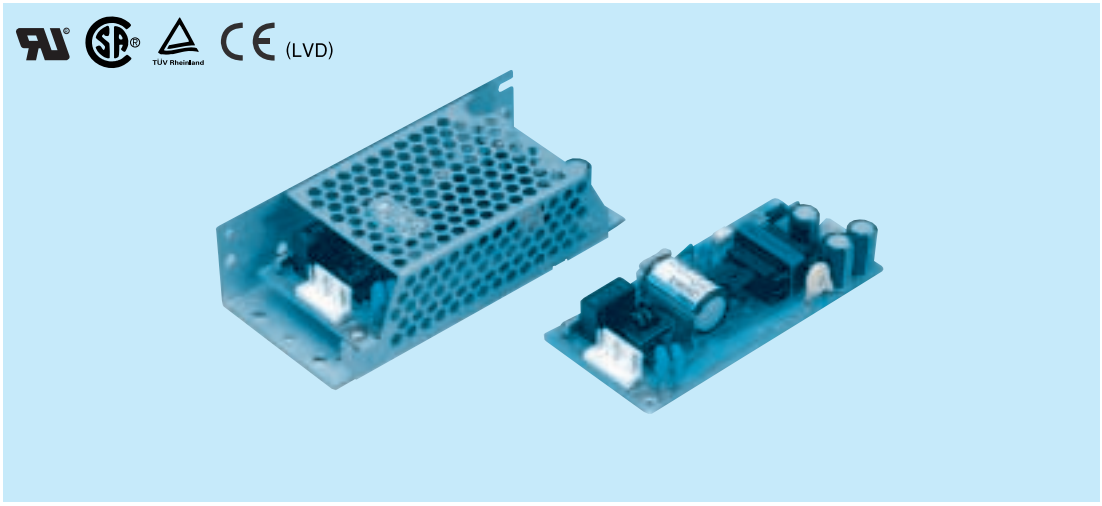
COSEL **Rugged PCB type**

LDA 0

Ordering information

LDA 10 F -5 -□

① ② ③ ④ ⑤



①Series name
②Output wattage
③Universal input
④Output voltage
⑤Optional
C :with Coating
G :Low leakage current
S :with Chassis
SN:with Chassis & cover
Y :with Potentiometer

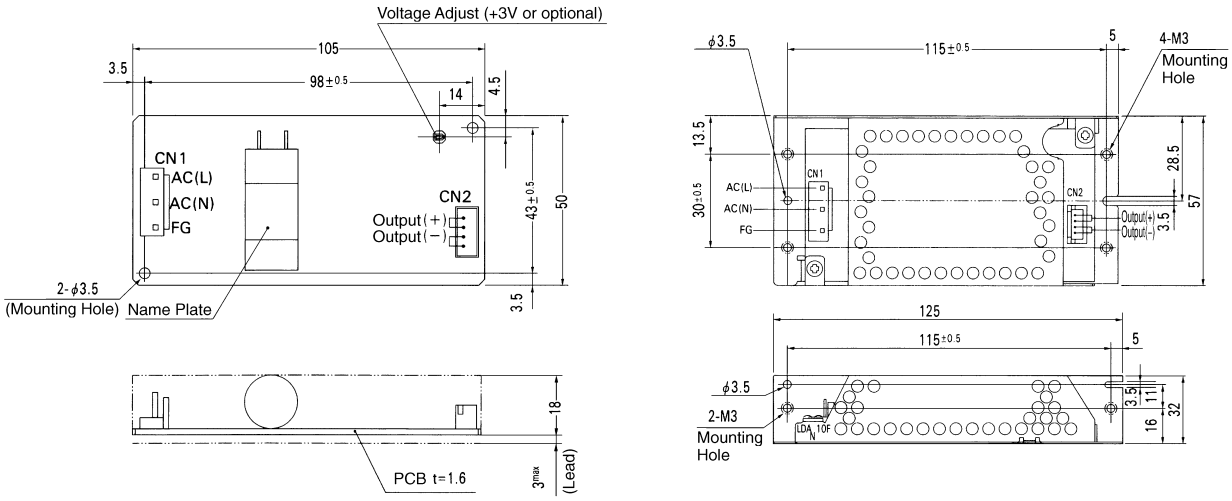
MODEL	LDA10F-3	LDA10F-5	LDA10F-12	LDA10F-15	LDA10F-24
MAX OUTPUT WATTAGE[W]	6	10	10.8	10.5	12
DC OUTPUT	3V 2.0A	5V 2.0A	12V 0.9A	15V 0.7A	24V 0.5A

SPECIFICATIONS

	MODEL		★LDA10F-3	LDA10F-5	LDA10F-12	LDA10F-15	LDA10F-24
INPUT	VOLTAGE[V]		AC85 - 264 1φ or DC110 - 370				
	CURRENT[A]	ACIN 100V	0.25typ (Io=100%)				
		ACIN 200V	0.16typ (Io=100%)				
	FREQUENCY[Hz]		47 - 440 or DC				
	EFFICIENCY[%]		68typ	72typ	74typ	74typ	78typ
	INRUSH CURRENT[A]	ACIN 100V	15typ (Io=100%) (At cold start)				
		ACIN 200V	30typ (Io=100%) (At cold start)				
	LEAKAGE CURRENT[mA]		0.75max (60Hz, According to UL, CSA, VDE and DEN-AN)				
OUTPUT	VOLTAGE[V]		3	5	12	15	24
	CURRENT[A]		2	2	0.9	0.7	0.5
	LINE REGULATION[mV]		20max	20max	48max	60max	96max
	LOAD REGULATION[mV]		40max	40max	100max	120max	150max
	RIPPLE[mVp-p]	0 to +50℃	80max	80max	120max	120max	120max
		-10 - 0℃	140max	140max	160max	160max	160max
	RIPPLE NOISE[mVp-p]	0 to +50℃	120max	120max	150max	150max	150max
		-10 - 0℃	160max	160max	180max	180max	180max
	TEMPERATURE REGULATION[mV]		50max	50max	120max	150max	240max
	DRIFT[mV]	*1	20max	20max	48max	60max	96max
	START-UP TIME[ms]		200max (ACIN 100V, Io=100%)				
	HOLD-UP TIME[ms]		10typ (ACIN 85V, Io=100%) 20typ (ACIN 100V, Io=100%) 100typ (ACIN 200V, Io=100%)				
	OUTPUT VOLTAGE ADJUSTMENT RANGE[V]		2.85 - 3.6	Fixed ("Y"which can be adjusted the output is available as option :5 - 24V ±10%)			
	OUTPUT VOLTAGE SETTING[V]		——	4.9 - 5.3	11.5 - 12.5	14.4 - 15.6	23.0 - 25.0
PROTECTION CIRCUIT AND OTHERS	OVERCURRENT PROTECTION		Works over 105% of rating and recovers automatically				
	OVERVOLTAGE PROTECTION		4.00V min	Works over 115% of rating, by zener diode clamping			
	OPERATING INDICATION		Not provided				
	REMOTE SENSING		Not provided				
	REMOTE ON/OFF		Not provided				
ISOLATION	INPUT-OUTPUT		AC3,000V 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 = 100mA, DC500V 50MΩ min (At Room Temperature)				
ENVIRONMENT	OPERATING TEMP.,HUMID.AND ALTITUDE		-10 to +60℃, 20 - 90%RH (Non condensing) (Refer to DERATING CURVE) 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		UL1950, EN60950, VDE0160, CSA C22.2 No.234 Complies with DEN-AN and IEC60950				
	CONDUCTED NOISE		Complies with FCC-B, CISPR22-B, EN55022-B, VCCI-B				
OTHERS	CASE SIZE/WEIGHT		50×21×105mm (W×H×D) /75g max (without chassis and cover)				
	COOLING METHOD		Convection				

*1 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.
* Avoid prolonged use under over-load.
* Series/Parallel operation with other model is not possible.
* Derating is required when operated with chassis and cover.
★marked models are pending for safety approvals. Consult with us for delivery.

External view



I/O Connector		Mating Connector	Terminal
CN1	B3P5-VH	VHR-5N	Chain:SVH-21T-P1.1
			Loose:BVH-21T-P1.1
CN2	B4B-XH-A	XHP-4	Chain:SXH-001T-P0.6
			Loose:BXH-001T-P0.6

(Mfr : J.S.T.)

<PIN CONNECTION>

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

CN2 Pin No.	Output
1	−V
2	−V
3	+V
4	+V

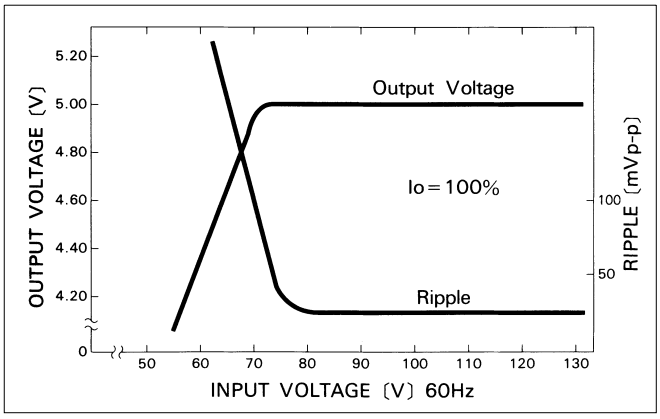
※Keep drawing current per pin below 2A for CN2.

※Weight : 75g or less (Without chassis and cover)
※Tolerance : ±1
※Dimensions in mm.
※PCB Material : Glass composite (CEM3)
※Chassis and cover is optional.
※Mounting torque : 0.6N•m (6.3kgf•cm) max

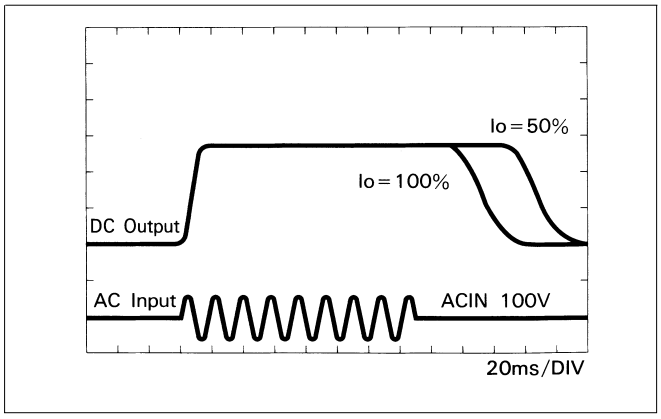
LDA

Performance data

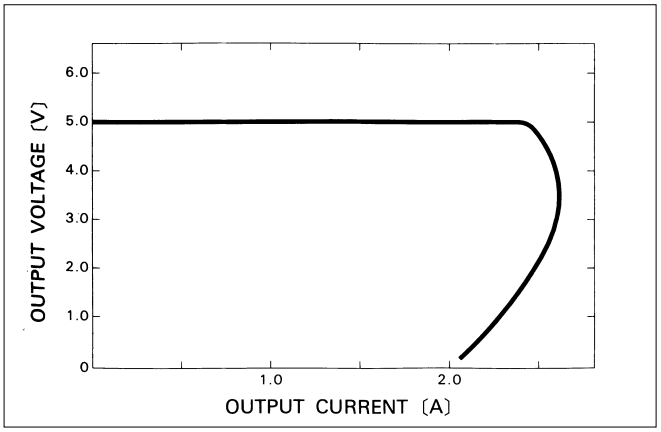
■STATIC CHARACTERISTICS (LDA10F-5)



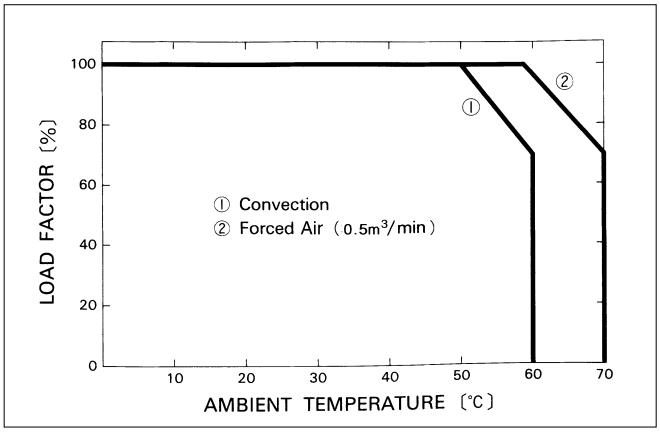
■RISE TIME & FALL TIME (LDA10F-5)



■OVERCURRENT CHARACTERISTICS (LDA10F-5)



■DERATING CURRENT



COSEL **Rugged PCB type**

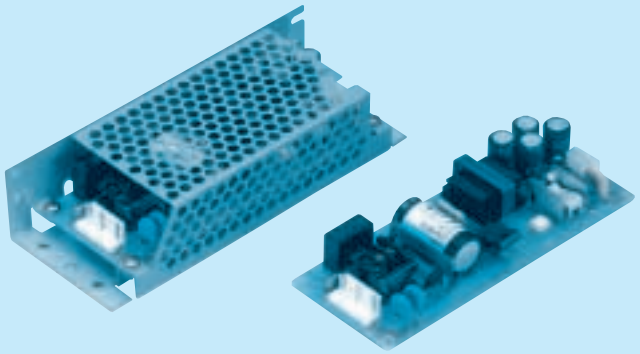
LDA 5

Ordering information

LDA 15 F -5 -□

① ② ③ ④ ⑤

(LVD)



①Series name
②Output wattage
③Universal input
④Output voltage
⑤Optional
C :with Coating
G :Low leakage current
S :with Chassis
SN:with Chassis & cover
Y :with Potentiometer

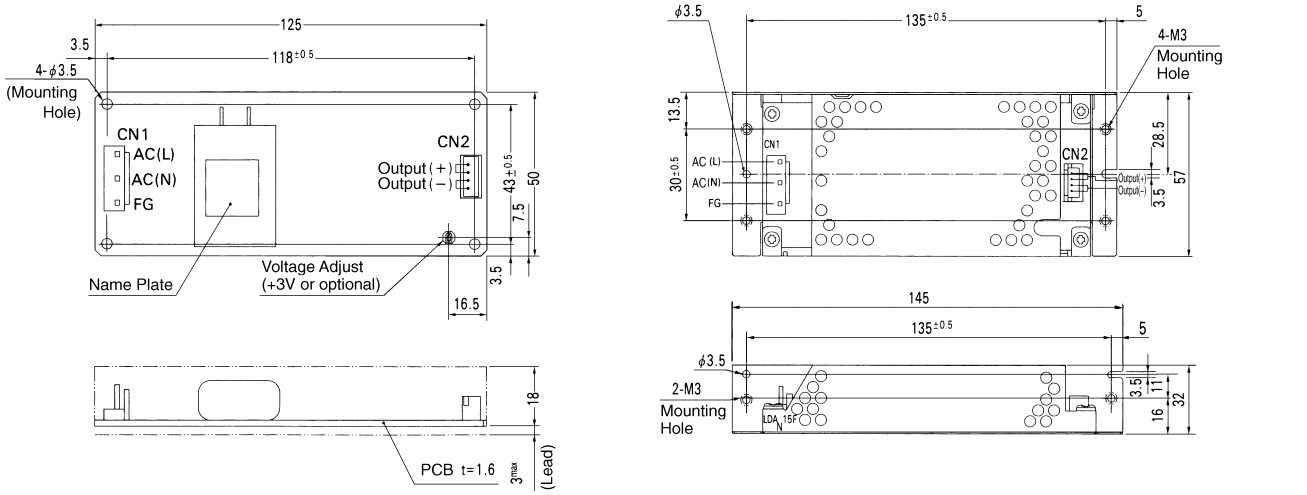
MODEL	LDA15F-3	LDA15F-5	LDA15F-12	LDA15F-15	LDA15F-24
MAX OUTPUT WATTAGE[W]	9	15	15.6	15	16.8
DC OUTPUT	3V 3.0A	5V 3.0A	12V 1.3A	15V 1.0A	24V 0.7A

