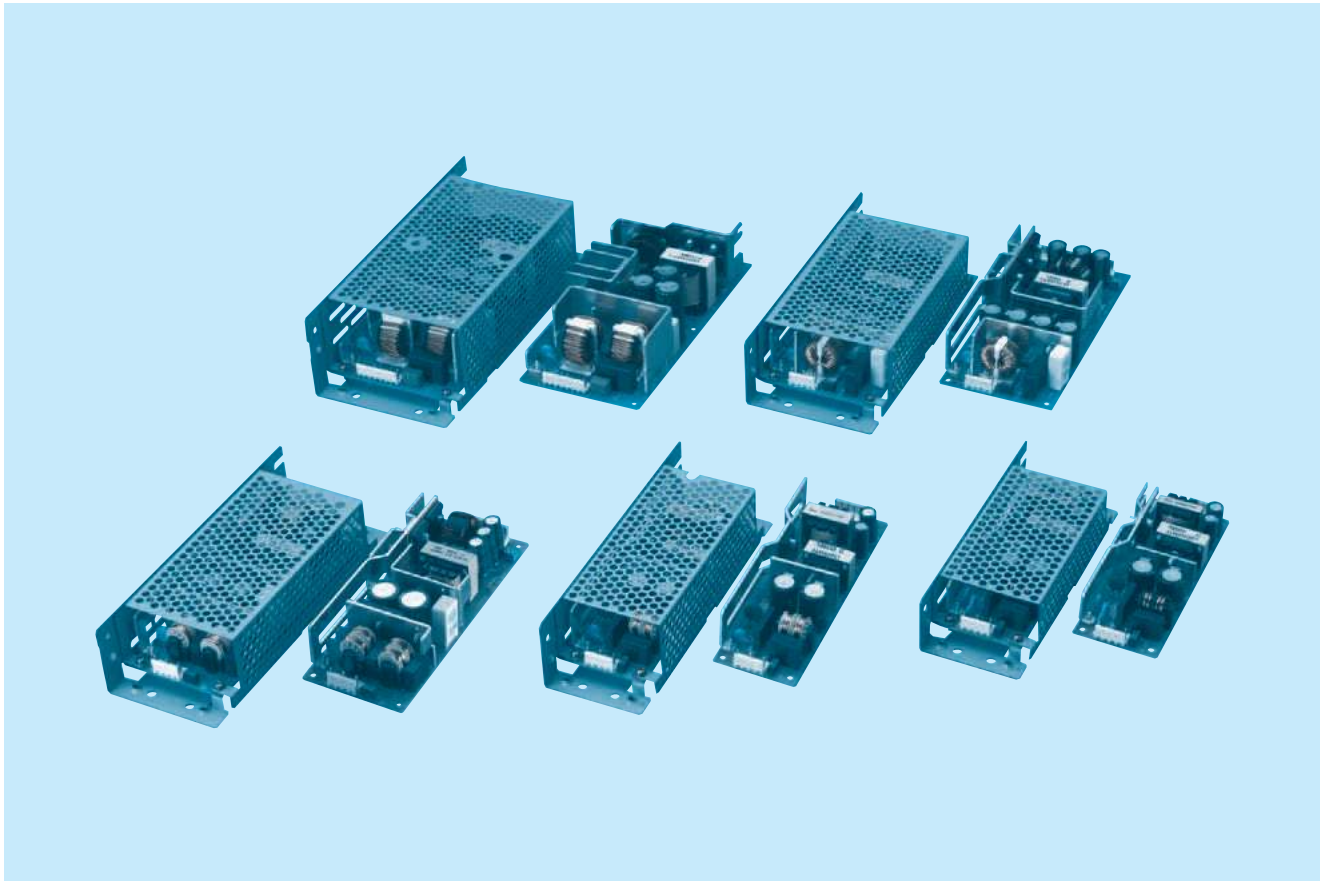
Cost Effective | Rugged PCB type | Safety Approvals | EMI | Inrush current limiting | OCP | OVP

LGA-series



Feature

Small and compact PCB construction
Built-in inrush current, overcurrent and overvoltage protection circuits

Safety agency approvals

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

EMI

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

5-year warranty (refer to Instruction Manual)

CE marking

Low Voltage Directive
RoHS Directive

UKCA marking

Electrical Equipment Safety Regulations
RoHS Regulations

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

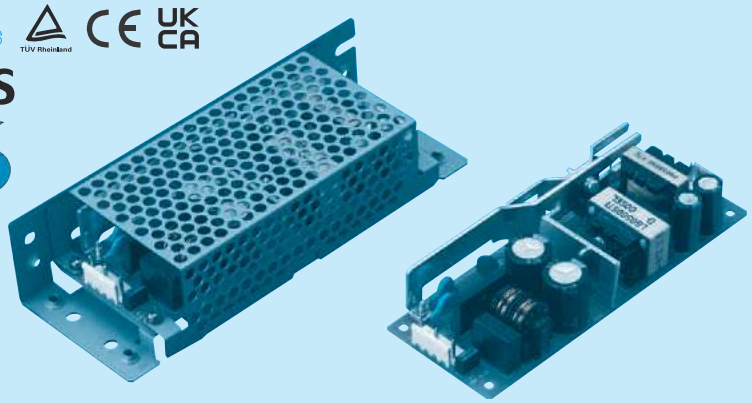
EN61000-4-2
EN61000-4-3
EN61000-4-4
EN61000-4-5
EN61000-4-6
EN61000-4-8
EN61000-4-11

COSEL AC-DC Power Supplies Open Frame/ Enclosed Type

LGA50A

Ordering information

LG	A	50	A	-5	-□
①	②	③	④	⑤	⑧



Example recommended EMI/EMC filter
NAC-06-472

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

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

①Series name
②Single output
③Output wattage
④100/120V input
⑤Output voltage
⑥Optional
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
S :with Chassis
SN:with Chassis & cover
Y :with Potentiometer

This power supply is manufactured by SMD technology.The stress to P.C.B like twisting or bending causes the defect of the unit,so handle the unit with care.
＊Make sure necessary tests will be carried out on your end equipment with the power supply installed in accordance with any required EMC/EMI regulations.

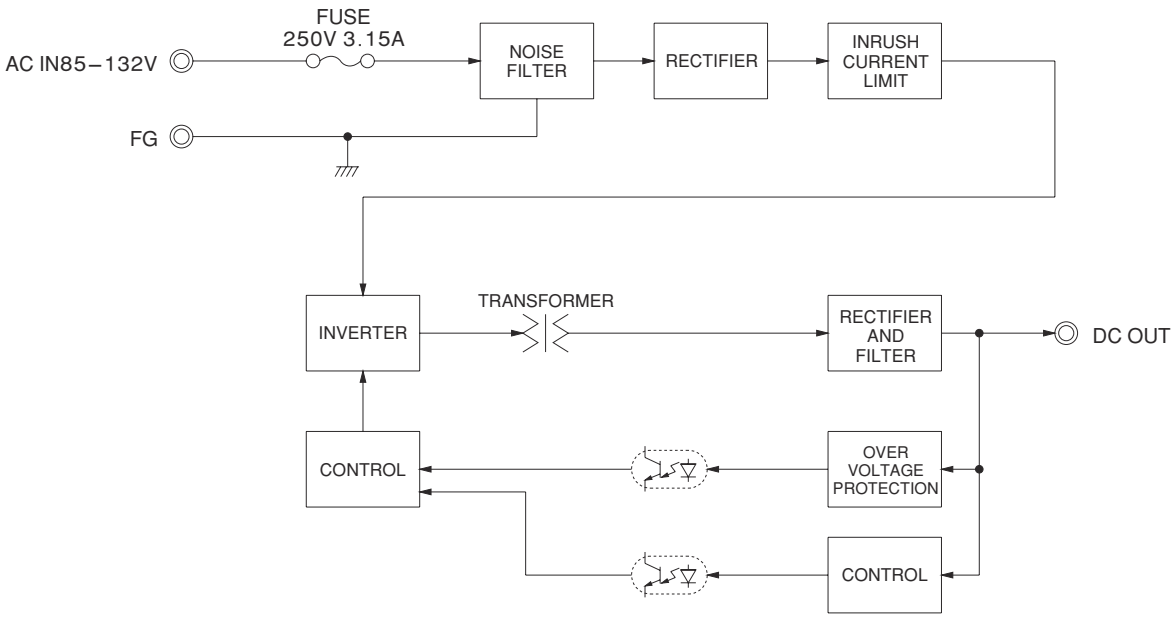
		LGA50A-5		LGA50A-15			LGA50A-48
	33	50	51.6	52.5	60	60	62.4
	3.3V 10A	5V 10A	12V 4.3A	15V 3.5A	24V 2.5A	24V 2.5 (Peak 3.2) A	48V 1.3A

