

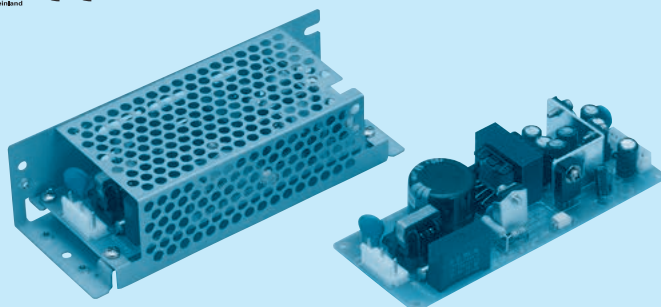
LDC15F

LD C 15 F -1 -□

① ② ③ ④ ⑤ ⑥



RoHS



- ① Series name
- ② Multiple output
- ③ Output wattage
- ④ Universal input
- ⑤ Output voltage combination
- ⑥ Optional *4
C :with Coating
G :Low leakage current
S :with Chassis
SN:with Chassis & cover
Y :with Potentiometer

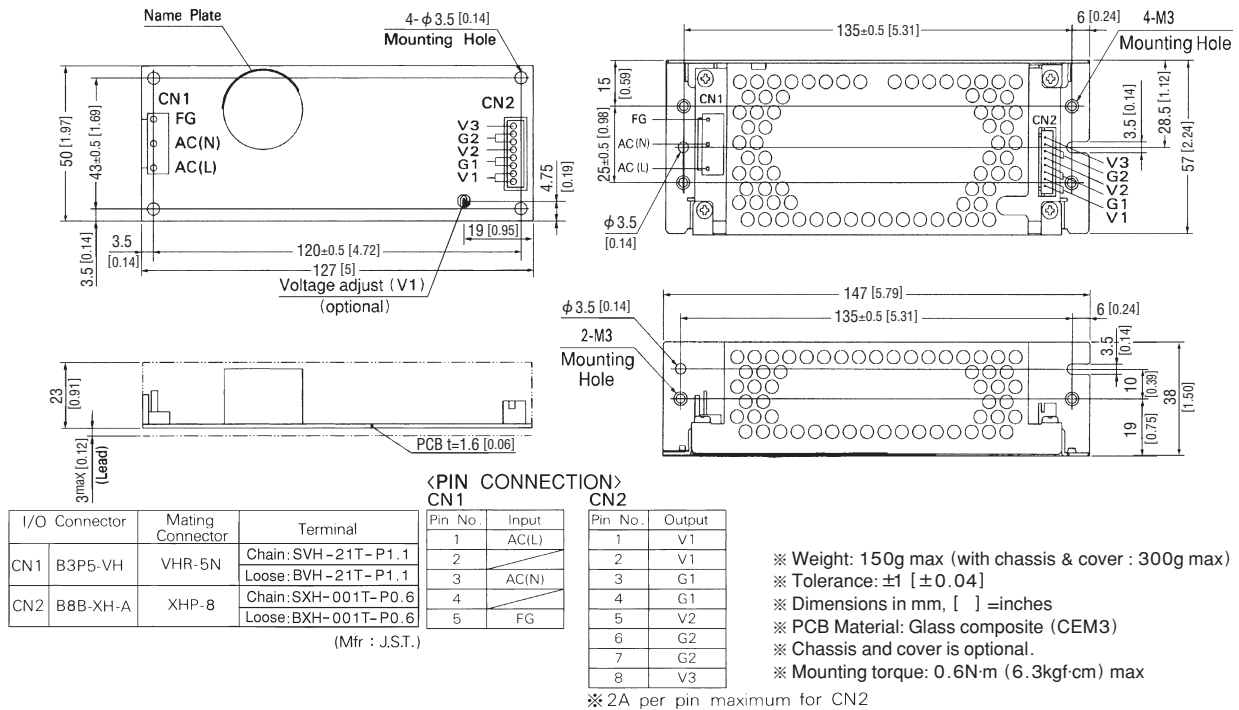
MODEL	LDC15F-1	LDC15F-2
DC OUTPUT	V1 +5V 2.0(Peak 3.0)A V2 +12V 0.3(Peak 0.6)A V3 -12V 0.2(Peak 0.3)A	+5V 2.0(Peak 3.0)A +15V 0.3(Peak 0.6)A -15V 0.2(Peak 0.3)A

