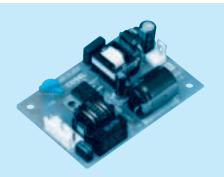
LFA10F-12





LFA10F-3R3-Y





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

*The Noize Filter is recommended to connect with several devices.

LFA10F-15

- 1) Series name 2) Single output 3) 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.

LFA10F-24

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.

LFA10F-5

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

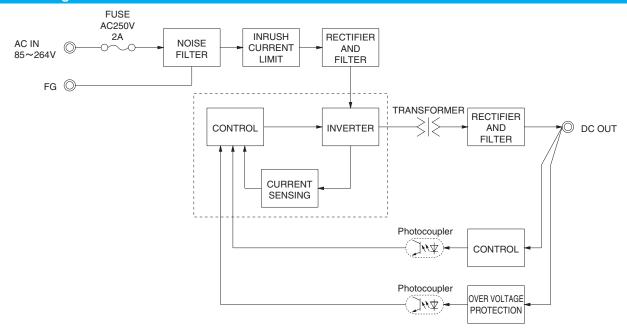
MODEL

	MODEL		LFA IUF-3R3-Y	LFA IUF-5	LFA IUF-12	LFA IUF-15	LFA IUF-24	
	VOLTAGE[V]		AC85 - 264 1 φ (Refe	r to Instruction Manual	1.1 and 3.2) *3			
	CURRENT[A]	ACIN 100V	0.18typ (lo=100%)	0.26typ (lo=100%)				
	CORNENT[A]	ACIN 200V	0.11typ (lo=100%)	0.16typ (Io=100%)				
F	FREQUENCY[Hz]		50 / 60 (47 - 440)					
NPUT	EFFICIENCY[%]	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%)					
	INNUSH CUNNENT[A]	ACIN 200V	30typ (Io=100%)					
	LEAKAGE CURRENT	[mA]	0.15/0.30max (ACIN 1	100V / 240V 60Hz, Io=	100%, According to IE	C60950-1 and DEN-A	N)	
	VOLTAGE[V]		3.3	5	12	15	24	
	CURRENT[A]		2.0	2.0	0.9	0.7	0.5	
	LINE REGULATION[n	nV]	20max	20max	48max	60max	96max	
	LOAD REGULATION	mV]	40max	40max	100max	120max	150max	
		0 to +50°C	80max	80max	120max	120max	120max	
RIPPLE[mVp-p]	HIPPLE[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	
OUTPUT RIPPLE NOIS TEMPERATURE RE	RIPPLE NOISE[mVp-p]	-10 - 0℃	160max	160max	180max	180max	180max	
	**	lo=0 - 35%	240max	240max	300max	300max	320max	
	TEMPEDATURE DECUI ATION(m//)	0 to +50°C	50max	50max	120max	150max	240max	
	TEMPERATURE REGULATION[IIV]	-10 to +50°C	60max	60max	150max	180max	290max	
	DRIFT[mV]	*2	20max	20max	48max	60max	96max	
	START-UP TIME[ms]		200typ (ACIN 100V, lo=100%) *Start-up time is 700ms typ for less than 1 minute of applying input again from turning off the input voltage.					
	HOLD-UP TIME[ms]		20typ (ACIN 100V, Io=100%) 2.85 to 3.63 Fixed ("Y" option is available for adjusting output voltage between ±10%)					
	OUTPUT VOLTAGE ADJUSTMENT		2.85 to 3.63					
	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			rating and recovers aut				
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	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			000 feet) max *3	
ENVIRONMENT	STORAGE TEMP., HUMID. AND A	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					
SAFETY AND	AGENCY APPROVALS (At on		UL60950-1, C-UL (CSA60950-1), EN60950-1, EN50178 Complies with DEN-AN					
NOISE	CONDUCTED NOISE			VCCI-B, CISPR-B, EN	55011-B, EN55022-B			
REGULATIONS	CE MARKING		Low Voltage Directive					
	HARMONIC ATTENU	ATOR		000-3-2 (Not built-in to				
OTHERS	CASE SIZE/WEIGHT		,	×H×D) / 55g max (wi	thout chassis and cove	er)		
COOLING METHOD			Convection					