SPECIFICATIONS

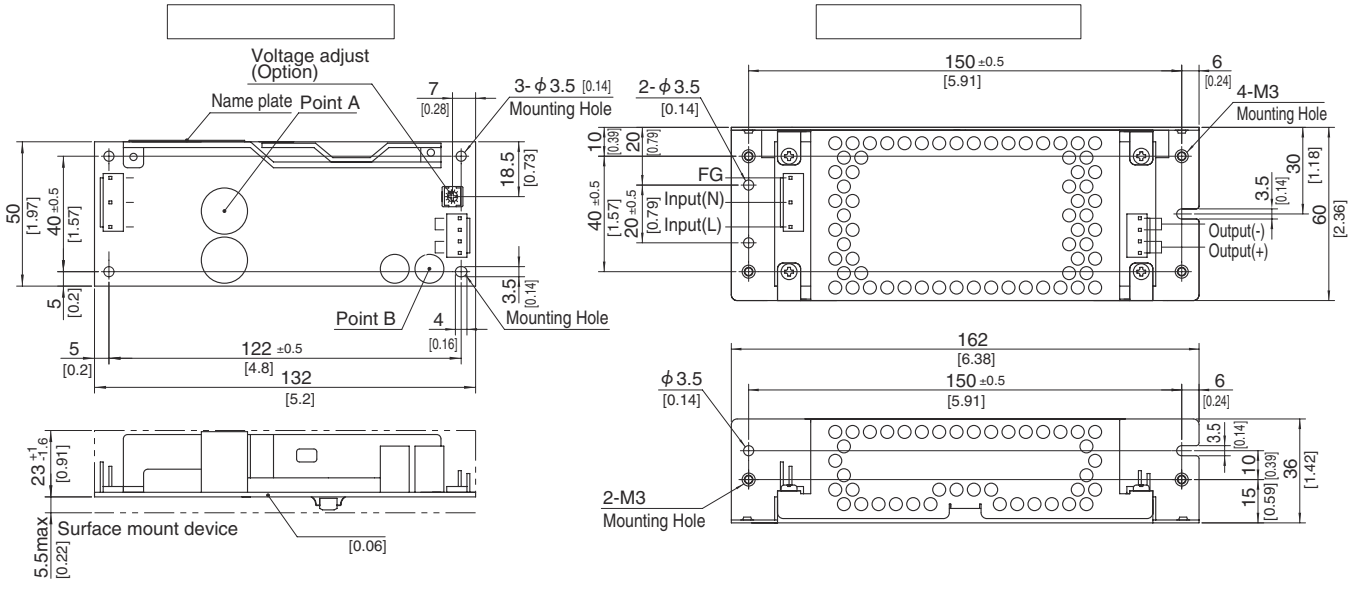
	MODEL		LGA50A-3R3-Y	LGA50A-5	LGA50A-12	LGA50A-15	LGA50A-24	LGA50A-24-H	LGA50A-48
INPUT	VOLTAGE[V]		AC85 - 132 1φ (Refer to "Derating", Instruction Manual 1 and 3)						
	CURRENT[A]	ACIN 100V	0.8typ (Io=100%)	1.3typ (Io=100%)					
	FREQUENCY[Hz]		47 - 440 (Refer to Instruction Manual 1.1)						
	EFFICIENCY[%]	ACIN 100V	74.0typ (Io=100%)	79.0typ (Io=100%)	82.0typ (Io=100%)	83.0typ (Io=100%)	85.0typ (Io=100%)	85.0typ (Io=100%)	85.0typ (Io=100%)
	INRUSH CURRENT[A]	ACIN 100V	30typ (Io=100%), (At cold start), (Ta= 25℃)						
	LEAKAGE CURRENT[mA]		0.5max (ACIN 100V, 60Hz, Io=100%, According to IEC62368-1 and DEN-AN)						
OUTPUT	VOLTAGE[V]		3.3	5	12	15	24	24	48
	CURRENT[A]	＊3	10.0	10.0	4.3	3.5	2.5	2.5 (Peak 3.2)	1.3
	LINE REGULATION[mV]		20max	20max	48max	60max	96max	96max	192max
	LOAD REGULATION[mV]		40max	40max	100max	120max	150max	150max	300max
	RIPPLE[mVp-p]	0 to +50℃ ＊1 ＊4	80max	80max	120max	120max	120max	240max	150max
		-10 - 0℃ ＊1	140max	140max	160max	160max	160max	320max	200max
	RIPPLE NOISE[mVp-p]	0 to +50℃ ＊1 ＊4	120max	120max	150max	150max	150max	300max	350max
		-10 - 0℃ ＊1	160max	160max	180max	180max	180max	360max	400max
	TEMPERATURE REGULATION[mV]	0 to +50℃ ＊4	50max	50max	120max	150max	240max	240max	480max
		-10 to +50℃ ＊4	60max	60max	150max	180max	290max	290max	600max
	DRIFT[mV]	＊2	20max	20max	48max	60max	96max	96max	192max
	START-UP TIME[ms]		200max (ACIN 100V, Io=100%)						
	HOLD-UP TIME[ms]		20typ (ACIN 100V, Io=100%)						
	OUTPUT VOLTAGE ADJUSTMENT RANGE[V]		2.85 - 3.63	Fixed ("Y"which can be adjusted the output is available as optional ± 10%)					
	OUTPUT VOLTAGE SETTING[V]		3.30 - 3.40	4.90 - 5.30	11.50 - 12.50	14.40 - 15.60	23.00 - 25.00	23.00 - 25.00	46.00 - 50.00
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 - 5.25	5.75 - 7.00	13.80 - 16.80	17.30 - 21.00	27.60 - 35.00	27.60 - 35.00	55.20 - 67.20
	OPERATING INDICATION		Not provided						
	REMOTE SENSING		Not provided						
	REMOTE ON/OFF		Not provided						
ISOLATION	INPUT-OUTPUT		AC2,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (At Room Temperature)						
	INPUT-FG		AC2,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (At Room Temperature)						
	OUTPUT-FG		AC500V 1minute, Cutoff current = 25mA, DC500V 50MΩ min (At Room Temperature)						
ENVIRONMENT	OPERATING TEMP.,HUMID.AND ALTITUDE		-10 to +60℃, 20 - 90%RH (Non condensing) (Refer to "Derating", Instruction Manual 3), 3,000m (10,000feet) max						
	STORAGE TEMP.,HUMID.AND ALTITUDE		-20 to +75℃, 20 - 90%RH (Non condensing), 9,000m (30,000feet) max						
	VIBRATION		10 - 55Hz, 19.6m/s² (2G), 3minutes period, 60minutes each along X, Y and Z axis						
	IMPACT		196.1m/s² (20G), 11ms, once each X, Y and Z axis						
SAFETY AND NOISE REGULATIONS	AGENCY APPROVALS		UL60950-1, C-UL (CSA60950-1), EN62368-1 Complies with DEN-AN						
	CONDUCTED NOISE		Complies with FCC-B, VCCI-B, CISPR-B, EN55011-B, EN55022-B						
OTHERS	CASE SIZE/WEIGHT		50×28.5×132mm [1.97×1.12×5.2 inches] (W×H×D) / 160g max (with chassis & cover : 320g max)						
	COOLING METHOD		Convection (Refer to "Derating", Instruction Manual 3)						

＊1 This is the value that measured on measuring board with capacitor of 22μF at 150mm from output terminal.
Measured by 20MHz oscilloscope or Ripple-Noise meter (Equivalent to KEISOKU-GIKEN: RM-103).
＊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 Peak loading for 10sec.And Duty 35% max.or less is acceptable if the total wattage is less than the rated wattage (24V:60W).
Refer to instruction Manual 6. In detail.
＊4 Only output 24V and 48V DC models are applied that the upper temperature limit is 45℃.
＊ Avoid prolonged use under over - load.
＊ Parallel operation with other model is not possible.
＊ Derating is required when operated with chassis and cover.
＊ A sound may occur from power supply at pulse loading.

Block diagram



External view



※

※Mounting torque:0.6N.m(6.3kgf.cm)max

※

※

I/O Connector		Mating connector	Terminal	
CN1	1-1123724-3	1-1123722-5	Chain	1123721-1
			Loose	1318912-1
CN2	1-1123723-4	1-1123722-4	Chain	1123721-1
			Loose	1318912-1

(Mfr:Tyco Electronics AMP)

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

Pin No.	Input
1	
2	
3	
4	
5	

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

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

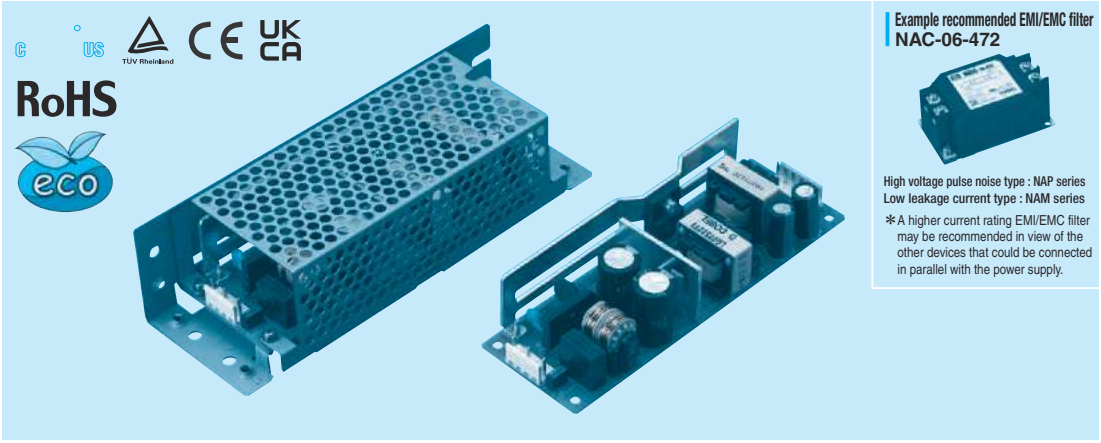
※Tolerance : ±1 [±0.04]
※Weight : 160g max (with chassis & cover : 320g max)
※
※Optional chassis and cover material : Electric galvanizing steel board.
※Dimensions in mm, [ ]=inches

COSEL AC-DC Power Supplies Open Frame/ Enclosed Type

LGA75A

Ordering information

LG	A	75	A	-5	-□
①	②	③	④	⑤	⑥



Example recommended EMI/EMC filter
NAC-06-472

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

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

①Series name
②Single output
③Output wattage
④100/120V input
⑤Output voltage
⑥Optional
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
S :with Chassis
SN:with Chassis & cover
Y :with Potentiometer

This power supply is manufactured by SMD technology.The stress to P.C.B like twisting or bending causes the defect of the unit,so handle the unit with care.
＊Make sure necessary tests will be carried out on your end equipment with the power supply installed in accordance with any required EMC/EMI regulations.