SPECIFICATIONS

	MODEL	LDC15F-1			LDC15F-2			
INPUT	VOLTAGE[V]	AC85 - 264 1 φ or DC110 - 370						
	CURRENT[A]	ACIN 100V	0.4typ (Io=100%)					
	FREQUENCY[Hz]	47 - 440 or DC						
	EFFICIENCY[%]	ACIN 100V	70typ (Io=100%)					
	INRUSH CURRENT[A]	ACIN 100V	25typ (Io=100%)					
		ACIN 200V	50typ (Io=100%)					
	LEAKAGE CURRENT[ma]	0.75max (60Hz, According to UL, CSA, VDE and DEN-AN)						
OUTPUT	VOLTAGE[V]	+5	+12	-12	+5	+15	-15	
	CURRENT[A]	*1 0 - 2.0 (Peak 3.0)	0 - 0.3 (Peak 0.6)	0 - 0.2 (Peak 0.3)	0 - 2.0 (Peak 3.0)	0 - 0.3 (Peak 0.6)	0 - 0.2 (Peak 0.3)	
	LINE REGULATION[mV]	20max	48max	48max	20max	60max	60max	
	LOAD REGULATION[mV]	100max	120max	120max	100max	150max	150max	
	RIPPLE[mVp-p]	0 to +50℃ *2	100max	120max	120max	100max	120max	120max
		-10 - 0℃ *2	140max	160max	160max	140max	160max	160max
	RIPPLE NOISE[mVp-p]	0 to +50℃ *2	120max	150max	150max	120max	150max	150max
		-10 - 0℃ *2	160max	180max	180max	160max	180max	180max
	TEMPERATURE REGULATION[mV]	0 to +50℃	50max	350max	350max	50max	350max	350max
		-10 to +50℃	60max	420max	420max	60max	420max	420max
	DRIFT[mV]	*3 20max	—	—	20max	—	—	
	START-UP TIME[ms]	100max (ACIN 85V, 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]	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed		
OUTPUT VOLTAGE SETTING[V]	4.9 to 5.3	11.4 to 12.6	-11.4 to -12.6	4.9 to 5.3	14.25 to 15.75	-14.25 to -15.75		
PROTECTION CIRCUIT AND OTHERS	OVERCURRENT PROTECTION	Works over 105% of rating and recovers automatically						
	OVERVOLTAGE PROTECTION	Works over 115% of rating by zener diode clamping (+5V only)						
	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)						
	OUTPUT-OUTPUT(V1-V2,V3)	AC100V 1minute, Cutoff current = 100mA, DC100V 10MΩ 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)						
	STORAGE TEMP.,HUMID.AND ALTITUDE	-20 to +75℃, 20 - 90%RH (Non condensing), 9,000m (30,000feet)						
	VIBRATION	10 - 55Hz, 19.6m/s ² (2G), 3minutes period, 60minutes each along X, Y and Z axis						
	IMPACT	196.1m/s ² (20G), 11ms, once each X, Y and Z axis						
SAFETY AND NOISE REGULATIONS	AGENCY APPROVALS	UL60950-1, EN60950-1, EN50178, CSA C22.2 No.60950-1 Complies with DEN-AN and IEC60950-1						
	CONDUCTED NOISE	Complies with FCC-B, CISPR22-B, EN55022-B, VCCI-B						
OTHERS	CASE SIZE/WEIGHT	50×26×127mm [1.97×1.02×5 inches] (W×H×D) /150g max (with chassis & cover : 300g max)						
	COOLING METHOD	Convection						

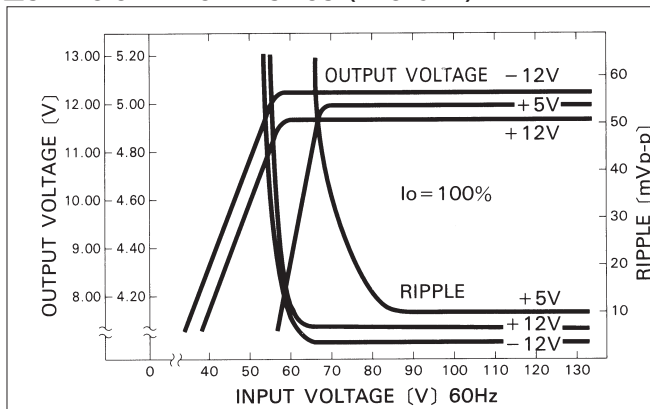
- *1 Peak load for 10sec. or less is acceptable if the total wattage is less than the rated wattage(-1: 16W, -2: 17.5W).When the load of +5V is OA, other output can be drawn by 80% of rated current.
- *2 Measured by 20MHz oscilloscope or Ripple-Noise meter (equivalent to KEISOKU-GIKEN:RM101).
- *3 Drift is the change in DC output for an eight hour period after a half-hour warm-up at 25°C with the input voltage held constant at the rated input/output.
- *4 Please contact us about safety approvals for the model with option.
- * Avoid prolonged use under over-load.
- * Derating is required when operated with chassis and cover.