SPECIFICATIONS

	MODEL		★LDA15F-3	LDA15F-5	LDA15F-12	LDA15F-15	LDA15F-24
INPUT	VOLTAGE[V]		AC85 - 264 1φ or DC110 - 370				
	CURRENT[A]	ACIN 100V	0.37typ (Io=100%)				
		ACIN 200V	0.23typ (Io=100%)				
	FREQUENCY[Hz]		47 - 440 or DC				
	EFFICIENCY[%]		70typ	74typ	76typ	76typ	78typ
	INRUSH CURRENT[A]	ACIN 100V	15typ (Io=100%) (At cold start)				
		ACIN 200V	30typ (Io=100%) (At cold start)				
	LEAKAGE CURRENT[mA]		0.75max (60Hz, According to UL, CSA, VDE and DEN-AN)				
OUTPUT	VOLTAGE[V]		3	5	12	15	24
	CURRENT[A]		3	3	1.3	1	0.7
	LINE REGULATION[mV]		20max	20max	48max	60max	96max
	LOAD REGULATION[mV]		40max	40max	100max	120max	150max
	RIPPLE[mVp-p]	0 to +50℃	80max	80max	120max	120max	120max
		-10 - 0℃	140max	140max	160max	160max	160max
	RIPPLE NOISE[mVp-p]	0 to +50℃	120max	120max	150max	150max	150max
		-10 - 0℃	160max	160max	180max	180max	180max
	TEMPERATURE REGULATION[mV]		50max	50max	120max	150max	240max
	DRIFT[mV]	*1	20max	20max	48max	60max	96max
	START-UP TIME[ms]		200max (ACIN 100V, Io=100%)				
	HOLD-UP TIME[ms]		10typ (ACIN 85V, Io=100%) 20typ (ACIN 100V, Io=100%) 100typ (ACIN 200V, Io=100%)				
	OUTPUT VOLTAGE ADJUSTMENT RANGE[V]		2.85 - 3.6	Fixed ("Y"which can be adjusted the output is available as option :5 - 24V ±10%)			
	OUTPUT VOLTAGE SETTING[V]		——	4.9 - 5.3	11.5 - 12.5	14.4 - 15.6	23.0 - 25.0
PROTECTION CIRCUIT AND OTHERS	OVERCURRENT PROTECTION		Works over 105% of rating and recovers automatically				
	OVERVOLTAGE PROTECTION		4.00V min	Works over 115% of rating, by zener diode clamping			
	OPERATING INDICATION		Not provided				
	REMOTE SENSING		Not provided				
	REMOTE ON/OFF		Not provided				
ISOLATION	INPUT-OUTPUT		AC3,000V 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 = 100mA, DC500V 50MΩ min (At Room Temperature)				
ENVIRONMENT	OPERATING TEMP.,HUMID.AND ALTITUDE		-10 to +60℃, 20 - 90%RH (Non condensing) (Refer to DERATING CURVE) 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		UL1950, EN60950, VDE0160, CSA C22.2 No.234 Complies with DEN-AN and IEC60950				
	CONDUCTED NOISE		Complies with FCC-B, CISPR22-B, EN55022-B, VCCI-B				
OTHERS	CASE SIZE/WEIGHT		50×21×125mm (W×H×D) /95g max (without chassis and cover)				
	COOLING METHOD		Convection				

*1 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.
* Avoid prolonged use under over-load.
* Series/Parallel operation with other model is not possible.
* Derating is required when operated with chassis and cover.
★marked models are pending for safety approvals. Consult with us for delivery.

External view



I/O Connector		Mating Connector	Terminal
CN1	B3P5-VH	VHR-5N	Chain:SVH-21T-P1.1
			Loose:BVH-21T-P1.1
CN2	B4B-XH-A	XHP-4	Chain:SXH-001T-P0.6
			Loose:BXH-001T-P0.6

(Mfr : J.S.T.)

<PIN CONNECTION>

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

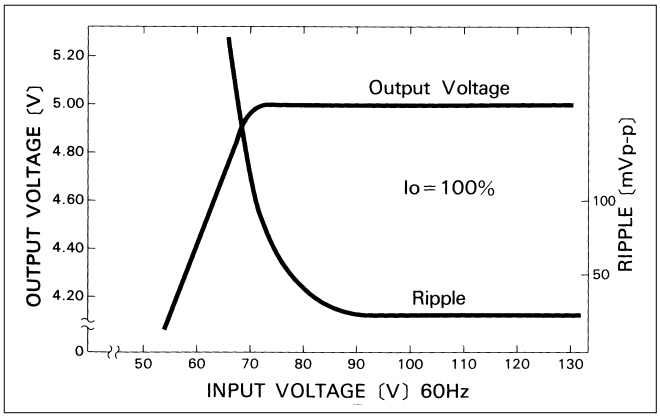
	Pin No.	Output
CN2	1	−V
	2	−V
	3	+V
	4	+V

※ Weight : 95g or less (Without chassis and cover)
※ Tolerance : ±1
※ Dimensions in mm.
※ PCB Material : GJass composite (CEM3)
※ Chassis and cover is optional.
※Mounting torque : 0.6N•m (6.3kgf•cm) max

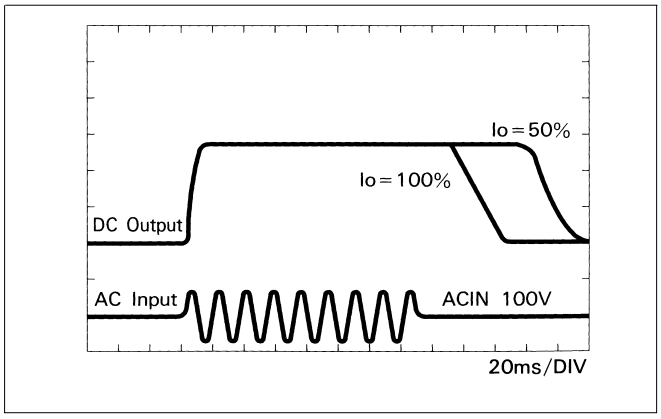
LDA

Performance data

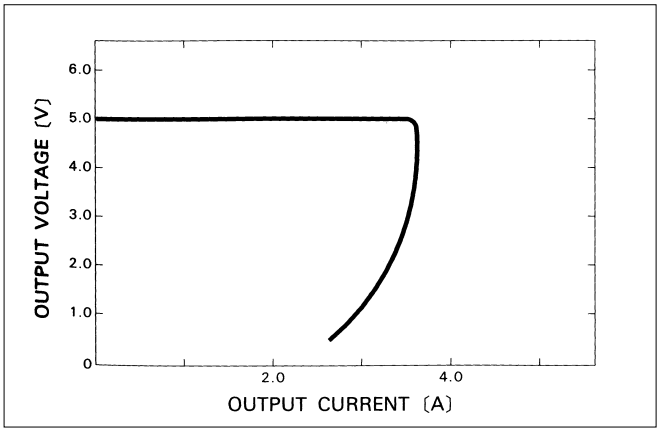
■STATIC CHARACTERISTICS (LDA15F-5)



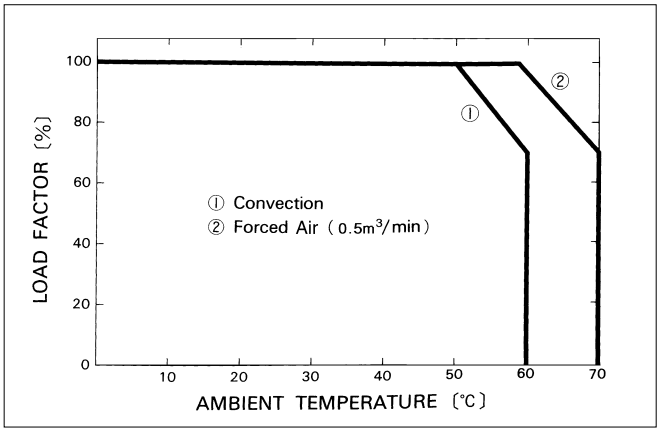
■RISE TIME & FALL TIME (LDA15F-5)



■OVERCURRENT CHARACTERISTICS (LDA15F-5)



■DERATING CURRENT

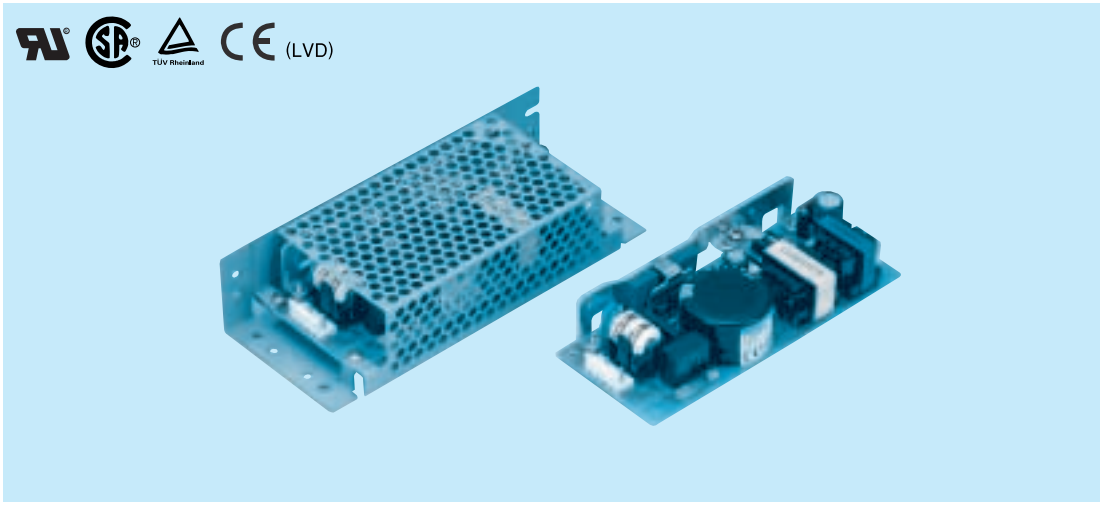


COSEL **Rugged PCB type**

LDA30

Ordering information

LDA ① 30 ② F ③ -5 ④ -□ ⑤



①Series name
②Output wattage
③Universal input
④Output voltage
⑤Optional
C :with Coating
G :Low leakage current
S :with Chassis
SN:with Chassis & cover
Y :with Potentiometer

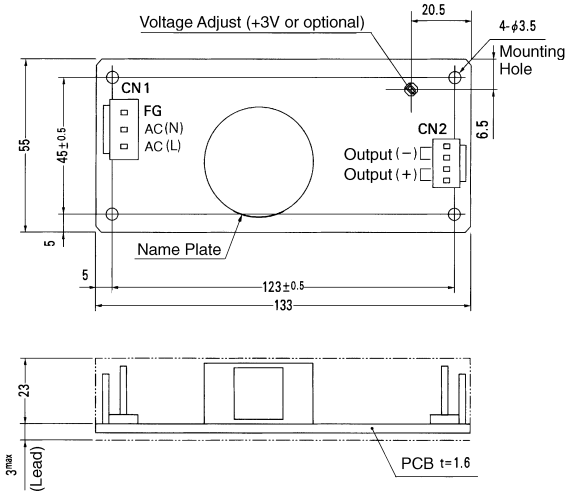
MODEL	LDA30F-3	LDA30F-5	LDA30F-12	LDA30F-15	LDA30F-24
MAX OUTPUT WATTAGE[W]	18	30	30	30	31.2
DC OUTPUT	3V 6.0A	5V 6.0A	12V 2.5A	15V 2.0A	24V 1.3A

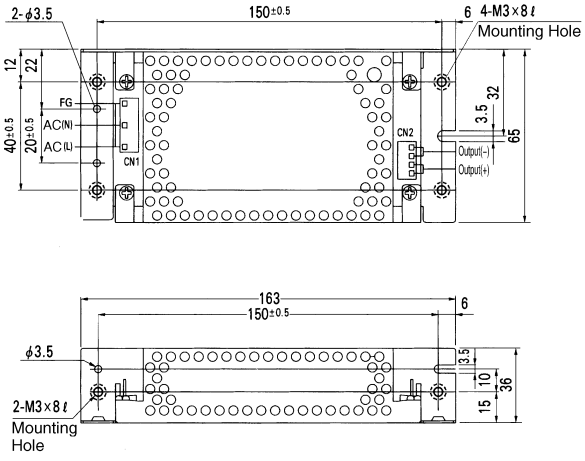
SPECIFICATIONS

	MODEL		LDA30F-3	LDA30F-5	LDA30F-12	LDA30F-15	LDA30F-24
INPUT	VOLTAGE[V]		AC85 - 264 1φ or DC110 - 370				
	CURRENT[A]	ACIN 100V	0.8typ (Io=100%)				
		ACIN 200V	0.4typ (Io=100%)				
	FREQUENCY[Hz]		47 - 440 or DC				
	EFFICIENCY[%]		70typ	75typ	77typ	78typ	79typ
	INRUSH CURRENT[A]	ACIN 100V	15typ (Io=100%) (At cold start)				
		ACIN 200V	30typ (Io=100%) (At cold start)				
	LEAKAGE CURRENT[mA]		0.75max (60Hz, According to UL, CSA, VDE and DEN-AN)				
OUTPUT	VOLTAGE[V]		3	5	12	15	24
	CURRENT[A]		6	6	2.5	2	1.3
	LINE REGULATION[mV]		20max	20max	48max	60max	96max
	LOAD REGULATION[mV]		40max	40max	100max	120max	150max
	RIPPLE[mVp-p]	0 to +50℃	80max	80max	120max	120max	120max
		-10 - 0℃	140max	140max	160max	160max	160max
	RIPPLE NOISE[mVp-p]	0 to +50℃	120max	120max	150max	150max	150max
		-10 - 0℃	160max	160max	180max	180max	180max
	TEMPERATURE REGULATION[mV]		60max	60max	150max	180max	290max
	DRIFT[mV]	*1	20max	20max	48max	60max	96max
	START-UP TIME[ms]		200max (ACIN 100V, Io=100%)				
	HOLD-UP TIME[ms]		10typ (ACIN 85V, Io=100%) 20typ (ACIN 100V, Io=100%)				
	OUTPUT VOLTAGE ADJUSTMENT RANGE[V]		2.85 - 3.6	Fixed ("Y"which can be adjusted the output is available as option :5 - 24V ±10%)			
	OUTPUT VOLTAGE SETTING[V]		——	4.9 - 5.3	11.5 - 12.5	14.4 - 15.6	23.0 - 25.0
PROTECTION CIRCUIT AND OTHERS	OVERCURRENT PROTECTION		Works over 105% of rating and recovers automatically				
	OVERVOLTAGE PROTECTION		4.00 - 5.25V	Works at 115 - 140% of rating			
	OPERATING INDICATION		Not provided				
	REMOTE SENSING		Not provided				
	REMOTE ON/OFF		Not provided				
ISOLATION	INPUT-OUTPUT		AC3,000V 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 = 100mA, DC500V 50MΩ min (At Room Temperature)				
ENVIRONMENT	OPERATING TEMP.,HUMID.AND ALTITUDE		-10 to +60℃, 20 - 90%RH (Non condensing) (Refer to DERATING CURVE) 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		UL1950, EN60950, VDE0160, CSA C22.2 No.234 Complies with DEN-AN and IEC60950				
	CONDUCTED NOISE		Complies with FCC-B, CISPR22-B, EN55022-B, VCCI-B				
OTHERS	CASE SIZE/WEIGHT		55×26×133mm (W×H×D) /200g max (without chassis and cover)				
	COOLING METHOD		Convection				

*1 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.
* Avoid prolonged use under over-load.
* Series/Parallel operation with other model is not possible.
* Derating is required when operated with chassis and cover.

External view





I/O Connector		Mating Connector	Terminal
CN1	B3P5-VH	VHR-5N	Chain: SVH-21T-P1.1
			Loose: BVH-21T-P1.1
CN2	B4P-VH	VHR-4N	Chain: SVH-21T-P1.1
			Loose: BVH-21T-P1.1

(Mfr : J.S.T.)

<PIN CONNECTION>

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

	Pin No.	Output
CN2	1	−V
	2	−V
	3	+V
	4	+V

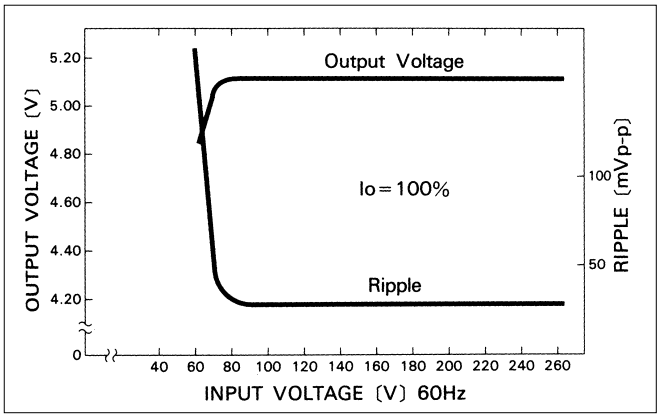
※Keep drawing current per pin below 5A for CN2.