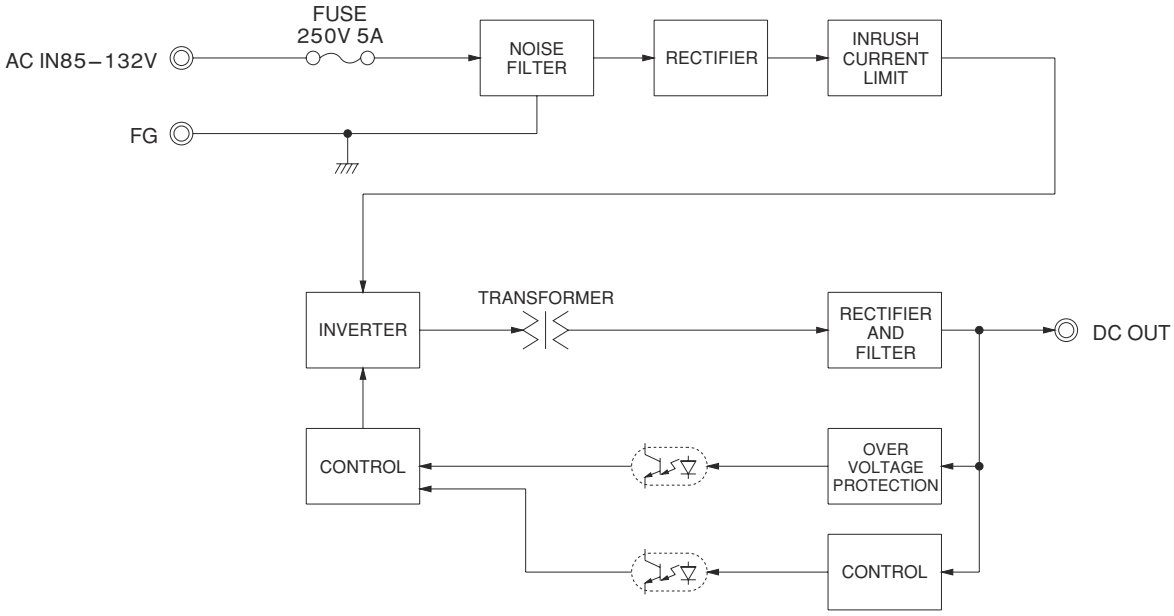
		LGA75A-5		LGA75A-15			LGA75A-48
	49.5	75	75.6	75	76.8	76.8	76.8
	3.3V 15A	5V 15A	12V 6.3A	15V 5A	24V 3.2A	24V 3.2 (Peak 4.2) A	48V 1.6A

SPECIFICATIONS

	MODEL		LGA75A-3R3-Y	LGA75A-5	LGA75A-12	LGA75A-15	LGA75A-24	LGA75A-24-H	LGA75A-48
INPUT	VOLTAGE[V]		AC85 - 132 1 ϕ (Refer to "Derating", Instruction Manual 1 and 3)						
	CURRENT[A]	ACIN 100V	1.3typ (Io=100%)	1.7typ (Io=100%)					
	FREQUENCY[Hz]		47 - 440 (Refer to Instruction Manual 1.1)						
	EFFICIENCY[%]	ACIN 100V	75.0typ (Io=100%)	79.0typ (Io=100%)	83.0typ (Io=100%)	84.0typ (Io=100%)	86.0typ (Io=100%)	86.0typ (Io=100%)	86.0typ (Io=100%)
	INRUSH CURRENT[A]	ACIN 100V	30typ (Io=100%), (At cold start), (Ta= 25℃)						
	LEAKAGE CURRENT[mA]		0.5max (ACIN 100V, 60Hz, Io=100%, According to IEC62368-1 and DEN-AN)						
OUTPUT	VOLTAGE[V]		3.3	5	12	15	24	24	48
	CURRENT[A]	＊3	15.0	15.0	6.3	5.0	3.2	3.2 (Peak 4.2)	1.6
	LINE REGULATION[mV]		20max	20max	48max	60max	96max	96max	192max
	LOAD REGULATION[mV]		40max	40max	100max	120max	150max	150max	300max
	RIPPLE[mVp-p]	0 to +50℃ ＊1	80max	80max	120max	120max	120max	240max	150max
		-10 - 0℃ ＊1	140max	140max	160max	160max	160max	320max	200max
	RIPPLE NOISE[mVp-p]	0 to +50℃ ＊1	120max	120max	150max	150max	150max	300max	350max
		-10 - 0℃ ＊1	160max	160max	180max	180max	180max	360max	400max
	TEMPERATURE REGULATION[mV]	0 to +50℃	50max	50max	120max	150max	240max	240max	480max
		-10 to +50℃	60max	60max	150max	180max	290max	290max	600max
	DRIFT[mV]	＊2	20max	20max	48max	60max	96max	96max	192max
	START-UP TIME[ms]		200max (ACIN 100V, Io=100%)						
	HOLD-UP TIME[ms]		20typ (ACIN 100V, Io=100%)						
	OUTPUT VOLTAGE ADJUSTMENT RANGE[V]		2.85 - 3.63	Fixed ("Y"which can be adjusted the output is available as optional ± 10%)					
	OUTPUT VOLTAGE SETTING[V]		3.30 - 3.40	4.90 - 5.30	11.50 - 12.50	14.40 - 15.60	23.00 - 25.00	23.00 - 25.00	46.00 - 50.00
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 - 5.25	5.75 - 7.00	13.80 - 16.80	17.30 - 21.00	27.60 - 35.00	27.60 - 35.00	55.20 - 67.20
	OPERATING INDICATION		Not provided						
	REMOTE SENSING		Not provided						
	REMOTE ON/OFF		Not provided						
ISOLATION	INPUT-OUTPUT		AC2,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (At Room Temperature)						
	INPUT-FG		AC2,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (At Room Temperature)						
	OUTPUT-FG		AC500V 1minute, Cutoff current = 25mA, DC500V 50MΩ min (At Room Temperature)						
ENVIRONMENT	OPERATING TEMP.,HUMID.AND ALTITUDE		-10 to +60℃, 20 - 90%RH (Non condensing) (Refer to "Derating", Instruction Manual 3), 3,000m (10,000feet) max						
	STORAGE TEMP.,HUMID.AND ALTITUDE		-20 to +75℃, 20 - 90%RH (Non condensing), 9,000m (30,000feet) max						
	VIBRATION		10 - 55Hz, 19.6m/s² (2G), 3minutes period, 60minutes each along X, Y and Z axis						
	IMPACT		196.1m/s² (20G), 11ms, once each X, Y and Z axis						
SAFETY AND NOISE REGULATIONS	AGENCY APPROVALS		UL60950-1, C-UL (CSA60950-1), EN62368-1 Complies with DEN-AN						
	CONDUCTED NOISE		Complies with FCC-B, VCCI-B, CISPR-B, EN55011-B, EN55022-B						
OTHERS	CASE SIZE/WEIGHT		50×34.5×150mm [1.97×1.36×5.91 inches] (W×H×D) / 200g max (with chassis & cover : 410g max)						
	COOLING METHOD		Convection (Refer to "Derating", Instruction Manual 3)						

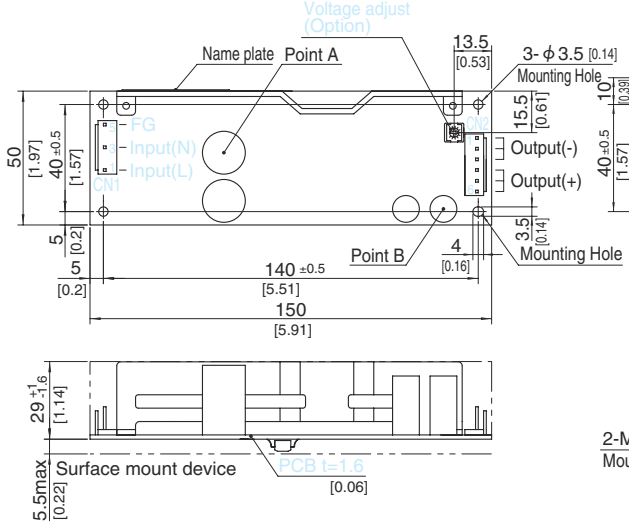
＊1 This is the value that measured on measuring board with capacitor of 22μF at 150mm from output terminal.
Measured by 20MHz oscilloscope or Ripple-Noise meter (Equivalent to KEISOKU-GIKEN: RM-103).
＊2 Drift is the change in DC output for an eight hour period after a half-hour warm-up at 25℃, with the input voltage held constant at the rated input/output.
＊3 Peak loading for 10sec.And Duty 35% max.or less is acceptable if the total wattage is less than the rated wattage.
Refer to instruction Manual 6. In detail.
＊ Avoid prolonged use under over - load.
＊ Parallel operation with other model is not possible.
＊ Derating is required when operated with chassis and cover.
＊ A sound may occur from power supply at pulse loading.

Block diagram

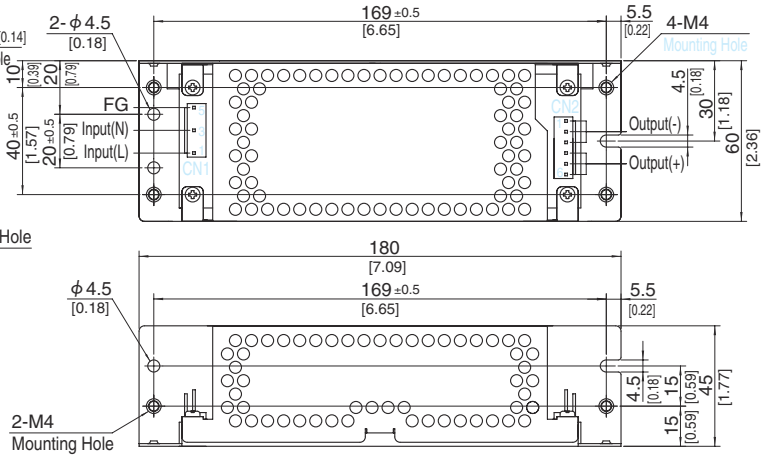


External view

Standard type



Chassis and cover type



※ 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.
Take care for SMD parts on the back to come in contact because of the vibration and not to break down.

※ Use the spacer of 8mm length or more.

※ 4 Mounting holes are existing.