External view

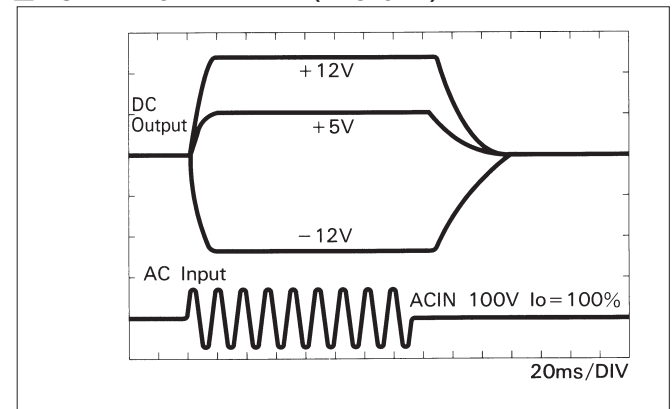


Performance data

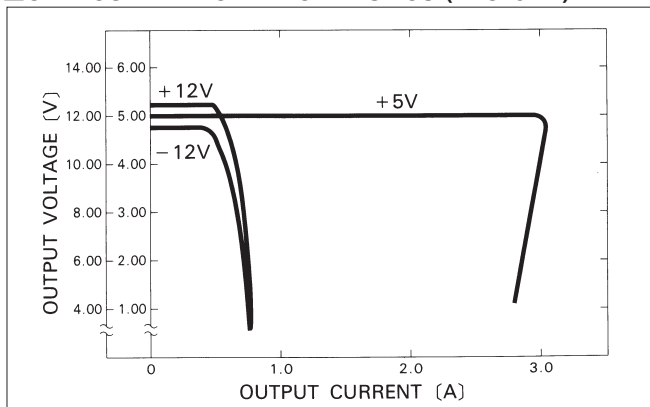
■ STATIC CHARACTERISTICS (LDC15F-1)



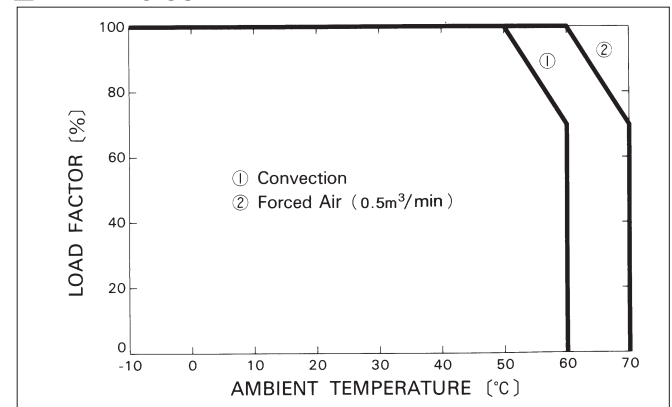
■ RISE TIME & FALL TIME (LDC15F-1)



■ OVERCURRENT CHARACTERISTICS (LDC15F-1)



■ DERATING CURVE



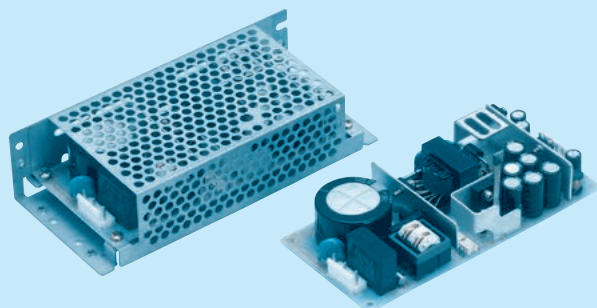
LDC30F

LD C 30 F -1 -□

① ② ③ ④ ⑤ ⑥



RoHS



- ① Series name
- ② Multiple output
- ③ Output wattage
- ④ Universal input
- ⑤ Output voltage combination
- ⑥ Optional *4
C :with Coating
G :Low leakage current
S :with Chassis
SN:with Chassis & cover
Y :with Potentiometer

