# LCA10S

10







High voltage pulse noise type : NAP series Low leakage current type : NAM series \*The EMI/EMC Filter is recommended to connect with several devices.

Series nar	ne
(100/120V	input

3 Output wattage 4 Single output

(5) Output voltage

 ©Optional \*3
 C :with Coating
 G :Low leakage current Y :with Potentiometer

MODEL	LCA10S-5	LCA10S-5-H	LCA10S-12	LCA10S-15	LCA10S-24
MAX OUTPUT WATTAGE[W]	10	10	10.8	10.5	12
DC OUTPUT	5V 2A	5V 2A	12V 0.9A	15V 0.7A	24V 0.5A

#### **SPECIFICATIONS**

	MODEL		LCA10S-5	LCA10S-5-H	LCA10S-12	LCA10S-15	LCA10S-24		
	VOLTAGE[V]		AC85 - 132 1 φ or [	DC110 - 170					
	CURRENT[A]	ACIN 100V	0.3typ (lo=100%)						
INPUT	FREQUENCY[Hz]		47 - 440 or DC						
INPUT	EFFICIENCY[%]		71typ	71typ	75typ	75typ	78typ		
	INRUSH CURRENT[A]	ACIN 100V	25typ (lo=100%)						
	LEAKAGE CURREI	NT[mA]	0.5max (60Hz, Acco	ording to UL, CSA ar	nd DEN-AN)				
1	VOLTAGE[V]		5	5	12	15	24		
l	CURRENT[A]		2	2 (Peak 3)	0.9	0.7	0.5		
	LINE REGULATION	N[mV]	20max	20max	48max	60max	96max		
	LOAD REGULATIO	N[mV]	40max	40max	100max	120max	150max		
l	DIDDI Elm\/n m1	0 to +50°C *1	80max	80max	120max	120max	120max		
	RIPPLE[mVp-p]	-10 - 0°C *1	140max	140max	160max	160max	160max		
OUTPUT	RIPPLE NOISE[mVp-p]	0 to +50°C *1	120max	120max	150max	150max	150max		
OUIPUI	HIPPLE NOISE[IIIVP-P]	-10 - 0°C *1	160max	160max	180max	180max	180max		
	TEMPERATURE REGULA	TION[mV]	50max	50max	120max	150max	240max		
	DRIFT[mV]	*2	20max	20max	48max	60max	96max		
-	START-UP TIME[m	s]	100max (ACIN 85V, Io=100%)						
	HOLD-UP TIME[ms	s]	10typ (ACIN 85V, Io=100%) 20typ (ACIN 100V, Io=100%)						
	OUTPUT VOLTAGE ADJUSTMENT RANGE[V]								
	OUTPUT VOLTAGE SETTING[V]			4.9 - 5.3	11.5 - 12.5	14.4 - 15.6	23.0 - 25.0		
	OVERCURRENT PROT	ECTION	Works over 105% of rating (works over 105% of peak current at option -H) and recovers automatically						
PROTECTION	OVERVOLTAGE PROT	ECTION	Works over 115% of rating, by zener diode clamping						
	OPERATING INDIC	ATION	Not provided						
OTHERS	REMOTE SENSING	3	Not provided						
	REMOTE ON/OFF		Not provided						
	INPUT-OUTPUT				nA, DC500V 50M $\Omega$ n		<u> </u>		
ISOLATION	INPUT-FG		AC2,000V 1minute,	Cutoff current = 10n	nA, DC500V 50M $\Omega$ m	nin (At Room Temper	ature)		
	OUTPUT-FG		AC500V 1minute, C	utoff current = 100m	A, DC500V 50M $\Omega$ m	in (At Room Tempera	ature)		
	OPERATING TEMP.,HUMID.AND	ALTITUDE	-10 to +60°C, 20 - 9	0%RH (Non conden	sing) (Refer to DERA	FING CURVE), 3,000	m (10,000feet) max		
ENVIRONMENT	STORAGE TEMP.,HUMID.AND	ALTITUDE	-20 to +75°C, 20 - 9	0%RH (Non conden	sing), 9,000m (30,000	feet) max			
LIVIIIONIILIVI	VIBRATION		10 - 55Hz, 19.6m/s <sup>2</sup>	(2G), 3minutes peri	od, 60minutes each a	long X, Y and Z axis	i .		
	IMPACT		196.1m/s² (20G), 11	ms, once each X, Y	and Z axis				
NOISE	AGENCY APPROV		UL60950-1, CSA C2	22.2 No.60950-1 Coi	nplies with DEN-AN				
REGULATIONS	CONDUCTED NOI		Complies with FCC-						
OTHERS	CASE SIZE/WEIGH	łT	49×17×94mm (W	×H×D) / 65g max					
JIIIENS	COOLING METHO	D	Convection						

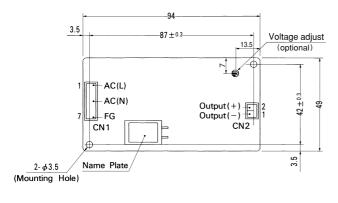
\*1 Measured by 20MHz oscilloscope or Ripple-Noise meter(equivalent to KEISOKU-GIKEN: RM101).
 \*2 Drift is the change in DC output for an eight hour period after a half-hour warm-up at 25°C with the input voltage held constant at the rated input/output.

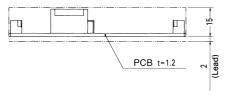
\*3 Please contact us about safety approvals for the model with option.

Avoid prolonged use under over-load.