※Weight : 200g or less (Without chassis and cover)
※Tolerance : ±1
※Dimensions in mm.
※PCB Material : Glass composite (CEM3)
※Chassis and cover is optional.
※Mounting torque : 0.6N·m (6.3kgf·cm) max

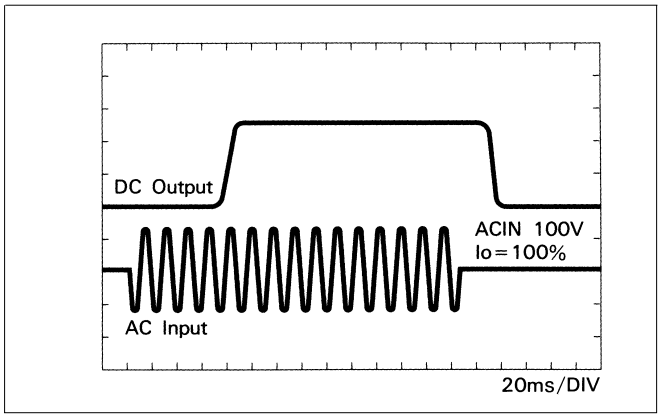
LDA

Performance data

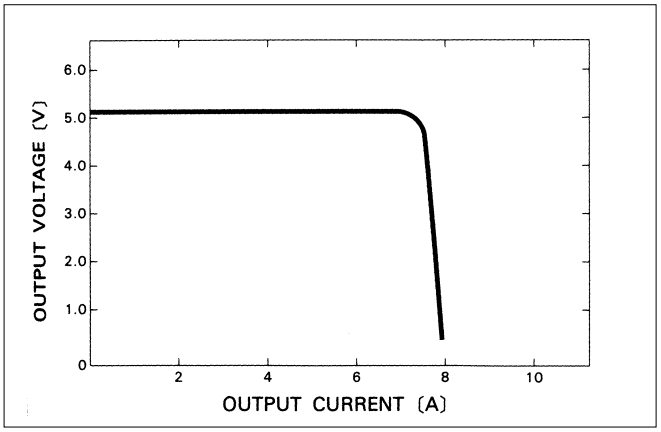
■STATIC CHARACTERISTICS (LDA30F-5)



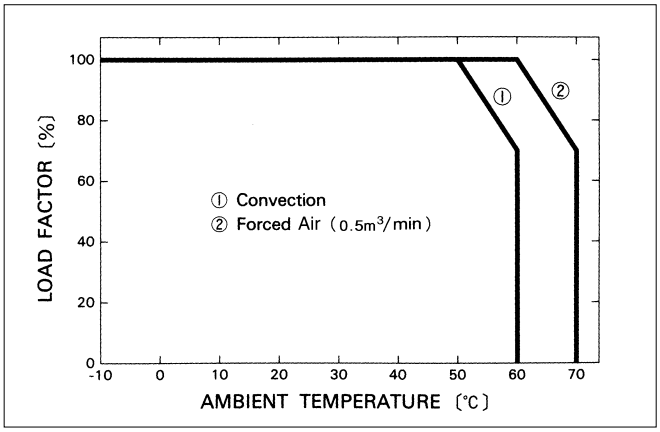
■RISE TIME & FALL TIME (LDA30F-5)



■OVERCURRENT CHARACTERISTICS (LDA30F-5)



■DERATING CURVE



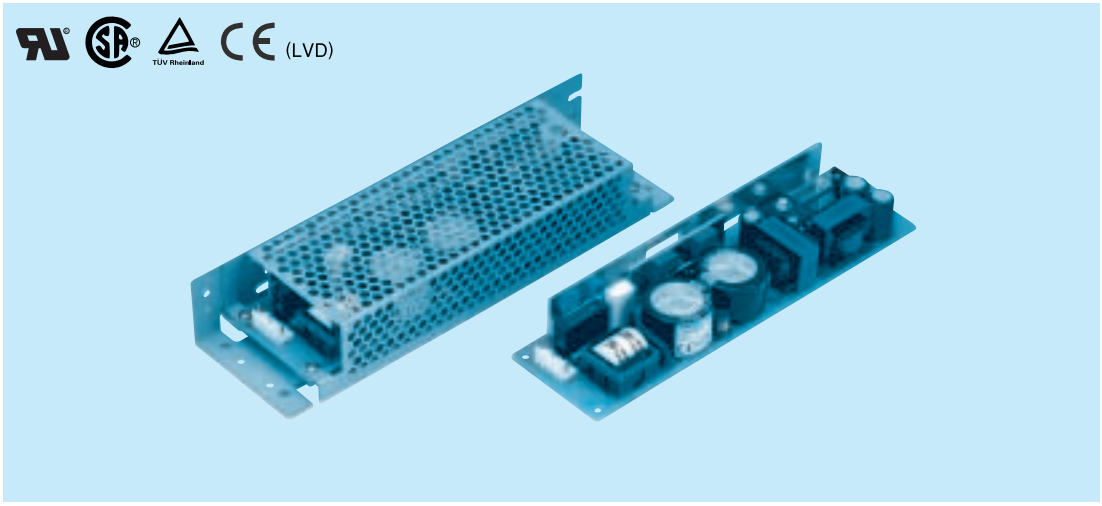
COSEL **Rugged PCB type**

LDA50

Ordering information

LDA 50 F -5 -□

① ② ③ ④ ⑤



①Series name
②Output wattage
③Universal input
④Output voltage
⑤Optional
C :with Coating
G :Low leakage current
R :with Remote ON/OFF
S :with Chassis
SN:with Chassis & cover
Y :with Potentiometer

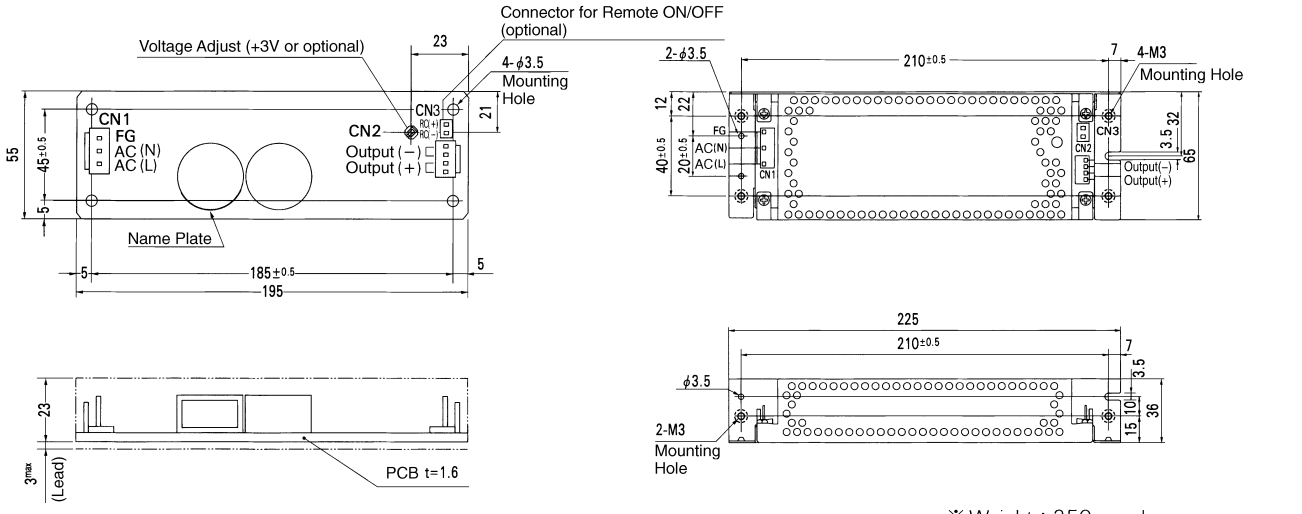
MODEL	LDA50F-3	LDA50F-5	LDA50F-9	LDA50F-12	LDA50F-15	LDA50F-18	LDA50F-24	LDA50F-24-H	LDA50F-24-HR	LDA50F-30
MAX OUTPUT WATTAGE[W]	30	50	50.4	51.6	52.5	50.4	50.4	50.4	50.4	51
DC OUTPUT *3	3V 10A	5V 10A	9V 5.6A	12V 4.3A	15V 3.5A	18V 2.8A	24V 2.1A	24V 2.1(3)A	24V 2.1(3)A	30V 1.7A

SPECIFICATIONS

	MODEL		★LDA50F-3	LDA50F-5	★LDA50F-9	LDA50F-12	LDA50F-15	LDA50F-18	LDA50F-24	★LDA50F-24-H	★LDA50F-24-HR	★LDA50F-30
INPUT	VOLTAGE[V]		AC85 - 264 1φ or DC110 - 370									
	CURRENT[A]	ACIN 100V	1.3typ (Io=100%)									
		ACIN 200V	0.7typ (Io=100%)									
	FREQUENCY[Hz]		47 - 440 or DC									
	EFFICIENCY[%]		73typ	77typ	78typ	80typ	81typ	81typ	82typ	82typ	82typ	82typ
	INRUSH CURRENT[A]	ACIN 100V	15typ (Io=100%) (At cold start)									
		ACIN 200V	30typ (Io=100%) (At cold start)									
	LEAKAGE CURRENT[mA]		0.75max (60Hz, According to UL, CSA, VDE and DEN-AN)									
OUTPUT	VOLTAGE[V]		3	5	9	12	15	18	24	24	24	30
	CURRENT[A]	*1	10	10	5.6	4.3	3.5	2.8	2.1	2.1 (3)	2.1 (3)	1.7
	LINE REGULATION[mV]		20max	20max	36max	48max	60max	72max	96max	96max	96max	120max
	LOAD REGULATION[mV]		40max	40max	100max	100max	120max	120max	150max	150max	150max	180max
	RIPPLE[mVp-p]	0 to +50℃	80max	80max	120max	120max	120max	120max	120max	120max	120max	120max
		-10 - 0℃	140max	140max	160max	160max	160max	160max	160max	160max	160max	160max
	RIPPLE NOISE[mVp-p]	0 to +50℃	120max	120max	150max	150max	150max	150max	150max	250max	250max	150max
		-10 - 0℃	160max	160max	180max	180max	180max	180max	180max	280max	280max	180max
	TEMPERATURE REGULATION[mV]		60max	60max	120max	150max	180max	200max	290max	290max	290max	360max
	DRIFT[mV]	*2	20max	20max	36max	48max	60max	72max	96max	96max	96max	120max
	START-UP TIME[ms]		200max (ACIN 100V, Io=100%)									
	HOLD-UP TIME[ms]		10typ (ACIN 85V, Io=100%) 20typ (ACIN 100V, Io=100%)									
	OUTPUT VOLTAGE ADJUSTMENT RANGE[V]		2.85 - 3.6	Fixed ("Y"which can be adjusted the output is available as option :5 - 30V ±10%)								
	OUTPUT VOLTAGE SETTING[V]		——	4.9 - 5.3	8.6 - 9.4	11.5 - 12.5	14.4 - 15.6	17.3 - 18.7	23.0 - 25.0	23.0 - 25.0	23.0 - 25.0	28.5 - 31.5
PROTECTION CIRCUIT AND OTHERS	OVERCURRENT PROTECTION		Works over 105% of rating (-H : peak) and recovers automatically									
	OVERVOLTAGE PROTECTION		4.00 - 5.25V	Works at 115 - 140% of rating								
	OPERATING INDICATION		Not provided									
	REMOTE SENSING		Not provided									
	REMOTE ON/OFF		Option (Refer to Instruction Manual)									
ISOLATION	INPUT-OUTPUT		AC3,000V 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 = 100mA, DC500V 50MΩ min (At Room Temperature)									
ENVIRONMENT	OPERATING TEMP.,HUMID.AND ALTITUDE		-10 to +60℃, 20 - 90%RH (Non condensing) (Refer to DERATING CURVE) 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		UL1950, EN60950, VDE0160, CSA C22.2 No.234 Complies with DEN-AN and IEC60950									
	CONDUCTED NOISE		Complies with FCC-B, CISPR22-B, EN55022-B, VCCI-B									
OTHERS	CASE SIZE/WEIGHT		55×26×195mm (W×H×D) /250g max (without chassis and cover)									
	COOLING METHOD		Convection									

*1 Peak load for 10sec. or less is acceptable if the total wattage is less than the rated wattage(24V:50.4W).
*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 current
* Avoid prolonged use under over-load.
* Parallel operation with other model is not possible.
* Derating is required when operated with chassis and cover.
★marked models are pending for safety approvals. Consult with us for delivery.

External view



I/O Connector		Mating Connector	Terminal
CN1	B3P5-VH	VHR-5N	Chain: SVH-21T-P1.1
			Loose: BVH-21T-P1.1
CN2	B4P-VH	VHR-4N	Chain: SVH-21T-P1.1
			Loose: BVH-21T-P1.1
CN3	B2B-XH-A	XHP-2	Chain: SXH-001T-P0.6
			Loose: BXH-001T-P0.6

(Mfr : J.S.T.)

〈PIN CONNECTION〉

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

CN2 Pin No.	CN2 Output
1	−V
2	−V
3	+V
4	+V

CN3 Pin No.	CN3 Remote ON/OFF
1	RC(+)
2	RC(−)

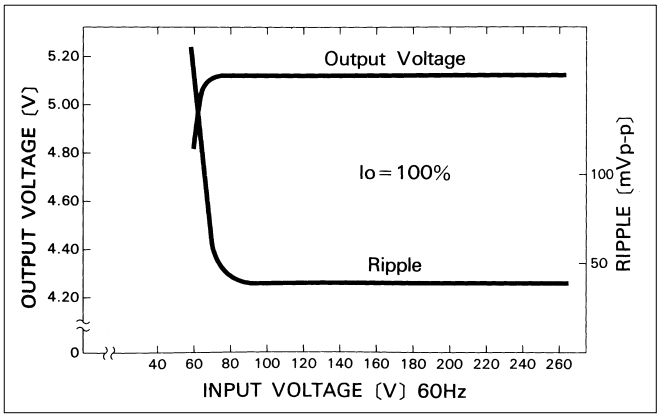
※ Keep drawing current per pin below 5A for CN2.

※ Weight : 250g or less (Without chassis and cover)
※ Tolerance : ±1
※ Dimensions in mm.
※ PCB Material : Glass composite (CEM3)
※ Chassis and cover is optional.
※ Mounting torque : 0.6N·m (6.3kgf·cm) max

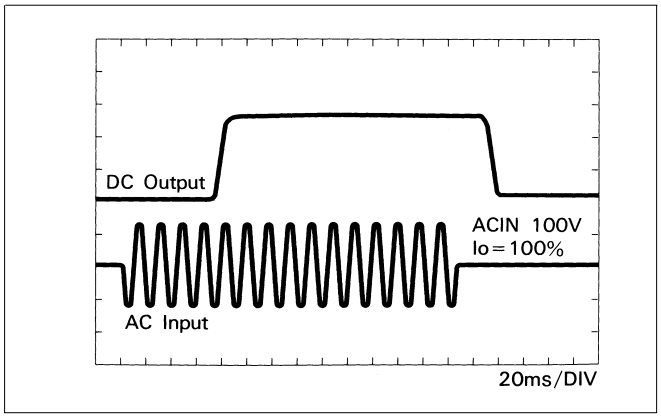
LDA

Performance data

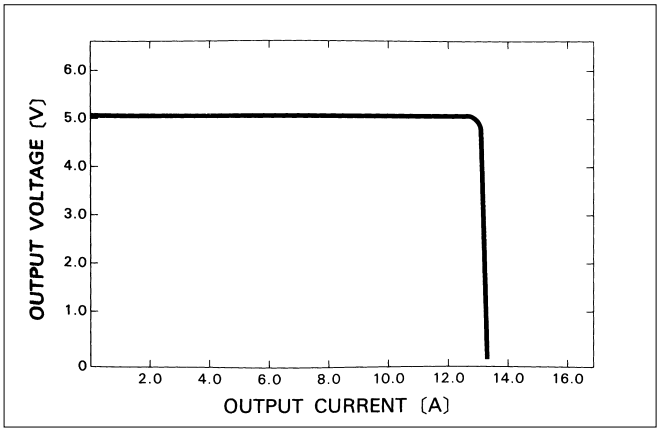
■STATIC CHARACTERISTICS (LDA50F-5)



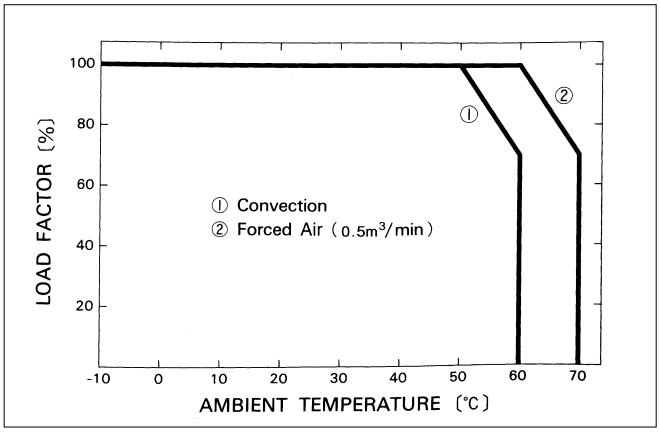
■RISE TIME & FALL TIME (LDA50F-5)



