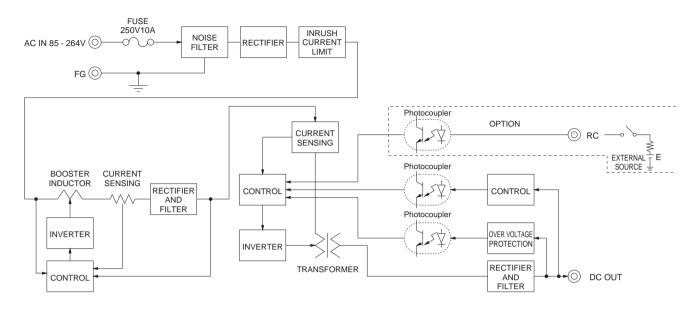
	MODEL		LFA300F-3R3-TY	LFA300F-5-TY	LFA300F-12-TY	LFA300F-15-TY	LFA300F-24-TY	LFA300F-24-HTY	LFA300F-30-TY	LFA300F-36-TY	LFA300F-48-TY	
INPUT	VOLTAGE[V]	AC85 - 264	1φ (Refer to	Instruction N	Manual 1.1 ar	nd 3.2) *4						
	OUDDENITAL	ACIN 100V										
	CURRENT[A]	ACIN 200V	1.4typ (lo=100%)	2.0typ (lo=1	00%)							
	FREQUENCY[Hz]		50 / 60 (47 - 63)									
		ACIN 100V	75.0typ	79.0typ	80.0typ	81.5typ	85.0typ	85.0typ	85.5typ	85.5typ	85.5typ	
	EFFICIENCY[%]	ACIN 200V	77.0typ	82.5typ	83.0typ	84.5typ	88.0typ	88.0typ	88.0typ	88.0typ	88.0typ	
		ACIN 100V	0.98typ	0.99typ	, ,,	7.	71	, ,,	, ,,	, ,,	, ,,	
	POWER FACTOR (Io=100%)	ACIN 200V	0.92typ 0.95typ									
		ACIN 100V	15 / 30typ (lo=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 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	
		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[		20max	20max	48max	60max	96max	96max	144max	144max	192max	
	LOAD REGULATION			40max	100max	120max	150max	150max	240max	240max	240max	
		0 to +40°C *2		80max	120max	120max	120max	240max	150max	150max	150max	
	RIPPLE[mVp-p]	-10 - 0°C *2	140max	140max	160max	160max	160max	320max	200max	200max	200max	
		0 to +40°C *2		120max	150max	150max	150max	300max	250max	250max	250max	
DUTPUT	RIPPLE NOISE[mVp-p]	-10 - 0°C *2	160max	160max	180max	180max	180max	360max	300max	300max	300max	
	TEMPERATURE REGULATION[mV]	0 to +40°C		50max	120max	150max	240max	240max	360max	360max	480max	
		-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=100%)									
	OUTPUT VOLTAGE ADJUSTMENT RANGE[V]		2.85 to 3.63	4.50 to 5.50	10.80 to 13.20	13.50 to 16.50	21 60 to 27 50	21.60 to 27.50	27.00 to 33.00	32.40 to 39.60	39.60 to 52.80	
	OUTPUT VOLTAGE SETTING[V]		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	36.00 to 37.44	48.00 to 49.9	
	OVERCURRENT PROTECTION		Works over 105% of rating (works over 101% of peak current at option -H) and recovers automatically									
PROTECTION			4.00 to 5.25	5.75 to 7.00	,						55 20 to 67 2	
CIRCUIT AND			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 67.2   Not provided									
OTHERS	REMOTE SENSING		Not provided									
	REMOTE ON/OFF		Option (Refer to Instruction Manual)									
	INPUT-OUTPUT-RC	AC3,000V 1minute, Cutoff current = 10mA, DC500V 50M $\Omega$ min (At Room Temperature)										
	INPUT-FG		AC2,000V 1minute, Cutoff current = 10mA, DC500V 50M $\Omega$ min (At Room Temperature)									
ISOLATION	OUTPUT·RC-FG *6											
	OUTPUT-RC *6											
	STORAGE TEMP., HUMID. AND ALTITUDE		-20 to +75°C, 20 - 90%RH (Non condensing), 9,000m (30,000feet) max									
ENVIRONMENT	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 APPROVALS  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											
	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)										
OTHERS	COOLING METHOD		Convection / Forced air (Refer to Instruction Manual 3.1 and 3.2) *4									
*1 Specification					a dollori mario	a. J. i and J.	*8 Please cont					