LCA-2 June 29, 2011







I/O Connector		Mating Connector.	Terminal
CN1 B3(7.5)B-XH-A	XHP-7	Chain: SXH-001T-P0.6	
CIVI	D3(7.0)D-XII-A	ΛΠΓ-/	Loose: BXH-001T-P0.6
CNI2	B2B-XH-A	XHP-2	Chain: SXH-001T-P0.6
CINZ	DZD-XIII-A	Ai ii -2	Loose: BXH-001T-P0.6

#### (PIN CONNECTION)

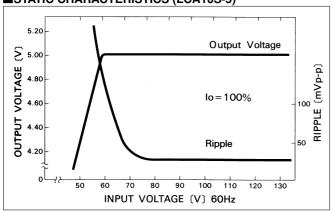
	Pin No.	Input
	1	AC(L)
	2	
CN1	3	
CIVI	4	AC(N)
	5	
	6	
	7	FG

Pin No. Output CN2

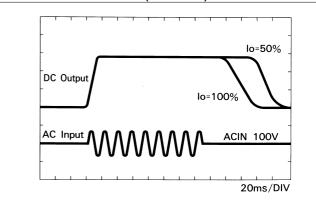
- Weight: 65g or less
  Tolerance: ±1
  Dimensions in mm.
  PCB Material: Glass composite (CEM3)

#### Performance data

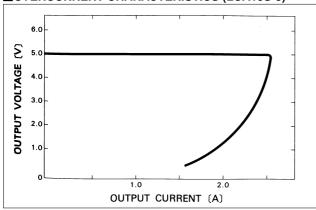
### ■STATIC CHARACTERISTICS (LCA10S-5)



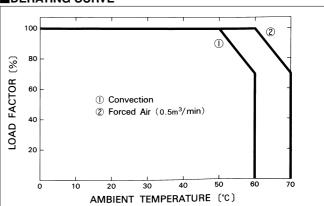
#### ■RISE TIME & FALL TIME (LCA10S-5)



### **■OVERCURRENT CHARACTERISTICS (LCA10S-5)**



#### **DERATING CURVE**



LCA-3 June 29, 2011

# LCA15S

15







High voltage pulse noise type : NAP series Low leakage current type : NAM series \*The EMI/EMC Filter is recommended to connect with several devices.

O Carias	
<ol> <li>Series</li> </ol>	name
<b>ว</b> าากก/12	()\/ inni

- ②100/120V input ③Output wattage ④Single output
- ⑤Output voltage
- ©Optional \*3
   C :with Coating
   G :Low leakage current
- Y :with Potentiometer

MODEL	LCA15S-5	LCA15S-12	LCA15S-15	LCA15S-24
MAX OUTPUT WATTAGE[W]	15	15.6	15	16.8
DC OUTPUT	5V 3A	12V 1.3A	15V 1A	24V 0.7A

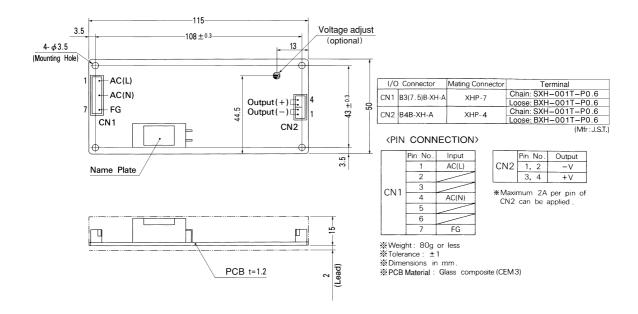
### **SPECIFICATIONS**

-	MODEL		LCA15S-5	LCA15S-12	LCA15S-15	LCA15S-24				
	VOLTAGE[V]		AC85 - 132 1 $\phi$ or DC110 - 170							
	CURRENT[A]	ACIN 100V	0.4typ (lo=100%)							
	FREQUENCY[Hz]	ACIN 100V	47 - 440 or DC							
INPUT	EFFICIENCY[%]		72typ	75typ	75typ	78typ				
		ACIN 100V	20typ (lo=100%) (At cold	, , , , , , , , , , , , , , , , , , ,	/ Styp	/ οιγρ				
			• • • • • • • • • • • • • • • • • • • •							
1	VOLTAGE[V]	MILINA	0.5max (60Hz, According to UL, CSA and DEN-AN)  12   15   24							
<u> </u>	CURRENT[A]		3	1.3	1	0.7				
	LINE REGULATION	N/m1//	20max	48max	60max	96max				
	LOAD REGULATION		40max	100max	120max	150max				
	LOAD REGULATIO	0 to +50°C *1	80max	120max	120max	120max				
	RIPPLE[mVp-p]	-10 - 0°C *1	140max	160max	160max	160max				
		0 to +50°C *1	120max	150max	150max	150max				
OUTPUT	RIPPLE NOISE[mVp-p]	-10 - 0°C *1	160max	180max	180max	180max				
	TEMPERATURE REGULA	1		120max	150max	240max				
-	DRIFT[mV]	I ION[IIIV]	20max	48max	60max	96max				
	START-UP TIME[m	nel **	100max (ACIN 85V, Io=100%)							
H	HOLD-UP TIME[ms	-	10typ (ACIN 85V, Io=100%) 20typ (ACIN 100V, Io=100%)							
	OUTPUT VOLTAGE ADJUSTMEN	-								
	OUTPUT VOLTAGE SETTING[V]			11.5 - 12.5	14.4 - 15.6	23.0 - 25.0				
			Works over 105% of rating and recovers automatically							
PROTECTION	OVERVOLTAGE PROT		Works over 115% of rating and recovers automatically							
PROTECTION CIRCUIT AND	OPERATING INDIC									
OTHERS	REMOTE SENSING		Not provided							
	REMOTE ON/OFF	<del></del>	Not provided							
	INPUT-OUTPUT		<u> </u>	f current = 10mA, DC500V	$^\prime$ 50M $\Omega$ min (At Room Ten	nperature)				
ISOLATION	INPUT-FG		AC2,000V 1minute, Cutof	f current = 10mA, DC500V	50MΩ min (At Room Ten	nperature)				
	OUTPUT-FG		AC500V 1minute, Cutoff current = 100mA, DC500V 50M $\Omega$ min (At Room Temperature)							
	OPERATING TEMP.,HUMID.AND	ALTITUDE								
ENVIDONMENT.	STORAGE TEMP.,HUMID.AND	ALTITUDE	-20 to +75℃, 20 - 90%RI	H (Non condensing), 9,000	m (30,000feet) max					
ENVIRONMENT	VIBRATION		10 - 55Hz, 19.6m/s <sup>2</sup> (2G)	, 3minutes period, 60minut	es each along X, Y and Z	axis				
	IMPACT		196.1m/s² (20G), 11ms, c	once each X, Y and Z axis	-					
SAFETY AND	AGENCY APPROV	ALS	UL60950-1, CSA C22.2 N	No.60950-1 Complies with	DEN-AN					
NOISE REGULATIONS	CONDUCTED NOI	SE	Complies with FCC-B, VC	CCI-B						
OTHERS	CASE SIZE/WEIGH	-TT	50×17×115mm (W×H>	(D) / 80g max						
OTHERS	COOLING METHO	D	Convection							
*1 Magazirod	by 20MHz appillaceans or I	Dipple Nois	e meter/equivalent to KEISOKI LGIKEN : RM101)							