■OVERCURRENT CHARACTERISTICS (LDA50F-5)



■DERATING CURVE

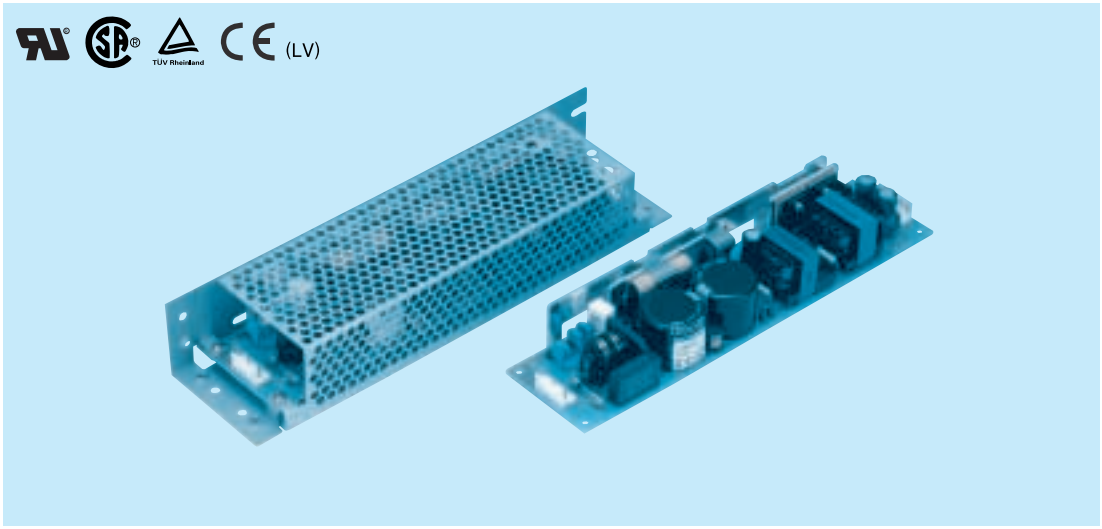


COSEL **Rugged PCB type**

LDA75

Ordering information

LDA ① 75 ② F ③ -5 ④ -□ ⑤



①Series name
②Output wattage
③Universal input
④Output voltage
⑤Optional
C :with Coating
G :Low leakage current
L :with LED
R :with Remote ON/OFF
S :with Chassis
SN:with Chassis & cover
Y :with Potentiometer

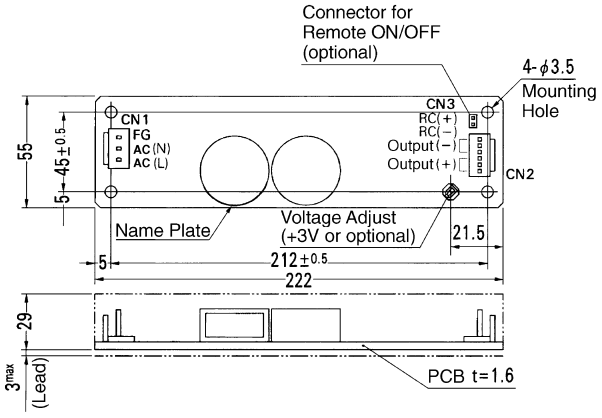
MODEL	LDA75F-3	LDA75F-5	LDA75F-9	LDA75F-12	LDA75F-15	LDA75F-18	LDA75F-24	LDA75F-24-H	LDA75F-24-HR	LDA75F-30
MAX OUTPUT WATTAGE[W]	45	75	76.5	75.6	75	75.6	76.8	76.8	76.8	75
DC OUTPUT ※3	3V 15A	5V 15A	9V 8.5A	12V 6.3A	15V 5A	18V 4.2A	24V 3.2A	24V 3.2(4.5)A	24V 3.2(4.5)A	30V 2.5A

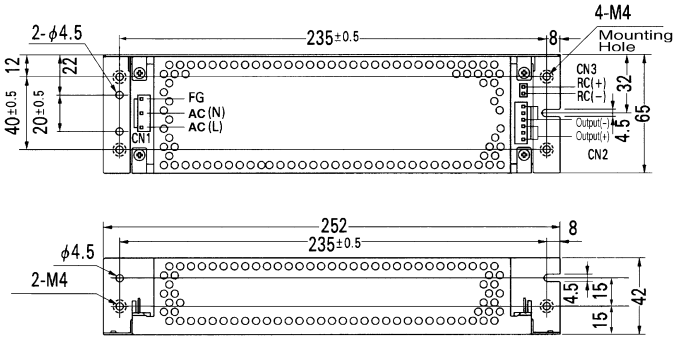
SPECIFICATIONS

	MODEL		★LDA75F-3	LDA75F-5	★LDA75F-9	LDA75F-12	LDA75F-15	★LDA75F-18	LDA75F-24	★LDA75F-24-H	★LDA75F-24-HR	★LDA75F-30
INPUT	VOLTAGE[V]		AC85 - 264 1φ or DC110 - 370									
	CURRENT[A]	ACIN 100V	1.8typ (Io=100%)									
		ACIN 200V	1.0typ (Io=100%)									
	FREQUENCY[Hz]		47 - 440									
	EFFICIENCY[%]		73typ	79typ	79typ	80typ	81typ	81typ	82typ	82typ	82typ	82typ
	INRUSH CURRENT[A]	ACIN 200V	30typ (Io=100%) (At cold start)									
	LEAKAGE CURRENT[mA]		0.75max (60Hz, According to UL, CSA, VDE and DEN-AN)									
OUTPUT	VOLTAGE[V]		3	5	9	12	15	18	24	24	24	30
	CURRENT[A]	※1	15	15	8.5	6.3	5	4.2	3.2	3.2 (4.5)	3.2 (4.5)	2.5
	LINE REGULATION[mV]		20max	20max	36max	48max	60max	72max	96max	96max	96max	120max
	LOAD REGULATION[mV]		40max	40max	100max	100max	120max	120max	150max	150max	150max	180max
	RIPPLE[mVp-p]	0 to +50℃	80max	80max	120max	120max	120max	120max	120max	120max	120max	120max
		-10 - 0℃	140max	140max	160max	160max	160max	160max	160max	160max	160max	160max
	RIPPLE NOISE[mVp-p]	0 to +50℃	120max	120max	150max	150max	150max	150max	150max	250max	250max	150max
		-10 - 0℃	160max	160max	180max	180max	180max	180max	180max	280max	280max	180max
	TEMPERATURE REGULATION[mV]		60max	60max	120max	150max	180max	200max	290max	290max	290max	360max
	DRIFT[mV]	※2	20max	20max	36max	48max	60max	72max	96max	96max	96max	120max
	START-UP TIME[ms]		200max (ACIN 100V, Io=100%)									
	HOLD-UP TIME[ms]		10typ (ACIN 85V, Io=100%) 20typ (ACIN 100V, Io=100%)									
	OUTPUT VOLTAGE ADJUSTMENT RANGE[V]		2.85 - 3.6	Fixed ("Y"which can be adjusted the output is available as option :5 - 30V ±10%)								
	OUTPUT VOLTAGE SETTING[V]		——	4.9 - 5.3	8.6 - 9.4	11.5 - 12.5	14.4 - 15.6	17.3 - 18.7	23.0 - 25.0	23.0 - 25.0	23.0 - 25.0	28.5 - 31.5
PROTECTION CIRCUIT AND OTHERS	OVERCURRENT PROTECTION		Works over 105% of rating (-H : peak) and recovers automatically									
	OVERVOLTAGE PROTECTION		4.00 - 5.25V	Works at 115 - 140% of rating								
	OPERATING INDICATION		Not provided									
	REMOTE SENSING		Not provided									
	REMOTE ON/OFF		Option (Refer to Instruction Manual)									
ISOLATION	INPUT-OUTPUT		AC3,000V 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 = 100mA, DC500V 50MΩ min (At Room Temperature)									
ENVIRONMENT	OPERATING TEMP.,HUMID.AND ALTITUDE		-10 to +60℃, 20 - 90%RH (Non condensing) (Refer to DERATING CURVE) 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		UL1950, EN60950, VDE0160, CSA C22.2 No.234 Complies with DEN-AN and IEC60950									
	CONDUCTED NOISE		Complies with FCC-B, CISPR22-B, EN55022-B, VCCI-B									
OTHERS	CASE SIZE/WEIGHT		55×32×222mm (W×H×D) /320g max (without chassis and cover)									
	COOLING METHOD		Convection									

※1 Peak load for 10sec. or less is acceptable if the total wattage is less than the rated wattage(24V:76.8W).
※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 current
※ Avoid prolonged use under over-load.
※ Parallel operation with other model is not possible.
※ Derating is required when operated with chassis and cover.
★marked models are pending for safety approvals. Consult with us for delivery.

External view





I/O Connector		Mating Connector	Terminal
CN1	B3P5-VH	VHR-5N	Chain:SVH-21T-P1.1
			Loose:BVH-21T-P1.1
CN2	B4P-VH	VHR-6N	Chain:SVH-21T-P1.1
			Loose:BVH-21T-P1.1
CN3	B2B-XH-A	XHP-2	Chain:SXH-001T-P0.6
			Loose:BXH-001T-P0.6

(Mfr : J.S.T.)

〈PIN CONNECTION〉

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

CN2 Pin No.	CN2 Output
1~3	−V
4~6	+V

CN3 Pin No.	CN3 Remote ON/OFF
1	RC(+)
2	RC(−)

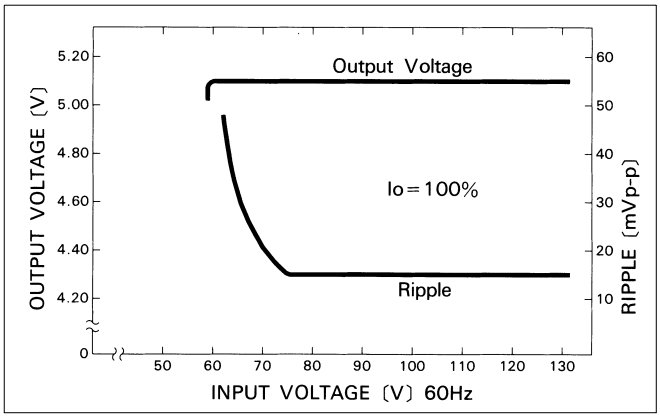
※Keep drawing current per pin below 5A for CN2.

※Weight : 320g or less
(Without chassis and cover)
※Tolerance : ±1
※Dimensions in mm.
※PCB Material : Glass composite
(CEM3)
※Chassis and cover is optional.
※Mounting torque : 1.5 N·m (16 kgf·cm) max

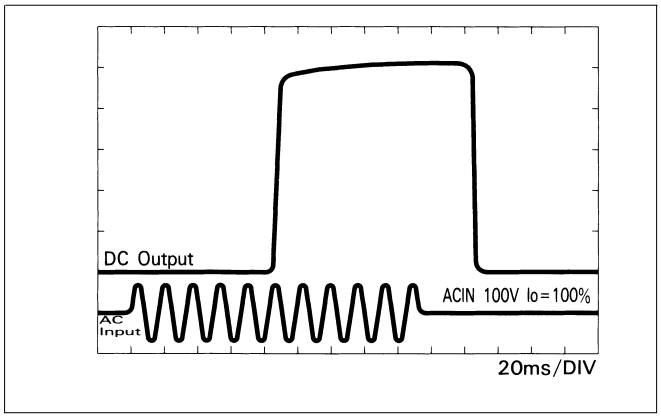
LDA

Performance data

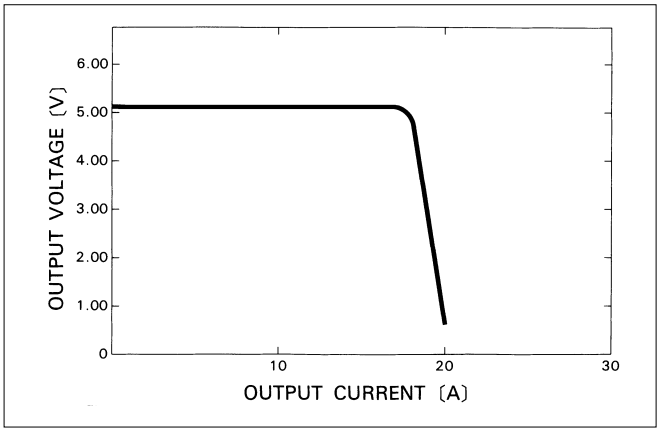
■STATIC CHARACTERISTICS (LDA75F-5)



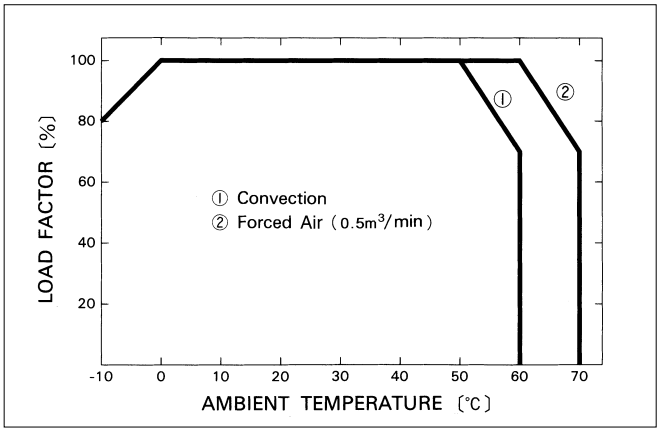
■RISE TIME & FALL TIME (LDA75F-5)



■OVERCURRENT CHARACTERISTICS (LDA75F-5)



■DERATING CURVE



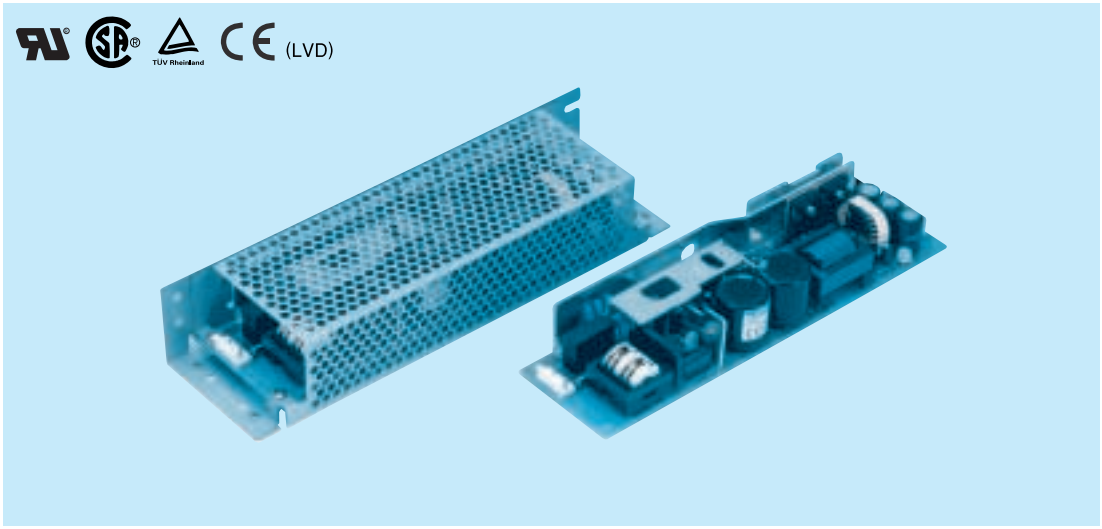
COSEL **Rugged PCB type**

LDA 00

Ordering information

LDA 100 W -5 -□

① ② ③ ④ ⑤



①Series name
②Output wattage
③Autoranging input
④Output voltage
⑤Optional
C :with Coating
G :Low leakage current
R :with Remote ON/OFF
S :with Chassis
SN:with Chassis & cover
Y :with Potentiometer