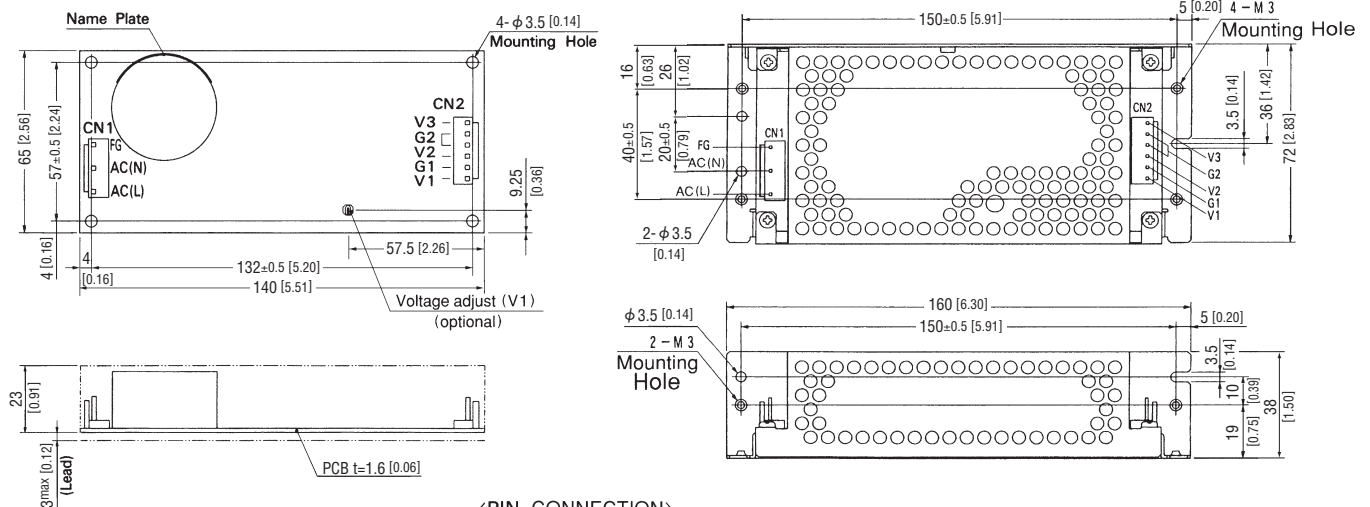
MODEL	LDC30F-1	LDC30F-2
DC OUTPUT	V1 +5V 3.0(Peak 4.5)A V2 +12V 1.2(Peak 2.0)A V3 -12V 0.3(Peak 0.45)A	+5V 3.0(Peak 4.5)A +15V 1.0(Peak 2.0)A -15V 0.3(Peak 0.45)A

SPECIFICATIONS

	MODEL	LDC30F-1			LDC30F-2			
INPUT	VOLTAGE[V]	AC85 - 264 1 φ or DC110 - 370						
	CURRENT[A]	ACIN 100V	0.8typ (Io=100%)					
	FREQUENCY[Hz]	47 - 440 or DC						
	EFFICIENCY[%]	ACIN 100V	72typ (Io=100%)					
	INRUSH CURRENT[A]	ACIN 100V	25typ (Io=100%) (At cold start)					
		ACIN 200V	50typ (Io=100%) (At cold start)					
	LEAKAGE CURRENT[ma]	0.75max (60Hz, According to UL, CSA, VDE and DEN-AN)						
OUTPUT	VOLTAGE[V]	+5	+12	-12	+5	+15	-15	
	CURRENT[A]	*1 0 - 3.0 (Peak 4.5)	0 - 1.2 (Peak 2.0)	0 - 0.3 (Peak 0.45)	0 - 3.0 (Peak 4.5)	0 - 1.0 (Peak 2.0)	0 - 0.3 (Peak 0.45)	
	LINE REGULATION[mV]	20max	48max	48max	20max	60max	60max	
	LOAD REGULATION[mV]	100max	120max	150max	100max	120max	150max	
	RIPPLE[mVp-p]	0 to +50℃ *2	100max	120max	120max	100max	120max	120max
		-10 - 0℃ *2	150max	160max	160max	150max	160max	160max
	RIPPLE NOISE[mVp-p]	0 to +50℃ *2	120max	150max	150max	120max	150max	150max
		-10 - 0℃ *2	170max	180max	180max	170max	180max	180max
	TEMPERATURE REGULATION[mV]	0 to +50℃	50max	350max	350max	50max	350max	350max
		-10 to +50℃	60max	420max	420max	60max	420max	420max
	DRIFT[mV]	*3 20max	—	—	20max	—	—	
	START-UP TIME[ms]	100max (ACIN 85V, 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]	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed		
OUTPUT VOLTAGE SETTING[V]	4.9 to 5.3	11.4 to 12.6	-11.4 to -12.6	4.9 to 5.3	14.25 to 15.75	-14.25 to -15.75		
PROTECTION CIRCUIT AND OTHERS	OVERCURRENT PROTECTION	Works over 105% of rating and recovers automatically						
	OVERVOLTAGE PROTECTION	Works at 115 - 140% of rating (+5V only)						
	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)						
	OUTPUT-OUTPUT(V1-V2,V3)	AC100V 1minute, Cutoff current = 100mA, DC100V 10MΩ 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)						
	STORAGE TEMP.,HUMID.AND ALTITUDE	-20 to +75℃, 20 - 90%RH (Non condensing), 9,000m (30,000feet)						
	VIBRATION	10 - 55Hz, 19.6m/s ² (2G), 3minutes period, 60minutes each along X, Y and Z axis						
	IMPACT	196.1m/s ² (20G), 11ms, once each X, Y and Z axis						
SAFETY AND NOISE REGULATIONS	AGENCY APPROVALS	UL60950-1, EN60950-1, EN50178, CSA C22.2 No.60950-1 Complies with DEN-AN and IEC60950-1						
	CONDUCTED NOISE	Complies with FCC-B, CISPR22-B, EN55022-B, VCCI-B						
OTHERS	CASE SIZE/WEIGHT	65×26×140mm [2.56×1.02×5.51 inches] (W×H×D) / 220g max (with chassis & cover : 400g max)						
	COOLING METHOD	Convection						