- \*1 Measured by 20MHz oscilloscope or Ripple-Noise meter(equivalent to KEISOKU-GIKEN: RM101).
   \*2 Drift is the change in DC output for an eight hour period after a half-hour warm-up at 25°C with the input voltage held constant at the rated input/output.
- \*3 Please contact us about safety approvals for the model with option.
- Avoid prolonged use under over-load.

LCA-4 June 29, 2011





#### Performance data

50 60 70 80 90

**■STATIC CHARACTERISTICS (LCA15S-5)** 

#### 5.20 Output Voltage 5.00 PPLE [mVp-p] VOLTAGE 4.80 lo = 100%4.60 OUTPUT 4.40 Ripple 4.20

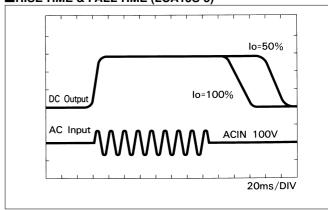
INPUT VOLTAGE (V) 60Hz

120 130

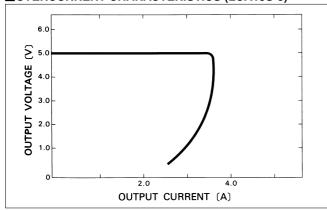
June 29, 2011

100 110

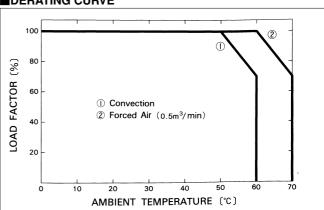








#### **DERATING CURVE**



# LCA30S

30







High voltage pulse noise type : NAP series Low leakage current type : NAM series \*The EMI/EMC Filter is recommended to connect with several devices.

- ①Series name ②100/120V input ③Output wattage ④Single output
- ⑤Output voltage
- ©Optional \*3
   C :with Coating
   G :Low leakage current
- Y :with Potentiometer

MODEL	LCA30S-3	LCA30S-5	LCA30S-12	LCA30S-15	LCA30S-24	LCA30S-36	LCA30S-48
MAX OUTPUT WATTAGE[W]	18	30	30	30	31.2	32.4	33.6
DC OUTPUT	3V 6A	5V 6A	12V 2.5A	15V 2A	24V 1.3A	36V 0.9A	48V 0.7A

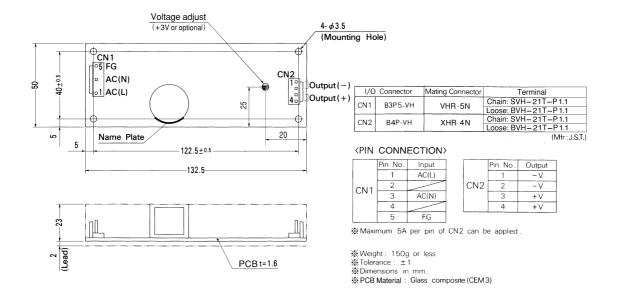
### **SPECIFICATIONS**

	MODEL		LCA30S-3	LCA30S-5	LCA30S-12	LCA30S-15	LCA30S-24	LCA30S-36	LCA30S-48		
	VOLTAGE[V]		AC85 - 132 1 $\phi$ or DC110 - 170								
	CURRENT[A]	ACIN 100V	0.7typ (lo=100%)								
INPUT	FREQUENCY[Hz]		47 - 440 or DC								
	EFFICIENCY[%]		69typ	75typ	80typ	81typ	82typ	80typ	80typ		
			25typ (lo=100%) (At cold start)								
	LEAKAGE CURRE	NT[mA]	0.5max (60Hz	D.5max (60Hz, According to UL, CSA and DEN-AN)							
	VOLTAGE[V]		3	5	12	15	24	36	48		
	CURRENT[A]		6	6	2.5	2	1.3	0.9	0.7		
	LINE REGULATION	N[mV]	20max	20max	48max	60max	96max	144max	192max		
	LOAD REGULATION	N[mV]	40max	40max	100max	120max	150max	240max	300max		
	RIPPLE[mVp-p]	0 to +50°C *1	80max	80max	120max	120max	120max	150max	150max		
	тиг г сс[шүр-р]	-10 - 0℃ *1	140max	140max	160max	160max	160max	200max	200max		
OUTPUT	RIPPLE NOISE[mVp-p]	0 to +50°C *1	120max	120max	150max	150max	150max	250max	350max		
0011 01	TIII T EE NOISE[IIIVP-P]	-10 - 0℃ *1	160max	160max	180max	180max	180max	300max	400max		
	TEMPERATURE REGULA	TION[mV]	50max	50max	120max	150max	240max	360max	480max		
	DRIFT[mV]	*2	20max	20max	48max	60max	96max	144max	192max		
	START-UP TIME[m	ıs]	100max (ACIN 85V, 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 optional:5V -5	to +10% : 12, 15, 2	4, 36, 48V ±10%		
	OUTPUT VOLTAGE SETTING[V]			4.9 - 5.3	11.5 - 12.5	14.4 - 15.6	23.0 - 25.0	34.5 - 37.5	46.0 - 50.0		
	OVERCURRENT PROT	TECTION	Works over 105% of rating and recovers automatically								
PROTECTION	OVERVOLTAGE PROT	ECTION	4.00V min Works over 115% of rating, by zener diode clamping								
	OPERATING INDIC	ATION	Not provided								
OTHERS	REMOTE SENSING	<b>3</b>	Not provided								
	REMOTE ON/OFF		Not provided								
	INPUT-OUTPUT				rrent = 10mA, ا						
ISOLATION	INPUT-FG		AC2,000V 1m	inute, Cutoff cu	urrent = 10mA, I	DC500V 50M $\Omega$	min (At Room	Temperature)			
	OUTPUT-FG				ent = 100mA, D						
	OPERATING TEMP.,HUMID.AND	ALTITUDE	_		Non condensing	, ,		E), 3,000m (10,0	00feet) max		
ENVIRONMENT	STORAGE TEMP.,HUMID.AND	ALTITUDE			Non condensing						
Littinoitimeiti	VIBRATION				ninutes period,		along X, Y an	d Z axis			
	IMPACT		`		e each X, Y and						
SAFETY AND NOISE	AGENCY APPROV	ALS	UL60950-1, C	SA C22.2 No.6	0950-1 Compli	es with DEN-AN	J				
REGULATIONS	CONDUCTED NOI	SE	· ·	FCC-B, VCCI-							
OTHERS	CASE SIZE/WEIGH			5mm (W×H×I	D) / 150g max						
OTHERS	COOLING METHO		Convection								

