

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
SDECIFICATIONS					

# SPECIFICATIONS

	MODEL		LFA10F-3R3-Y	LFA10F-5	LFA10F-12	LFA10F-15	LFA10F-24		
	VOLTAGE[V]		AC85 - 264 1 ¢ (Refe	r to Instruction Manual	1.1 and 3.2) *3				
	CURRENT[A]	ACIN 100V	0.18typ (lo=100%) 0.26typ (lo=100%)						
		ACIN 200V	0.11typ (lo=100%) 0.16typ (lo=100%)						
	FREQUENCY[Hz]		50 / 60 (47 - 440)						
INPUT	EFFICIENCY[%]	ACIN 100V	68.0typ	74.0typ	76.5typ	77.5typ	79.5typ		
		ACIN 200V	68.5typ	76.0typ	79.0typ	80.0typ	83.0typ		
	INRUSH CURRENT[A]		15typ (lo=100%)						
	ACIN 200V		30typ (lo=100%)						
	LEAKAGE CURRENT	[mA]	0.15/0.30max (ACIN -	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] *5	20max	20max	48max	60max	96max		
	LOAD REGULATION[	mV] *5	40max	40max	100max	120max	150max		
		0 to +50℃	80max	80max	120max	120max	120max		
	RIPPLE[mVp-p]	-10 - 0°C	140max	140max	160max	160max	160max		
	*1	lo=0 - 35%	190max	160max	240max	240max	280max		
	RIPPLE NOISE[mVp-p] *1	0 to +50°C	120max	120max	150max	150max	150max		
OUTPUT		-10 - 0°C	160max	160max	180max	180max	180max		
		lo=0 - 35%	240max	240max	300max	300max	320max		
		0 to +50℃	50max	50max	120max	150max	240max		
D S H	TEMPERATURE REGULATION[mV]	-10 to +50℃	60max	60max	150max	180max	290max		
	DRIFT[mV]	*2	20max	20max	48max	60max	96max		
	START-UP TIME[ms]		200typ (ACIN 100V, Io=100%	) *Start-up time is 700ms t	yp for less than 1 minute of ap	plying input again from turni	ng off the input voltage.		
	HOLD-UP TIME[ms]		20typ (ACIN 100V, los						
	OUTPUT VOLTAGE ADJUSTMENT RANGE[V]		2.85 to 3.63 Fixed ("Y" option is available for adjusting output voltage between ±10%)						
	OUTPUT VOLTAGE SETT	ING[V]	3.30 to 3.40	4.90 to 5.30	11.50 to 12.50	14.40 to 15.60	23.00 to 25.00		
	OVERCURRENT PROTE	CTION	Works over 105% of	rating and recovers aut	omatically				
PROTECTION	OVERVOLTAGE PROTE	CTION	4.00 to 5.25	5.75 to 7.00	13.80 to 16.80	17.25 to 21.00	27.60 to 33.60		
CIRCUIT AND	OPERATING INDICAT	ION	Not provided						
OTHERS	REMOTE SENSING		Not provided						
	REMOTE ON/OFF		Not provided						
	INPUT-OUTPUT		AC3,000V 1minute, C	utoff current = 10mA, [	DC500V 50M $\Omega$ min (A	t Room Temperature)			
ISOLATION	INPUT-FG		AC2,000V 1minute, C	utoff current = 10mA, [	DC500V 50M $\Omega$ min (A	t Room Temperature)			
	OUTPUT-FG		AC500V 1minute, Cut	off current = 25mA, DC	$0.500V 50M\Omega$ min (At F	Room Temperature)			
	OPERATING TEMP., HUMID. AND	ALTITUDE	-10 to +70°C, 20 - 90°	%RH (Non condensing)	) (Refer to DERATING	CURVE), 3,000m (10,	000 feet) max *3		
ENVIRONMENT	STORAGE TEMP., HUMID. AND A	ALTITUDE	-20 to +75°C, 20 - 90°	%RH (Non condensing)	), 9,000m (30,000 feet) ı	nax			
	VIBRATION		10 - 55Hz, 19.6m/s <sup>2</sup> (2	2G), 3minutes period, 6	60minutes each along	X, Y and Z axis			
	IMPACT		196.1m/s2 (20G), 11n	ns, once each X, Y and	Z axis				
	AGENCY APPROVAL	S	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, ENS	55011-B, EN55022-B				
REGULATIONS	CE MARKING		Low Voltage Directive	, EMC Directive					
ILGOLATIONS	HARMONIC ATTENU	ATOR	Complies with IEC610	00-3-2 (Not built-in to	active filter *4)				
OTHERS	CASE SIZE/WEIGHT		50×22×73.5mm (W	×H×D) / 55g max (wit	thout chassis and cove	r)			
UTERS	COOLING METHOD		Convection						
capacito	he value that measured on meas r of 22 μ F at 150mm from outpu ed by 20MHz oscilloscope or R ent to KEISOKU-GIKEN: RM10	ut terminal. Ripple-Noise	Please re meter *2 Drift is th	0-35% is different. fer to the Instruction Manual 1. e change in DC output for an ei ur warm-up at 25°C, with the in	ght hour period after *5	the IEC61000-3-2. Please contact us for details Please contact us about dyr To meet the specifications. Do no	amic load and input resp		

constant at the rated input/output.

When two or more units are operating it may not comply with

Derating is required.

\*3

\*4

Parallel operation is not possible. Derating is required when operated with chassis and cover.

load.

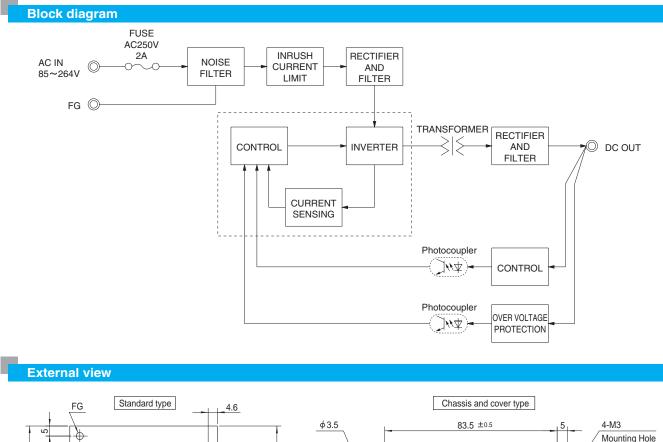
Sound noise may be generated by power supply in case of pulse

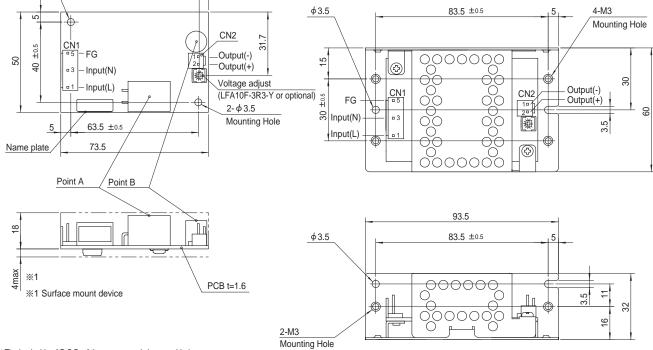
A circuit reducing standby power is built in this unit.

Therefore, the internal switch element is intermittent

operated, and the Ripple/Ripple Noise specification in load







- % 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	T	erminal
0.14	4 4400704 0 4 4400700 5		Chain	1123721-1
CINI	1-1123724-3	1-1123722-5	Loose	1318912-1
CNID	1-1123723-2	1-1123722-2	Chain	1123721-1
CINZ	1-1123723-2	1-1123722-2	Loose	1318912-1
			(Mfr:Ty	co Electronics)

<PIN CONNECTION>

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

% Tolerance : ±1

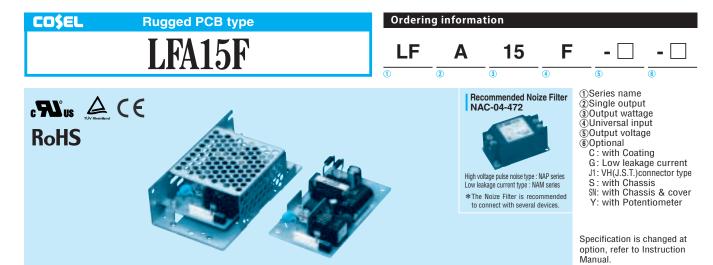
- % Weight : 55g max (without chassis and cover)
- \* PCB material / thickness : CEM3 / 1.6mm

\* 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

% I/O Connector is Mfr. Tyco Electronics

% Option:-J1:(J.S.T) connector type. Refer to Instruction Manual 5.