- *1 Peak load for 10sec. or less is acceptable if the total wattage is less than the rated wattage(-1: 33W, -2: 34.5W).When the load of +5V is OA, other output can be drawn by 80% of rated current.
- *2 Measured by 20MHz oscilloscope or Ripple-Noise meter (equivalent to KEISOKU-GIKEN:RM101).
- *3 Drift is the change in DC output for an eight hour period after a half-hour warm-up at 25°C with the input voltage held constant at the rated input/output.
- *4 Please contact us about safety approvals for the model with option.
- * Avoid prolonged use under over-load.
- * Derating is required when operated with chassis and cover.

External view



<PIN CONNECTION>

I/O Connector	Mating Connector	Terminal
CN1	B3P5-VH	VHR-5N
CN2	B6P-VH	VHR-6N

(Mfr : J.S.T.)

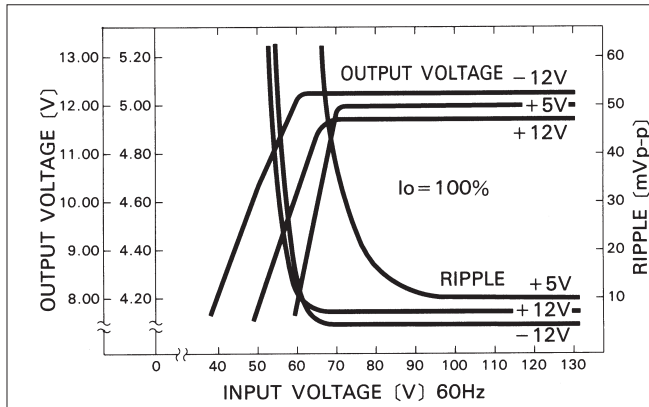
Pin No.	Input
1	AC(L)
2	
3	AC(N)
4	
5	FG

Pin No.	Output
1	V3
2	G2
3	G2
4	V2
5	G1
6	V1

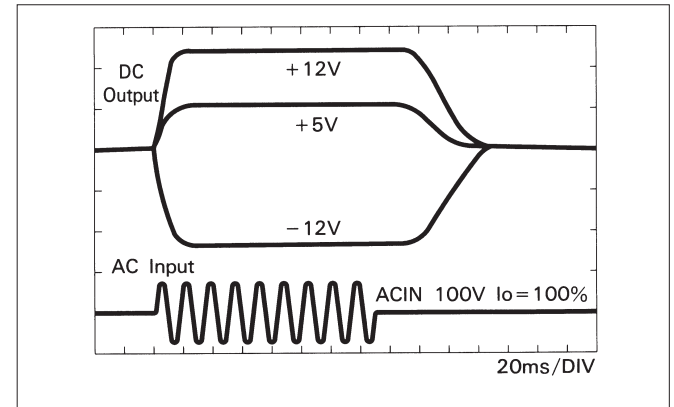
- ※ Weight: 220g max (with chassis & cover : 400g max)
- ※ Tolerance: ± 1 [± 0.04]
- ※ Dimensions in mm, [] = inches
- ※ PCB Material: Glass composite (CEM3)
- ※ Chassis and cover is optional.
- ※ Mounting torque: 0.6N·m (6.3kgf·cm) max

Performance data

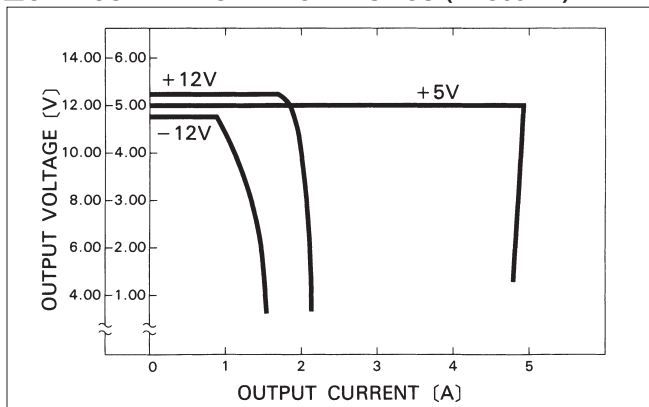
■ STATIC CHARACTERISTICS (LDC30F-1)