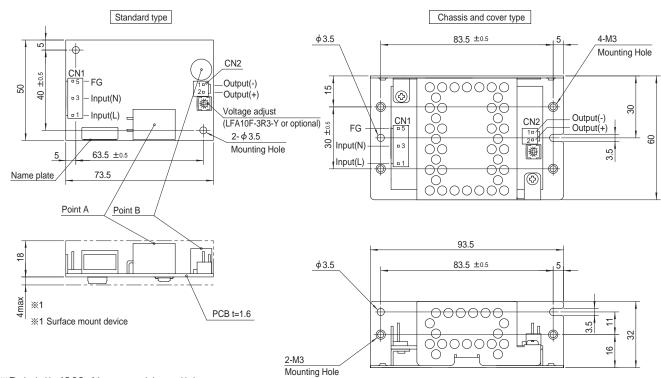
- This is the value that measured on measuring board with capacitor of 22 µ F at 150mm from output terminal. Measured by 20MHz oscilloscope or Ripple-Noise meter (Equivalent to KEISOKU-GIKEN: RM103). A circuit reducing standby power is built in this unit. Therefore, the internal switch element is intermittent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

LFA10F | COSEL

Block diagram



External view



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

I/O	Connector	Mating connector	T	erminal		
ONIA	4 44007040	1-1123722-5	Chain	1123721-1		
CIVI	N1 1-1123724-3	1-1123722-5	Loose	1318912-1		
0.10	1-1123723-2	1-1123722-2	Chain	1123721-1		
CNZ	1-1123723-2	1-1123722-2	Loose	1318912-1		
(Mfr:Tyco Floctronics AMP)						

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

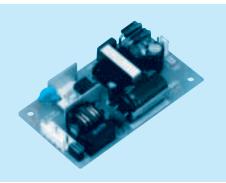
<PIN CONNECTION>

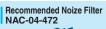
CN1	
Pin No.	Input
1	AC(L)
2	
3	AC(N)
4	
5	FG

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

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

c Sus 🛕 (E **RoHS**







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

*The Noize Filter is recommended to connect with several devices.

- 1) Series name 2) Single output 3) 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.

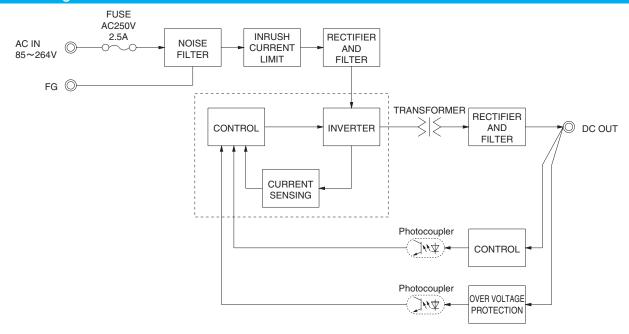
MODEL	LFA15F-3R3-Y	LFA15F-5	LFA15F-12	LFA15F-15	LFA15F-24
MAX OUTPUT WATTAGE[W]	9.9	15	15.6	15	16.8
DC OUTPUT	3.3V 3A	5V 3A	12V 1.3A	15V 1A	24V 0.7A