IODEL			LFA15F-3R3-Y	LFA15F-5	LFA15F-12	LFA15F-15	LFA15F-24	
ΜΑΧ ΟυΤΡυ	T WATTAGE[W]		9.9	15	15.6	15	16.8	
DC OUTPUT	C OUTPUT		3.3V 3A	5V 3A	12V 1.3A	15V 1A	24V 0.7A	
<b>PECIF</b>	ICATIONS							
	MODEL		LFA15F-3R3-Y	LFA15F-5	LFA15F-12	LFA15F-15	LFA15F-24	
	VOLTAGE[V]		AC85 - 264 1 ¢ (Refe	r to Instruction Man	al 1.1 and 3.2) *3			
	CURRENT[A]	ACIN 100V	0.24typ (lo=100%)	0.35typ (lo=100%)				
	CORRENT[A]	ACIN 200V	0.15typ (lo=100%)	0.20typ (lo=100%)				
	FREQUENCY[Hz]		50 / 60 (47 - 440)					
NPUT	EFFICIENCY[%]	ACIN 100V	68.0typ	73.0typ	76.0typ	77.0typ	78.0typ	
		ACIN 200V	69.0typ	76.0typ	78.5typ	80.0typ	81.5typ	
	INRUSH CURRENT[A]		15typ (lo=100%) (At	cold start) (Ta=25°C)				
		ACIN 200V	30typ (lo=100%) (At					
	LEAKAGE CURRENT	[mA]				IEC60950-1 and DEN		
	VOLTAGE[V]		3.3	5	12	15	24	
	CURRENT[A]		3.0	3.0	1.3	1.0	0.7	
	LINE REGULATION[m	-		20max	48max	60max	96max	
1	LOAD REGULATION[			40max	100max	120max	150max	
	RIPPLE[mVp-p]		80max	80max	120max	120max	120max	
	*1		140max	140max	160max	160max	160max	
			190max	160max	240max	240max	280max	
	RIPPLE NOISE[mVp-p] *1		120max	120max	150max	150max	150max	
UTPUT			160max	160max	180max	180max	180max	
			240max	240max	300max	300max	320max	
	TEMPERATURE REGULATION[mV]		50max	50max	120max	150max	240max	
		-10 to +50℃		60max	150max	180max	290max	
	DRIFT[mV]	*2	20max	20max	48max	60max	96max	
	START-UP TIME[ms]			200typ (ACIN 100V, Io=100%) *Start-up time is 700ms typ for less than 1 minute of applying input again from turning off the input voltage.				
	HOLD-UP TIME[ms]		20typ (ACIN 100V, Io	/				
	OUTPUT VOLTAGE ADJUSTMENT F		2.85 to 3.63			ng output voltage betwe	· · · · · ·	
	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		Works over 105% of		-		1	
ROTECTION	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	
IRCUIT AND	OPERATING INDICAT	ION	Not provided					
THERS	REMOTE SENSING		Not provided					
	REMOTE ON/OFF		Not provided		DOGODUCEDNO	(AL D. T	<u>``</u>	
	INPUT-OUTPUT				· · · · · · · · · · · · · · · · · · ·	(At Room Temperature	,	
SOLATION	INPUT-FG		, , ,		,	(At Room Temperature	e)	
	OUTPUT-FG					At Room Temperature)	0.000 (a at)	
	OPERATING TEMP., HUMID.AND			· · ·	• / (	G CURVE), 3,000m (1)	u,uuu teet) max *3	
NVIRONMENT	STORAGE TEMP., HUMID.AND A	LIIIUDE			ng), 9,000m (30,000 fee			
	VIBRATION		,		d, 60minutes each alor	ig x, y and Z axis		
			196.1m/s <sup>2</sup> (20G), 11r					
AFETY AND	AGENCY APPROVALS			1.	0-1, EN50178 Complie			
OISE	CONDUCTED NOISE				N55011-B, EN55022-I	5		
EGULATIONS		TOP	Low Voltage Directive		to active filler and			
	HARMONIC ATTENU	AIOR	Complies with IEC61					
THERS	CASE SIZE/WEIGHT			×н×D) / 80g max (	without chassis and co	over)		
	COOLING METHOD e value that measured on meas		Convection	=0-35% is different.		the IEC61000-3-2.		

capacitor of 22 µ F at 150mm from output terminal. Measured by 20MHz oscilloscope or Ripple-Noise meter Please refer to the Instruction Manual 1.7. Drift is the change in DC output for an eight hour period after \*2 (Equivalent to KEISOKU-GIKEN: RM103). a half-hour warm-up at 25°C, with the input voltage held A circuit reducing standby power is built in this unit. constant at the rated input/output. Therefore, the internal switch element is intermittent \*3 Derating is required. operated, and the Ripple/Ripple Noise specification in load

When two or more units are operating it may not comply with \*4

Please contact us for details. Please contact us about dynamic load and input response. To meet the specifications. Do not operate over-loaded condition.

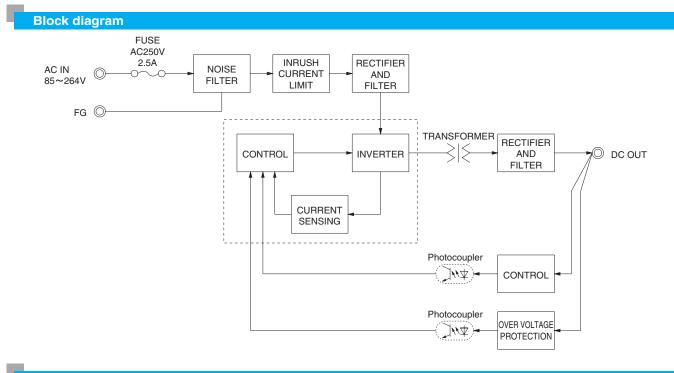
\*5

\*

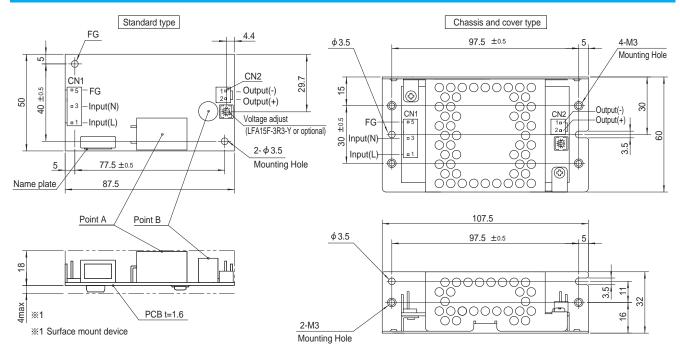
Parallel operation is not possible. Derating is required when operated with chassis and cover.

Sound noise may be generated by power supply in case of pulse load.





**External view** 



 $\ensuremath{\textup{\%}}$  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	123724-3 1-1123722-5		1123721-1	
CINT	1-1123724-3	1-1123722-5	Loose	1318912-1	
CNID	1-1123723-2	1-1123722-2	Chain	1123721-1	
CINZ	1-1123723-2	1-1123722-2	Loose	1318912-1	
			(Mfr·Tv	co Electronics)	

<PIN CONNECTION>

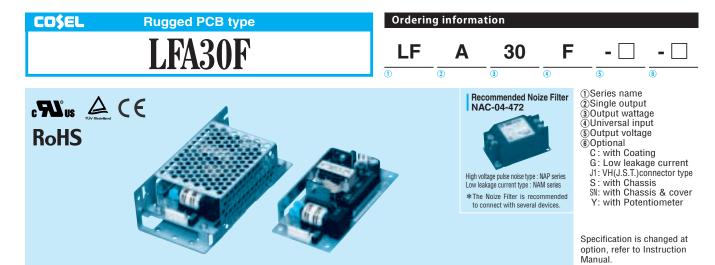
CN1		CN2	
Pin No.	Input	Pin No.	Output
1	AC(L)	1	-V
2		1	- v
3	AC(N)	2	+V
4		2	+v
5	FG		

% Tolerance : ±1

- Weight : 80g max (without chassis and cover)
- \* PCB material / thickness : CEM3 / 1.6mm
- % Optional chassis and cover material : Electric galvanizing steel board.
   % Dimensions in mm
- % Mounting torque (Mounting hole of chassis) : 0.6N m (6.3kgf cm) max

% I/O Connector is Mfr. Tyco Electronics

\* Option:-J1:(J.S.T) connector type. Refer to Instruction Manual 5.