- \*1 Measured by 20MHz oscilloscope or Ripple-Noise meter(equivalent to KEISOKU-GIKEN: RM101).
   \*2 Drift is the change in DC output for an eight hour period after a half-hour warm-up at 25°C with the input voltage held constant at the rated input/output.
- \*3 Please contact us about safety approvals for the model with option.
- Avoid prolonged use under over-load.

LCA-6 June 29, 2011





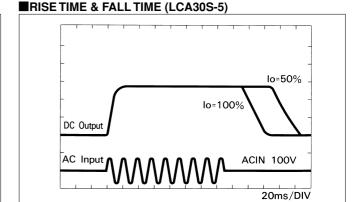
## Performance data

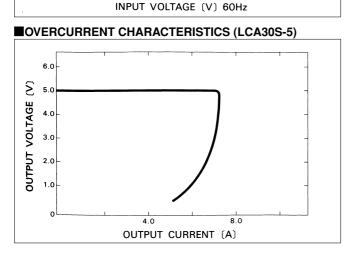
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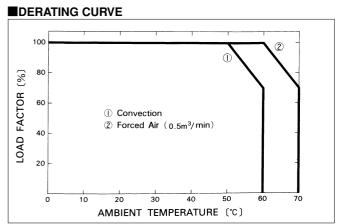
70 80 90

#### **■STATIC CHARACTERISTICS (LCA30S-5)** 5.20 Output Voltage **∑** 5.00 (d-d/m) : VOLTAGE 4.80 lo = 100%4.60 IPPLE OUTPUT 4.40 $\overline{\mathbf{x}}$ 50 Ripple 4.20

100 110

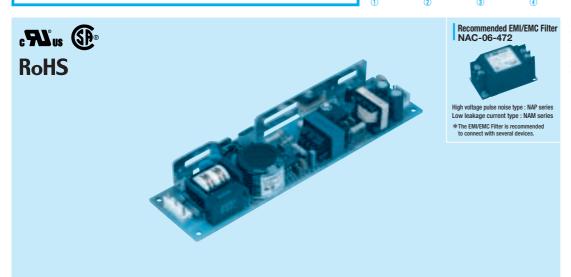






# LCA50S

**50** 



- ①Series name ②100/120V input ③Output wattage ④Single output ⑤Output voltage
- Optional \*4
   C :with Coating
   G :Low leakage current
- Y :with Potentiometer

MODEL	LCA50S-3	LCA50S-5	LCA50S-12	LCA50S-15	LCA50S-24	LCA50S-24-H	LCA50S-36	LCA50S-48
MAX OUTPUT WATTAGE[W]	30	50	51.6	52.5	60	60	61.2	62.4
DC OUTPUT	3V 10A	5V 10A	12V 4.3A	15V 3.5A	24V 2.5A	24V 2.5A	36V 1.7A	48V 1.3A