※Mounting torque:1.5N•m(16kgf•cm)max

	1-1123722-5	Chain	1123721-1
		Loose	1318912-1
	1-1123722-6	Chain	1123721-1
		Loose	1318912-1

(Mfr:Tyco Electronics AMP)

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

<PIN CONNECTION>

CN1

	AC(L)
	AC(N)
	FG

CN2

	-V
	+V

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

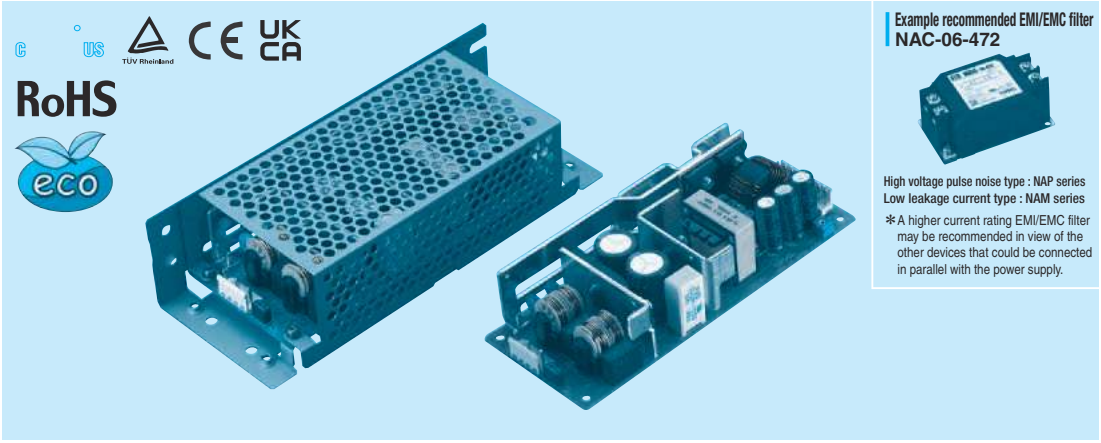
※Tolerance : ±1 [±0.04]
※Weight : 200g max (with chassis & cover : 410g max)
※PCB material / thickness : CEM3 / 1.6mm [0.06]
※Optional chassis and cover material : Electric galvanizing steel board.
※Dimensions in mm, [ ]=inches

COSEL AC-DC Power Supplies Open Frame/ Enclosed Type

LGA100A

Ordering information

LG	A	100	A	-5	-□
①	②	③	④	⑤	⑥



Example recommended EMI/EMC filter
NAC-06-472

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

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

①Series name
②Single output
③Output wattage
④100/120V input
⑤Output voltage
⑥Optional
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
S :with Chassis
SN:with Chassis & cover
Y :with Potentiometer

This power supply is manufactured by SMD technology.The stress to P.C.B like twisting or bending causes the defect of the unit,so handle the unit with care.
＊Make sure necessary tests will be carried out on your end equipment with the power supply installed in accordance with any required EMC/EMI regulations.

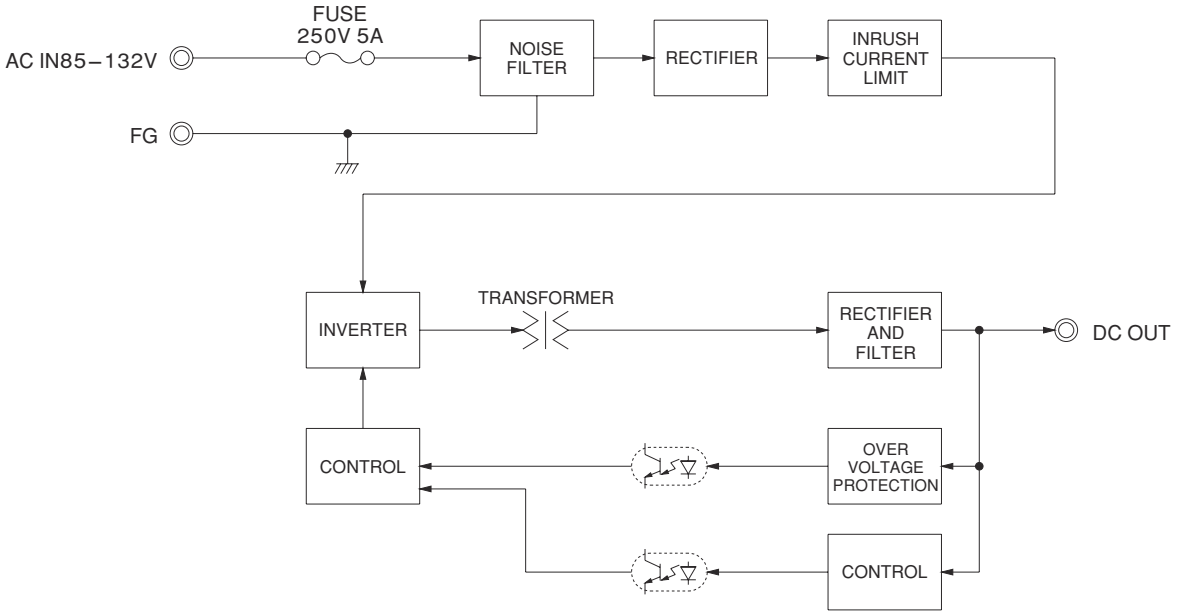
		LGA100A-5-Y		LGA100A-15			LGA100A-48
	66	100	102	105	103.2	103.2	100.8
	3.3V 20A	5V 20A	12V 8.5A	15V 7A	24V 4.3A	24V 4.3 (Peak 5.4) A	48V 2.1A

SPECIFICATIONS

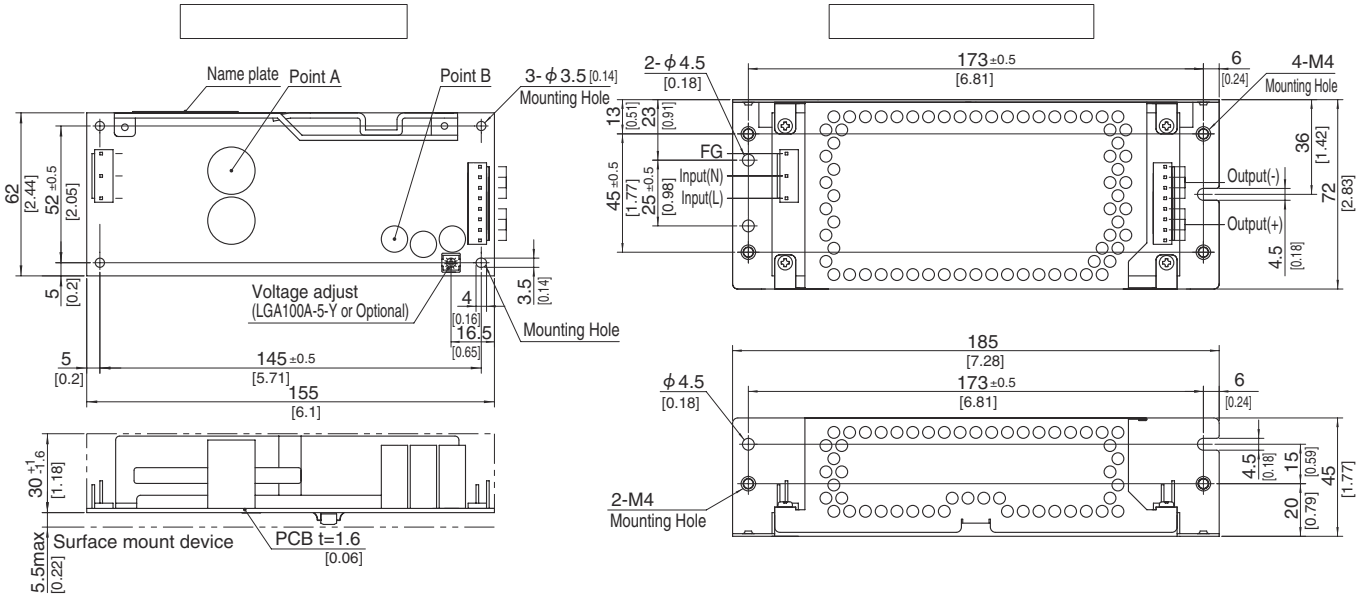
	MODEL		LGA100A-3R3-Y	LGA100A-5-Y	LGA100A-12	LGA100A-15	LGA100A-24	LGA100A-24-H	LGA100A-48
INPUT	VOLTAGE[V]		AC85 - 132 1φ (Refer to "Derating", Instruction Manual 1 and 3)						
	CURRENT[A]	ACIN 100V	1.6typ (Io=100%)	2.4typ (Io=100%)					
	FREQUENCY[Hz]		47 - 440 (Refer to Instruction Manual 1.1)						
	EFFICIENCY[%]	ACIN 100V	76.0typ (Io=100%)	80.0typ (Io=100%)	83.0typ (Io=100%)	84.0typ (Io=100%)	85.5typ (Io=100%)	85.5typ (Io=100%)	85.5typ (Io=100%)
	INRUSH CURRENT[A]	ACIN 100V	15typ (Io=100%, More than 10sec. to re-start)						
	LEAKAGE CURRENT[mA]		0.5max (ACIN 100V, 60Hz, Io=100%, According to IEC62368-1 and DEN-AN)						
OUTPUT	VOLTAGE[V]		3.3	5	12	15	24	24	48
	CURRENT[A]	＊3	20.0	20.0	8.5	7.0	4.3	4.3 (Peak 5.4)	2.1
	LINE REGULATION[mV]		20max	20max	48max	60max	96max	96max	192max
	LOAD REGULATION[mV]		40max	40max	100max	120max	150max	150max	300max
	RIPPLE[mVp-p]	0 to +50℃ ＊1	80max	80max	120max	120max	120max	240max	150max
		-10 - 0℃ ＊1	140max	140max	160max	160max	160max	320max	200max
	RIPPLE NOISE[mVp-p]	0 to +50℃ ＊1	120max	120max	150max	150max	150max	300max	350max
		-10 - 0℃ ＊1	160max	160max	180max	180max	180max	360max	400max
	TEMPERATURE REGULATION[mV]	0 to +50℃	50max	50max	120max	150max	240max	240max	480max
		-10 to +50℃	60max	60max	150max	180max	290max	290max	600max
	DRIFT[mV]	＊2	20max	20max	48max	60max	96max	96max	192max
	START-UP TIME[ms]		200max (ACIN 100V, Io=100%)						
	HOLD-UP TIME[ms]		20typ (ACIN 100V, Io=100%)						
	OUTPUT VOLTAGE ADJUSTMENT RANGE[V]		2.85 - 3.63	4.50 - 5.50	Fixed ("Y"which can be adjusted the output is available as optional ±10%)				
	OUTPUT VOLTAGE SETTING[V]		3.30 - 3.40	5.00 - 5.15	11.50 - 12.50	14.40 - 15.60	23.00 - 25.00	23.00 - 25.00	46.00 - 50.00
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 - 5.25	5.75 - 7.00	13.80 - 16.80	17.30 - 21.00	27.60 - 35.00	27.60 - 35.00	55.20 - 67.20
	OPERATING INDICATION		Not provided						
	REMOTE SENSING		Not provided						
	REMOTE ON/OFF		Not provided						
ISOLATION	INPUT-OUTPUT		AC2,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (At Room Temperature)						
	INPUT-FG		AC2,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (At Room Temperature)						
	OUTPUT-FG		AC500V 1minute, Cutoff current = 25mA, DC500V 50MΩ min (At Room Temperature)						
ENVIRONMENT	OPERATING TEMP.,HUMID.AND ALTITUDE		-10 to +60℃, 20 - 90%RH (Non condensing) (Refer to "Derating", Instruction Manual 3), 3,000m (10,000feet) max						
	STORAGE TEMP.,HUMID.AND ALTITUDE		-20 to +75℃, 20 - 90%RH (Non condensing), 9,000m (30,000feet) max						
	VIBRATION		10 - 55Hz, 19.6m/s² (2G), 3minutes period, 60minutes each along X, Y and Z axis						
	IMPACT		196.1m/s² (20G), 11ms, once each X, Y and Z axis						
SAFETY AND NOISE REGULATIONS	AGENCY APPROVALS		UL60950-1, C-UL (CSA60950-1), EN62368-1 Complies with DEN-AN						
	CONDUCTED NOISE		Complies with FCC-B, VCCI-B, CISPR-B, EN55011-B, EN55022-B						
OTHERS	CASE SIZE/WEIGHT		62×35.5×155mm [2.44×1.4×6.1 inches] (W×H×D) / 300g max (with chassis & cover : 530g max)						
	COOLING METHOD		Convection (Refer to "Derating", Instruction Manual 3)						