MODEL			LFA30F-3R3-Y	LFA30F-5	LFA30F-12	LFA30F-15	LFA30F-24		
MAX OUTPL	JT WATTAGE[W]	19.8	30.0	30.0	30.0	31.2			
DC OUTPUT	Ē	3.3V 6A	5V 6A	12V 2.5A	15V 2A	24V 1.3A			
SPECIFI	ICATIONS								
	MODEL		LFA30F-3R3-Y	LFA30F-5	LFA30F-12	LFA30F-15	LFA30F-24		
	VOLTAGE[V]		AC85 - 264 1 φ (Ref	er to Instruction M	anual 1.1 and 3.2) *3	·			
	ACIN 10		0.50typ (lo=100%)	0.65typ (lo=100%	b)				
	CURRENT[A]	ACIN 200V	0.30typ (lo=100%)	0.35typ (lo=100%	b)				
	FREQUENCY[Hz]		50 / 60 (47 - 440)						
NPUT		ACIN 100V	73typ	76typ	79typ	81typ	82typ		
	EFFICIENCY[%]	ACIN 200V	75typ	79typ	81typ	83typ	84typ		
		ACIN 100V	15typ (lo=100%) (At	t cold start) (Ta=25°	C)				
	INRUSH CURRENT[A]	ACIN 200V	30typ (Io=100%) (At cold start) (Ta=25°C)						
	LEAKAGE CURRENT	[mA]	0.30 / 0.65max (ACI	N 100V / 240V 60	Hz, Io=100%, Accord	ing to IEC60950-1 and	DEN-AN)		
	VOLTAGE[V]		3.3	5	12	15	24		
	CURRENT[A]		6.0	6.0	2.5	2.0	1.3		
	LINE REGULATION[	mV] *5	20max	20max	48max	60max	96max		
	LOAD REGULATION		40max	40max	100max	120max	150max		
-		0 to +50℃ *1	80max	80max	120max	120max	120max		
	RIPPLE[mVp-p]	-10-0°C *1	140max	140max	160max	160max	160max		
		0 to +50°C *1	120max	120max	150max	150max	150max		
OUTPUT	RIPPLE NOISE[mVp-p]	-10-0°C *1	160max	160max	180max	180max	180max		
			50max	50max	120max	150max	240max		
	TEMPERATURE REGULATION[mV]		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		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		
			Works over 105% of						
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		
noreonon	OPERATING INDICA		Not provided						
OTHERS	REMOTE SENSING		Not provided						
	REMOTE ON/OFF		Not provided						
	INPUT-OUTPUT			Cutoff current = 10	mA, DC500V 50MΩ	min (At Room Tempera	ature)		
SOLATION	INPUT-FG					min (At Room Tempera			
	OUTPUT-FG					in (At Room Temperati			
	OPERATING TEMP., HUMID. AND	ALTITUDE				TING CURVE), 3,000n			
	STORAGE TEMP., HUMID.AND				nsing), 9,000m (30,0				
INVIRONMENT	VIBRATION					along X, Y and Z axis			
	IMPACT		196.1m/s <sup>2</sup> (20G), 11	<b>V</b> 7.		<b>U</b> , <b>N</b>			
	AGENCY APPROVALS			, ,	950-1, EN50178 Con	nplies with DEN-AN			
SAFETY AND	CONDUCTED NOISE			<i>,</i> .	8, EN55011-B, EN550				
NOISE	CE MARKING		Low Voltage Directiv	, ,	,				
REGULATIONS	HARMONIC ATTENU	ATOR	Complies with IEC61	,	-in to active filter *4)				
	CASE SIZE/WEIGHT			,	nax (without chassis	and cover)			
OTHERS	COOLING METHOD		Convection		(				

This is the value that measured on measuring board with capacitor of 22  $\mu\,F$  at 150mm \*1 from output terminal. Measured by 20MHz oscilloscope or Ripple-Noise meter (Equivalent to KEISOKU-GIKEN:

RM103).

\*2 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. \*3

Please contact us about dynamic load and input response. To meet the specifications. Do not operate over-loaded condition.

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

\* Parallel operation is not possible.

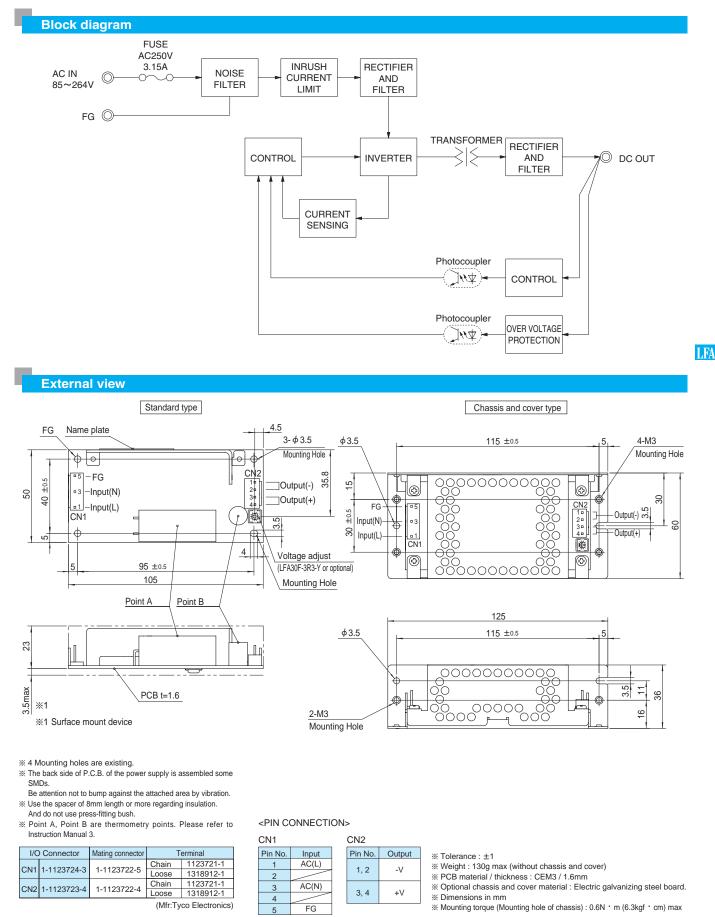
Please contact us for details.

\*5

Derating is required.

Derating is required when operated with chassis and cover. Sound noise may be generated by power supply in case of pulse load. \*

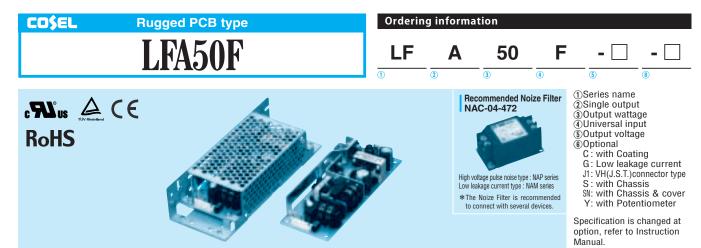




% I/O Connector is Mfr. Tyco Electronics

% Option:-J1:(J.S.T) connector type. Refer to Instruction Manual 5.

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



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

	MODEL		LFA50F-3R3-Y	LFA50F-5	LFA50F-12	LFA50F-15	LFA50F-24	LFA50F-36	LFA50F-48	
	VOLTAGE[V]		AC85 - 264 1 ¢	(Refer to Inst	uction Manual	1.1 and 3.2) *3	1		1	
		ACIN 100V	0.47typ (lo=100%)	0.67typ (lo=10	0%)	,				
	CURRENT[A]	ACIN 200V	0.27typ (lo=100%) 0.36typ (lo=100%)							
	FREQUENCY[Hz]		50 / 60 (47 - 63)							
		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	
		ACIN 100V	0.96typ	0.97typ	, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	51				
	POWER FACTOR (Io=100%)	ACIN 200V	0.83typ	0.90typ						
		ACIN 100V	15typ (lo=100%) (At cold start) (Ta=25°C)							
	INRUSH CURRENT[A]	ACIN 200V	30typ (lo=100							
	LEAKAGE CURREN	T[mA]	0.40 / 0.75max	(ACIN 100V /	240V 60Hz, Io:	=100%, Accordi	ng 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] *4	20max	20max	48max	60max	96max	144max	192max	
	LOAD REGULATION	[mV] *4	40max	40max	100max	120max	150max	240max	240max	
		0 to +50℃ *1	80max	80max	120max	120max	120max	150max	150max	
ł	RIPPLE[mVp-p]	-10-0°C *1	140max	140max	160max	160max	160max	200max	200max	
		0 to +50℃ *1	120max	120max	150max	150max	150max	250max	250max	
	RIPPLE NOISE[mVp-p]	-10-0°C *1	160max	160max	180max	180max	180max	300max	300max	
		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]		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 t	for 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 ar	d recovers auto	omatically				
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	
CIRCUIT AND	<b>OPERATING INDICA</b>	TION	Not provided							
OTHERS	REMOTE SENSING		Not provided							
	REMOTE ON/OFF		Not provided							
	INPUT-OUTPUT					0C500V 50MΩ r				
ISOLATION	INPUT-FG		AC2,000V 1 minute, Cutoff current = 10mA, DC500V 50M $\Omega$ min (At Room Temperature)							
	OUTPUT-FG		AC500V 1minute, Cutoff current = 25mA, DC500V 50MΩ min (At Room Temperature)							
	OPERATING TEMP., HUMID.AND	) ALTITUDE				(Refer to DERA		3,000m (10,000	feet) max *3	
ENVIRONMENT	STORAGE TEMP., HUMID.AND	ALTITUDE	,	· · ·	0,	, 9,000m (30,00	/			
LITTION	VIBRATION					Ominutes each	along X, Y and Z	Z axis		
	IMPACT		196.1m/s <sup>2</sup> (20G), 11ms, once each X, Y and Z axis							
SAFETY AND	AGENCY APPROVAL			1.	, EN50178 Com		-AN			
NOISE	CONDUCTED NOISE			,	, , <u>,</u>	5011-B, EN550	22-B			
REGULATIONS	CE MARKING		Low Voltage D		irective					
	HARMONIC ATTENU		Complies with							
OTHERS	CASE SIZE/WEIGHT		50×26.5×132 Convection	2mm (W×H×D	) / 165g max (\	without chassis	and cover)			
	COOLING METHOD									

\*3

\*4

\*

\*

\*

Derating is required.

Parallel operation is not possible.

Please contact us about dynamic load and input response.

Derating is required when operated with chassis and cover.

To meet the specifications. Do not operate over-loaded condition.