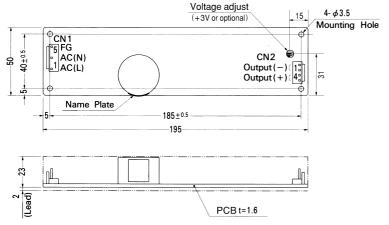
### **SPECIFICATIONS**

	MODEL		LCA50S-3	LCA50S-5	LCA50S-12	LCA50S-15	LCA50S-24	LCA50S-24-H	LCA50S-36	LCA50S-48		
	VOLTAGE[V]		AC85 - 132 1 φ or DC110 - 170									
	CURRENT[A]	ACIN 100V	1.3typ (lo=100%)									
NDUT	FREQUENCY[Hz]		47 - 440 or D	C								
INPUT	EFFICIENCY[%]		71typ	78typ	80typ	81typ	82typ	82typ	82typ	82typ		
	INRUSH CURRENT[A]	ACIN 100V	30typ (lo=100	0%) (At cold st	art)							
	LEAKAGE CURRENT[mA]		0.5max (60H	0.5max (60Hz, According to UL, CSA and DEN-AN)								
	VOLTAGE[V]		3	5	12	15	24	24	36	48		
	CURRENT[A]	*3	10	10	4.3	3.5	2.5	2.5 (Peak 3)	1.7	1.3		
	LINE REGULATION[	mV]	20max	20max	48max	60max	96max	96max	144max	192max		
	LOAD REGULATION	[mV]	40max	40max	100max	120max	150max	150max	240max	300max		
	RIPPLE[mVp-p]	0 to +50°C *1	80max	80max	120max	120max	120max	120max	150max	150max		
	[vp p]	-10 - 0℃ *1	140max	140max	160max	160max	160max	160max	200max	200max		
	RIPPLE NOISE[mVp-p]	0 to +50°C *1	120max	120max	150max	150max	150max	150max	250max	350max		
TOTPOT	1 22 NOIO2[1p p]	-10 - 0℃ *1	160max	160max	180max	180max	180max	180max	300max	400max		
	TEMPERATURE REGULATION(mV)	0 to +50℃		50max	120max	150max	240max	240max	360max	480max		
		-10 to +50℃		60max	150max	180max	290max	290max	450max	600max		
	DRIFT[mV] *2		=0111ax	20max	48max	60max	96max	96max	144max	192max		
	START-UP TIME[ms]		200max (ACIN 85V, 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	· · · · · · · · · · · · · · · · · · ·								
	OUTPUT VOLTAGE SET			4.9 - 5.3	11.5 - 12.5	14.4 - 15.6	23.0 - 25.0	23.0 - 25.0	34.5 - 37.5	46.0 - 50.0		
	OVERCURRENT PROT		Works over 105% of rating (works over 105% of peak current at option -H) and recovers automatically									
PROTECTION	OVERVOLTAGE PROTI		4.00 - 5.25V   Works at 115 - 140% of rating									
CIRCUIT AND OTHERS	OPERATING INDICA	TION	Not provided									
OTTLETTO	REMOTE SENSING		Not provided									
	REMOTE ON/OFF			Not provided								
ICOL ATION	INPUT-OUTPUT		AC2,000V 1minute, Cutoff current = 10mA, DC500V 50M $\Omega$ min (At Room Temperature) AC2,000V 1minute, Cutoff current = 10mA, DC500V 50M $\Omega$ min (At Room Temperature)									
ISOLATION	INPUT-FG OUTPUT-FG				$\frac{\text{current} = 10\text{mA}}{\text{rrent} = 100\text{mA}}$				·			
	OPERATING TEMP.,HUMID.AND	ALTITUDE			(Non condensin		-					
	STORAGE TEMP.,HUMID.AND				(Non condensin	<u> </u>		VE), 3,000III (1	0,000leet) ma	x		
ENVIRONMENT	VIBRATION	ALIIIUDL			Sminutes period	0		and 7 avia				
	IMPACT				ce each X, Y ar		ich along A, T	and Z axis				
SAFETY AND	AGENCY APPROVAL	S .			.60950-1 Com		-ΔN					
	CONDUCTED NOISE			h FCC-B, VCC		PIICS WILLI DEIN	7114					
	CASE SIZE/WEIGHT		<del>-</del>	mm (W×H×E								
OTHERS	COOLING METHOD		Convection	(** ^ 1 1 ^ L	o, , 2009 max							
			55117556511									

- \*1 Measured by 20MHz oscilloscope or Ripple-Noise meter(equivalent to KEISOKU-GIKEN: RM101).
   \*2 Drift is the change in DC output for an eight hour period after a half-hour warm-up at 25°C with the input voltage held constant at the rated input/output.
- \*3 Peak load for 10 sec. or less is acceptable(The average current has to be less than the rated current).
- \*4 Please contact us about safety approvals for the model with option.

LCA-8 June 29, 2011





1/0	Connector	Mating Connector	Terminal				
CN1 B3P5-VH		VHR-5N	Chain: SVH-21T-P1.1				
CIVI	DOI 0-VII	VIIN-SIN	Loose: BVH-21T-P1.1				
CN2 B4P-VH		VHR-4N	Chain: SVH-21T-P1.1				
CIVE	D41 - VII	VIIII	Loose: BVH-21T-P1.1				
			(Mfr:J.S.T.				

#### (PIN CONNECTION)

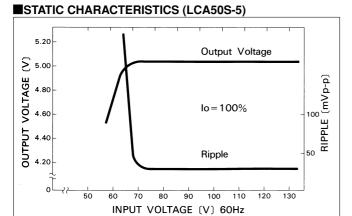
CN1 3 AC(N) CN2 1 · 2 -	Pin I
CN1 3 AC(N) CN2	1
3 AC(N)	1 2
4	3
	4
5 FG	5

\*Maximum 5A per pin of CN2 can be applied

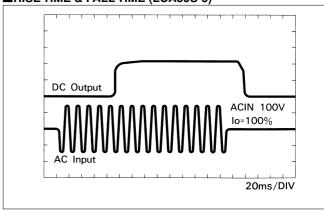
% Weight: 200g or less

★ Tolerance : ± 1
 ★ Dimensions in mm.
 ★ PCB Material : Glass composite (CEM3)

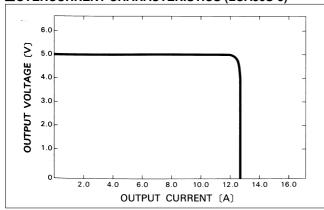
#### Performance data





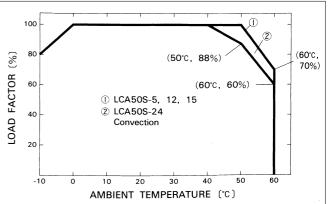


#### **■OVERCURRENT CHARACTERISTICS (LCA50S-5)**



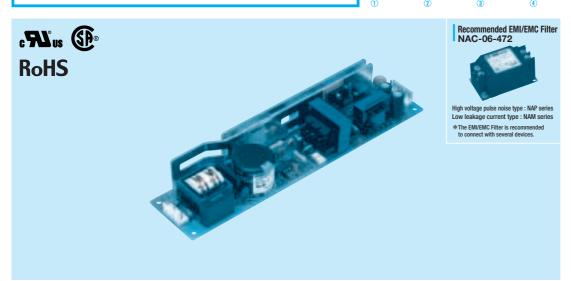
#### **DERATING CURVE**

June 29, 2011



# LCA75S

**75** 



①Series name ②100/120V input ③Output wattage ④Single output ⑤Output voltage Optional \*4
 C :with Coating
 G :Low leakage current