＊1 This is the value that measured on measuring board with capacitor of 22μF at 150mm from output terminal.
Measured by 20MHz oscilloscope or Ripple-Noise meter (Equivalent to KEISOKU-GIKEN: RM-103).
＊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 Peak loading for 10sec.And Duty 35% max.or less is acceptable if the total wattage is less than the rated wattage.
Refer to instruction Manual 6. In detail.
＊ Avoid prolonged use under over - load.
＊ Parallel operation with other model is not possible.
＊ Derating is required when operated with chassis and cover.
＊ A sound may occur from power supply at pulse loading.

Block diagram



External view



※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.
Take care for SMD parts on the back to come in contact because of the vibration and not to break down.

※Use the spacer of 8mm length or more.

※4 Mounting holes are existing.

I/O Connector		Mating connector	Terminal	
CN1	1-1123724-3			
CN2	1-1123723-8			

Pin No.	Input
1	
2	
3	
4	
5	

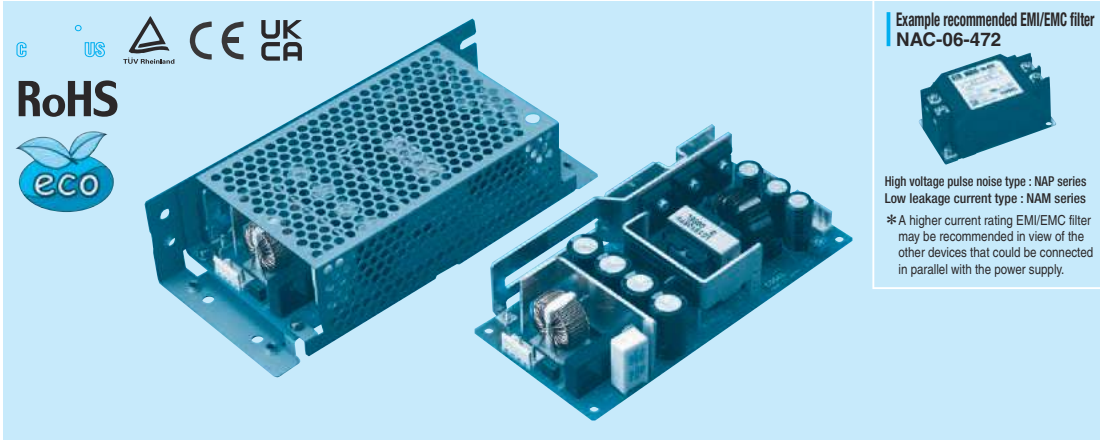
Pin No.	Output
1 to 4	
5 to 8	

COSEL AC-DC Power Supplies Open Frame/ Enclosed Type

LGA150A

Ordering information

LG	A	150	A	-5	-□
①	②	③	④	⑤	⑧



Example recommended EMI/EMC filter
NAC-06-472

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

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

①Series name
②Single output
③Output wattage
④100/120V input
⑤Output voltage
⑥Optional
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
S :with Chassis
SN:with Chassis & cover
Y :with Potentiometer

This power supply is manufactured by SMD technology.The stress to P.C.B like twisting or bending causes the defect of the unit,so handle the unit with care.
＊Make sure necessary tests will be carried out on your end equipment with the power supply installed in accordance with any required EMC/EMI regulations.

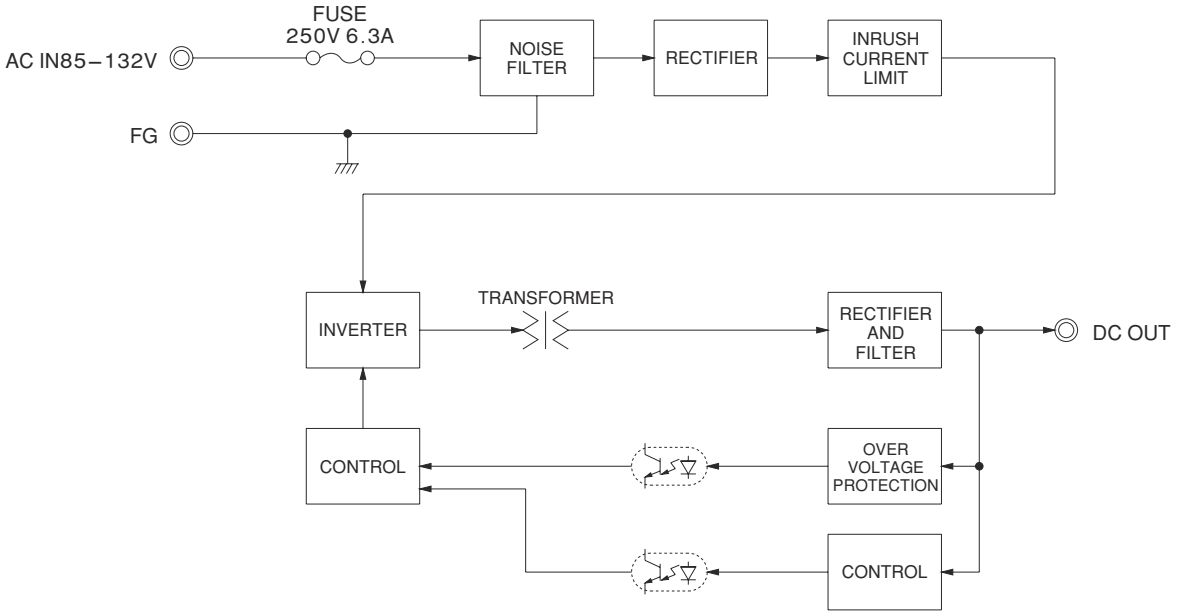
		LGA150A-5-Y		LGA150A-15			LGA150A-48
	99	150	150	150	151.2	151.2	153.6
	3.3V 30A	5V 30A	12V 12.5A	15V 10A	24V 6.3A	24V 6.3 (Peak 7.9) A	48V 3.2A