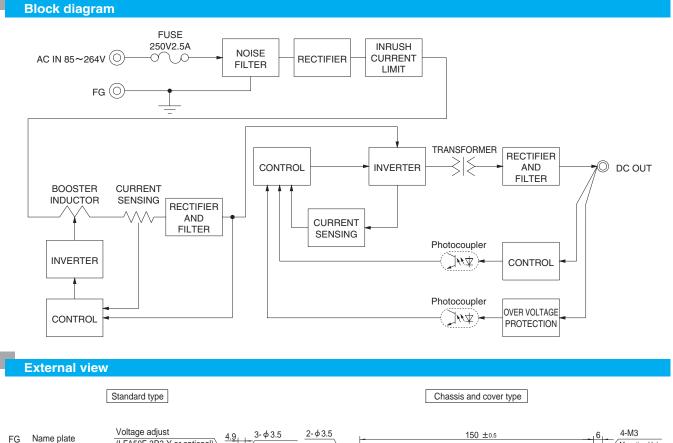
Sound noise may be generated by power supply in case of pulse load.

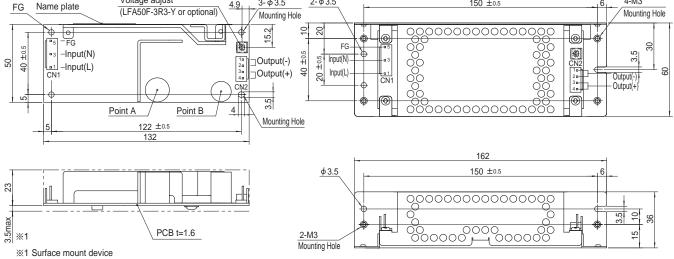
\*1 This is the value that measured on measuring board with capacitor of 22 µ F at 150mm from output terminal. Measured by 20MHz oscilloscope or Ripple-Noise meter (Equivalent to KEISOKU-GIKEN:

RM103). \*2 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.







% 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	Т	erminal
0.14	1-1123724-3	1-1123722-5	Chain	1123721-1
CINT	1-1123724-3	1-1123722-5	Loose	1318912-1
0.10	1-1123723-4	1-1123722-4	Chain	1123721-1
CINZ	1-1123723-4	1-1123722-4	Loose	1318912-1
			(Mfr:Tv	co Electronics)

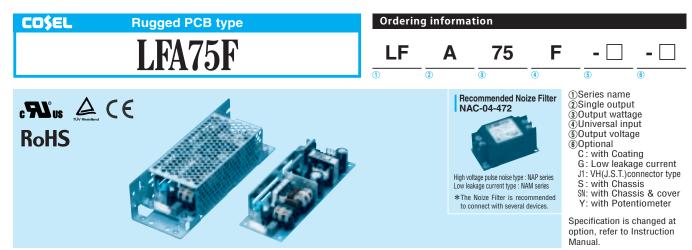
<PIN CONNECTION>

CN1		CN2		
Pin No.	Input	Pin No.	Output	% Tolerance : ±1
1	AC(L)	1.2	-V	※ Weight : 165g max (without chassis and cover)
2		1, 2	- v	% PCB material / thickness : CEM3 / 1.6mm
3	AC(N)	3.4	+V	* Optional chassis and cover material : Electric galvanizing steel board.
4		3,4	+v	※ Dimensions in mm ※ Mounting torque (Mounting hole of chassis) : 0.6N • m (6.3kgf • cm) max
5	FG			* Mounting torque (Mounting note of chassis) : 0.6N * m (6.3kgi * cm) max

% I/O Connector is Mfr. Tyco Electronics

% Option:-J1:(J.S.T) connector type. Refer to Instruction Manual 5.

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



This power su	pply is manufactured by	y Sivid let	intology. The stre	55 LU F.G.D IIKE L	wisting of benuin	y causes the uele			itil Gale.		
MODEL			LFA75F-3R3-Y	LFA75F-5	LFA75F-12	LFA75F-15	LFA75F-24	LFA75F-36	LFA75F-48		
MAX OUTPU	JT WATTAGE[W]		49.5	75	75.6	75	76.8	75.6	76.8		
DC OUTPUT	Г		3.3V 15A	5V 15A	12V 6.3A	15V 5A	24V 3.2A	36V 2.1A	48V 1.6A		
SPECIF	ICATIONS										
	MODEL		LFA75F-3R3-Y	LFA75F-5	LFA75F-12	LFA75F-15	LFA75F-24	LFA75F-36	LFA75F-48		
	VOLTAGE[V]		AC85 - 264 1 ¢	(Refer to Insti	uction Manual	1.1 and 3.2) *3					
	CURRENT[A]	ACIN 100V	0.70typ (lo=100%) 1.00typ (lo=100%)								
	CORRENT[A]	ACIN 200V	0.40typ (lo=100%)	0.40typ (lo=100%) 0.50typ (lo=100%)							
	FREQUENCY[Hz]		50 / 60 (47 - 6	3)							
		ACIN 100V	73.5typ	78.0typ	81.5typ	81.5typ	82.5typ	82.5typ	82.5typ		
INPUT	EFFICIENCY[%]	ACIN 200V	75.0typ	80.0typ	83.0typ	83.0typ	84.5typ	84.5typ	84.5typ		
		ACIN 100V	0.96typ	0.97typ							
	POWER FACTOR (lo=100%)	ACIN 200V	0.83typ	0.90typ							
		ACIN 100V	15typ (lo=100	5typ (lo=100%) (At cold start) (Ta=25℃)							
	INRUSH CURRENT[A]	ACIN 200V		%) (At cold star	/ ( /						
	LEAKAGE CURRENT[mA]				, , ,	100%, Accordi	ng to IEC60950	-1 and DEN-AN	)		
	VOLTAGE[V]		3.3	5	12	15	24	36	48		
	CURRENT[A]		15.0	15.0	6.3	5.0	3.2	2.1	1.6		
-	LINE REGULATION[mV] *4		20max	20max	48max	60max	96max	144max	192max		
	LOAD REGULATION[mV] *4		40max	40max	100max	120max	150max	240max	240max		
		0 to +50°C *1	80max	80max	120max	120max	120max	150max	150max		
	RIPPLE[mVp-p]	-10-0°C *1	140max	140max	160max	160max	160max	200max	200max		
		0 to +50°C *1	120max	120max	150max	150max	150max	250max	250max		
	RIPPLE NOISE[mVp-p]	-10-0°C *1	160max	160max	180max	180max	180max	300max	300max		
		0 to +50℃		50max	120max	150max	240max	360max	480max		
	TEMPERATURE REGULATION[mV]	-10 to +50°C	60max	60max	150max	180max	290max	450max	600max		
	DRIFT[mV]		20max	20max	48max	60max	96max	144max	192max		
	DRIFT[mV] *2 START-UP TIME[ms]					oomax	oomax	TTIMUX	TOEInax		
	HOLD-UP TIME[ms]		350typ (ACIN 100V, Io=100%) 20typ (ACIN 100V, Io=100%)								
	OUTPUT VOLTAGE ADJUSTMENT		2.85 to 3.63	, ,	ion is available f	or adjusting out	ut voltage betw	een +10%)			
	OUTPUT VOLTAGE SET		3.30 to 3.40	4.90 to 5.30		14.40 to 15.60		,	46.00 to 50.00		
	OVERCURRENT PROT				d recovers auto		20.00 10 20.00	04.00 10 07.00	40.00 10 30.00		
PROTECTION	OVERCORNENT PROT		4.00 to 5.25	5.75 to 7.00	13.80 to 16.80		27.60 to 33.60	41.40 to 50.40	55.20 to 67.20		
PROTECTION CIRCUIT AND			Not provided	5.75 10 7.00	13.00 10 10.00	17.20 10 21.00	27.00 10 00.00	11.40 10 30.40	33.20 10 07.20		
OTHERS	REMOTE SENSING		Not provided								
	REMOTE ON/OFF		Not provided								
	INPUT-OUTPUT			nute Cutoff cur	rent – 10mA D	C500V 50MΩ r	nin (At Room T	emnerature)			
ISOLATION	INPUT-FG		,	,	,	C500V 50MΩ r		. ,			
SOLAHON	OUTPUT-FG		,	,	,	500V 50MΩ mi		1 /			
	OPERATING TEMP., HUMID.AND							3,000m (10,000	lfeet) may *3		
	STORAGE TEMP.,HUMID.AND					, 9,000m (30,00		0,000m (10,000			
ENVIRONMENT	VIBRATION	ALITIODE		,	• /	Ominutes each a	,	7 avie			
	IMPACT			<b>(</b> 7:	each X, Y and Z						
	AGENCY APPROVA	19				, EN50178 Com		- A N			
SAFETY AND	CONDUCTED NOISE				1.	5011-B, EN5502					
NOISE	CE MARKING	-		irective, EMC D	,	JUTT-D, EN3504	22-0				
REGULATIONS			Complies with		IIECLIVE						
	HARMONIC ATTENU				) / 020g max /	without choose a	and cover)				
OTHERS	CASE SIZE/WEIGHT				) / 2009 max (V	vithout chassis	anu cover)				
	COOLING METHOD		Convection								

\*1 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). \*2 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.

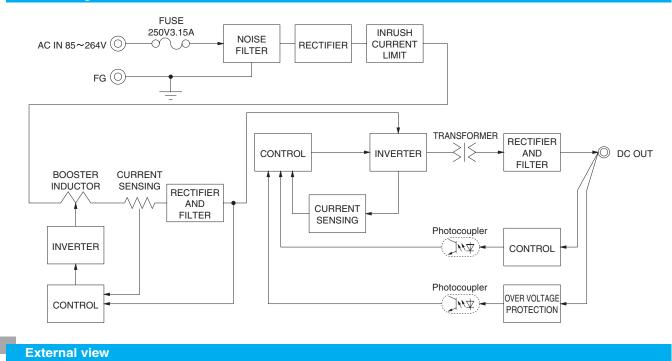
\*3 Derating is required.