Y :with Potentiometer

MODEL	LCA75S-3	LCA75S-5	LCA75S-12	LCA75S-15	LCA75S-24	LCA75S-24-H	LCA75S-36	LCA75S-48
MAX OUTPUT WATTAGE[W]	45	75	75.6	75	76.8	76.8	75.6	76.8
DC OUTPUT	3V 15A	5V 15A	12V 6.3A	15V 5A	24V 3.2A	24V 3.2A	36V 2.1A	48V 1.6A

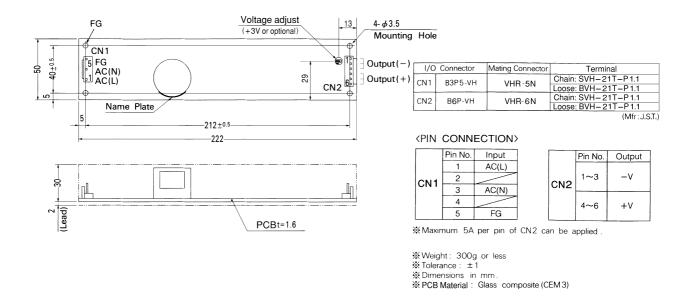
#### **SPECIFICATIONS**

	MODEL		LCA75S-3	LCA75S-5	LCA75S-12	LCA75S-15	LCA75S-24	LCA75S-24-H	LCA75S-36	LCA75S-48		
	VOLTAGE[V]		AC85 - 132 1 φ or DC110 - 170									
	CURRENT[A]	ACIN 100V	1.9typ (lo=100%)									
INDLIT	FREQUENCY[Hz]		47 - 440 or DC									
INPUT	EFFICIENCY[%]		72typ	79typ	81typ	83typ	84typ	84typ	84typ	84typ		
	INRUSH CURRENT[A]	ACIN 100V	30typ (lo=100%) (At cold start)									
	LEAKAGE CURRENT[mA]		0.5max (60H	0.5max (60Hz, According to UL, CSA and DEN-AN)								
	VOLTAGE[V]		3	5	12	15	24	24	36	48		
	CURRENT[A]	*3	15	15	6.3	5	3.2	3.2 (Peak 4.2)	2.1	1.6		
	LINE REGULATION[I	mV]	20max	20max	48max	60max	96max	96max	144max	192max		
	LOAD REGULATION	[mV]	40max	40max	100max	120max	150max	150max	240max	300max		
	RIPPLE[mVp-p]	0 to +50°C *1	80max	80max	120max	120max	120max	120max	150max	150max		
	L-[vp-p]	-10 - 0℃ *1	140max	140max	160max	160max	160max	160max	200max	200max		
	RIPPLE NOISE[mVp-p]	0 to +50°C *1	120max	120max	150max	150max	150max	150max	250max	350max		
OUIPUI	TIII T EE NOISE[IIIVP-P]	-10 - 0℃ *1	160max	160max	180max	180max	180max	180max	300max	400max		
	TEMPERATURE REGULATION(mV)	0 to +50℃	50max	50max	120max	150max	240max	240max	360max	480max		
	TEMPERATURE REGULATION[IIV]	-10 to +50℃	60max	60max	150max	180max	290max	290max	450max	600max		
	DRIFT[mV] *2		20max	20max	48max	60max	96max	96max	144max	192max		
	START-UP TIME[ms]		200max (ACIN 85V, 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 optional: 5, 12, 15, 24, 36, 48V $\pm$ 10%)									
	OUTPUT VOLTAGE SET			4.9 - 5.3	11.5 - 12.5	14.4 - 15.6	23.0 - 25.0	23.0 - 25.0	34.5 - 37.5	46.0 - 50.0		
	OVERCURRENT PROTECTION		Works over 105% of rating (works over 105% of peak current at option -H) and recovers automatically									
PROTECTION	OVERVOLTAGE PROTECTION		4.00 - 5.25V   Works at 115 - 140% of rating									
	OPERATING INDICA	TION	Not provided									
OTHERS	REMOTE SENSING		Not provided									
	REMOTE ON/OFF		Not provided									
	INPUT-OUTPUT		AC2,000V 1minute, Cutoff current = 10mA, DC500V 50M $\Omega$ min (At Room Temperature)									
ISOLATION	INPUT-FG		AC2,000V 1minute, Cutoff current = 10mA, DC500V 50M $\Omega$ min (At Room Temperature)									
	OUTPUT-FG		AC500V 1minute, Cutoff current = 100mA, DC500V 50M $\Omega$ min (At Room Temperature)									
	OPERATING TEMP.,HUMID.AND		-10 to +60°C, 20 - 90%RH (Non condensing) (Refer to DERATING CURVE), 3,000m (10,000feet) max									
ENVIRONMENT	STORAGE TEMP.,HUMID.AND	ALTITUDE	-20 to +75℃, 20 - 90%RH (Non condensing), 9,000m (30,000feet) max									
	VIBRATION		10 - 55Hz, 19.6m/s <sup>2</sup> (2G), 3minutes period, 60minutes each along X, Y and Z axis									
	IMPACT	_			ce each X, Y a							
	AGENCY APPROVAL				.60950-1 Comp	lies with DEN-	AN					
REGULATIONS	CONDUCTED NOISE			FCC-B, VCC								
OTHERS	CASE SIZE/WEIGHT			mm (W×H×E	0) / 300g max							
J.112110	COOLING METHOD		Convection									

- \*1 Measured by 20MHz oscilloscope or Ripple-Noise meter(equivalent to KEISOKU-GIKEN: RM101).
   \*2 Drift is the change in DC output for an eight hour period after a half-hour warm-up at 25°C with the input voltage held constant at the rated input/output.
- \*3 Peak load for 10 sec. or less is acceptable(The average current has to be less than the rated current).
- \*4 Please contact us about safety approvals for the model with option.