SPECIFICATIONS

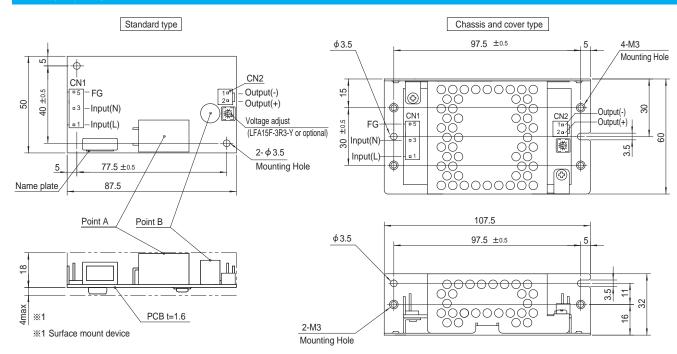
	MODEL		LFA15F-3R3-Y	LFA15F-5	LFA15F-12	LFA15F-15	LFA15F-24		
	VOLTAGE[V]			er to Instruction Manu					
		ACIN 100V	0.24typ (lo=100%)	0.35typ (lo=100%)	,				
	CURRENT[A]	ACIN 200V	0.15typ (lo=100%)	0.20typ (lo=100%)					
	FREQUENCY[Hz]		50 / 60 (47 - 440)						
NPUT	EEEIOJENOVIO/J	ACIN 100V	68.0typ	73.0typ	76.0typ	77.0typ	78.0typ		
	EFFICIENCY[%]	ACIN 200V	69.0typ	76.0typ	78.5typ	80.0typ	81.5typ		
		ACIN 100V	15typ (lo=100%) (At	cold start) (Ta=25°C)					
	INRUSH CURRENT[A]	ACIN 200V	30typ (lo=100%) (At	cold start) (Ta=25°C)					
	LEAKAGE CURRENT[mA]		0.15/0.30max (ACIN 100V / 240V 60Hz, Io=100%, According to IEC60950-1 and DEN-AN)						
	VOLTAGE[V]		3.3 5 12 15 24						
	CURRENT[A]		3.0	3.0	1.3	1.0	0.7		
	LINE REGULATION[n	nV]	20max	20max	48max	60max	96max		
	LOAD REGULATION	mV]	40max	40max	100max	120max	150max		
		0 to +50°C	80max	80max	120max	120max	120max		
	RIPPLE[mVp-p]	-10 - 0℃	140max	140max	160max	160max	160max		
	*1	lo=0 - 35%	190max	160max	240max	240max	280max		
		0 to +50°C	120max	120max	150max	150max	150max		
DUTPUT RIPPLE NOISE[RIPPLE NOISE[mVp-p]	-10 - 0℃	160max	160max	180max	180max	180max		
	*1	lo=0 - 35%	240max	240max	300max	300max	320max		
	TEMPERATURE REGULATION[mV]	0 to +50°C	50max	50max	120max	150max	240max		
		-10 to +50°C	60max	60max	150max	180max	290max		
	DRIFT[mV] *2		20max	20max	48max	60max	96max		
	START-UP TIME[ms]		200typ (ACIN 100V, lo=100%) *Start-up time is 700ms typ for less than 1 minute of applying input again from turning off the input voltage.						
	HOLD-UP TIME[ms]		20typ (ACIN 100V, Io=100%)						
	OUTPUT VOLTAGE ADJUSTMENT I	RANGE[V]	2.85 to 3.63	Fixed ("Y" option i	s available for adjustir	ng output voltage betw	een ±10%)		
	OUTPUT VOLTAGE SETT	ING[V]	3.30 to 3.40	4.90 to 5.30	11.50 to 12.50	14.40 to 15.60	23.00 to 25.00		
	OVERCURRENT PROTE	CTION	Works over 105% of	rating and recovers a	utomatically				
ROTECTION	OVERVOLTAGE PROTE	CTION	4.00 to 5.25	5.75 to 7.00	13.80 to 16.80	17.25 to 21.00	27.60 to 33.60		
RCUIT 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 Ω min (At Room Temperature)						
OLATION	INPUT-FG		AC2,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (At Room Temperature)						
	OUTPUT-FG		AC500V 1minute, Cutoff current = 25mA, DC500V 50M Ω min (At Room Temperature)						
	OPERATING TEMP.,HUMID.AND		,	<u> </u>	07 (IG CURVE), 3,000m (1	0,000 feet) max *3		
VIRONMENT	STORAGE TEMP., HUMID. AND A	ALTITUDE	-20 to +75°C, 20 - 90%RH (Non condensing), 9,000m (30,000 feet) max						
VIIIONWENT	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						
FETY AND	AGENCY APPROVALS (At on	ly AC input)	UL60950-1, C-UL (C						
ISE	CONDUCTED NOISE		Complies with FCC-B		N55011-B, EN55022-	В			
GULATIONS	CE MARKING		Low Voltage Directive	•					
	HARMONIC ATTENU	ATOR		000-3-2 (Not built-in					
THERS	CASE SIZE/WEIGHT		50×22×87.5mm (W	/×H×D) / 80g max (v	vithout chassis and co	over)			
LIIO	COOLING METHOD		Convection						

- 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). 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 for details.
- To meet the specifications. Do not operate over-loaded condition. Parallel operation is not possible.
- Derating is required when operated with chassis and cover. Sound noise may be generated by power supply in case
 - of pulse load.





External view



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

I/C) Connector	Mating connector	Terminal		
014	4 4400704 0	1-1123722-5	Chain	1123721-1	
CIVI	CN1 1-1123724-3	1-1123/22-5	Loose	1318912-1	
0110	4 4400700 0	1-1123722-2	Chain	1123721-1	
CN2 1-1123723-2	1-1123/22-2	Loose	1318912-1		

(Mfr:Tyco Electronics AMP)

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

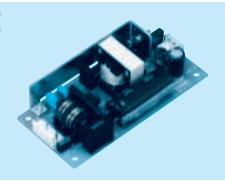
<PIN CONNECTION>

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

CN2						
Pin No.	Output					
1	-V					
2	+V					

- X Tolerance: +1
- * Weight: 80g max (without chassis and cover)
- ※ PCB material / thickness : CEM3 / 1.6mm
- ※ Optional chassis and cover material : Electric galvanizing steel board.