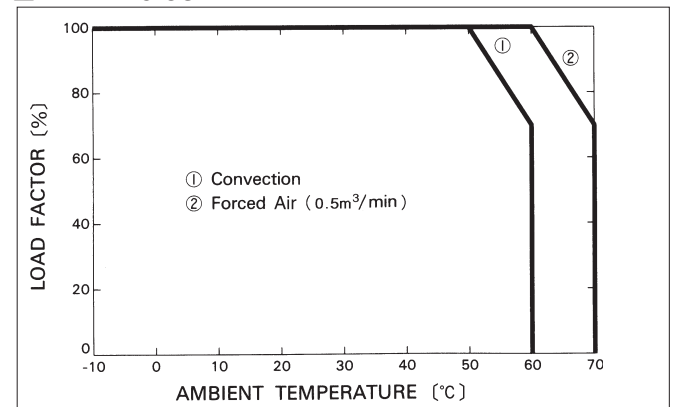
■ RISE TIME & FALL TIME (LDC30F-1)



■ OVERCURRENT CHARACTERISTICS (LDC30F-1)



■ DERATING CURVE



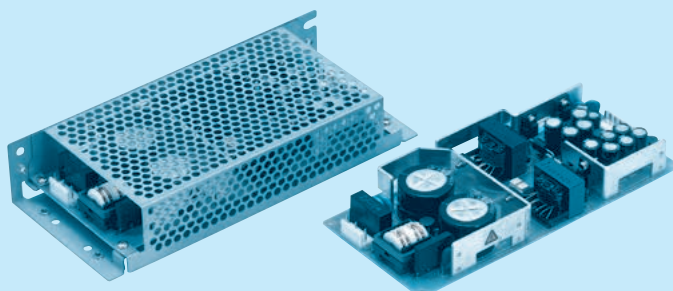
LDC60F

LD C 60 F -1 -□

① ② ③ ④ ⑤ ⑥



RoHS



- ① Series name
- ② Multiple output
- ③ Output wattage
- ④ Universal input
- ⑤ Output voltage combination
- ⑥ Optional *4
C :with Coating
G :Low leakage current
S :with Chassis
SN:with Chassis & cover
Y :with Potentiometer

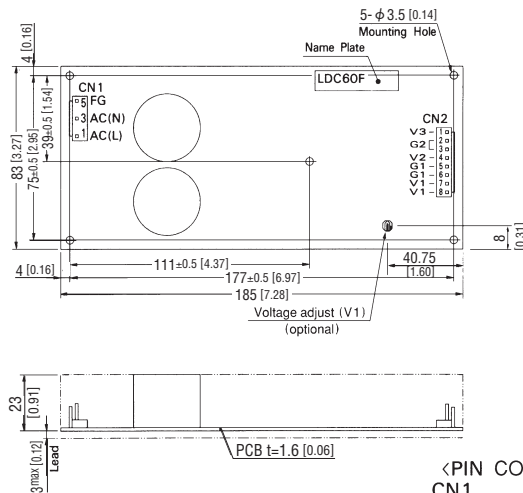
MODEL	LDC60F-1	LDC60F-2
DC OUTPUT	V1 +5V 5.0(Peak 7.0)A V2 +12V 2.5(Peak 3.5)A V3 -12V 0.5(Peak 0.7)A	+5V 5.0(Peak 7.0)A +15V 2.0(Peak 3.5)A -15V 0.5(Peak 0.7)A