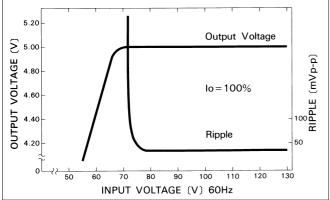
June 29, 2011 **LCA-10** 

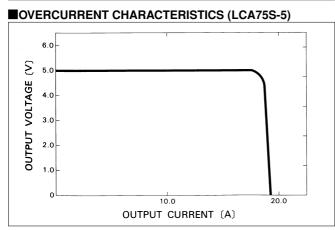




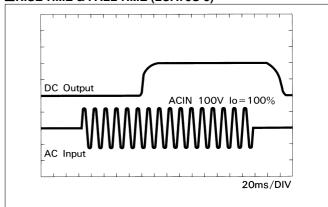
## Performance data

# **■STATIC CHARACTERISTICS (LCA75S-5)**



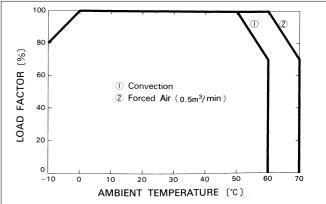






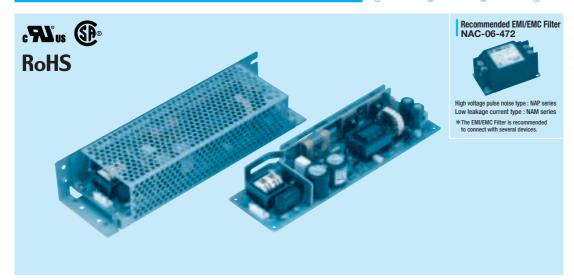


June 29, 2011



# **LCA100S**

100



- ①Series name ②100/120V input 3 Output wattage
  4 Single output ⑤Output voltage Optional \*4
   C :with Coating
   G :Low leakage current
- S :with Chassis SN:with Chassis & cover Y:with Potentiometer

MODEL LCA100S-3 LCA100S-5 LCA100S-12 LCA100S-15 LCA100S-24 LCA100S-24-H LCA100S-36 LCA100S-48 MAX OUTPUT WATTAGE[W] 60 100 102 105 103.2 103.2 108 105.6 DC OUTPUT 3V 20A 5V 20A 12V 8.5A 15V 7A 24V 4.3A 24V 4.3A 36V 3A 48V 2.2A

#### **SPECIFICATIONS**

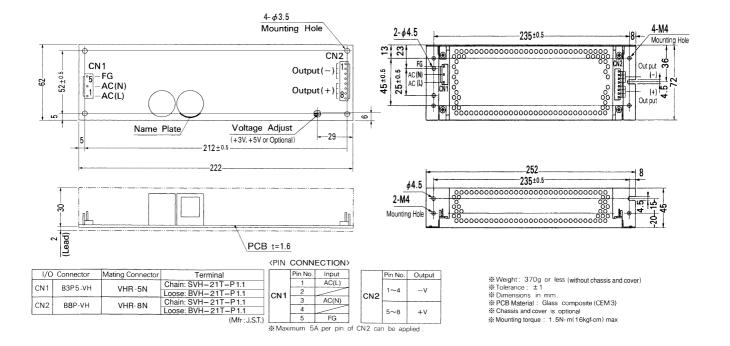
	MODEL		LCA100S-3	LCA100S-5	LCA100S-12	LCA100S-15	LCA100S-24	LCA100S-24-H	LCA100S-36	LCA100S-4		
	VOLTAGE[V]		AC85 - 132 1 φ or DC110 - 170									
	CURRENT[A]	ACIN 100V	2.5typ (lo=100%)									
INDUT	FREQUENCY[Hz]		47 - 440 or DC									
INPUT	EFFICIENCY[%]		74typ	79typ	83typ	84typ	85typ	85typ	85typ	85typ		
	INRUSH CURRENT[A]	ACIN 100V	15typ (lo=100	1%)								
	LEAKAGE CURRENT[mA]		0.5max (60Hz	0.5max (60Hz, According to UL, CSA and DEN-AN)								
	VOLTAGE[V]		3	5	12	15	24	24	36	48		
	CURRENT[A]	*3	20	20	8.5	7	4.3	4.3 (Peak 7)	3	2.2		
	LINE REGULATION[	mV]	20max	20max	48max	60max	96max	96max	144max	192max		
	LOAD REGULATION	l[mV]	40max	40max	100max	120max	150max	150max	240max	300max		
	RIPPLE[mVp-p]	0 to +50°C *1	80max	80max	120max	120max	120max	120max	150max	150max		
	NIPPLE[IIIVP-P]	-10 - 0℃ *1	140max	140max	160max	160max	160max	160max	200max	200max		
	RIPPLE NOISE[mVp-p]	0 to +50°C *1	120max	120max	150max	150max	150max	250max	250max	350max		
OUTPUT	KIPPLE NOISE[mvp-p]	-10 - 0℃ *1	160max	160max	180max	180max	180max	280max	300max	400max		
	TEMPERATURE REGULATION[mV]	0 to +50℃	50max	50max	120max	150max	240max	240max	360max	480max		
	TEMPERATURE REGULATION[IIIV]	-10 to +50°C	60max	60max	150max	180max	290max	290max	450max	600max		
!	DRIFT[mV] *2		20max	20max	48max	60max	96max	96max	144max	192max		
	START-UP TIME[ms]	]	200max (ACIN 85V, 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 adjuste	d the output is a	vailable as optio	nal: 12, 15, 24, 3	36, 48V ±10		
	OUTPUT VOLTAGE SETTING[V]				11.5 - 12.5	14.4 - 15.6	23.0 - 25.0	23.0 - 25.0	34.5 - 37.5	46.0 - 50.0		
	OVERCURRENT PROT	TECTION										
PROTECTION	OVERVOLTAGE PROT	OVERVOLTAGE PROTECTION		4.00 - 5.25V   Works at 115 - 140% of rating								
CIRCUIT AND	OPERATING INDICA	TION	Not provided									
OTHERS	REMOTE SENSING		Not provided									
	REMOTE ON/OFF		Not provided									
	INPUT-OUTPUT		AC2,000V 1minute, Cutoff current = 10mA, DC500V 50M $\Omega$ min (At Room Temperature)									
ISOLATION	INPUT-FG		AC2,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (At Room Temperature)									
	OUTPUT-FG		AC500V 1minute, Cutoff current = 100mA, DC500V 50M $\Omega$ min (At Room Temperature)									
	OPERATING TEMP., HUMID. AND	ALTITUDE	3, ( ) )									
ENVIRONMENT	STORAGE TEMP.,HUMID.AND	ALTITUDE	-20 to +75°C, 20 - 90%RH (Non condensing), 9,000m (30,000feet) max									
LIVINONWENT	VIBRATION		10 - 55Hz, 19.6m/s² (2G), 3minutes period, 60minutes each along X, Y and Z axis									
	IMPACT		196.1m/s <sup>2</sup> (20G), 11ms, once each X, Y and Z axis									
SAFETY AND	AGENCY APPROVAL	LS			60950-1 Comp	lies with DEN-A	N					
REGULATIONS	CONDUCTED NOISE	<u> </u>	<del></del>	FCC-B, VCC								
OTHERS	CASE SIZE/WEIGHT		62×32×2221	mm (W×H×D	) / 370g max (v	without chassis	and cover)					
OTHERS	COOLING METHOD		Convection									