Recommended Noize Filter NAC-04-472



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

*The Noize Filter is recommended to connect with several devices.

- 1) Series name 2) Single output 3) 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

SPECIFICATIONS

LFA

	MODEL		LFA30F-3R3-Y	LFA30F-5	LFA30F-12	LFA30F-15	LFA30F-24	
	VOLTAGE[V]		AC85 - 264 1 φ (Ref	er to Instruction Manu	ual 1.1 and 3.2) *3			
		ACIN 100V	0.50typ (lo=100%)	0.50typ (Io=100%) 0.65typ (Io=100%)				
	CURRENT[A]	ACIN 200V	0.30typ (lo=100%)					
	FREQUENCY[Hz]		50 / 60 (47 - 440)					
INPUT	EEEIOIENOVIO/1	ACIN 100V	73typ	76typ	79typ	81typ	82typ	
	EFFICIENCY[%]	ACIN 200V	75typ	79typ	81typ	83typ	84typ	
	INDUCUI QUIDDENTIAL	ACIN 100V	15typ (lo=100%) (At	cold start) (Ta=25°C)			•	
	INRUSH CURRENT[A]	ACIN 200V	30typ (lo=100%) (At	cold start) (Ta=25°C)				
	LEAKAGE CURREN	T[mA]	0.30 / 0.65max (ACI	N 100V / 240V 60Hz,	lo=100%, According	to IEC60950-1 and D	EN-AN)	
	VOLTAGE[V]		3.3	5	12	15	24	
	CURRENT[A]		6.0	6.0	2.5	2.0	1.3	
	LINE REGULATION[mV]	20max	20max	48max	60max	96max	
	LOAD REGULATION	[mV]	40max	40max	100max	120max	150max	
	DIDDI ElmVn n3	0 to +50°C *1	80max	80max	120max	120max	120max	
	RIPPLE[mVp-p]	-10-0℃ *1	140max	140max	160max	160max	160max	
	DIDDLE NOICE(V1	0 to +50°C *1	120max	120max	150max	150max	150max	
ОИТРИТ	RIPPLE NOISE[mVp-p]	-10-0℃ *1	160max	160max	180max	180max	180max	
		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]		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 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	
	OVERCURRENT PROT	ECTION	Works over 105% of	rating and recovers a	automatically			
PROTECTION	OVERVOLTAGE PROTE	ECTION	4.00 to 5.25	5.75 to 7.00	13.80 to 16.80	17.25 to 21.00	27.60 to 33.60	
	OPERATING INDICA	TION	Not provided					
OTHERS	REMOTE SENSING		Not provided					
	REMOTE ON/OFF		Not provided					
	INPUT-OUTPUT		, ,		λ , DC500V 50M Ω min	<u> </u>		
ISOLATION	INPUT-FG		AC2,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (At Room Temperature)					
	OUTPUT-FG		AC500V 1minute, Cutoff current = 25mA, DC500V 50M Ω min (At Room Temperature)					
	OPERATING TEMP., HUMID. AND	ALTITUDE	-10 to +70°C, 20 - 90%RH (Non condensing) (Refer to DERATING CURVE), 3,000m (10,000feet) max *3					
ENVIRONMENT	STORAGE TEMP.,HUMID.AND	ALTITUDE	-20 to +75°C, 20 - 90%RH (Non condensing), 9,000m (30,000feet) max					
LIVINONWLINI	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					
OAFFTY AND	AGENCY APPROVALS (At on	ly AC input)	UL60950-1, C-UL (CSA60950-1), EN60950-1, EN50178 Complies with DEN-AN					
SAFETY AND NOISE	CONDUCTED NOISE	•	Complies with FCC-B, VCCI-B, CISPR-B, EN55011-B, EN55022-B					
REGULATIONS	CE MARKING		Low Voltage Directiv	e, EMC Directive				
	HARMONIC ATTENU	JATOR	Complies with IEC61	000-3-2 (Not built-in	to active filter *4)			
OTHERS	CASE SIZE/WEIGHT		50×26.5×105mm (W×H×D) / 130g max	x (without chassis and	l cover)		
JIILNO	COOLING METHOD		Convection					