SPECIFICATIONS

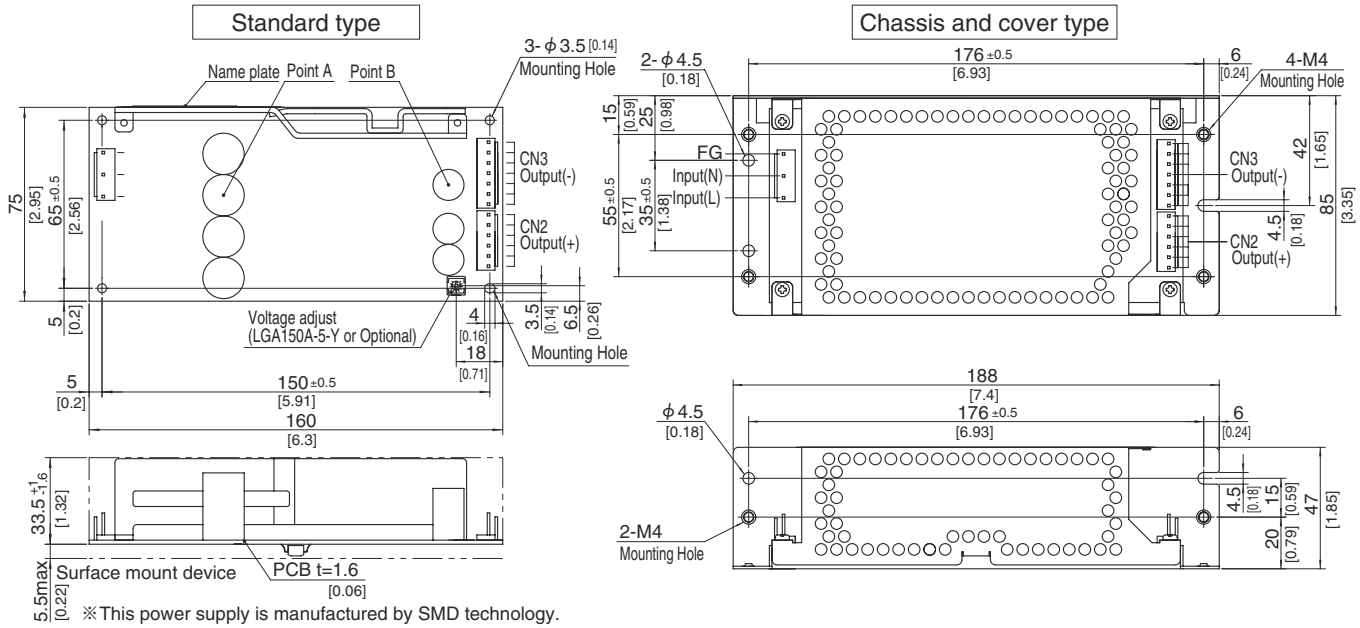
	MODEL		LGA150A-3R3-Y	LGA150A-5-Y	LGA150A-12	LGA150A-15	LGA150A-24	LGA150A-24-H	LGA150A-48
INPUT	VOLTAGE[V]		AC85 - 132 1 φ (Refer to "Derating", Instruction Manual 1 and 3)						
	CURRENT[A]	ACIN 100V	2.6typ (Io=100%)	3.6typ (Io=100%)					
	FREQUENCY[Hz]		47 - 440 (Refer to Instruction Manual 1.1)						
	EFFICIENCY[%]	ACIN 100V	76.0typ (Io=100%)	82.0typ (Io=100%)	84.5typ (Io=100%)	85.5typ (Io=100%)	87.0typ (Io=100%)	87.0typ (Io=100%)	87.0typ (Io=100%)
	INRUSH CURRENT[A]	ACIN 100V	15 /15 typ (Primary / Secondary Surge Current, Io=100%, More than 10sec. to re-start)						
	LEAKAGE CURRENT[mA]		0.5max (ACIN 100V, 60Hz, Io=100%, According to IEC62368-1 and DEN-AN)						
OUTPUT	VOLTAGE[V]		3.3	5	12	15	24	24	48
	CURRENT[A]	＊3	30.0	30.0	12.5	10.0	6.3	6.3 (Peak 7.9)	3.2
	LINE REGULATION[mV]		20max	20max	48max	60max	96max	96max	192max
	LOAD REGULATION[mV]		40max	40max	100max	120max	150max	150max	300max
	RIPPLE[mVp-p]	0 to +40℃＊1	80max	80max	120max	120max	120max	240max	150max
		-10 - 0℃＊1	140max	140max	160max	160max	160max	320max	200max
	RIPPLE NOISE[mVp-p]	0 to +40℃＊1	120max	120max	150max	150max	150max	300max	350max
		-10 - 0℃＊1	160max	160max	180max	180max	180max	360max	400max
	TEMPERATURE REGULATION[mV]	0 to +40℃	50max	50max	120max	150max	240max	240max	480max
		-10 to +40℃	60max	60max	150max	180max	290max	290max	600max
	DRIFT[mV]	＊2	20max	20max	48max	60max	96max	96max	192max
	START-UP TIME[ms]		200max (ACIN 100V, Io=100%)						
	HOLD-UP TIME[ms]		20typ (ACIN 100V, Io=100%)						
	OUTPUT VOLTAGE ADJUSTMENT RANGE[V]		2.85 - 3.63	4.50 - 5.50	Fixed ("Y"which can be adjusted the output is available as optional ±10%)				
	OUTPUT VOLTAGE SETTING[V]		3.30 - 3.40	5.00 - 5.15	11.50 - 12.50	14.40 - 15.60	23.00 - 25.00	23.00 - 25.00	46.00 - 50.00
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 - 5.25	5.75 - 7.00	13.80 - 16.80	17.30 - 21.00	27.60 - 35.00	27.60 - 35.00	55.20 - 67.20
	OPERATING INDICATION		Not provided						
	REMOTE SENSING		Not provided						
	REMOTE ON/OFF		Not provided						
ISOLATION	INPUT-OUTPUT		AC2,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (At Room Temperature)						
	INPUT-FG		AC2,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (At Room Temperature)						
	OUTPUT-FG		AC500V 1minute, Cutoff current = 25mA, DC500V 50MΩ min (At Room Temperature)						
ENVIRONMENT	OPERATING TEMP.,HUMID.AND ALTITUDE		-10 to +60℃, 20 - 90%RH (Non condensing) (Refer to "Derating", Instruction Manual 3), 3,000m (10,000feet) max						
	STORAGE TEMP.,HUMID.AND ALTITUDE		-20 to +75℃, 20 - 90%RH (Non condensing), 9,000m (30,000feet) max						
	VIBRATION		10 - 55Hz, 19.6m/s² (2G), 3minutes period, 60minutes each along X, Y and Z axis						
	IMPACT		196.1m/s² (20G), 11ms, once each X, Y and Z axis						
SAFETY AND NOISE REGULATIONS	AGENCY APPROVALS		UL60950-1, C-UL (CSA60950-1), EN62368-1 Complies with DEN-AN						
	CONDUCTED NOISE		Complies with FCC-B, VCCI-B, CISPR-B, EN55011-B, EN55022-B						
OTHERS	CASE SIZE/WEIGHT		75×39×160mm [2.95×1.54×6.3 inches] (W×H×D) / 420g max (with chassis & cover : 650g max)						
	COOLING METHOD		Convection (Refer to "Derating", Instruction Manual 3)						

＊1 This is the value that measured on measuring board with capacitor of 22μF at 150mm from output terminal.
Measured by 20MHz oscilloscope or Ripple-Noise meter (Equivalent to KEISOKU-GIKEN: RM-103).
＊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 Peak loading for 10sec.And Duty 35% max.or less is acceptable if the total wattage is less than the rated wattage.
Refer to instruction Manual 6. In detail.
＊ Avoid prolonged use under over - load.
＊ Parallel operation with other model is not possible.
＊ Derating is required when operated with chassis and cover.
＊ A sound may occur from power supply at pulse loading.

Block diagram



External view



※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.
Take care for SMD parts on the back to come in contact because of the vibration and not to break down.
※Use the spacer of 8mm length or more.
※4 Mounting holes are existing.

I/O Connector		Mating connector	Terminal	
CN1	1-1123724-3			
CN2	1-1123723-6			
CN3	1-1123723-7			

Pin No.	Input
1	
2	
3	
4	
5	

Pin No.	Output
1 to 6	

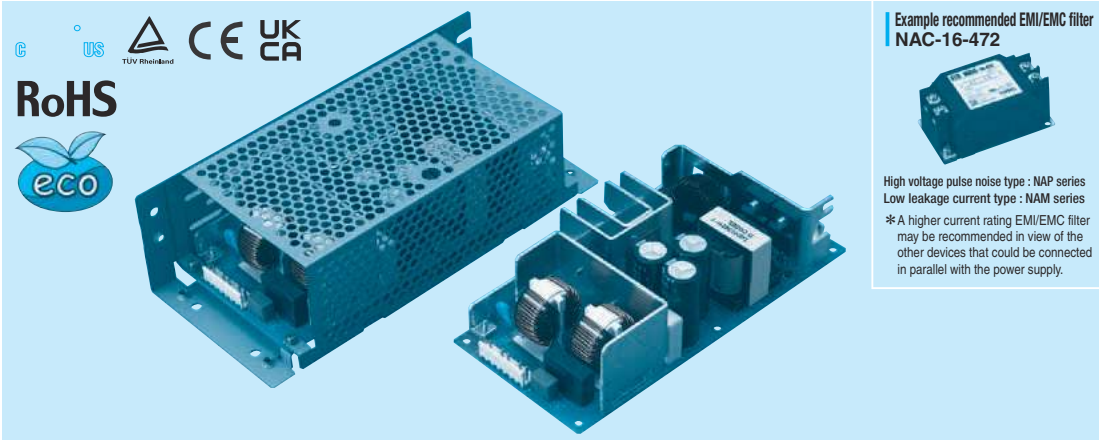
Pin No.	Output
1 to 7	

COSEL AC-DC Power Supplies Open Frame/ Enclosed Type

LGA240A

Ordering information

LG	A	240	A	-5	-□
①	②	③	④	⑤	⑧



Example recommended EMI/EMC filter
NAC-16-472

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

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

①Series name
②Single output
③Output wattage
④100/120V input
⑤Output voltage
⑥Optional
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
S :with Chassis
SN:with Chassis & cover
T :Vertical terminal block
Y :with Potentiometer

This power supply is manufactured by SMD technology.The stress to P.C.B like twisting or bending causes the defect of the unit,so handle the unit with care.
＊Make sure necessary tests will be carried out on your end equipment with the power supply installed in accordance with any required EMC/EMI regulations.