\*4 Please contact us about dynamic load and input response.

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

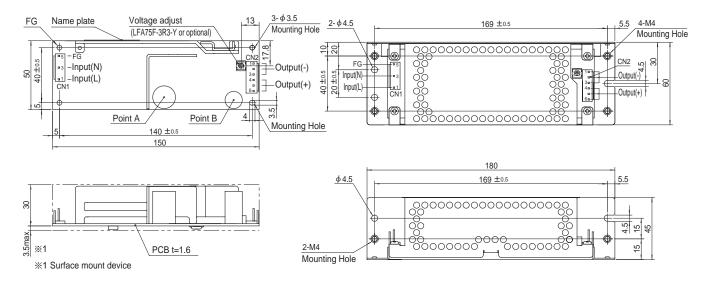






Standard type

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/O Connector		Mating connector	Terminal			
CNIA	1 1-1123724-3	1-1123722-5	Chain	1123721-1		
CN1	1-1123724-3	1-1123722-5	Loose	1318912-1		
CNID	N2 1-1123723-6	1-1123722-6	Chain	1123721-1		
CINZ		1-1123722-0	Loose	1318912-1		
(Mfr:Tvco Electronics)						

<PIN CONNECTION>

CN1		CN2		
Pin No.	Input	Pin No.	Output	≫ То
1	AC(L)	1 to 3	-V	≫ We
2		1 10 3	-v	* PC
3	AC(N)	4 to 6	+V	× Op
4		4 10 6	+v	※ Dir ※ Mo
5	FG			× WC

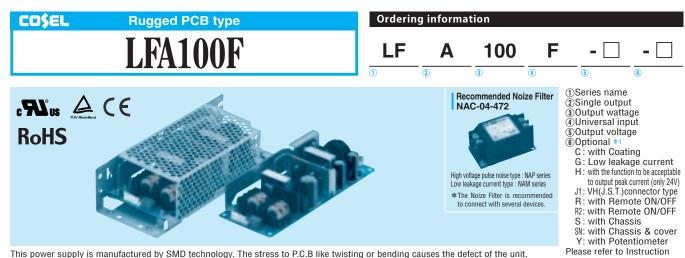
% Tolerance : ±1

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

% I/O Connector is Mfr. Tyco Electronics

% Option:-J1:(J.S.T) connector type. Refer to Instruction Manual 5.

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



manual 5.

pulse load.

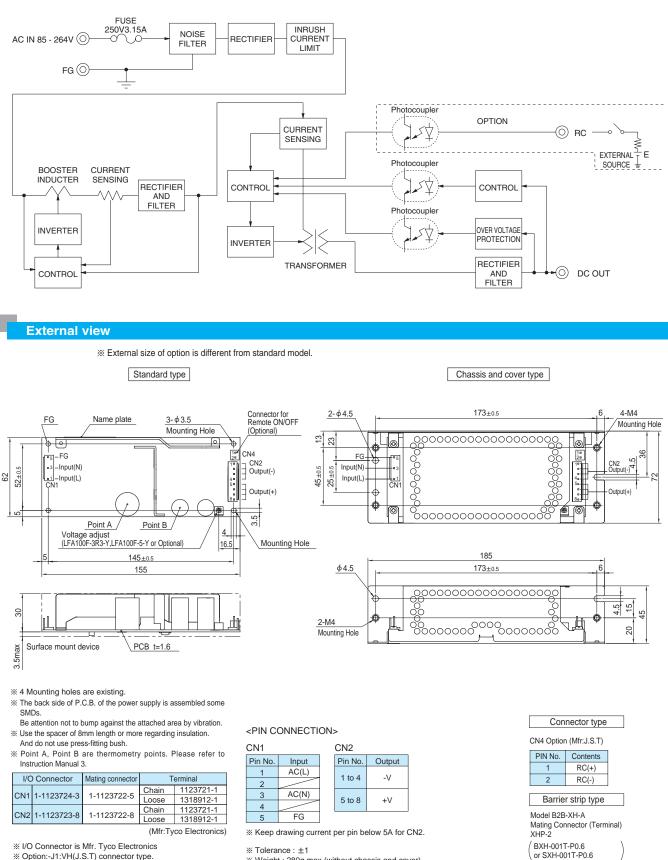
This power supply is manufactured by SMD technology. The stress to P.C.B like twisting or bending causes the defect of the unit, so handle the unit with care.

so handle the	unit with care.								manual 5.		
MODEL			LFA100F-3R3-Y	LFA100F-5-Y	LFA100F-12	LFA100F-15	LFA100F-24	LFA100F-24-H	LFA100F-36	LFA100F-48	
ΜΑΧ Ουτρι	JT 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	
SPECIFI	CATIONS										
	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 I	nstruction Ma	nual 1.1 and	3.2) *4	•	•		
	ACIN 100V		0.9typ (lo=100%)	1.3typ (lo=10	0%)						
	CURRENT[A]	ACIN 200V	0.5typ (lo=100%) 0.7typ (lo=100%)								
	FREQUENCY[Hz]		50 / 60 (47 -	63)							
		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	
		ACIN 100V	0.98typ	0.99typ							
	POWER FACTOR (lo=100%)	ACIN 200V	0.92typ	0.95typ							
		ACIN 100V	15typ (lo=10	0%) (At cold s	start) (Ta=25°C	2)					
	INRUSH CURRENT[A]	ACIN 200V	30typ (lo=10	0%) (At cold s	start) (Ta=25°C	2)					
	LEAKAGE CURREN	T[mA]	0.40 / 0.75m	ax (ACIN 100	V/240V 60H	lz, lo=100%, <i>l</i>	According to I	EC60950-1 a	nd DEN-AN)		
	VOLTAGE[V]	-	3.3	5	12	15	24	24	36	48	
	CURRENT[A]	*5	20	20	8.5	6.7	4.3	4.3 (Peak 5.4)	2.8	2.1	
	LINE REGULATION[mV] *7		20max	20max	48max	60max	96max	96max	144max	192max	
OUTPUT	LOAD REGULATION	[mV] *7	40max	40max	100max	120max	150max	150max	240max	240max	
		0 to +50°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	
		0 to +50°C *2	120max	120max	150max	150max	150max	300max	250max	250max	
	RIPPLE NOISE[mVp-p]	-10-0°C *2	160max	160max	180max	180max	180max	360max	300max	300max	
		0 to +50℃	50max	50max	120max	150max	240max	240max	360max	480max	
	TEMPERATURE REGULATION[mV]	-10 to +50℃	60max	60max	150max	180max	290max	290max	450max	600max	
-	DRIFT[mV] *3		20max	20max	48max	60max	96max	96max	144max	192max	
	START-UP TIME[ms]		350typ (ACII	100V, lo=10	0%)						
	HOLD-UP TIME[ms]		20typ (ACIN 100V, Io=100%)								
	OUTPUT VOLTAGE ADJUSTMENT	RANGE[V]	2.85 to 3.63 4.50 to 5.50 Fixed ("Y" option is available for adjusting output voltage)								
	OUTPUT VOLTAGE SET	TING[V]	3.30 to 3.40	5.00 to 5.15	11.50 to 12.50	14.40 to 15.60	23.00 to 25.00	23.00 to 25.00	34.50 to 37.50	46.00 to 50.0	
	OVERCURRENT PROT	ECTION	Works over 1	05% of rating	g (works over	101% of peal	< current at op	otion -H) and	recovers auto	matically	
PROTECTION	OVERVOLTAGE PROTE	CTION	4.00 to 5.25	5.75 to 7.00	13.80 to 16.80	17.25 to 21.00	27.60 to 33.60	27.60 to 33.60	41.40 to 50.40	55.20 to 67.2	
CIRCUIT AND	OPERATING INDICA	TION	4.00 to 5.25 5.75 to 7.00 13.80 to 16.80 17.25 to 21.00 27.60 to 33.60 27.60 to 33.60 41.40 to 50.40 55.20 to 67.20 Not provided								
OTHERS	REMOTE SENSING		Not provided								
	REMOTE ON/OFF		Option (Refer to Instruction Manual)								
	INPUT-OUTPUT-RC	*6	AC3,000V 1r	ninute, Cutoff	current = 10r	nA, DC500V 5	$\mathrm{i}0\mathrm{M}\Omega$ min (At	t Room Temp	erature)		
ISOLATION	INPUT-FG		AC2,000V 1r	ninute, Cutoff	current = 10r	nA, DC500V 5	$\mathrm{50M}\Omega$ min (At	t Room Temp	erature)		
SOLATION	OUTPUT·RC-FG	*6	AC500V 1mi	nute, Cutoff c	urrent = 25m/	A, DC500V 50	$M\Omega$ min (At F	Room Temper	ature)		
	OUTPUT-RC	*6	AC100V 1mi	nute, Cutoff c	urrent = 25m/	A, DC100V 10	MΩ min (At F	Room Temper	ature)		
	OPERATING TEMP., HUMID.AND	ALTITUDE *4	-10 to +70℃	, 20 - 90%RH	(Non conden	sing) (Refer t	DERATING (	CURVE), 3,00	0m (10,000fe	et) max	
ENVIRONMENT	STORAGE TEMP., HUMID.AND	ALTITUDE	-20 to +75℃	, 20 - 90%RH	(Non conden	sing), 9,000m	(30,000feet)	max			
	VIBRATION						s each along 2	X, Y and Z axi	S		
	IMPACT				nce each X, Y						
SAFETY AND	AGENCY APPROVAL	_S	UL60950-1,	C-UL (CSA60	950-1), EN60	950-1, EN501	78 Complies \	with DEN-AN			
NOISE	CONDUCTED NOISE		Complies wit	h FCC-B, VCC	I-B, CISPR-B	, EN55011-B,	EN55022-B				
REGULATIONS	DNS HARMONIC ATTENUATOR Complies with IEC61000-3-2										
	CASE SIZE/WEIGHT		62×33.5×1	55mm (W×H	×D) / 280g n	nax (without c	hassis and co	over)			
OTHERS	COOLING METHOD		Convection								
*2 This is th capacitor of Measured (Equivalen)	on is changed at option, refer t e value that measured on n of 22 µ F at 150mm from outpu by 20MHz oscilloscope of t to KEISOKU-GIKEN: RM103) change in DC output for an ei	neasuring I It terminal. r Ripple-No	ooard with *4 *5 vise meter	device is damaged contact us about th	d. Irrent. There is a p I when the specific	ation is exceeded. I	condi ternal * Parali Please * Derat	ition. lel operation is not ting is required whe id noise may be g	tions. Do not ope possible. n operated with cha enerated by power	ssis and cover.	