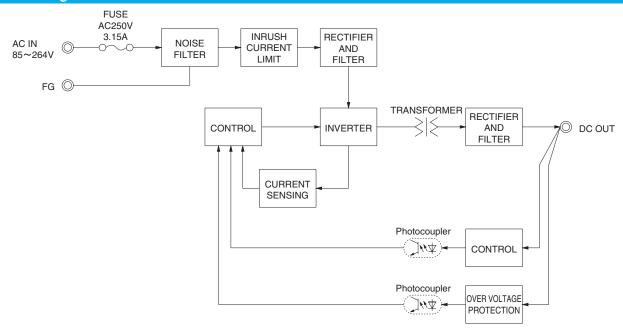
- This is the value that measured on measuring board with capacitor of 22 μ F at 150mm from output terminal.

 Measured by 20MHz oscilloscope or Ripple-Noise meter (Equivalent to KEISOKU-GIKEN:
- Drift is the change in DC output for an eight hour period after a half-hour warm-up at 25℃, with the input voltage held constant at the rated input/output.
- Derating is required. *****3

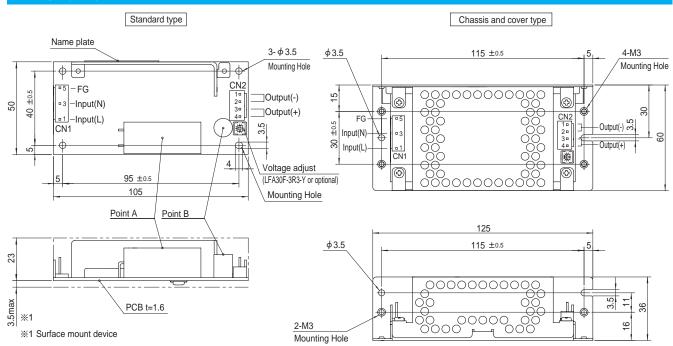
- When two or more units are operating it may not comply with the IEC61000-3-2. Please contact us for details.
- To meet the specifications. Do not operate over-loaded condition.
- Parallel operation is not possible.
- Derating is required when operated with chassis and cover. Sound noise may be generated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

E-8





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	Т	erminal		
0.14	1-1123724-3	1-1123722-5	Chain	1123721-1		
CIVI	1-1123724-3	1-1123722-5	Loose	1318912-1		
ONIO	1-1123723-4	1-1123722-4	Chain	1123721-1		
CNZ	1-1123723-4	1-1123722-4	Loose	1318912-1		
(Mfr:Tyco Electronics AMP						

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

<PIN CONNECTION>

Input
AC(L)
AC(N)
FG

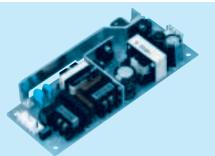
CINZ	
Pin No.	Output
1, 2	-V
3, 4	+V

- ※ Tolerance : ±1
- Weight: 130g max (without chassis and cover)
- ※ PCB material / thickness : CEM3 / 1.6mm
- * Optional chassis and cover material : Electric galvanizing steel board.
- * Dimensions in mm
- Mounting torque (Mounting hole of chassis): 0.6N · m (6.3kgf · cm) max

CN2

[%] Keep drawing current per pin below 5A for CN2.









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

*The Noize Filter is recommended to connect with several devices.

- 1) Series name 2) Single output 3) 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