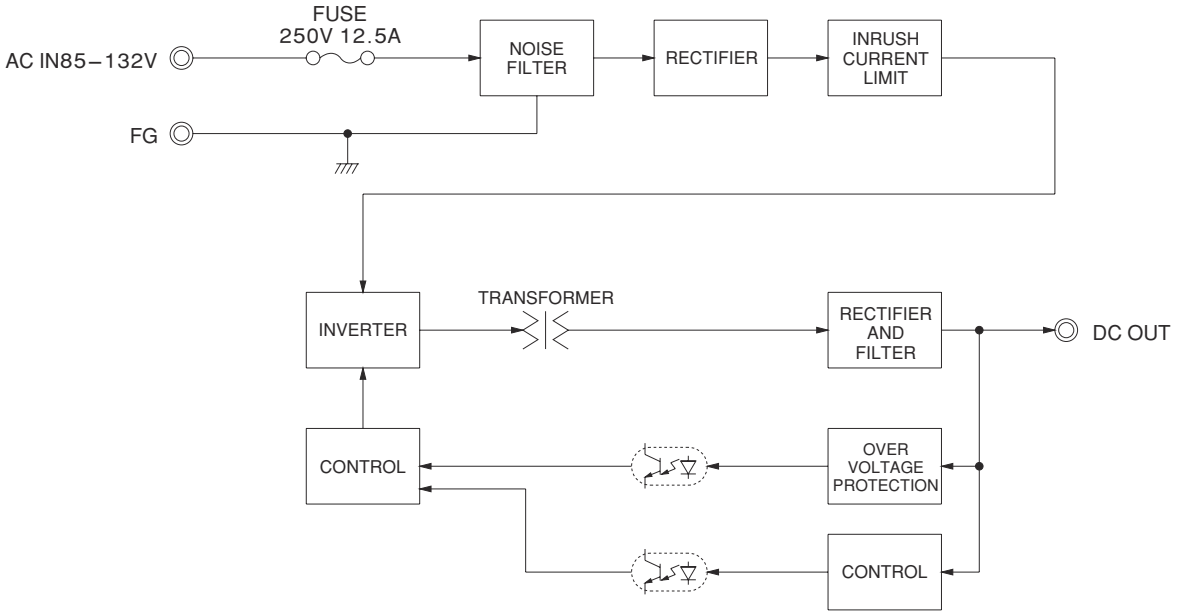
	240	240
	24V 10A	24V 10 (Peak 12.5) A

SPECIFICATIONS

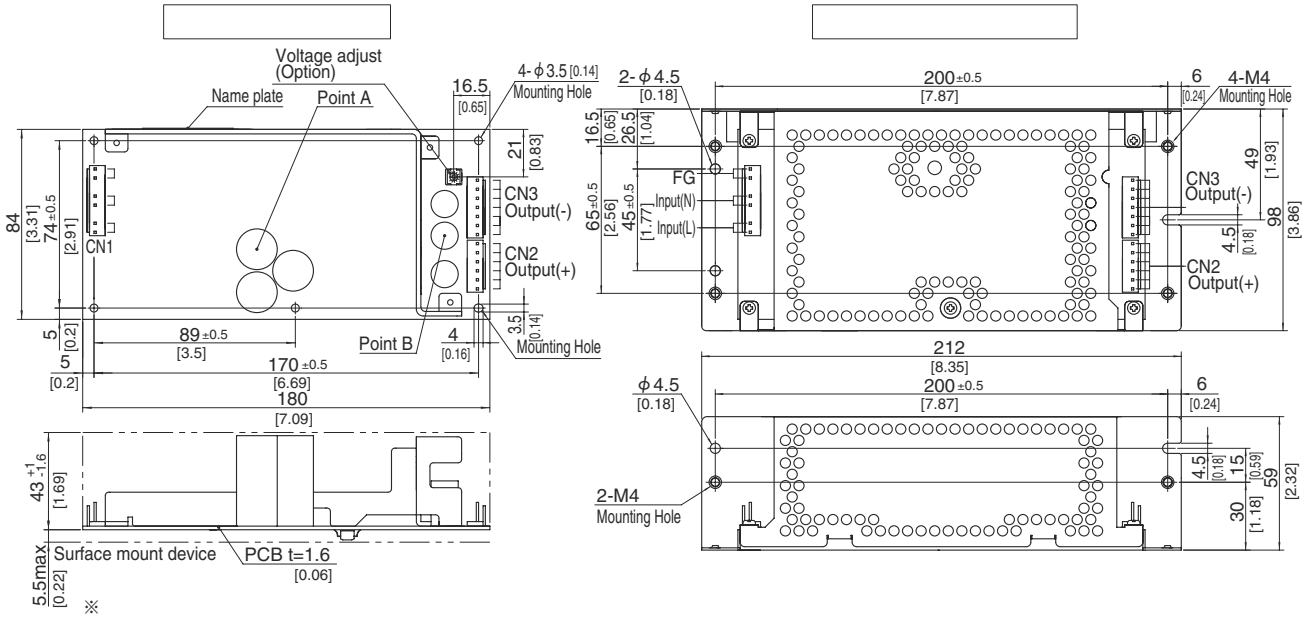
	MODEL		LGA240A-24	LGA240A-24-H
INPUT	VOLTAGE[V]		AC85 - 132 1φ (Refer to "Derating", Instruction Manual 1 and 3)	
	CURRENT[A]	ACIN 100V	5.0typ (Io=100%)	
	FREQUENCY[Hz]		47 - 440 (Refer to Instruction Manual 1.1)	
	EFFICIENCY[%]	ACIN 100V	86.5typ (Io=100%)	86.5typ (Io=100%)
	INRUSH CURRENT[A]	ACIN 100V	15 / 20 typ (Primary / Secondary Surge Current, Io=100%, More than 10sec. to re-start)	
	LEAKAGE CURRENT[mA]		0.5max (ACIN 100V, 60Hz, Io=100%, According to IEC62368-1 and DEN-AN)	
OUTPUT	VOLTAGE[V]		24	24
	CURRENT[A]	＊3	10.0	10.0 (Peak 12.5)
	LINE REGULATION[mV]		96max	96max
	LOAD REGULATION[mV]		150max	150max
	RIPPLE[mVp-p]	0 to +40℃＊1	120max	240max
		-10 - 0℃＊1	160max	320max
	RIPPLE NOISE[mVp-p]	0 to +40℃＊1	150max	300max
		-10 - 0℃＊1	180max	360max
	TEMPERATURE REGULATION[mV]	0 to +40℃	240max	240max
		-10 to +40℃	290max	290max
	DRIFT[mV]	＊2	96max	96max
	START-UP TIME[ms]		200max (ACIN 100V, Io=100%)	
	HOLD-UP TIME[ms]		20typ (ACIN 100V, Io=100%)	
	OUTPUT VOLTAGE ADJUSTMENT RANGE[V]		Fixed ("Y"which can be adjusted the output is available as optional ±10%)	
	OUTPUT VOLTAGE SETTING[V]		23.00 - 25.00	23.00 - 25.00
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		27.60 - 35.00	27.60 - 35.00
	OPERATING INDICATION		Not provided	
	REMOTE SENSING		Not provided	
	REMOTE ON/OFF		Not provided	
ISOLATION	INPUT-OUTPUT		AC2,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (At Room Temperature)	
	INPUT-FG		AC2,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (At Room Temperature)	
	OUTPUT-FG		AC500V 1minute, Cutoff current = 25mA, DC500V 50MΩ min (At Room Temperature)	
ENVIRONMENT	OPERATING TEMP.,HUMID.AND ALTITUDE		-10 to +60℃, 20 - 90%RH (Non condensing) (Refer to "Derating", Instruction Manual 3), 3,000m (10,000feet) max	
	STORAGE TEMP.,HUMID.AND ALTITUDE		-20 to +75℃, 20 - 90%RH (Non condensing), 9,000m (30,000feet) max	
	VIBRATION		10 - 55Hz, 19.6m/s² (2G), 3minutes period, 60minutes each along X, Y and Z axis	
	IMPACT		196.1m/s² (20G), 11ms, once each X, Y and Z axis	
SAFETY AND NOISE REGULATIONS	AGENCY APPROVALS		UL60950-1, C-UL (CSA60950-1), EN62368-1 Complies with DEN-AN	
	CONDUCTED NOISE		Complies with FCC-B, VCCI-B, CISPR-B, EN55011-B, EN55022-B	
OTHERS	CASE SIZE/WEIGHT		84×48.5×180mm [3.31×1.91×7.09 inches] (W×H×D) / 590g max (with chassis & cover : 880g max)	
	COOLING METHOD		Convection (Refer to "Derating", Instruction Manual 3)	

＊1 This is the value that measured on measuring board with capacitor of 22μF at 150mm from output terminal.
Measured by 20MHz oscilloscope or Ripple-Noise meter (Equivalent to KEISOKU-GIKEN: RM-103).
＊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 Peak loading for 10sec.And Duty 35% max.or less is acceptable if the total wattage is less than the rated wattage.
Refer to instruction Manual 6. In detail.
＊ Avoid prolonged use under over - load.
＊ Parallel operation with other model is not possible.
＊ Derating is required when operated with chassis and cover.
＊ A sound may occur from power supply at pulse loading.

Block diagram



External view



Pin No.	Input
1, 2	
3	
4, 5	
6	
7, 8	

Pin No.	Output
1 to 6	

Pin No.	Output
1 to 7	

※

※

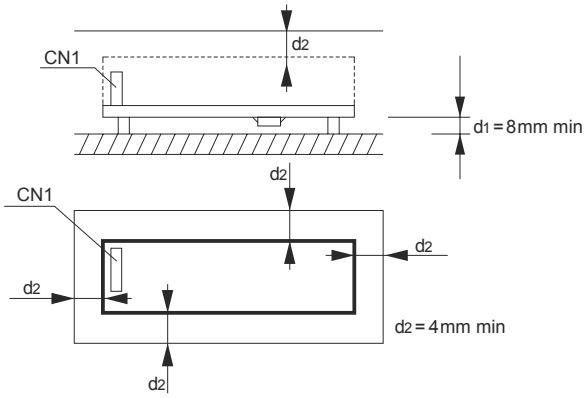
I/O Connector		Mating connector	Terminal	
CN1	7-1565036-6			
CN2	1-1123723-6			
CN3	1-1123723-7			

Assembling and Installation Method

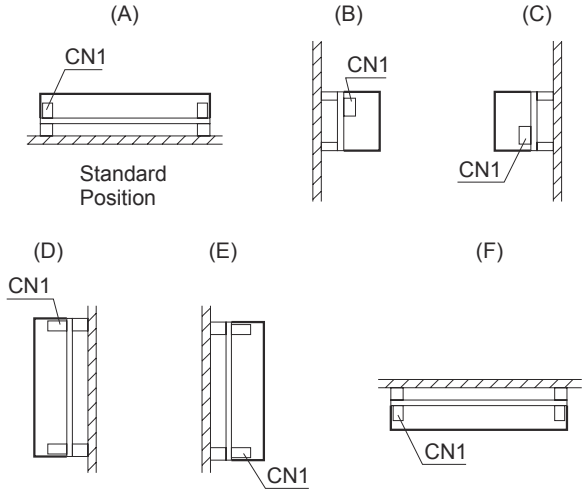
Installation method

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

■In case of metal chassis, keep the distance between d1 & d2 for to insulate between lead of component and metal chassis, use the spacer of 8mm or more between d1. If it is less than d1 & d2, insert the insulation sheet between power supply and metal chassis.

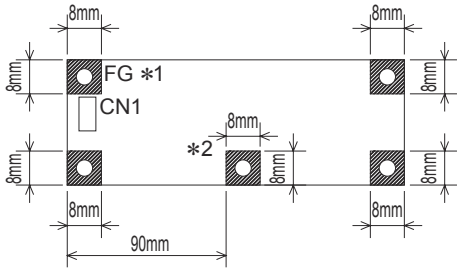


■(F) mounting should be operated by Forced air.



Mounting screw

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

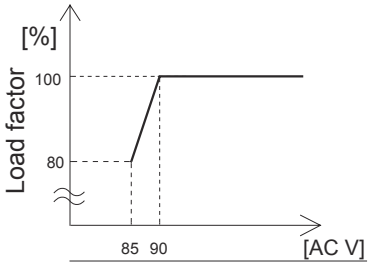


∗1 Recommendation to electrically connect FG to metal reducing noise.
∗2 LGA240A only Refer to External view for location

■If metallic fittings are used on the component side of the board,ensure there is no contact with surface mounted components.