(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

\*6 Applicable when Remote ON/OFF (optional) is added. \*7 Please contact us about dynamic load and input response.

### **Block diagram**



% Option:-J1:VH(J.S.T) connector type.

### % Weight : 280g max (without chassis and cover)

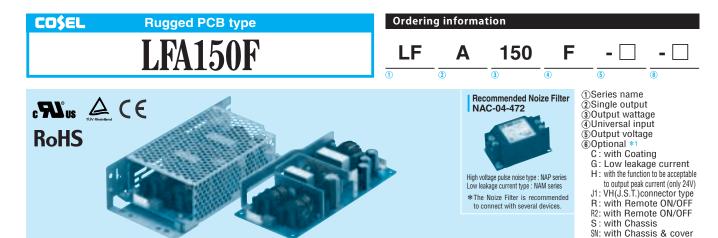
\* PCB material : CEM3

※ Optional chassis and cover material : Electric galvanizing steel board.

※ Dimensions in mm

※ Mounting torque (Mounting hole of chassis) :1.5N • m (16kgf • cm) max

E-15



so handle the	unit with care.								manual 5.			
MODEL			LFA150F-3R3-Y	LFA150F-5-Y	LFA150F-12	LFA150F-15	LFA150F-24	LFA150F-24-H	LFA150F-36	LFA150F-48		
MAX OUTPU	UT WATTAGE[W]	*5	99	150	150	150	151.2	151.2 (189.6)	151.2	153.6		
DC OUTPUT	г	*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		
SPECIF	ICATIONS								1			
	MODEL		LFA150F-3R3-Y	LFA150F-5-Y	LFA150F-12	LFA150F-15	LFA150F-24	LFA150F-24-H	LFA150F-36	LFA150F-48		
	VOLTAGE[V]		AC85 - 264 1	φ (Refer to I	nstruction Ma	nual 1.1 and	3.2) *4		•			
		ACIN 100V	1.4typ (Io=100%)	1.4typ (lo=100%) 2.0typ (lo=100%)								
	CURRENT[A]	ACIN 200V	0.7typ (Io=100%)	1.0typ (lo=1	00%)							
	FREQUENCY[Hz]		50 / 60 (47 -	50 / 60 (47 - 63)								
		ACIN 100V	80.0typ	82.5typ	82.5typ	84.0typ	85.0typ	85.0typ	85.0typ	85.5typ		
INPUT	EFFICIENCY[%]	ACIN 200V	82.0typ	85.5typ	85.0typ	86.5typ	87.5typ	87.5typ	87.5typ	88.0typ		
		ACIN 100V		0.99typ								
	POWER FACTOR (lo=100%)	ACIN 200V	0.92typ	0.95typ								
		ACIN 100V			start) (Ta=25°C	2)						
	INRUSH CURRENT[A]	ACIN 200V		, ,	start) (Ta=25°C	,						
	LEAKAGE CURREN			, ,	7. (	,	According to I	FC60950-1 a	nd DEN-AN)			
	VOLTAGE[V]	.[	3.3	5	12	15	24	24	36	48		
	CURRENT[A]	*5		30	12.5	10	6.3	6.3 (Peak 7.9)	4.2	3.2		
	LINE REGULATION[mV] *7			20max	48max	60max	96max	96max	144max	192max		
	LOAD REGULATION			40max	100max	120max	150max	150max	240max	240max		
	LOAD HEADEAHON			80max	120max	120max	120max	240max	150max	150max		
OUTPUT	RIPPLE[mVp-p]		140max	140max	160max	160max	160max	320max	200max	200max		
			120max	120max	150max	150max	150max	300max	250max	250max		
	RIPPLE NOISE[mVp-p]	-10-0°C *2		160max	180max	180max	180max	360max	300max	300max		
001701			50max	50max	120max	150max	240max	240max	360max	480max		
	TEMPERATURE REGULATION[mV]	-10 to +40℃		60max	150max	180max	290max	290max	450max	600max		
	DRIFT[mV]	-10 to +40 C *3		20max	48max	60max	29011ax 96max	29011ax 96max	144max	192max		
	START-UP TIME[ms]	*0				UUIIIAX	Joinax	Joinax	1441114	1921118		
	HOLD-UP TIME[ms]		350typ (ACIN 100V, Io=100%) 20typ (ACIN 100V, Io=100%)									
		DANCEIVI	2.85 to 3.63 4.50 to 5.50 Fixed ( "Y" option is available for adjusting output voltage)									
	OUTPUT VOLTAGE ADJUSTMENT								34.50 to 37.50	16 00 to 50 00		
	OVERCURRENT PROT								recovers auto			
									41.40 to 50.40			
PROTECTION CIRCUIT AND	OVERVOLTAGE PROTE		Not provided		13.00 10 10.00	17.25 10 21.00	27.00 10 33.00	27.00 10 33.00	41.40 10 50.40	55.20 10 67.20		
OTHERS												
OTTIENO	REMOTE SENSING REMOTE ON/OFF		Not provided Option (Refer to Instruction Manual)									
	INPUT-OUTPUT-RC	*6					$50M\Omega$ min (At	t Poom Tomp	aratura)			
	INPUT-FG	*0					$50M\Omega$ min (A					
ISOLATION	OUTPUT·RC-FG	40	AC2,000V 11 AC500V 1mi				· · ·		,			
	OUTPUT-RC	*0					$M\Omega$ min (At F					
							· · ·	·	0m (10,000fe	at) may		
	OPERATING TEMP., HUMID.AND					<b>e</b> 7 (	1 (30,000feet)		0111 (10,00018			
ENVIRONMENT	VIBRATION	ALITIODE			`		s each along					
	IMPACT				nce each X, Y		s each along a		5			
	AGENCY APPROVAL	\$					78 Complies v					
SAFETY AND NOISE			,	· ·	350-1), E11603	,						
REGULATIONS	CONDUCTED NOISE			h IEC61000-3	,	, LN00011-B,	LN00022-D					
	-					Day (without a	baccic and as	wor)				
OTHERS	CASE SIZE/WEIGHT		Convection		vn) / 3900 u	iax (without t	hassis and co					
*1 Chanificati	COOLING METHOD ion is changeed at option, refer	to Instruct		at the rated input/c	utput		* To m	and the specifies	tions. Do not op	arata over locale		
*2 This is th capacitor	nor is changeed at option, refer ne value that measured on m of 22 µ F at 150mm from outpu d by 20MHz oscilloscope of	neasuring t it terminal.	ooard with *4 *5	Derating is require () means peak cu	d. irrent. There is a p		condi nternal * Paral	ition. Iel operation is not	possible.			
ivieasured	u by ZUNITZ USCIIIOSCOPE O	mipple-No	nse meter	uevice is damaged	I when the specific	auon is exceeded.	Please * Derat	ing is required whe	in operated with cha	ISSIS AND COVER.		

contact us about the detail.

\*6 Applicable when remote control (optional) is added.

\*7 Please contact us about dynamic load and input response.

(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

LFA

Sound noise may be generated by power supply in case of pulse load.

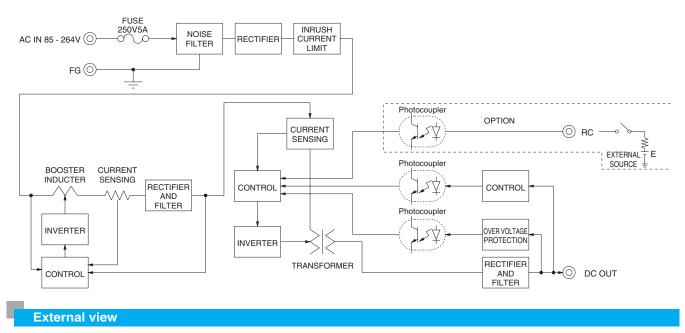
\*

Y: with Potentiometer Please refer to Instruction

manual 5.