- \*1 Specification is changeed at option, refer to Instruction Manual.
- This is the value that measured on measuring board with capacitor of 22 µ F at 150mm from output terminal.

  Measured by 20MHz oscilloscope or Ripple-Noise meter (Equivalent to KEISOKU-GIKEN: RM103).
- Drift is the change in DC output for an eight hour period after a half-hour warm-up at 25°C, with the input voltage held constant
- at the rated input/output.
- Derating is required. ( ) means peak current. There is a possibility that an internal device is damaged when the specification is exceeded. Please contact us about the detail.
- Applicable when remote control (optional) is added.
- \*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

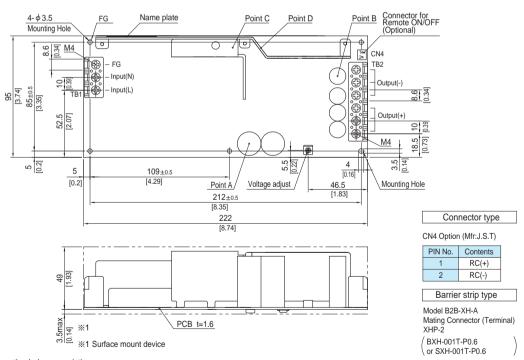
#### Block diagram



#### **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

## **Mouser Electronics**

**Authorized Distributor** 

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#### Cosel:

LFA100F-36-J1R2 LFA100F-48-SGY LFA100F-24-SCR2 LFA150F-36-CGR LFA150F-36-J1 LFA240F-36-SNT LFA75F-5-SJ1 LFA75F-5-SN LFA75F-5-SNJ1 LFA75F-5-SNJ1 LFA75F-5-SNJ1 LFA75F-48-SN LFA75F-48-SNJ1 LFA75F-48-SNJ1 LFA75F-48-SNJ1 LFA75F-48-SNJ1 LFA75F-48-SNJ1 LFA75F-48-SNJ1 LFA75F-48-SNJ1 LFA75F-48-SNJ1 LFA75F-48-C LFA75F-5-C LFA75F-5-G LFA75F-36-CJ1 LFA75F-36-G LFA75F-36-SNJ1 LFA75F-36-SNY LFA75F-36-Y LFA75F-15-SNJ1Y LFA75F-24-GJ1 LFA75F-24-J1Y LFA75F-24-S LFA75F-24-SJ1Y LFA75F-24-SNJ1Y LFA75F-15-SNJ1Y LFA75F-15-GJ1 LFA75F-15-S LFA75F-15-SN LFA75F-15-SNJ1 LFA50F-5-Y LFA75F-12-GJ1 LFA75F-12-J1Y LFA75F-12-S LFA75F-12-SN LFA50F-5-C LFA50F-5-G LFA50F-5-J1 LFA50F-5-SJ1 LFA50F-5-SNJ1 LFA50F-38-SNJ1Y LFA50F-48-SN LFA50F-48-SN LFA50F-48-SN LFA50F-48-SNJ1 LFA50F-48-SNJ1 LFA50F-38-SNJ1Y LFA50F-38-SNJ1Y LFA50F-38-SNJ1Y LFA50F-38-SNJ1Y LFA50F-38-SNJ1Y LFA50F-36-SNJ1 LFA50F-35-SNJ1 LFA50F-