SPECIFICATIONS

	MODEL	LDC60F-1			LDC60F-2			
INPUT	VOLTAGE[V]	AC85 - 264 1 φ or DC110 - 370						
	CURRENT[A]	ACIN 100V	1.4typ (Io=100%)					
	FREQUENCY[Hz]	47 - 440 or DC						
	EFFICIENCY[%]	ACIN 100V	72typ (Io=100%)					
	INRUSH CURRENT[A]	ACIN 100V	30typ (Io=100%) (At cold start)					
		ACIN 200V	60typ (Io=100%) (At cold start)					
	LEAKAGE CURRENT[ma]	0.75max (60Hz, According to UL, CSA, VDE and DEN-AN)						
OUTPUT	VOLTAGE[V]	+5	+12	-12	+5	+15	-15	
	CURRENT[A]	*1 0 - 5.0 (Peak 7.0)	0 - 2.5 (Peak 3.5)	0 - 0.5 (Peak 0.7)	0 - 5.0 (Peak 7.0)	0 - 2.0 (Peak 3.5)	0 - 0.5 (Peak 0.7)	
	LINE REGULATION[mV]	20max	48max	48max	20max	60max	60max	
	LOAD REGULATION[mV]	100max	150max	150max	100max	150max	150max	
	RIPPLE[mVp-p]	0 to +50℃ *2	100max	120max	120max	100max	120max	120max
		-10 - 0℃ *2	150max	160max	160max	150max	160max	160max
	RIPPLE NOISE[mVp-p]	0 to +50℃ *2	120max	150max	150max	120max	150max	150max
		-10 - 0℃ *2	170max	180max	180max	170max	180max	180max
	TEMPERATURE REGULATION[mV]	0 to +50℃	50max	350max	350max	50max	350max	350max
		-10 to +50℃	60max	420max	420max	60max	420max	420max
	DRIFT[mV]	*3	20max	——	——	20max	——	——
	START-UP TIME[ms]	200max (ACIN 85V, 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]	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed		
OUTPUT VOLTAGE SETTING[V]	4.9 to 5.3	11.4 to 12.6	-11.4 to -12.6	4.9 to 5.3	14.25 to 15.75	-14.25 to -15.75		
PROTECTION CIRCUIT AND OTHERS	OVERCURRENT PROTECTION	Works over 105% of rating and recovers automatically						
	OVERVOLTAGE PROTECTION	Works over 115% of rating by zener diode clamping (only available with V1, V2)						
	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)						
	OUTPUT-OUTPUT(V1-V2,V3)	AC100V 1minute, Cutoff current = 100mA, DC100V 10MΩ 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)						
	STORAGE TEMP.,HUMID.AND ALTITUDE	-20 to +75℃, 20 - 90%RH (Non condensing), 9,000m (30,000feet)						
	VIBRATION	10 - 55Hz, 19.6m/s ² (2G), 3minutes period, 60minutes each along X, Y and Z axis						
	IMPACT	196.1m/s ² (20G), 11ms, once each X, Y and Z axis						
SAFETY AND NOISE REGULATIONS	AGENCY APPROVALS	UL60950-1, EN60950-1, EN50178, CSA C22.2 No.60950-1 Complies with DEN-AN and IEC60950-1						
	CONDUCTED NOISE	Complies with FCC-B, CISPR22-B, EN55022-B, VCCI-B						
OTHERS	CASE SIZE/WEIGHT	83×26×185mm [3.27×1.02×7.28 inches] (W×H×D) / 300g max (with chassis & cover : 550g max)						
	COOLING METHOD	Convection						

- *1 Peak load for 10sec. or less is acceptable if the total wattage is less than the rated wattage(-1: 61W, -2: 62.5W).When the load of +5V is OA, other output can be drawn by 80% of rated current.
- *2 Measured by 20MHz oscilloscope or Ripple-Noise meter (equivalent to KEISOKU-GIKEN:RM101).
- *3 Drift is the change in DC output for an eight hour period after a half-hour warm-up at 25°C with the input voltage held constant at the rated input/output.
- *4 Please contact us about safety approvals for the model with option.
- * Avoid prolonged use under over-load.
- * Derating is required when operated with chassis and cover.

External view



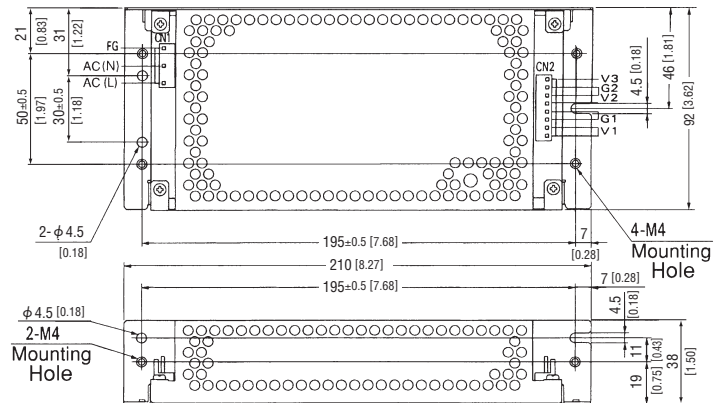
I/O Connector	Mating Connector	Terminal
CN1	B3P5-VH	VHR-5N
		Chain: SVH-21T-P1.1
		Loose: BVH-21T-P1.1
CN2	B8P-VH	VHR-8N
		Chain: SVH-21T-P1.1
		Loose: BVH-21T-P1.1

(Mfr: J.S.T.)