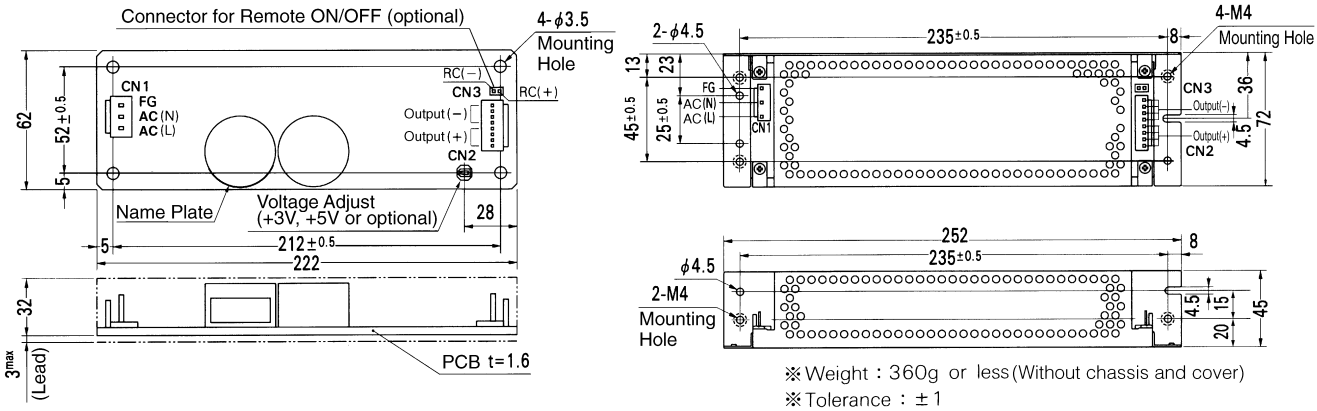
MODEL	LDA100W-3	LDA100W-5	LDA100W-9	LDA100W-12	LDA100W-15	LDA100W-18	LDA100W-24	LDA100W-24-H	LDA100W-30	LDA100W-48
MAX OUTPUT WATTAGE[W]	60	100	103.5	102	100.5	100.8	103.2	103.2	105	96
DC OUTPUT ※3	3V 20A	5V 20A	9V 11.5A	12V 8.5A	15V 6.7A	18V 5.6A	24V 4.3A	24V 4.3(6.5)A	30V 3.5A	48V 2.0A

SPECIFICATIONS

	MODEL		★LDA100W-3	LDA100W-5	★LDA100W-9	LDA100W-12	LDA100W-15	★LDA100W-18	LDA100W-24	★LDA100W-24-H	★LDA100W-30	★LDA100W-48
INPUT	VOLTAGE[V]		AC 85 - 132 / 170 - 264 1φ									
	CURRENT[A]	ACIN 100V	2.4typ (Io=100%)									
		ACIN 200V	1.2typ (Io=100%)									
	FREQUENCY[Hz]		47 - 440									
	EFFICIENCY[%]		75typ	79typ	80typ	81typ	82typ	82typ	83typ	83typ	83typ	82typ
	INRUSH CURRENT[A]	ACIN 200V	30typ (Io=100%) (At cold start)									
	LEAKAGE CURRENT[mA]		0.75max (60Hz, According to UL, CSA, VDE and DEN-AN)									
OUTPUT	VOLTAGE[V]		3	5	9	12	15	18	24	24	30	48
	CURRENT[A]	※1	20	20	11.5	8.5	6.7	5.6	4.3	4.3 (6.5)	3.5	2.0
	LINE REGULATION[mV]		20max	20max	36max	48max	60max	72max	96max	96max	120max	192max
	LOAD REGULATION[mV]		40max	40max	100max	100max	120max	120max	150max	150max	180max	240max
	RIPPLE[mVp-p]	0 to +50℃	80max	80max	120max	120max	120max	120max	120max	120max	120max	150max
		-10 - 0℃	140max	140max	160max	160max	160max	160max	160max	160max	160max	200max
	RIPPLE NOISE[mVp-p]	0 to +50℃	120max	120max	150max	150max	150max	150max	150max	250max	150max	400max
		-10 - 0℃	160max	160max	180max	180max	180max	180max	180max	280max	180max	600max
	TEMPERATURE REGULATION[mV]		60max	60max	120max	150max	180max	200max	290max	290max	360max	560max
	DRIFT[mV]	※2	20max	20max	36max	48max	60max	72max	96max	96max	120max	192max
	START-UP TIME[ms]		200max (ACIN 100V, Io=100%)									
	HOLD-UP TIME[ms]		10typ (ACIN 85V, Io=100%) 20typ (ACIN 100V, Io=100%)									
	OUTPUT VOLTAGE ADJUSTMENT RANGE[V]		2.85 - 3.6	4.5 - 5.5	Fixed ("Y"which can be adjusted the output is available as option :9 - 48V ±10%)							
	OUTPUT VOLTAGE SETTING[V]		——	——	8.6 - 9.4	11.5 - 12.5	14.4 - 15.6	17.3 - 18.7	23.0 - 25.0	23.0 - 25.0	28.8 - 31.2	46.0 - 50.0
PROTECTION CIRCUIT AND OTHERS	OVERCURRENT PROTECTION		Works over 105% of rating (-H : peak) and recovers automatically									
	OVERVOLTAGE PROTECTION		4.00 - 5.25V	Works at 115 - 140% of rating								
	OPERATING INDICATION		Not provided									
	REMOTE SENSING		Not provided									
	REMOTE ON/OFF		Option (Refer to Instruction Manual)									
ISOLATION	INPUT-OUTPUT		AC3,000V 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 = 100mA, DC500V 50MΩ min (At Room Temperature)									
ENVIRONMENT	OPERATING TEMP.,HUMID.AND ALTITUDE		-10 to +60℃, 20 - 90%RH (Non condensing) (Refer to DERATING CURVE) 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		UL1950, EN60950, VDE0160, CSA C22.2 No.234 Complies with DEN-AN and IEC60950									
	CONDUCTED NOISE		Complies with FCC-B, CISPR22-B, EN55022-B, VCCI-B									
OTHERS	CASE SIZE/WEIGHT		62×35×222mm (W×H×D) /360g max (without chassis and cover)									
	COOLING METHOD		Convection									

※1 Peak load for 20sec. or less is acceptable if the total wattage is less than the rated wattage(24V:103.2W).
※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 current
※ Avoid prolonged use under over-load.
※ Parallel operation with other model is not possible.
※ Derating is required when operated with chassis and cover.
★marked models are pending for safety approvals. Consult with us for delivery.

External view



※Weight : 360g or less (Without chassis and cover)
※Tolerance : ±1
※Dimensions in mm.
※PCB Material : Glass composite (CEM3)
※Chassis and cover is optional.
※Mounting torque : 1.5 N·m (16 kgf·cm) max

I/O Connector		Mating Connector	Terminal
CN1	B3P5-VH	VHR-5N	Chain: SVH-21T-P1.1
			Loose: BVH-21T-P1.1
CN2	B8P-VH	VHR-8N	Chain: SVH-21T-P1.1
			Loose: BVH-21T-P1.1
CN3	B2B-XH-A	XHP-2	Chain: SXH-001T-P0.6
			Loose: BXH-001T-P0.6

(Mfr : J.S.T.)

〈PIN CONNECTION〉

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

	Pin No.	Output
CN2	1~4	−V
	5~8	+V

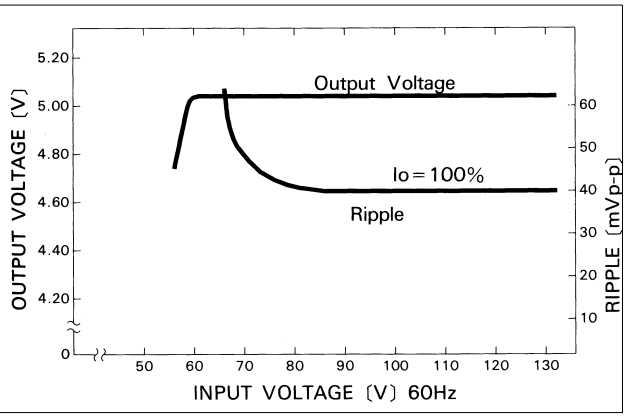
	Pin No.	Remote ON/OFF
CN3	1	RC(+)
	2	RC(−)

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

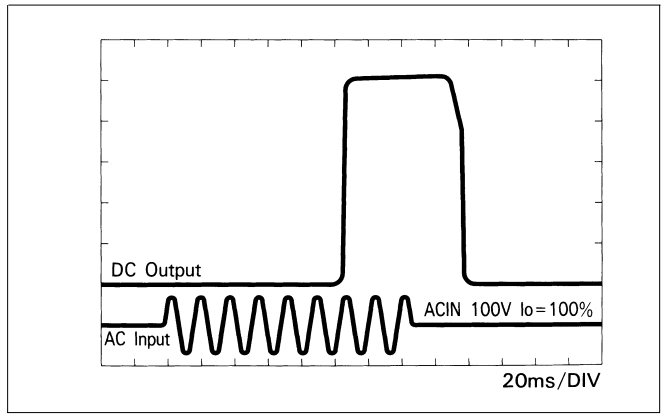
LDA

Performance data

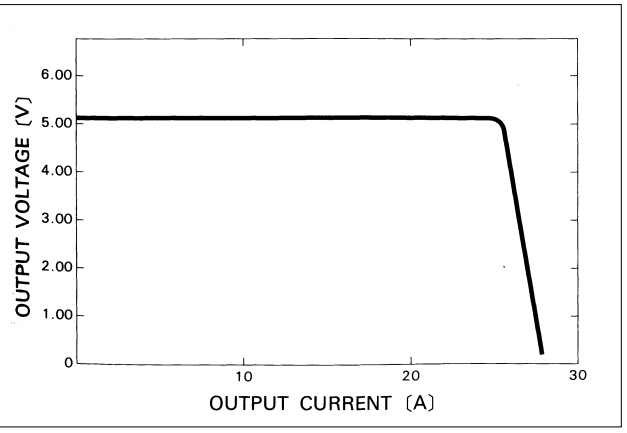
■STATIC CHARACTERISTICS (LDA100W-5)



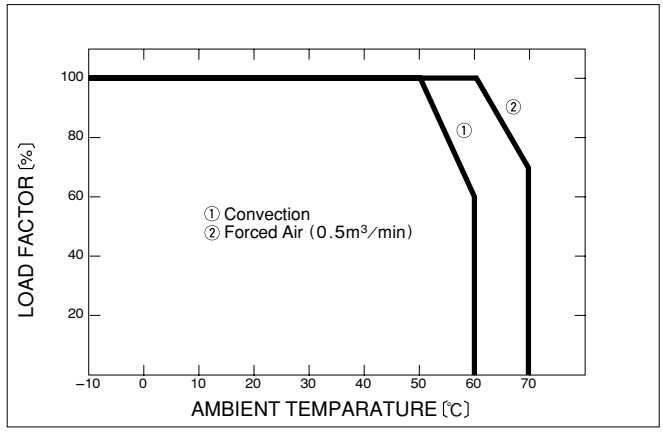
■RISE TIME & FALL TIME (LDA100W-5)



■OVERCURRENT CHARACTERISTICS (LDA100W-5)



■DERATING CURRENT



COSEL Rugged PCB type

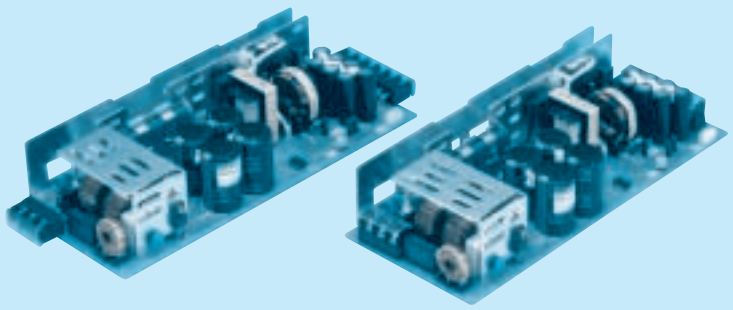
LDA300

Ordering information

LDA 300 W -5 -□

① ② ③ ④ ⑤

(LVD)



①Series name
②Output wattage
③Autoranging input
④Output voltage
⑤Optional
C :with Coating
G :Low leakage current
L :with LED
R :with Remote ON/OFF
S :with Chassis
SNF:with Chassis & cover & fan
T :Vertical terminal block

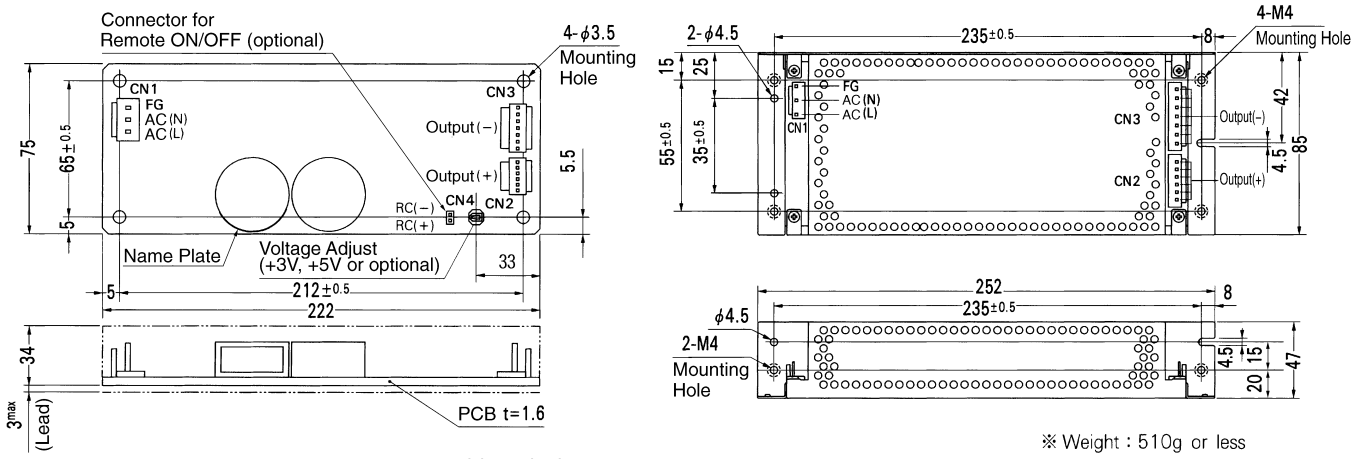
MODEL	LDA300W-3	LDA300W-5	LDA300W-9	LDA300W-12	LDA300W-15	LDA300W-18	LDA300W-24	LDA300W-30	LDA300W-48
MAX OUTPUT WATTAGE[W]	180	300	306	324	330	306	336	300	302.4
DC OUTPUT	3V 60A	5V 60A	9V 34A	12V 27A	15V 22A	18V 17A	24V 14A	30V 10A	48V 6.3A

SPECIFICATIONS

	MODEL		LDA300W-3	LDA300W-5	LDA300W-9	LDA300W-12	LDA300W-15	LDA300W-18	LDA300W-24	LDA300W-30	LDA300W-48
INPUT	VOLTAGE[V]		AC 85 - 132 / 170 - 264 1φ								
	CURRENT[A]	ACIN 100V	7.5typ (Io=100%)								
		ACIN 200V	4.5typ (Io=100%)								
	FREQUENCY[Hz]		47 - 440								
	EFFICIENCY[%]	ACIN 100V	72typ	78typ	78typ	80typ	81typ	81typ	83typ	83typ	83typ
		ACIN 200V	74typ	81typ	81typ	83typ	84typ	84typ	86typ	86typ	86typ
	INRUSH CURRENT[A]	ACIN 100V	15/30A typ (Primary/Secondary Surge Current) Io=100% (More than 3sec.to re-start)								
		ACIN 200V	30/30typ (Primary/Secondary Surge Current) Io=100% (More than 3sec.to re-start)								
	LEAKAGE CURRENT[mA]		0.75max (60Hz, According to UL, CSA, VDE and DEN-AN)								
OUTPUT	VOLTAGE[V]		3	5	9	12	15	18	24	30	48
	CURRENT[A]	Forced air	60	60	34	27	22	17	14	10	6.3
		Convection ※1	40 (60)	40 (60)	23 (34)	17 (27)	14 (22)	12 (17)	9 (14)	7 (10)	4.2 (6.3)
	LINE REGULATION[mV]		20max	20max	36max	48max	60max	72max	96max	120max	192max
	LOAD REGULATION[mV]		40max	40max	100max	100max	120max	120max	150max	180max	240max
	RIPPLE[mVp-p]	0 to +50℃ ※2	80max	80max	120max	120max	120max	120max	120max	120max	150max
		-10 - 0℃ ※2	140max	140max	160max	160max	160max	160max	160max	160max	200max
	RIPPLE NOISE[mVp-p]	0 to +50℃ ※2	120max	120max	150max	150max	150max	150max	150max	150max	400max
		-10 - 0℃ ※2	160max	160max	180max	180max	180max	180max	180max	180max	600max
	TEMPERATURE REGULATION[mV]		60max	60max	120max	150max	180max	200max	290max	360max	560max
	DRIFT[mV]	※3	20max	20max	36max	48max	60max	72max	96max	120max	192max
	START-UP TIME[ms]		200max (ACIN 100V, Io=100%)								
	HOLD-UP TIME[ms]		10typ (ACIN 85V, Io=100%) 20typ (ACIN 100V, Io=100%)								
	OUTPUT VOLTAGE ADJUSTMENT RANGE[V]		2.85 - 3.6	±10%							
PROTECTION CIRCUIT AND OTHERS	OVERCURRENT PROTECTION		Works over 105% of rating and recovers automatically								
	OVERVOLTAGE PROTECTION		4.00 - 5.25V	Works at 115 - 140% of rating							
	OPERATING INDICATION		Not provided								
	REMOTE SENSING		Provided								
	REMOTE ON/OFF		Option (Refer to Instruction Manual)								
ISOLATION	INPUT-OUTPUT		AC3,000V 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 = 100mA, DC500V 50MΩ min (At Room Temperature)								
ENVIRONMENT	OPERATING TEMP.,HUMID.AND ALTITUDE		-10 to +70℃, 20 - 90%RH (Non condensing) (Refer to DERATING CURVE) 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		UL1950, C-UL, EN60950, VDE0160 Complies with DEN-AN and IEC60950								
	CONDUCTED NOISE		Complies with FCC-B, CISPR22-B, EN55022-B, VCCI-B								
OTHERS	CASE SIZE/WEIGHT		108×50×255mm (W×H×D) /1kg max (without terminal block)								
	COOLING METHOD		Convection / Forced air (Refer to DERATING CURVE)								

※1 Peak load for 30sec. or less is acceptable if the total wattage is less than the rated wattage.
※2 This is the value that measured on measuring board with capacitor of 22μF within 150mm from output terminal.
※3 Drift is the change in DC output for an eight hour period after a half-hour warm-up at 25℃, with the input voltage held constant at the rated input/output.
※ Parallel operation with other model is not possible.
※ Derating is required when operated with chassis and cover.