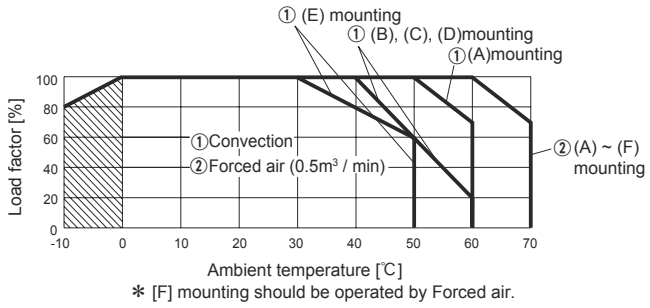
Derating

●Derating curve for input voltage



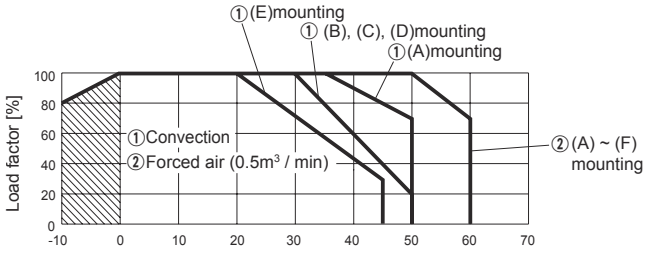
Derating

●LGA50A-3R3-Y, -5, -12, -15 Ambient temperature derating curve



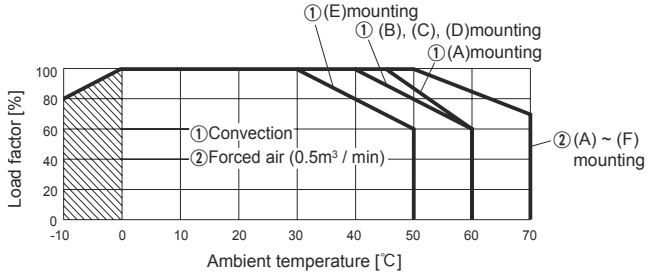
∗ [F] mounting should be operated by Forced air.

●LGA50A-3R3-Y, -5, -12, -15 -SN (with Chassis & Cover) Ambient temperature derating curve



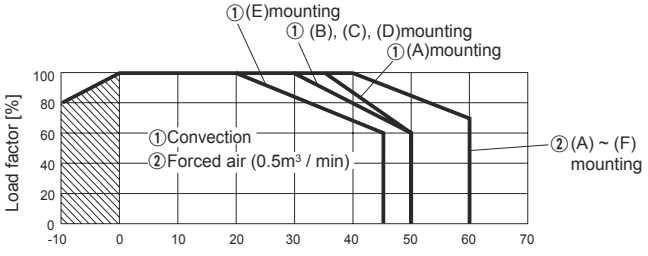
∗ [F] mounting should be operated by Forced air.

●LGA50A-24, -48 Ambient temperature derating curve



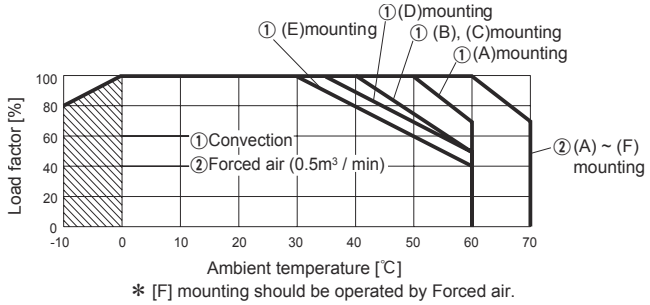
∗ [F] mounting should be operated by Forced air.

●LGA50A-24, -48 -SN (with Chassis & Cover) Ambient temperature derating curve



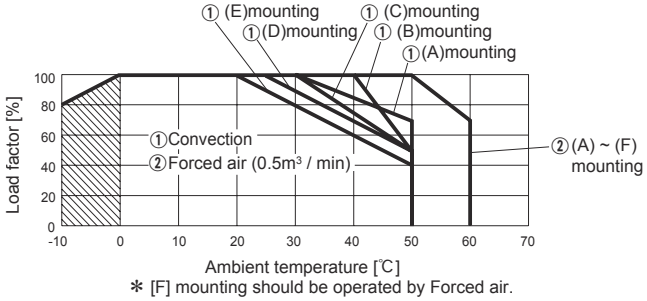
∗ [F] mounting should be operated by Forced air.

●LGA75A-□ Ambient temperature derating curve



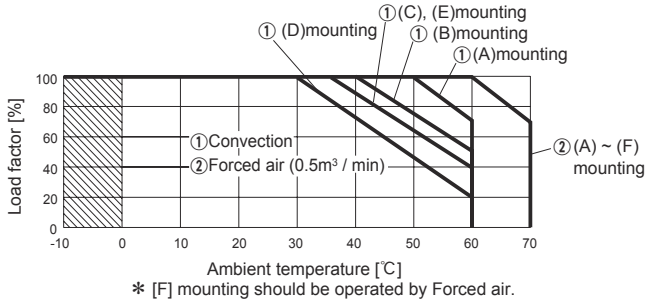
∗ [F] mounting should be operated by Forced air.

●LGA75A-□-SN (with Chassis & Cover) Ambient temperature derating curve



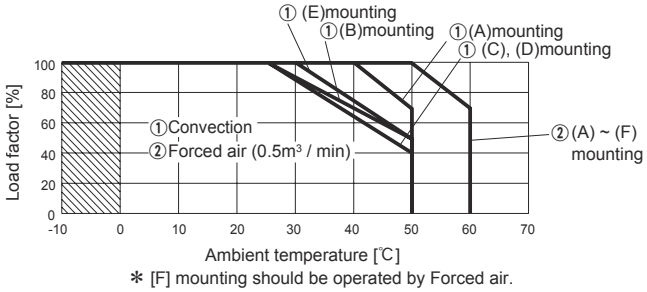
∗ [F] mounting should be operated by Forced air.

●LGA100A-□ Ambient temperature derating curve



∗ [F] mounting should be operated by Forced air.

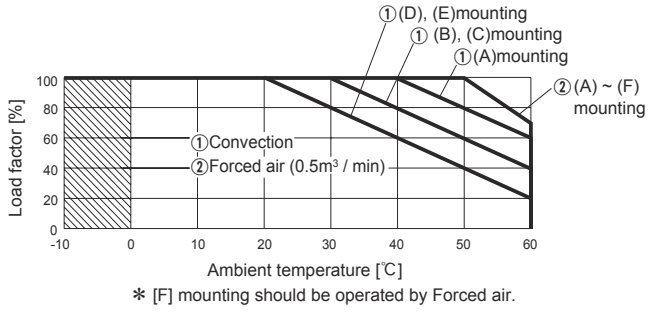
● LGA100A-□-SN (with Chassis & Cover) Ambient temperature derating curve



∗ [F] mounting should be operated by Forced air.

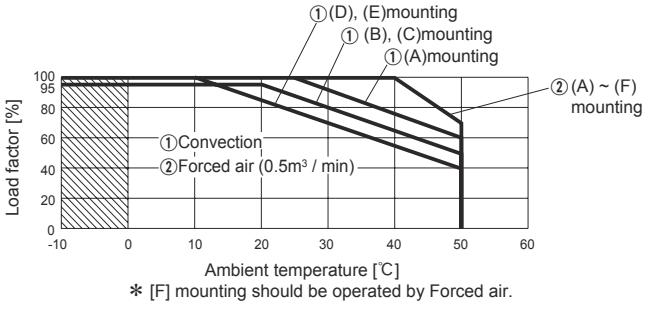
Derating

●LGA150A-□ Ambient temperature derating curve



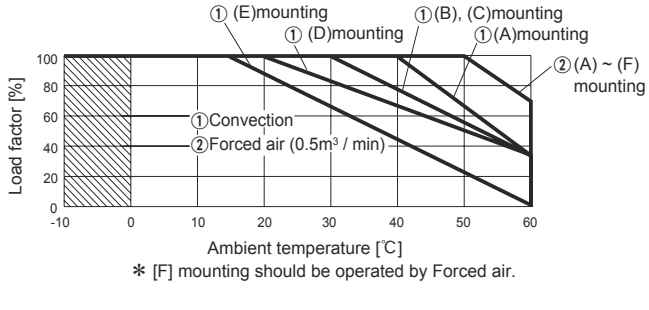
✻ [F] mounting should be operated by Forced air.

●LGA150A-□-SN (with Chassis & Cover) Ambient temperature derating curve



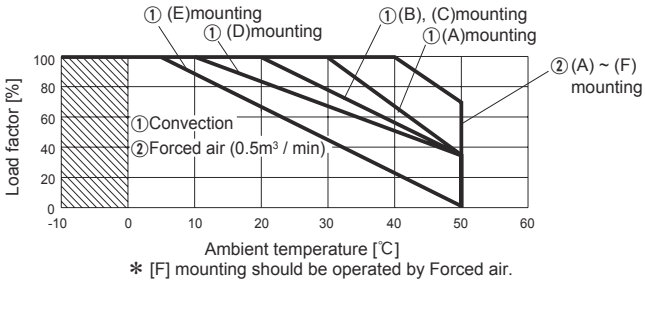
✻ [F] mounting should be operated by Forced air.

●LGA240A-□ Ambient temperature derating curve



✻ [F] mounting should be operated by Forced air.

●LGA240A-□-SN (with Chassis & Cover) Ambient temperature derating curve



✻ [F] mounting should be operated by Forced air.

■The operative ambient temperature is different by with / without chassis cover or mounting position.
Note: In the hatched area, the specification of Ripple, Ripple Noise is different from other area.

■Make sure the temperature at point A and point B is less than the temperatures shown in Instruction Manual 3.

■The ambient temperature should be measured 5 to 10 cm away from the power supply so that it won't be influenced by the heat from the power supply. Please consult us for more details.

Instruction Manual

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

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

LGA NOTICE

Basic Characteristics Data

		[kHz]	Input current ✻1 [A]	Inrush current protection	PCB/Pattern			Series/Parallel operation availability ✻2	
					Material	Single sided	Double sided	Series operation	Parallel operation
	Forward Converter	130	1.3	Thermistor	CEM-3	Yes		Yes	No
	Forward Converter	130	1.7	Thermistor	CEM-3	Yes		Yes	No
	Forward Converter	130	2.4	SCR	CEM-3	Yes		Yes	No
	Forward Converter	130	3.6	SCR	CEM-3	Yes		Yes	No
	Forward Converter	130	5.0	SCR	CEM-3	Yes		Yes	No

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