SPECIFICATIONS

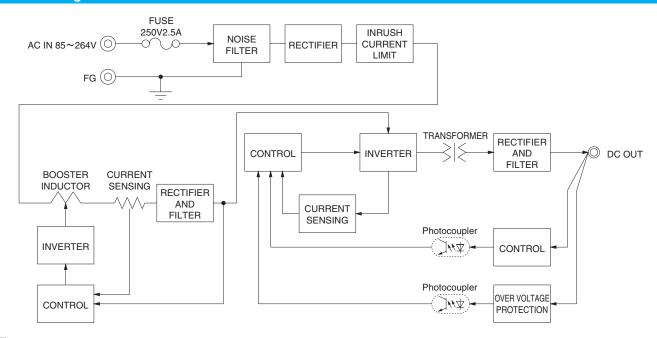
	MODEL		LFA50F-3R3-Y	LFA50F-5	LFA50F-12	LFA50F-15	LFA50F-24	LFA50F-36	LFA50F-48	
	VOLTAGE[V]		AC85 - 264 1 ¢	(Refer to Instr	ruction Manual	1.1 and 3.2) *3				
	OUDDENTIAL	ACIN 100V	0.47typ (lo=100%) 0.67typ (lo=100%)							
	CURRENT[A]	ACIN 200V	0.27typ (lo=100%) 0.36typ (lo=100%)							
	FREQUENCY[Hz]		50 / 60 (47 - 63)							
	EEEIOIENOVIO/ I	ACIN 100V	73.5typ	77.5typ	80.0typ	80.5typ	81.5typ	82.0typ	81.0typ	
INPUT	EFFICIENCY[%]	ACIN 200V	74.0typ	79.0typ	81.5typ	81.5typ	83.0typ	83.5typ	82.5typ	
	DOWED FACTOR (L. 4000)	ACIN 100V	0.96typ	0.97typ		•	•		•	
	POWER FACTOR (Io=100%)	ACIN 200V	0.83typ	0.90typ						
	INRUSH CURRENT[A]		15typ (lo=100	%) (At cold start	t) (Ta=25℃)					
	INRUSH CURRENT[A]	ACIN 200V	30typ (lo=100	%) (At cold start	t) (Ta=25℃)					
	LEAKAGE CURREN	T[mA]	0.40 / 0.75max	(ACIN 100V / :	240V 60Hz, Io=	=100%, Accordi	ing to IEC60950)-1 and DEN-AN)	
	VOLTAGE[V]		3.3	5	12	15	24	36	48	
	CURRENT[A]		10.0	10.0	4.3	3.5	2.1	1.4	1.1	
	LINE REGULATION[mV]	20max	20max	48max	60max	96max	144max	192max	
	LOAD REGULATION	[mV]	40max	40max	100max	120max	150max	240max	240max	
	RIPPLE[mVp-p]	0 to +50°C *1	80max	80max	120max	120max	120max	150max	150max	
	nieerc[iiivp-b]	-10 - 0℃ *1	140max	140max	160max	160max	160max	200max	200max	
	DIDDI E NOICE[m\/n n]	0 to +50°C *1	120max	120max	150max	150max	150max	250max	250max	
	RIPPLE NOISE[mVp-p]	-10-0℃ *1	160max	160max	180max	180max	180max	300max	300max	
	TEMPEDATURE REQUILATIONSVI	0 to +50℃	50max	50max	120max	150max	240max	360max	480max	
	TEMPERATURE REGULATION[mV]	-10 to +50℃	60max	60max	150max	180max	290max	450max	600max	
	DRIFT[mV]	*2	20max	20max	48max	60max	96max	144max	192max	
	START-UP TIME[ms]		21 (100V, Io=100%)					
	HOLD-UP TIME[ms]		20typ (ACIN 10							
	OUTPUT VOLTAGE ADJUSTMENT	RANGE[V]	2.85 to 3.63	_ ` .			put voltage betw			
	OUTPUT VOLTAGE SET		3.30 to 3.40	4.90 to 5.30			23.00 to 25.00	34.50 to 37.50	46.00 to 50.00	
	OVERCURRENT PROT	ECTION	Works over 10	5% of rating an						
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	41.40 to 50.40	55.20 to 67.20	
CIRCUIT AND		TION	Not provided							
OTHERS	REMOTE SENSING		Not provided							
	REMOTE ON/OFF		Not provided							
	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			,	,		in (At Room Ter			
	OPERATING TEMP., HUMID.AND									
ENVIRONMENT	STORAGE TEMP.,HUMID.AND	ALTITUDE	-20 to +75°C, 20 - 90%RH (Non condensing), 9,000m (30,000feet) max							
-	VIBRATION		10 - 55Hz, 19.6m/s² (2G), 3minutes period, 60minutes each along X, Y and Z axis							
	IMPACT		196.1m/s² (20G), 11ms, once each X, Y and Z axis UL60950-1, C-UL (CSA60950-1), EN60950-1, EN50178 Complies with DEN-AN							
SAFETY AND	AGENCY APPROVALS (At onl						-	-AN		
NOISE	CONDUCTED NOISE			FCC-B, VCCI-B	<u> </u>	5011-B, EN550	22-B			
REGULATIONS	CE MARKING			irective, EMC D	irective					
	HARMONIC ATTENU		Complies with							
OTHERS	CASE SIZE/WEIGHT			2mm (W×H×D) / 165g max (v	vithout chassis	and cover)			
COOLING METHOD			Convection							