External view



I/O Connector		Mating Connector	Terminal
CN1	B3P5-VH	VHR-5N	Chain:SVH-21T-P1.1
			Loose:BVH-21T-P1.1
CN2	B6P-VH	VHR-6N	Chain:SVH-21T-P1.1
			Loose:BVH-21T-P1.1
CN3	B7P-VH	VHR-7N	Chain:SVH-21T-P1.1
			Loose:BVH-21T-P1.1
CN4	B2B-XH-A	XHP-2	Chain:SXH-001T-P0.6
			Loose:BXH-001T-P0.6

(Mfr : J.S.T.)

<PIN CONNECTION>

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

	Pin No.	Output
CN2	1~6	+V
CN3	1~7	−V

	Pin No.	Remote ON/OFF
CN4	1	RC(+)
	2	RC(−)

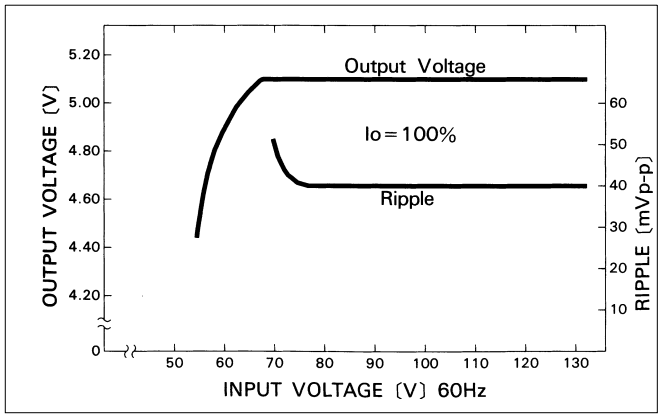
※Keep drawing current per pin below 5A for CN2, CN3.

※ Weight : 510g or less
(Without chassis and cover)
※ Tolerance : ±1
※ Dimensions in mm.
※ PCB Material : Glass composite
(CEM3)
※ Chassis and cover is optional.
※ Chassis and cover is not available to remote ON/OFF unit.
※Mounting torque : 1.5 N·m (16 kgf·cm) max

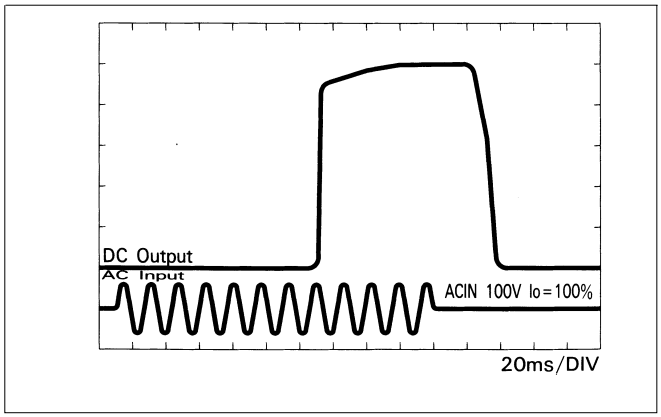
LDA

Performance data

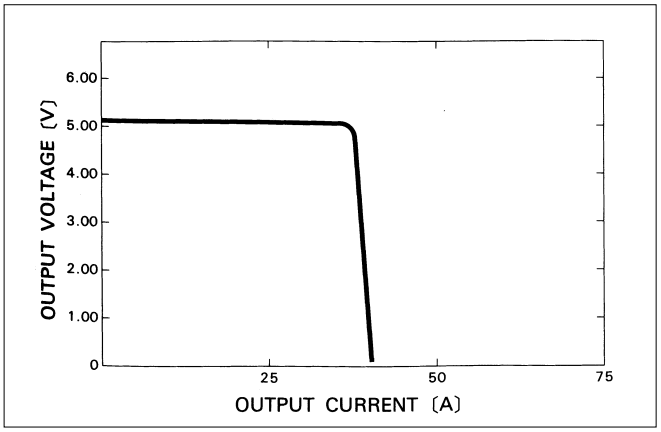
■STATIC CHARACTERISTICS (LDA150W-5)



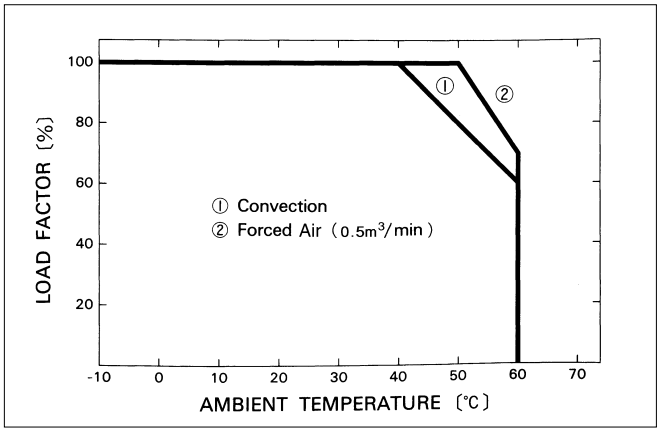
■RISE TIME & FALL TIME (LDA150W-5)



■OVERCURRENT CHARACTERISTICS (LDA150W-5)



■DERATING CURVE



COSEL Rugged PCB type

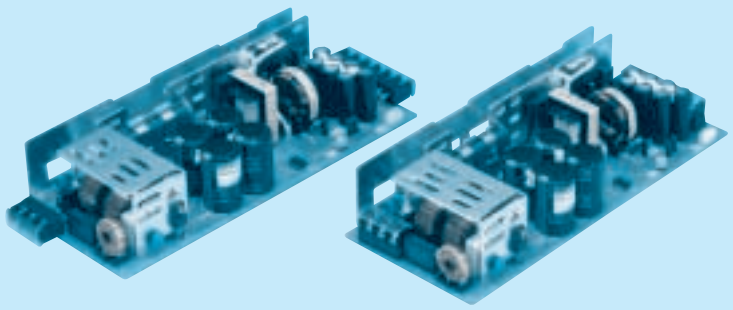
LDA300

Ordering information

LDA 300 W -5 -□

① ② ③ ④ ⑤

(LVD)



①Series name
②Output wattage
③Autoranging input
④Output voltage
⑤Optional
C :with Coating
G :Low leakage current
L :with LED
R :with Remote ON/OFF
S :with Chassis
SNF:with Chassis & cover & fan
T :Vertical terminal block

MODEL	LDA300W-3	LDA300W-5	LDA300W-9	LDA300W-12	LDA300W-15	LDA300W-18	LDA300W-24	LDA300W-30	LDA300W-48
MAX OUTPUT WATTAGE[W]	180	300	306	324	330	306	336	300	302.4
DC OUTPUT	3V 60A	5V 60A	9V 34A	12V 27A	15V 22A	18V 17A	24V 14A	30V 10A	48V 6.3A

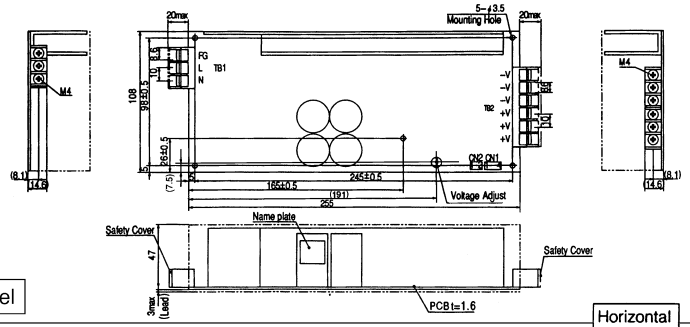
SPECIFICATIONS

	MODEL		LDA300W-3	LDA300W-5	LDA300W-9	LDA300W-12	LDA300W-15	LDA300W-18	LDA300W-24	LDA300W-30	LDA300W-48
INPUT	VOLTAGE[V]		AC 85 - 132 / 170 - 264 1φ								
	CURRENT[A]	ACIN 100V	7.5typ (Io=100%)								
		ACIN 200V	4.5typ (Io=100%)								
	FREQUENCY[Hz]		47 - 440								
	EFFICIENCY[%]	ACIN 100V	72typ	78typ	78typ	80typ	81typ	81typ	83typ	83typ	83typ
		ACIN 200V	74typ	81typ	81typ	83typ	84typ	84typ	86typ	86typ	86typ
	INRUSH CURRENT[A]	ACIN 100V	15/30A typ (Primary/Secondary Surge Current) Io=100% (More than 3sec.to re-start)								
		ACIN 200V	30/30typ (Primary/Secondary Surge Current) Io=100% (More than 3sec.to re-start)								
	LEAKAGE CURRENT[mA]		0.75max (60Hz, According to UL, CSA, VDE and DEN-AN)								
OUTPUT	VOLTAGE[V]		3	5	9	12	15	18	24	30	48
	CURRENT[A]	Forced air	60	60	34	27	22	17	14	10	6.3
		Convection ※1	40 (60)	40 (60)	23 (34)	17 (27)	14 (22)	12 (17)	9 (14)	7 (10)	4.2 (6.3)
	LINE REGULATION[mV]		20max	20max	36max	48max	60max	72max	96max	120max	192max
	LOAD REGULATION[mV]		40max	40max	100max	100max	120max	120max	150max	180max	240max
	RIPPLE[mVp-p]	0 to +50℃ ※2	80max	80max	120max	120max	120max	120max	120max	120max	150max
		-10 - 0℃ ※2	140max	140max	160max	160max	160max	160max	160max	160max	200max
	RIPPLE NOISE[mVp-p]	0 to +50℃ ※2	120max	120max	150max	150max	150max	150max	150max	150max	400max
		-10 - 0℃ ※2	160max	160max	180max	180max	180max	180max	180max	180max	600max
	TEMPERATURE REGULATION[mV]		60max	60max	120max	150max	180max	200max	290max	360max	560max
	DRIFT[mV]	※3	20max	20max	36max	48max	60max	72max	96max	120max	192max
	START-UP TIME[ms]		200max (ACIN 100V, Io=100%)								
	HOLD-UP TIME[ms]		10typ (ACIN 85V, Io=100%) 20typ (ACIN 100V, Io=100%)								
	OUTPUT VOLTAGE ADJUSTMENT RANGE[V]		2.85 - 3.6	±10%							
PROTECTION CIRCUIT AND OTHERS	OVERCURRENT PROTECTION		Works over 105% of rating and recovers automatically								
	OVERVOLTAGE PROTECTION		4.00 - 5.25V	Works at 115 - 140% of rating							
	OPERATING INDICATION		Not provided								
	REMOTE SENSING		Provided								
	REMOTE ON/OFF		Option (Refer to Instruction Manual)								
ISOLATION	INPUT-OUTPUT		AC3,000V 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 = 100mA, DC500V 50MΩ min (At Room Temperature)								
ENVIRONMENT	OPERATING TEMP.,HUMID.AND ALTITUDE		-10 to +70℃, 20 - 90%RH (Non condensing) (Refer to DERATING CURVE) 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		UL1950, C-UL, EN60950, VDE0160 Complies with DEN-AN and IEC60950								
	CONDUCTED NOISE		Complies with FCC-B, CISPR22-B, EN55022-B, VCCI-B								
OTHERS	CASE SIZE/WEIGHT		108×50×255mm (W×H×D) /1kg max (without terminal block)								
	COOLING METHOD		Convection / Forced air (Refer to DERATING CURVE)								

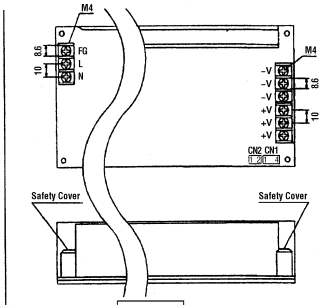
※1 Peak load for 30sec. or less is acceptable if the total wattage is less than the rated wattage.
※2 This is the value that measured on measuring board with capacitor of 22μF within 150mm from output terminal.
※3 Drift is the change in DC output for an eight hour period after a half-hour warm-up at 25℃, with the input voltage held constant at the rated input/output.
※ Parallel operation with other model is not possible.
※ Derating is required when operated with chassis and cover.