<PIN CONNECTION>

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

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

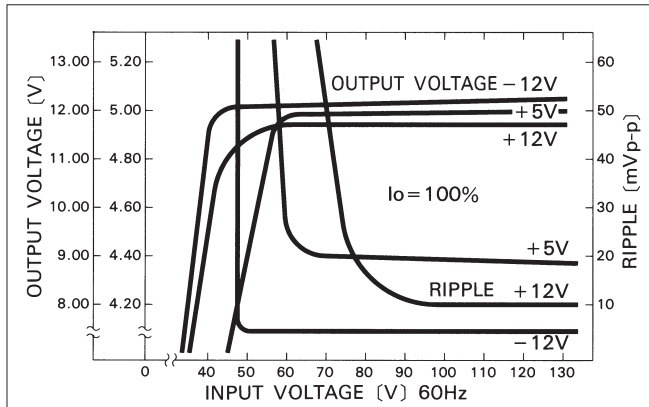


Pin No.	Output
1	V3
2	G2
3	G2
4	V2
5	G1
6	G1
7	V1
8	V1

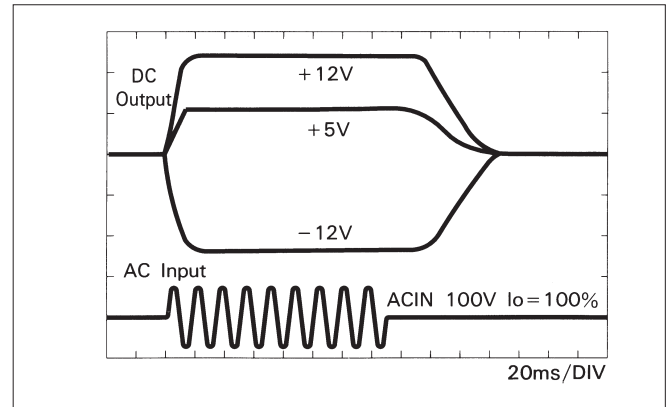
- ※ Weight: 300g max (with chassis & cover : 550g max)
- ※ Tolerance: ± 1 [± 0.04]
- ※ Dimensions in mm, [] = inches
- ※ PCB Material: Glass composite (CEM3)
- ※ Chassis and cover is optional.
- ※ Mounting torque: 1.5N·m (16kgf·cm) max

Performance data

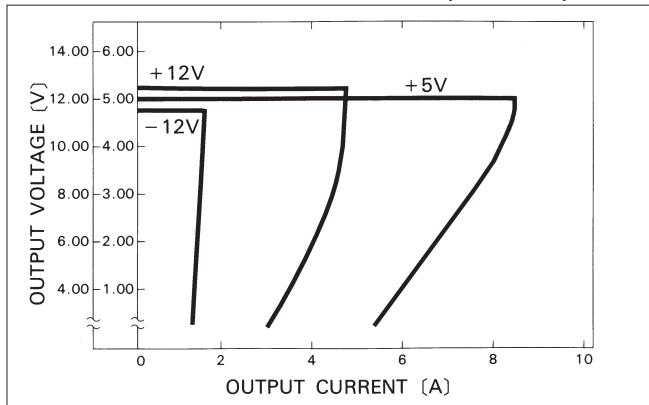
■ STATIC CHARACTERISTICS (LDC60F-1)



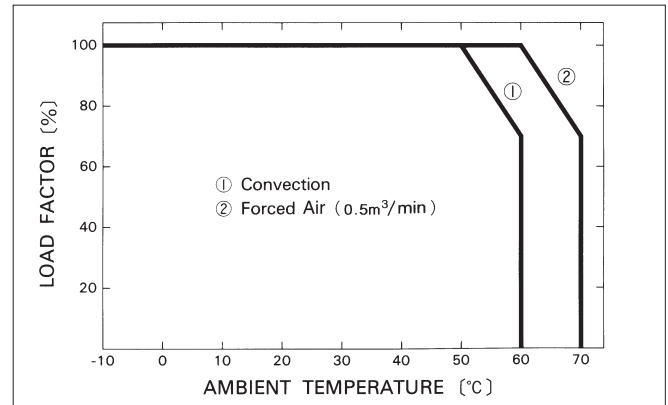
■ RISE TIME & FALL TIME (LDC60F-1)



■ OVERCURRENT CHARACTERISTICS (LDC60F-1)



■ DERATING CURVE





Макро Групп – это:

- дистрибьютор электронных компонентов с 1994 года
- контрактный производитель электроники с 2007 года с собственным производством в Санкт-Петербурге (компания Макро ЕМС, входит в ГК Макро Групп)
- поставщик полупроводниковых материалов
- комплексный поставщик электронных компонентов
- моделирование и производство полупроводниковых эпитаксиальных гетероструктур для задач оптоэлектроники

Головной офис расположен в Санкт-Петербурге. Собственные представительства в крупных промышленных городах России и стран СНГ.

Преимущества для наших заказчиков:

- работа по тендерам с 2012 года
- оформление банковских гарантий
- отсрочки платежей
- поставка электронных компонентов по проектным ценам
- инженерная поддержка проектов заказчиков
- сертификат системы менеджмента качества ISO 9001-2015
- необходимые сертификаты и лицензии

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