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**Block diagram** 



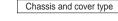
\* External size of option is different from standard model.

Point B

 $3 - \phi 3.5$ 



Point A



Mounting Hole ₽ 0 0 -FG CN3 Output(-) ■3 –Input(N) \_1\_Input(L) CN1 65±0.5 75 CN2 Output(+) CN4号理 ф. Connector for Remote ON/OFF (optional) 3.5 6.5 4 Voltage adjust (LFA150F-3R3-Y,LFA150F-5-Y or Optional)/ Mounting Hole 18 5 150±0.5 160 33.5 3.5max Surface mount device PCB t=1.6

Name plate

<u>2-φ4</u>.5 4-M4 176±0.5 Mounting Hole 15 32 -10 0 FG \$ ŏ Ж CN3 Output(-) 000 Input(N) 8  $55 \pm 0.5$  $35 \pm 0.5$ Input(L) L. 1 00 CN1 00 0 0 0 0 CN2 寸 Output(+) 00 ¢ 00000000000000000000000000 ً⊘ Ø 188 φ4.5 176±0.5 6 õõ 4.5 15 00 47

FG

% 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		
0.14	CN1 1-1123724-3	1-1123722-5	Chain	1123721-1	
CINI		1-1123722-5	Loose	1318912-1	
010	CN2 1-1123723-6	4 4400700 0	Chain	1123721-1	
CNZ	1-1123723-6	1-1123722-6	Loose	1318912-1	
010	4 4400700 7	4 4400700 7	Chain	1123721-1	
CN3	1-1123723-7	1-1123722-7	Loose	1318912-1	
(Mfr:Tyco Electronics)					

(Mfr:Tyco Electronics)

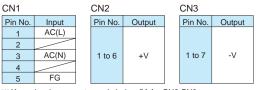
% I/O Connector is Mfr. Tyco Electronics

% Option:-J1:VH(J.S.T) connector type.

#### <PIN CONNECTION>

2-M4

Mounting Hole



% Keep drawing current per pin below 5A for CN2, CN3.

% Tolerance : ±1

% Weight : 390g max (without chassis and cover)

\* PCB material : CEM3

\* Optional chassis and cover material : Electric galvanizing steel board.

\* Dimensions in mm % Mounting torque (Mounting hole of chassis) :1.5N \* m (16kgf \* cm) max Connector type



Damia	a state to as a	
2	RC(-)	
1	RC(+)	

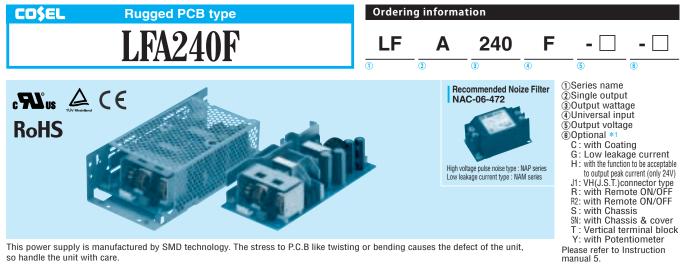
Barrier strip type

Model B2B-XH-A Mating Connector (Terminal) XHP-2 BXH-001T-P0 6 or SXH-001T-P0.6

LFA

22

2



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

## **SPECIFICATIONS**

LFA

	MODEL		LFA240F-24	LFA240F-24-H	LFA240F-36	LFA240F-48					
	VOLTAGE[V]		AC85 - 264 1 ¢ (Refer	to Instruction Manual 1.1 a	and 3.2) *4						
		ACIN 100V	3.3typ (Io=100%)								
	CURRENT[A]	ACIN 200V	1.7typ (lo=100%)								
	FREQUENCY[Hz]		50 / 60 (47 - 63)								
		ACIN 100V	84.0typ	84.0typ	84.0typ	84.0typ					
NPUT	EFFICIENCY[%]	ACIN 200V	87.0typ	87.0typ	87.0typ	87.0typ					
		ACIN 100V	0.99typ								
	POWER FACTOR (lo=100%)	ACIN 200V	0.95typ								
		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			0.40 / 0.75max (ACIN 100V / 240V 60Hz, Io=100%, According to IEC60950-1 and DEN-AN)							
	VOLTAGE[V]	.[]	24	24	36	48					
-	CURRENT[A]	*5	10	10 (Peak12.5)	6.7	5					
				96max	144max	192max					
	LINE REGULATION[mV] *7 LOAD REGULATION[mV] *7			150max	240max	240max					
	· · ·		120max	240max	150max	150max					
	RIPPLE[mVp-p]		160max	320max	200max	200max					
-											
Ουτρυτ	RIPPLE NOISE[mVp-p]	-	150max	300max	250max	250max					
			180max	360max	300max	300max					
	TEMPERATURE REGULATION[mV]		240max	240max	360max	480max					
			290max	290max	450max	600max					
	DRIFT[mV]	*3	00111401	96max	144max	192max					
	START-UP TIME[ms]		350typ (ACIN 100V, Io								
	HOLD-UP TIME[ms]		20typ (ACIN 100V, Io=								
	OUTPUT VOLTAGE ADJUSTMENT RANGE[V]		Fixed ("Y" option is available for adjusting output voltage)								
	OUTPUT VOLTAGE SET		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 r	ating (works over 101% o	of peak current at option -H	) and recovers automatically					
ROTECTION	OVERVOLTAGE PROTE	ECTION	27.60 to 33.60	27.60 to 33.60	41.40 to 50.40	55.20 to 67.20					
IRCUIT AND	<b>OPERATING INDICA</b>	TION	Not provided								
THERS	REMOTE SENSING		Not provided								
	REMOTE ON/OFF		Option (Refer to Instru	uction Manual)							
	INPUT-OUTPUT-RC	*6	AC3,000V 1minute, Cu	utoff current = 10mA, DC5	000000000000000000000000000000000000	Temperature)					
	INPUT-FG		AC2,000V 1minute, Cutoff current = 10mA, DC500V 50M $\Omega$ min (At Room Temperature)								
SOLATION	OUTPUT·RC-FG	*6									
	OUTPUT-RC	*6			OV 10MΩ min (At Room Te						
	OPERATING TEMP., HUMID.AND	ALTITUDE *4				, 3,000m (10,000feet) max					
	STORAGE TEMP., HUMID.AND		,	6RH (Non condensing), 9,	/	, -, (,,,,,,					
NVIRONMENT	VIBRATION				ninutes each along X, Y and	17 axis					
	IMPACT		, , , , , , , , , , , , , , , , , , , ,	is, once each X, Y and Z a	<b>v</b> ,	2 0/10					
AFETY AND	AGENCY APPROVAL	s			N50178 Complies with DEI	N-AN (under application)					
	CONDUCTED NOISE	-	, ,	VCCI-B, CISPR-B, EN550 <sup>-</sup>							
	HARMONIC ATTENU		Complies with IEC610	, ,	11 D, LNUUUZZ-D						
	CASE SIZE/WEIGHT	-		00-3-2 /×H×D) / 550g max (with	anut chassis and cover)						
OTHERS			Convection	man (With	iour chassis and cover)						
	COOLING METHOD on is changeed at option, refe	sta lastos d			* To meet the s	posifications. Do not construct					
			ou wandal. at the rated if	IIDUVOULDUT.	★ To meet the s	pecifications. Do not operate over-loa					
	e value that measured on r				condition.						

contact us about the detail.

\*6 Applicable when remote control (optional) is added.

\*7 Please contact us about dynamic load and input response.

\*

pulse load.

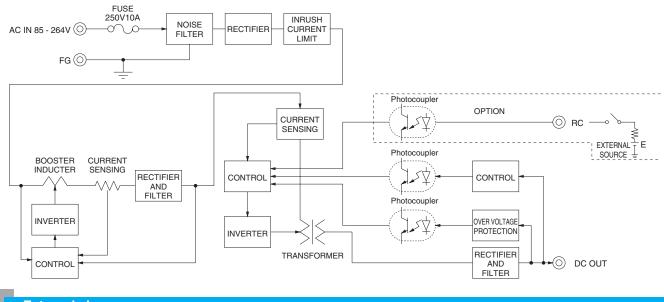
Sound noise may be generated by power supply in case of

(Equivalent to KEISOKU-GIKEN: RM103). \*3 Drift is the change in DC output for an eight hour period after a

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

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## **Block diagram**

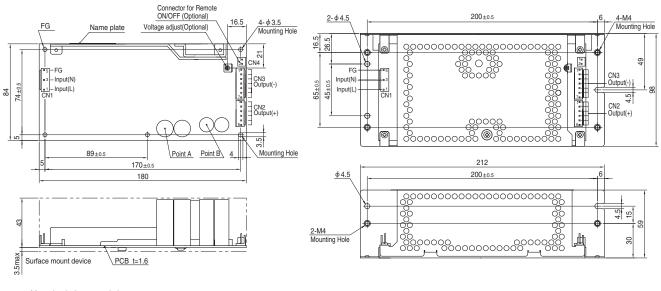


External view

※ External size of option is different from standard model.

#### Standard type

Chassis and cover type



% 5 Mounting holes are existing.