External view

Standard Model

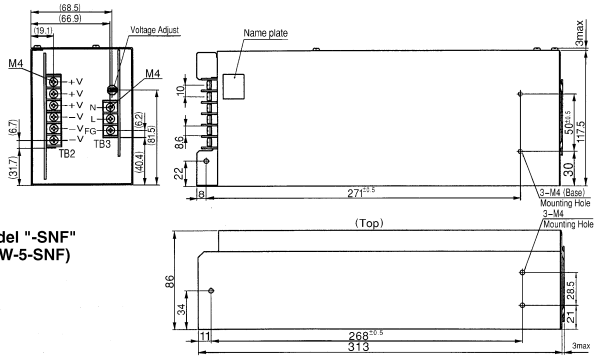


Horizontal type



Vertical type

Optional Model "-T"
(Ex.LDA300W-5-T)



Optional Model "-SNF"
(EX. LDA300W-5-SNF)

Applicable options

Terminal Block Horizontal type		Terminal Block Vertical type	
-S	Available	-ST	Available
-SN	Not Available	-SNT	Not Available
-SNF	Available 5V, 12V, 24V	-SNFT	Not Available

CN1 (Connector for Sensing)
Type: B4B-XH-A

Pin No.	Function
1	-M(-Output Voltage Monitor)
2	-S(Remote Sensing)
3	+S(Remote Sensing)
4	+M(+Output Voltage Monitor)

Mating Housing & Pin
Mfr: J.S.T.
XHP-4(BXH-001T-P0.6 or SXH-001T-P0.6)

CN2 (Optional connector for Remote ON/OFF: optional)
Type: B2B-XH-A

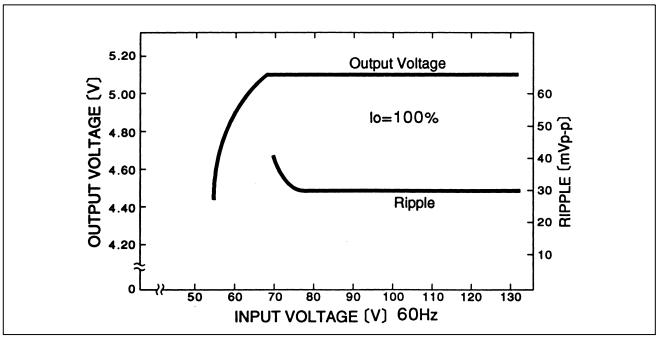
Pin No.	Function
1	RC (+)
2	RC (-)

Mating Housing & Pin
Mfr: J.S.T.
XHP-2(BXH-001T-P0.6 or SXH-001T-P0.6)

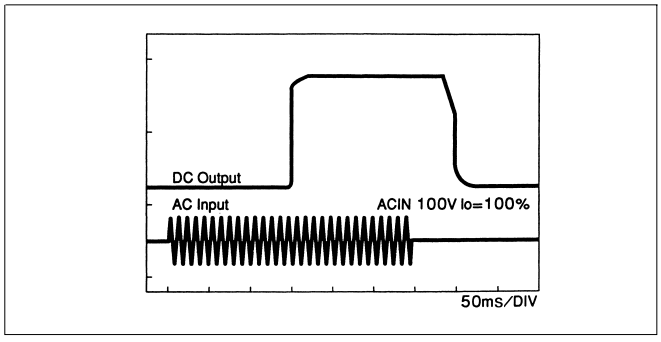
※Weight : 1kg or less (without casecover)
※Tolerance : ±1
※Dimensions in mm.
※PCB Material : Glass composite (CEM3)
※Keep drawing current per pin below 20A for TB2
※Mounting torque : 1.5N·m (16kgf·cm) max

Performance data

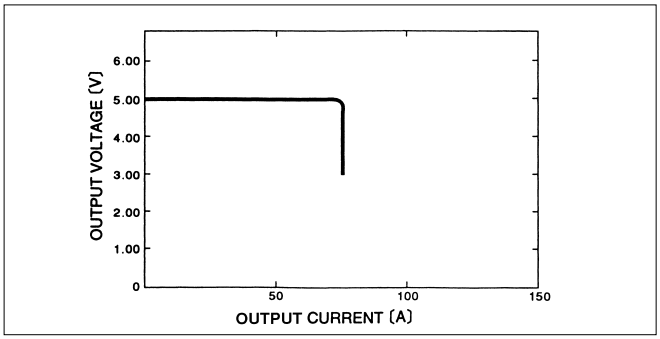
■STATIC CHARACTERISTICS (LDA300W-5)



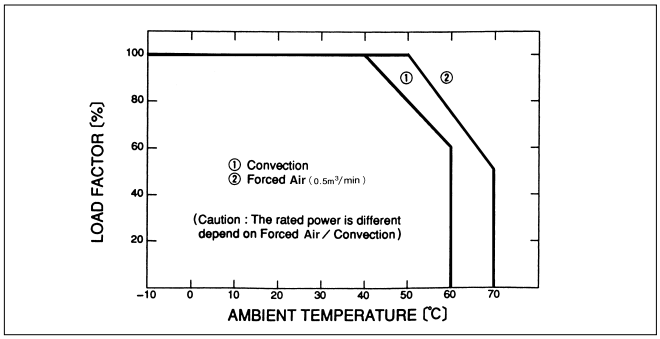
■RISE TIME & FALL TIME (LDA300W-5)



■OVERCURRENT CHARACTERISTICS (LDA300W-5)



■DERATING CURVE



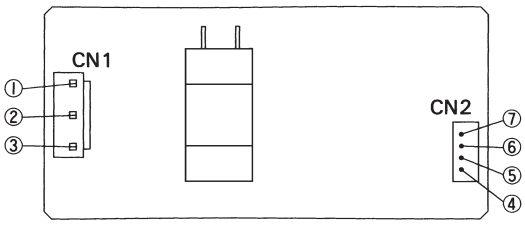
Basic Characteristics Data

Model	Circuit method	Switching frequency [kHz]	Input current [A]	Rated input fuse	Inrush current protection circuit	PCB/Pattern			Series/Parallel operation availability	
						Material	Single sided	Double sided	Series operation	Parallel operation
LDA10F	Flyback converter	45 - 400	0.25	250V 2A	Thermistor	CEM-3	Yes		✻1	✻1
LDA15F	Flyback converter	60 - 500	0.37	250V 2A	Thermistor	CEM-3	Yes		✻1	✻1
LDA30F	Forward converter	140	0.8	250V 3A	Thermistor	CEM-3	Yes		Yes	✻1
LDA50F	Forward converter	140	1.3	250V 3A	Thermistor	CEM-3	Yes		Yes	✻1
LDA75F	Forward converter	140	1.8	250V 5A	Thermistor	CEM-3	Yes		Yes	✻1
LDA100W	Forward converter	140	2.4	250V 5A	Thermistor	CEM-3	Yes		Yes	✻1
LDA150W	Forward converter	140	3.6	250V 6.3A	Thermistor	CEM-3	Yes		Yes	✻1
LDA300W	Forward converter	140	7.5	250V 15A	Triac	CEM-3	Yes		Yes	✻1

✻1 Refer to instruction manual.
✻ The value of input current is at ACIN 100V and rated load.
✻ Switching freguency of flyback converter depends on input voltage and load factor.

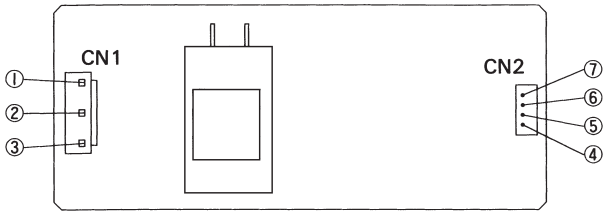
1 Terminal Block

●LDA10F



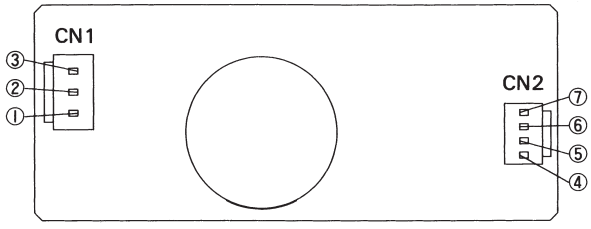
①AC(L)
②AC(N)
③Frame ground
④ ⑤ -Output
⑥ ⑦ +Output

●LDA15F



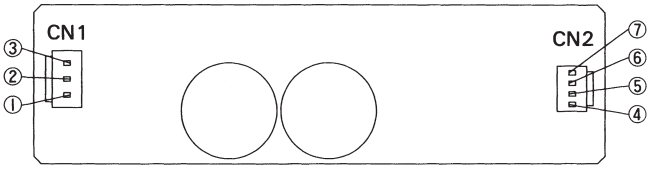
①AC(L)
②AC(N)
③Frame ground
④ ⑤ -Output
⑥ ⑦ +Output

●LDA30F



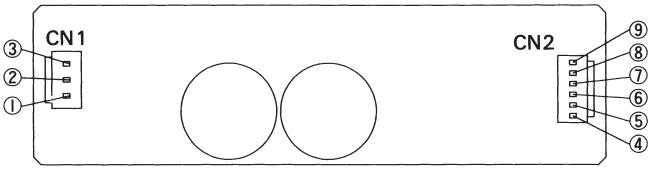
①AC(L)
②AC(N)
③Frame ground
④ ⑤ -Output
⑥ ⑦ +Output

●LDA50F



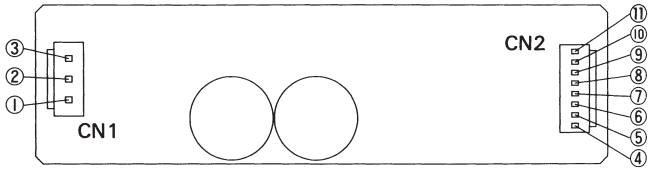
①AC(L)
②AC(N)
③Frame ground
④ ⑤ -Output
⑥ ⑦ +Output

●LDA75F



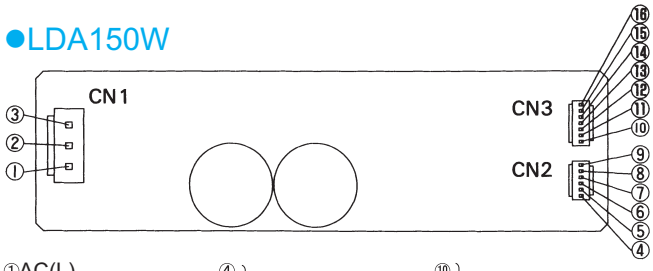
①AC(L)
②AC(N)
③Frame ground
④ ⑤ ⑥ +Output
⑦ ⑧ ⑨ -Output

●LDA100W



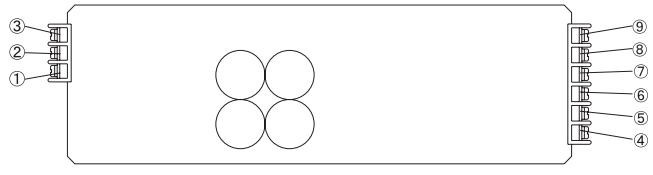
①AC(L)
②AC(N)
③Frame ground
④ ⑤ ⑥ ⑦ +Output
⑧ ⑨ ⑩ ⑪ -Output

●LDA150W



①AC(L)
②AC(N)
③Frame ground
④ ⑤ ⑥ ⑦ ⑧ ⑨ +Output
⑩ ⑪ ⑫ ⑬ ⑭ ⑮ ⑯ -Output

●LDA300W



①AC(N)
②AC(L)
③Frame ground
④ ⑤ ⑥ +Output
⑦ ⑧ ⑨ -Output

2 Function

2.1 Input voltage range

●LDA10F - LDA75F

■The range is from AC85V to AC264V or DC110V to DC370V.

■AC input voltage must have a range from AC85V to AC264V for normal operation. If the wrong input is applied, the unit will not operate properly and/or may be damaged.

●LDA100W - LDA300W

■The range is from AC85V to AC132V/AC170V to AC264V which is automatically selected internally. But after the input voltage is applied, avoid changing AC100V ⟷ AC200V.

■AC input voltage must have a range from AC85V to AC132V/AC170V to AC264V for normal operation. If the wrong input is applied, the unit will not operate properly and or may be damaged.

2.2 Inrush current limiting

■Inrush current limiting is built-in.

■If a switch on the input side is installed, it has to be the one handling the input inrush current.

●LDA10F - LDA150W

■The thermistor is used for protection from inrush current. When power is turned ON/OFF repeatedly within a short period of time, it is necessary to have enough time for power supply to cool down.

●LDA300W

■The thyristor technique is used for protection from inrush current. When power is turned ON/OFF repeatedly within a short period of time, it is necessary to have enough time between power ON and OFF to operate resistance circuit for inrush current.

Table 2.1 Inrush current Unit:[A typ]

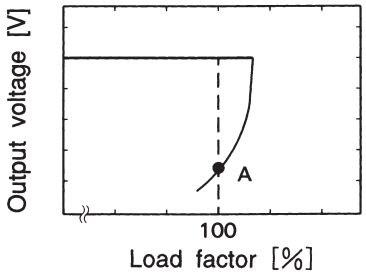
No.	Model	AC100V	AC200V
1	LDA 10F	15	30
2	LDA 15F	15	30
3	LDA 30F	15	30
4	LDA 50F	15	30
5	LDA 75F	15	30
6	LDA100W	30	30
7	LDA150W	30	30
8	LDA300W	30	30

2.3 Overcurrent protection

■Overcurrent protection is built-in and comes into effect at over 105% of the rated current. Overcurrent protection prevents the unit from short circuit and overcurrent condition. The unit automatically recovers when the fault condition is cleared.

●LDA10F・LDA15F

■The power supply which has a current foldback characteristics may not start up when connected to nonlinear load such as lamp, motor or constant current load. See the characteristics below.



——: Load characteristics of power supply.

---------- : Characteristics of load (lamp, motor, constant current load, etc.)

Note: In case of nonlinear load, the output is locked out at A point.

Fig.2.1 Current foldback characteristics

2.4 Overvoltage protection

●LDA10F・LDA15F

■Overvoltage protection circuit, clamping the output voltage by zener diode, is built-in and comes into effect at over 115% of the rated voltage (For 3V type, overvoltage protection kicks in at over 4V). The unit in an overvoltage protection mode cannot be recovered by a user; it must be repaired at the factory. Overvoltage protection (diode) also comes into effect if the voltage is externally applied to the output side. Avoid applying voltage to the output side.

●LDA30F - LDA300W

■The overvoltage protection circuit is built-in and comes into effect at 115 - 140% of the rated voltage (except 3V output voltage type : it operates at 4.00 - 5.25V). The AC input should be shut down if overvoltage protection is in operation. The minimum interval of AC recycling for recovery is 2 to 3 minutes (*).

* The recovery time varies depending on input voltage.

Remarks:

Please avoid applying the over-rated voltage to the output terminal. Power supply may operate incorrectly or fail.In case of operating a motor etc. , please install an external diode on the output terminal to protect the unit.

2.5 Output voltage adjustment range

●LDA10F - LDA75F

■Adjustment of output voltage is possible by using potentiometer (only available to 3V output voltage type).

■Output voltage is increased by turning potentiometer clockwise and is decreased by turning potentiometer counterclockwise.

■Option "-Y" is recommended which can adjust the output voltage.

●LDA100W・LDA150W

■Adjustment of output voltage is possible by using potentiometer (only available to 3 and 5V output voltage type).

■Output voltage is increased by turning potentiometer clockwise and is decreased by turning potentiometer counterclockwise.

■Option unit "-Y" is recommended which can adjust the output voltage.

●LDA300W

■Adjustment of output voltage is possible by using potentiometer.

■Output voltage is increased by turning potentiometer clockwise and is decreased by turning potentiometer counterclockwise.

2.6 Isolation

■For a receiving inspection, such as Hi-Pot test, gradually increase (decrease) the voltage for the start (shut down). Avoid using Hi-Pot tester with the timer because it may generate voltage a few times higher than the applied voltage, at ON/OFF of a timer.

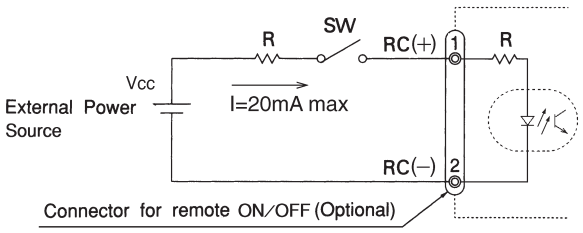
If the unit is tested on the isolation between input & output and output & FG, remote ON/OFF must be shorted to output .

2.7 Remote ON/OFF ("-R")

●LDA50F - LDA300W

■Option "-R" is available for remote ON/OFF.

Between RC(+) and RC(-)	Output
SW ON (4.5 - 12.5V)	ON
SW OFF (0 - 0.5V)	OFF



■When external power source is in the range of 4.5 - 12.5V, current limit resistance R is not required. However, when external power source exceeds 12.5V, current limit resistance R must be connected.

To calculate the current limit resistance use following equation:

$$R[\Omega] = \frac{Vcc-(1.1+ Ri \times 0.005)}{0.005}$$

where:

Vcc = External power source

Ri = The internal resistance (see table)

Model	Ri[Ω]
LDA50F - 150W	680
LDA300W	780

■A wrong connection may damage the internal components of the unit.

■Remote ON/OFF circuit (RC(+), RC(-)) is isolated from input, output and FG.

2.8 Remote sensing

●LDA300W

■When not using this function, confirm that terminals are shorted between +S and +M, and between -S and -M with short pieces.

■When using this function, wiring should be done without short pieces.

■Devices inside the power supply might be damaged when poor connection on load lines occurs, e.g. because of loose connector screws.

■Thick wire should be used for wiring between power supply and load, and line voltage drop should be less than 0.3V.

■When long sensing wire is required, use C.

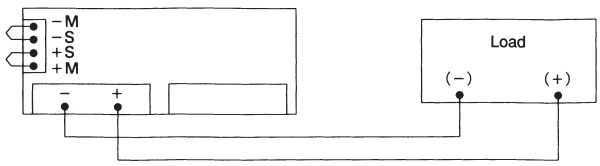
■Twisted-pair wire or shield wire should be used for sensing wire.

■When remote sensing function is used, output voltage might become unstable because of a impedance of wiring and load condition. And the power supply should be evaluated enough. Following are examples to improve it.

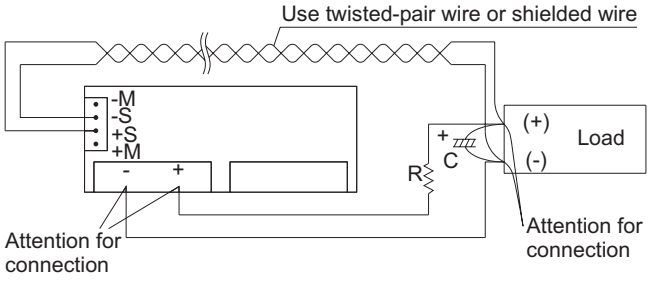
・-S sensing wire is removed and terminals between -M and -S are shorted.