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

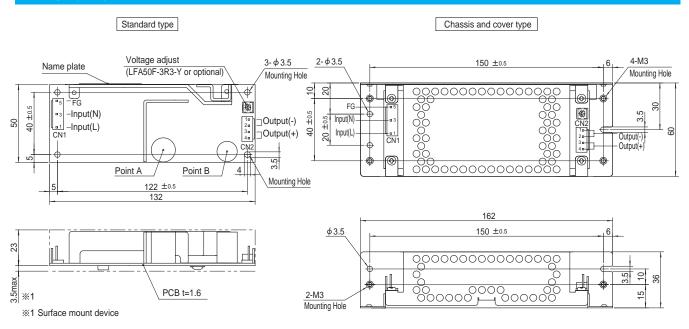
 To meet the specifications. Do not operate over-loaded condition.
- Parallel operation is not possible.
- Derating is required when operated with chassis and cover.
 Sound noise may be generated by power supply in case of pulse load.







External view



- ¾ 4 Mounting holes are existing.
- * The back side of P.C.B. of the power supply is assembled some SMDs. Be attention not to bump against the attached area by vibration.
- * 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	I/O Connector Mating connector			Terminal		
014	4 4400704 0	1-1123722-5	Chain	1123721-1		
CN1	1-1123/24-3	1-1123722-5	Loose	1318912-1		
ONIO	4 4400700 4	4 4400700 4	Chain	1123721-1		
CN2 1-112372	1-1123723-4	1-1123/22-4	Loose	1318912-1		

(Mfr:Tyco Electronics AMP)

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

<PIN CONNECTION>

CN1		CN2
Pin No.	Input	Pin No
1	AC(L)	1.2
2		1, 2
3	AC(N)	3, 4
4		3, 4
5	FG	

 X Tolerance: ±1 Output

-V

+V

- Weight: 165g max (without chassis and cover)
- * 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
- * Keep drawing current per pin below 5A for CN2.





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

*The Noize Filter is recommended to connect with several devices.

- 1) Series name 2) Single output 3) 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