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.

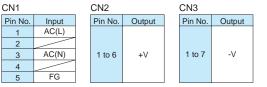
I/C	Connector	Mating connector	Terminal		
CNIA	N1 1-1123724-3	1-1123722-5	Chain	1123721-1	
CINI		1-1123722-5	Loose	1318912-1	
010	1-1123723-6	1-1123722-6	Chain	1123721-1	
CNZ	1-1123723-6	1-1123722-6	Loose	1318912-1	
010	4 4400700 7	4 4400700 7	Chain	1123721-1	
CN3	1-1123723-7	1-1123722-7	Loose	1318912-1	
20036 1010012 1					

(Mfr:Tyco Electronics)

% I/O Connector is Mfr. Tyco Electronics

% Option:-J1:VH(J.S.T) connector type.

## <PIN CONNECTION>



% Keep drawing current per pin below 5A for CN2, CN3.

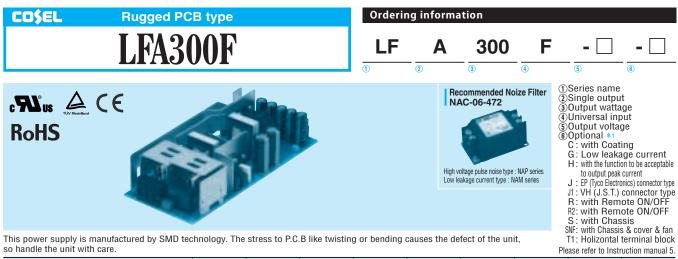
- % Tolerance : ±1
- Weight : 550g max (without chassis and cover)
- \* PCB material : CEM3
- % Optional chassis and cover material : Electric galvanizing steel board.
- ※ Dimensions in mm

% Mounting torque (Mounting hole of chassis) :1.5N \* m (16kgf \* cm) max

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



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	302.4	302.4
	Convection	3.3V 40A	5V 40A	12V 17A	15V 14A	24V 12.5A	24V 12.5 (19)A	30V 10A	36V 8.4A	48V 6.3A
DC OUTPUT *5	Forced air	3.3V 60A	5V 60A	12V 27A	15V 22A	24V 14A	24V 14 (19)A	30V 11A	36V 9.4A	48V 7A

## **SPECIFICATIONS**

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	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-T
	VOLTAGE[V]		AC85 - 264	$1\phi$ (Refer	to Instructio	n Manual 1.	1 and 3.2) *	4			
INPUT			2.7typ (lo=100%) 4.1typ (lo=100%)								
			1.4typ (lo=100%) 2.0typ (lo=100%)								
	FREQUENCY[Hz]		50 / 60 (47 - 63)								
	EFFICIENCY[%]	ACIN 100V	74.0typ	79.0typ	80.0typ	81.0typ	84.0typ	84.0typ	84.0typ	84.0typ	84.0typ
		ACIN 200V	76.0typ	82.5typ	83.0typ	84.0typ	87.0typ	87.0typ	87.0typ	87.0typ	87.0typ
	POWER FACTOR (lo=100%)	ACIN 100V	0.98typ	0.99typ							
		ACIN 200V	/ 0.92typ 0.95typ								
	INRUSH CURRENT[A]	ACIN 100V									
		ACIN 200V									
	LEAKAGE CURRENT[mA]		0.45 / 0.75max (ACIN 100V / 240V 60Hz, Io=100%, According to IEC60950-1 and DEN-AN)								
OUTPUT	VOLTAGE[V]		3.3	5	12	15	24	24	30	36	48
	CURRENT[A] *5	Convection	40	40	17	14	12.5	12.5 (Peak19)	10	8.4	6.3
		Forced air	60	60	27	22	14	14 (Peak19)	11	9.4	7
	LINE REGULATION[mV] *7		20max	20max	48max	60max	96max	96max	144max	144max	192max
	LOAD REGULATION[mV] *		40max	40max	100max	120max	150max	150max	240max	240max	240max
	RIPPLE[mVp-p]	0 to +40℃ *2	80max	80max	120max	120max	120max	240max	150max	150max	150max
		-10-0°C *2	140max	140max	160max	160max	160max	320max	200max	200max	200max
		0 to +40°C *2	120max	120max	150max	150max	150max	300max	250max	250max	250max
		-10-0°C *2	160max	160max	180max	180max	180max	360max	300max	300max	300ma×
		0 to +40℃	50max	50max	120max	150max	240max	240max	360max	360max	480max
	TEMPERATURE REGULATION[mV]	-10 to +40℃	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]						21.60 to 27.50				
	OUTPUT VOLTAGE SETTING[V]		3.30 to 3.40	5.00 to 5.15	12.00 to 12.48	15.00 to 15.60	24.00 to 24.96	24.00 to 24.96	30.00 to 31.20	36.00 to 37.44	48.00 to 49
PROTECTION CIRCUIT AND OTHERS	OVERCURRENT PROTECTION		Works over 105% of rating (works over 101% of peak current at option -H) and recovers automatically								
	OVERVOLTAGE PROTECTION		4.00 to 5.25 5.75 to 7.00 13.80 to 16.80 17.25 to 21.00 27.60 to 33.60 27.60 to 33.60 34.50 to 42.00 41.40 to 50.40 55.20 to 67								
	OPERATING INDICATION		Not provided								
	REMOTE SENSING		Not provided								
	REMOTE ON/OFF		Option (Refer to Instruction Manual)								
ISOLATION	INPUT-OUTPUT·RC *6										
	INPUT-FG		AC2,000V 1minute, Cutoff current = 10mA, DC500V 50M $\Omega$ min (At Room Temperature)								
	OUTPUT·RC-FG *6										
	OUTPUT-RC *6										
ENVIRONMENT	OPERATING TEMP., HUMID.AND ALTITUDE *4		-10 to +70°C, 20 - 90%RH (Non condensing) (Refer to DERATING CURVE), 3,000m (10,000feet) max								
	STORAGE TEMP., HUMID.AND ALTITUDE		-20 to +75°C, 20 - 90%RH (Non condensing), 9,000m (30,000feet) max								
	VIBRATION		10 - 55Hz, 19.6m/s² (2G), 3minutes period, 60minutes each along X, Y and Z axis								
	IMPACT		196.1m/s <sup>2</sup> (20G), 11ms, once each X, Y and Z axis								
AFETY AND	AGENCY APPROVALS		UL60950-1, C-UL (CSA60950-1), EN60950-1, EN50178 Complies with DEN-AN (under application)								
IOISE	CONDUCTED NOISE	Complies with FCC-B, VCCI-B, CISPR-B, EN55011-B, EN55022-B									
EGULATIONS	HARMONIC ATTENU	Complies with IEC61000-3-2									
OTHERS	CASE SIZE/WEIGHT		95×52.5×222mm (W×H×D) (without terminal block) / 810g max								
	COOLING METHOD		Convection / Forced air (Refer to DERATING CURVE)								
*2 This is the capacitor of Measured	ion is changeed at option, refe le value that measured on r of 22 µ F at 150mm from outpr d by 20MHz oscilloscope o nt to KEISOKU-GIKEN: RM103	measuring t ut terminal. r Ripple-No	ooard with *4 *5	device is dam contact us ab	quired. ak current. There haged when the s put the detail		that an internal cceeded. Please	condition. * Parallel ope * Derating is	ration is not pos required when o	ns. Do not ope sible. perated with chas rated by power	sis and cover

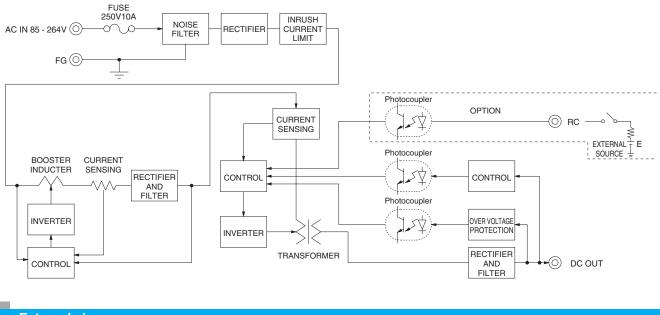
\*7 Please contact us about dynamic load and input response.

Sound noise may be generated by power supply in case of pulse load.

\*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 \*6 Applicable when remote control (optional) is added.

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**Block diagram** 

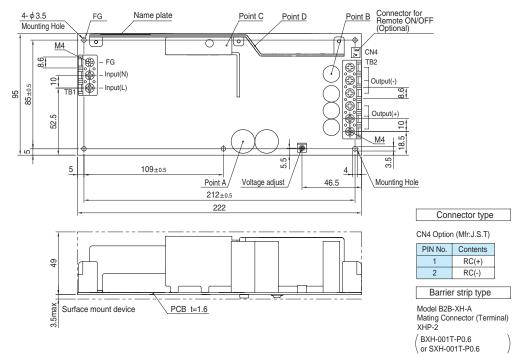


LFA

External view

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

Standard type



- % 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, Point C, Point D are thermometry points. Please refer to Instruction Manual 3.
- % Keep drawing current per pin below 20A for TB2.

% Tolerance : ±1

% Weight : 810g max (without chassis and cover)

\* PCB material : CEM3

% Dimensions in mm

% Screw tightening torque : M4 1.6N • m (16.9kgf • cm) max