・C and R are connected as above figure.

(1) When not using remote sensing function



(2) When using remote sensing function

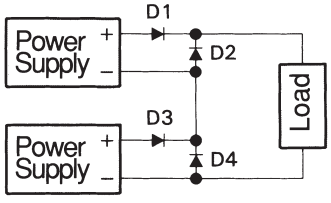


3 Series Operation and Parallel Operation

●LDA10F・LDA15F

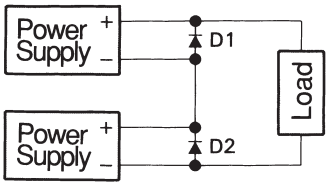
■Series operation is available by connecting the outputs of two or more power supplies, as shown below. Output current in series connection should be lower than the lowest rated current in each unit.

When the output voltage is less than 5V



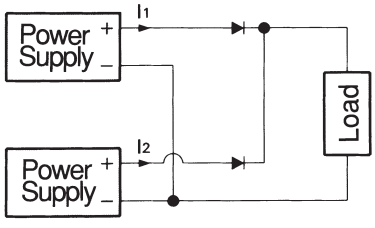
D1 - D4: Please use schottky Barrier Diode.

When the output voltage is more than 12V



D1・D2: Please use schottky Barrier Diode.

■Parallel redundancy operation is available by connecting the units as shown below.



■Values of I_1 and I_2 might be slightly different because of fine differences of output voltage. Make fine adjustment of output voltage and keep balance of output current, as output current from each power supply should not exceed the rated current value.

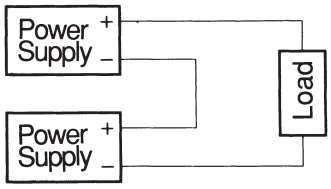
$I_1, I_2 \leqq$ the rated current value

■Option "-Y" is recommended which can adjust the output voltage.

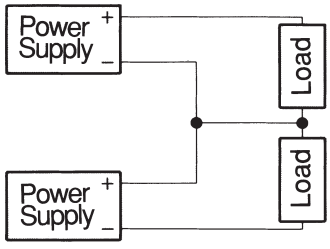
●LDA30F - LDA300W

■Series operation is available by connecting the outputs of two or more power supplies, as shown below. Output current in series connection should be lower than the lowest rated current in each unit.

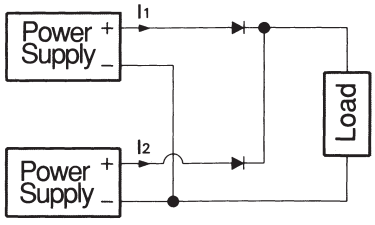
(a)



(b)



■Parallel redundancy operation is available by connecting the units as shown below.



■Values of I_1 and I_2 become unbalanced by a slight difference of the output voltage. Make sure that the output voltage of units is of equal value and the output current from each power supply does not exceed the rated current.

$I_1, I_2 \leqq$ the rated current value

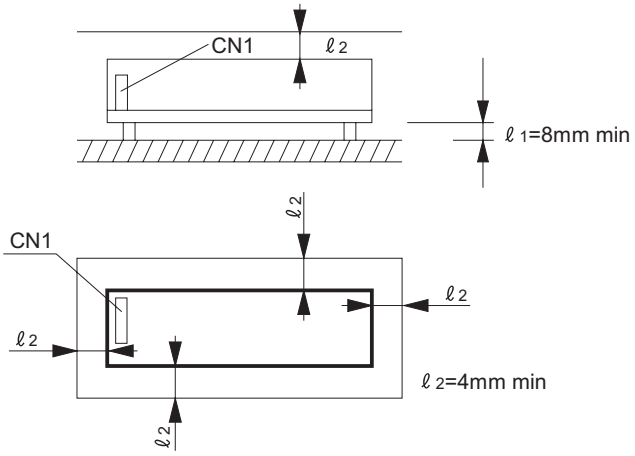
■Option "-Y" is recommended which can adjust the output voltage.

4 Assembling and Installation Method

4.1 Installation method

■When two or more power supplies are used side by side, position them with proper intervals to allow enough air ventilation. Ambient temperature around each power supply should not exceed the temperature range shown in derating curve.

■In case of metal chassis, keep the distance between l1 & l2 for to insulate between lead of component and metal chassis. If it is less than l1 & l2, insert the insulation sheet between power supply and metal chassis.

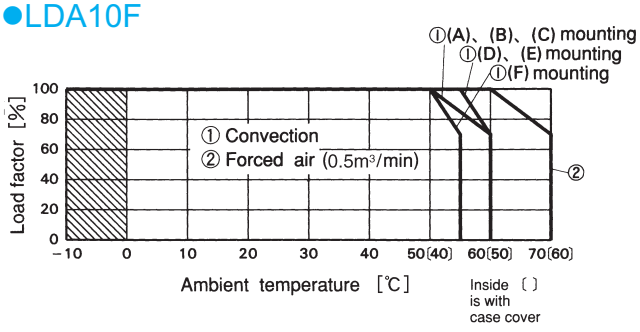


LDA

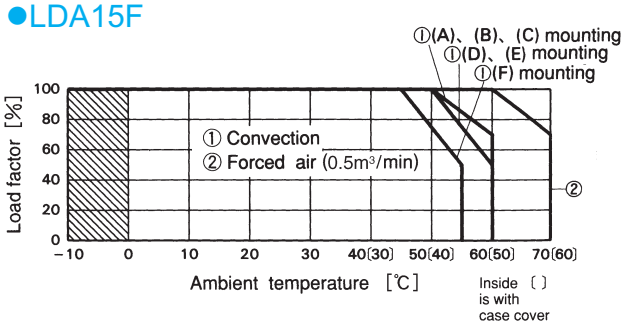
4.2 Derating

■The operative ambient temperature is different by with/without case cover or mounting position. Please refer drawings as below.

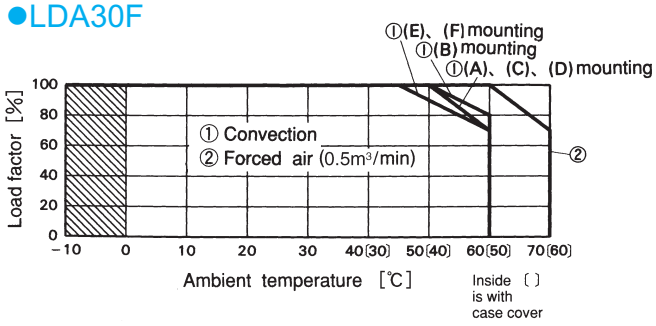
●LDA10F



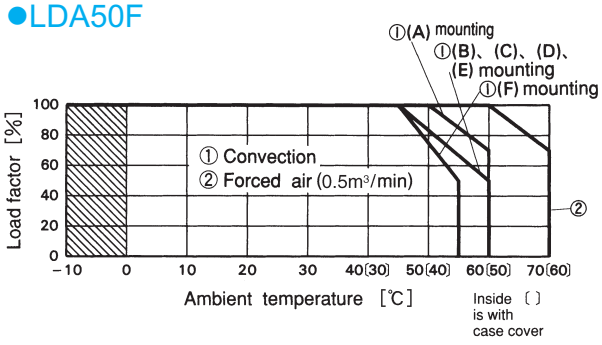
●LDA15F



●LDA30F



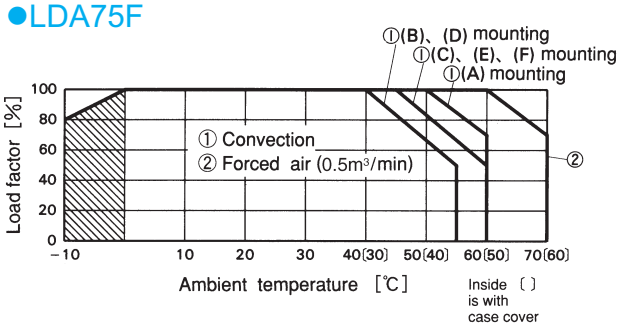
●LDA50F



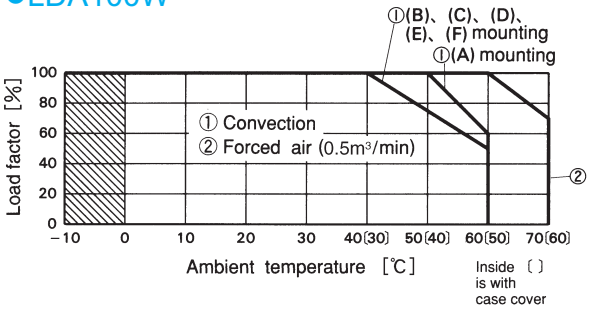
Note:

In the hatched area, the specification of Ripple, Ripple Noise is different from other area.

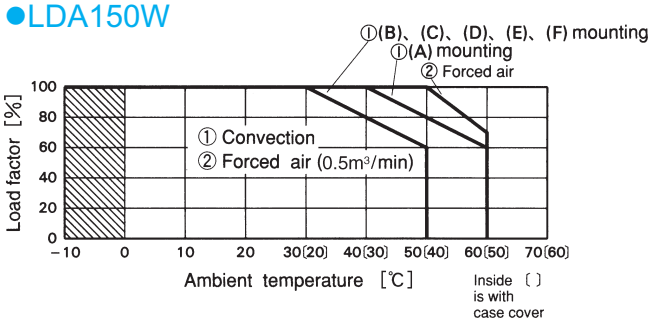
●LDA75F



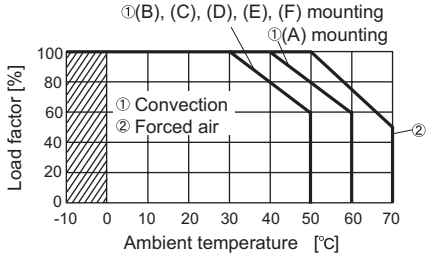
●LDA100W



●LDA150W



●LDA300W



Output voltage	①Convection	②Forced air
-3	120W	180W
-5	200W	300W
-9	207W	306W
-12	204W	324W
-15	210W	330W
-18	216W	306W
-24	216W	336W
-30	210W	300W
-48	201.6W	302.4W

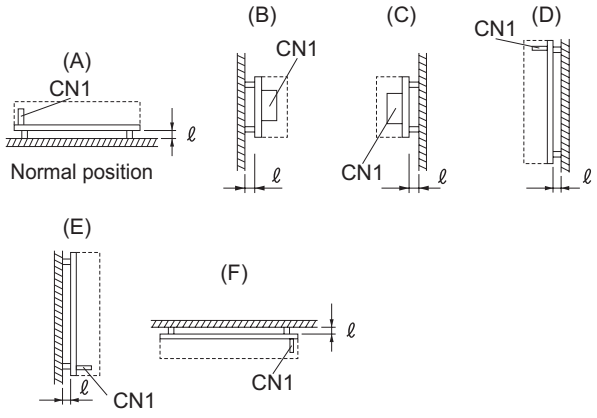
The rated power is different depend on Forced Air/Convection cooling (Please refer Chart in right hand side).

Note:

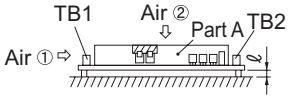
In the slanted area, the specification of Ripple, Ripple Noise is different from other area.

■When unit mounted except below drawings, it is required to consider ventilated environment by forced air cooling for temperature/load derating. For details, please consult our sales or engineering departments.

Mounting method



●LDA300W



Note:

Ventilation is required so that part A of heat sink is below 85℃ in any case. Please flow air to the components to the direction of Air① or Air②.

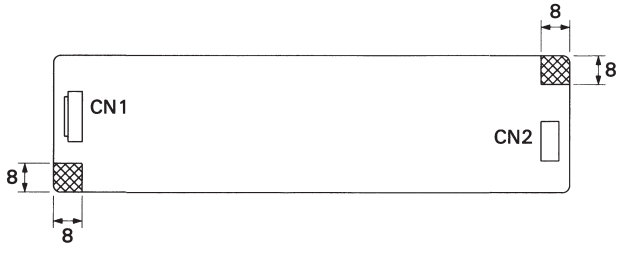
■(F) mounting is not possible when unit is with case cover, but if need to operate unit by (F) positioning with case cover, temperature / load derating is necessary. For more details, please consult our sales or engineering departments.

4.3 Mounting screw

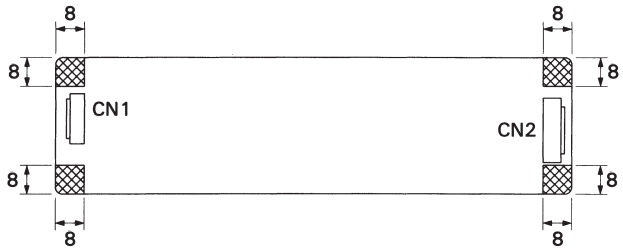
■The mounting screw should be M3. The hatched area shows the allowance of metal parts for mounting.

■Please be carefull with that metal parts do not touch mounted parts at front side, where major components are mounted, when a power supply is installed with them.

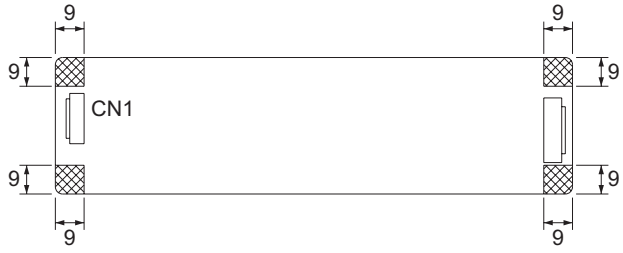
●LDA10F



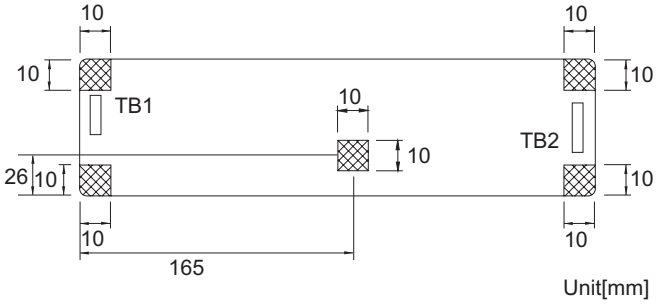
●LDA15F - LDA50F



●LDA75F - LDA150W

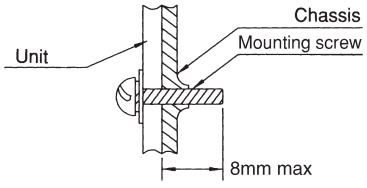


●LDA300W



Unit[mm]

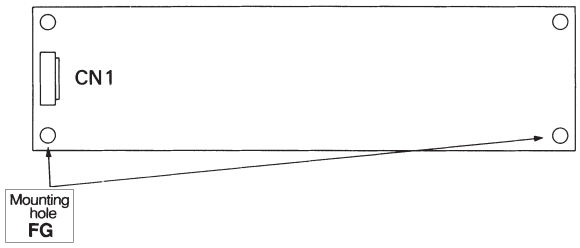
■Keep isolation distance between screw and internal components in case of option "-S", "-SN", as below chart.



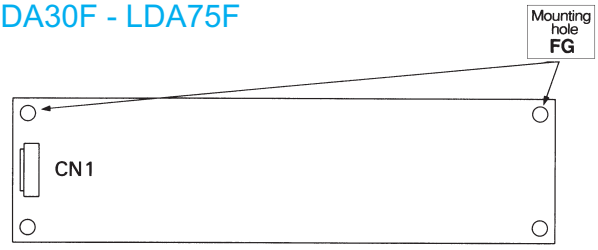
5 Ground

■When installing the power supply with your unit, ensure that the input FG terminal or mounting hole FG is connected to safety ground of the unit. However when applying the safety agency, connect the input FG terminal to safety ground of the unit.

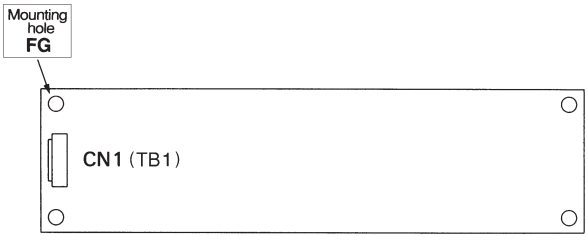
●LDA10F・LDA15F



●LDA30F - LDA75F



●LDA100W - LDA300W



6 Others

■This power supply is the rugged PCB type. Do not drop conductive objects in the power supply.

■At light load, there remains high voltage inside the power supply for a few minutes after power OFF. So, at maintenance, take care about electric shock.

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