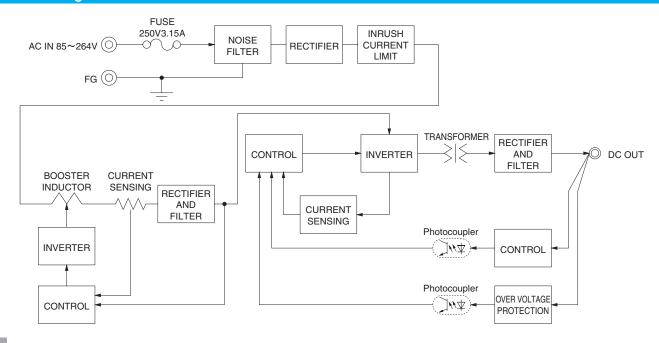
SPECIFICATIONS

	MODEL		LFA75F-3R3-Y	LFA75F-5	LFA75F-12	LFA75F-15	LFA75F-24	LFA75F-36	LFA75F-48	
	VOLTAGE[V]		AC85 - 264 1 ¢	(Refer to Instr	uction Manual	1.1 and 3.2) *3	•	•	•	
		ACIN 100V	0.70typ (lo=100%)	1.00typ (lo=10	00%)					
	CURRENT[A]	ACIN 200V	0.40typ (lo=100%)	0.50typ (lo=10	00%)					
	FREQUENCY[Hz]		50 / 60 (47 - 63)							
	ACIN 100V		73.5typ	78.0typ	81.5typ	81.5typ	82.5typ	82.5typ	82.5typ	
NPUT	EFFICIENCY[%]	ACIN 200V	75.0typ	80.0typ	83.0typ	83.0typ	84.5typ	84.5typ	84.5typ	
	DOWED	ACIN 100V	0.96typ	0.97typ						
	POWER FACTOR (Io=100%)	ACIN 200V	0.83typ	0.90typ						
	INDUOLI QUEDENTIAL	ACIN 100V	15typ (lo=100	%) (At cold start	t) (Ta=25°C)					
	INRUSH CURRENT[A]	ACIN 200V	30typ (lo=100	%) (At cold start	t) (Ta=25°C)					
	LEAKAGE CURREN	T[mA]	0.40 / 0.75max	(ACIN 100V / 2	240V 60Hz, lo=	100%, Accordi	ng to IEC60950	-1 and DEN-AN)	
	VOLTAGE[V]		3.3	5	12	15	24	36	48	
	CURRENT[A]		15.0	15.0	6.3	5.0	3.2	2.1	1.6	
Ī	LINE REGULATION[mV]	20max	20max	48max	60max	96max	144max	192max	
	LOAD REGULATION	[mV]	40max	40max	100max	120max	150max	240max	240max	
	RIPPLE[mVp-p]	0 to +50°C *1	80max	80max	120max	120max	120max	150max	150max	
	KIPPLE[IIIVP-P]	-10-0℃ *1	140max	140max	160max	160max	160max	200max	200max	
	DIDDI E NOICEIm/m m1	0 to +50°C *1	120max	120max	150max	150max	150max	250max	250max	
OUTPUT	RIPPLE NOISE[mVp-p]	-10-0℃ *1	160max	160max	180max	180max	180max	300max	300max	
	TEMPEDATURE RECUI ATION(#4/1	0 to +50°C	50max	50max	120max	150max	240max	360max	480max	
	TEMPERATURE REGULATION[mV]	-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" opt	ion is available f	or adjusting out	out voltage betw	een ±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 10	5% of rating an	d recovers auto	matically			_	
PROTECTION	OVERVOLTAGE PROTE	ECTION	4.00 to 5.25	5.75 to 7.00	13.80 to 16.80	17.25 to 21.00	27.60 to 33.60	41.40 to 50.40	55.20 to 67.20	
	OPERATING INDICA	TION	Not provided							
OTHERS	REMOTE SENSING		Not provided							
	REMOTE ON/OFF		Not provided							
	INPUT-OUTPUT			nute, Cutoff cur				<u>'</u>		
ISOLATION	INPUT-FG		AC2,000V 1minute, Cutoff current = 10mA, DC500V 50M Ω min (At Room Temperature)							
	OUTPUT-FG			ute, Cutoff curre						
	OPERATING TEMP., HUMID.AND		-10 to +70°C, 20 - 90%RH (Non condensing) (Refer to DERATING CURVE), 3,000m (10,000feet) max *					feet) max *3		
ENVIRONMENT	STORAGE TEMP., HUMID. AND	ALTITUDE	-20 to +75°C, 20 - 90%RH (Non condensing), 9,000m (30,000feet) max							
	VIBRATION		10 - 55Hz, 19.6m/s 2 (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 (At onl			-UL (CSA60950				-AN		
NOISE	CONDUCTED NOISE			FCC-B, VCCI-B		5011-B, EN550	22-B			
REGULATIONS	CE MARKING			irective, EMC D	irective					
	HARMONIC ATTENU		Complies with							
OTHERS	CASE SIZE/WEIGHT	'		Dmm (W×H×D) / 230g max (w	vithout chassis	and cover)			
	COOLING METHOD		Convection							

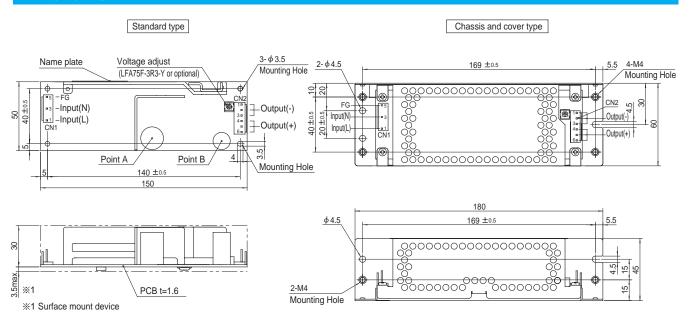
- This is the value that measured on measuring board with capacitor of 22 $\mu\,F$ at 150mm from output terminal.
 - Measured by 20MHz oscilloscope or Ripple-Noise meter (Equivalent to KEISOKU-GIKEN:
- Drift is the change in DC output for an eight hour period after a half-hour warm-up at 25℃, with the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

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





External view



- ¾ 4 Mounting holes are existing.
- * The back side of P.C.B. of the power supply is assembled some SMDs
- Be attention not to bump against the attached area by vibration. * 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	1-1123724-3	1-1123722-5	Chain	1123721-1	
CIVI	1-1123724-3	1-1123722-5	Loose	1318912-1	
CNO	4 4400700 0	1-1123722-6	Chain	1123721-1	
CN2	1-1123723-6	1-1123/22-6	Loose	1318912-1	

(Mfr:Tyco Electronics AMP)

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

<PIN CONNECTION>

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

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

- Weight: 230g max (without chassis and cover)
- ※ PCB material / thickness : CEM3 / 1.6mm
- $\ensuremath{\mathrm{\%}}$ Optional chassis and cover material : Electric galvanizing steel board.
- * Dimensions in mm
- Mounting torque (Mounting hole of chassis) :1.5N m (16kgf cm) max