- Measured by 20MHz oscilloscope or Ripple-Noise meter(equivalent to KEISOKU-GIKEN: RM101).

  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.

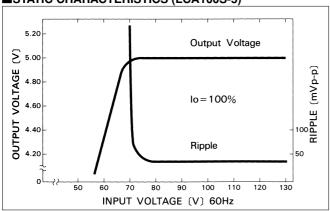
  Peak load for 20 sec. or less is acceptable (The average current has to be less than the rated current).
- Please contact us about safety approvals for the model with option.
- Derating is required when operated with chassis and cover.

**LCA-12** June 29, 2011

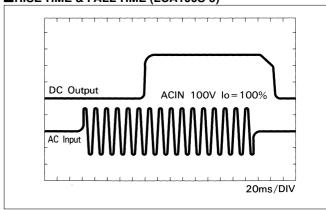


#### Performance data

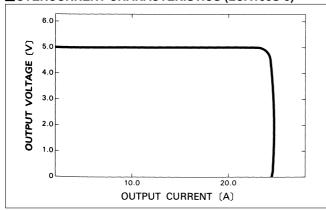
### **■STATIC CHARACTERISTICS (LCA100S-5)**



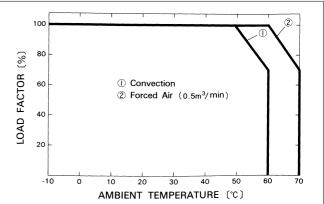
## ■RISETIME & FALLTIME (LCA100S-5)



#### **■OVERCURRENT CHARACTERISTICS (LCA100S-5)**

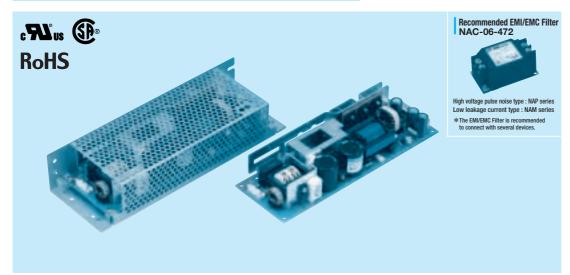


#### **DERATING CURVE**



# **LCA150S**

150



- ①Series name ②100/120V input ③Output wattage ④Single output ⑤Output voltage Optional \*4
   C :with Coating
   G :Low leakage current
- S :with Chassis SN:with Chassis & cover Y:with Potentiometer

MODEL	LCA150S-3	LCA150S-5	LCA150S-12	LCA150S-15	LCA150S-24	LCA150S-24-H	LCA150S-36	LCA150S-48
MAX OUTPUT WATTAGE[W]	90	150	150	150	151.2	151.2	151.2	153.6
DC OUTPUT	3V 30A	5V 30A	12V 12.5A	15V 10A	24V 6.3A	24V 6.3A	36V 4.2A	48V 3.2A

### **SPECIFICATIONS**

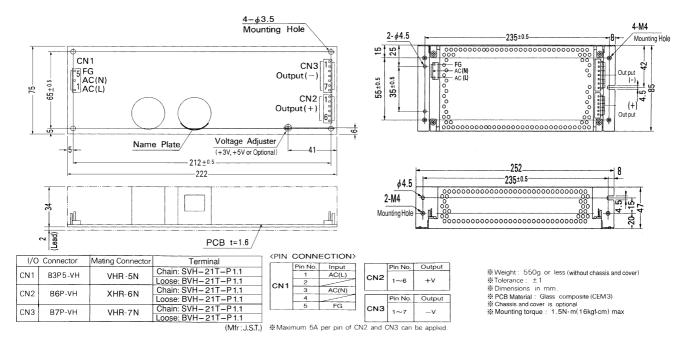
	MODEL		LCA150S-3	LCA150S-5	LCA150S-12	LCA150S-15	LCA150S-24	LCA150S-24-H	LCA150S-36	LCA150S-4		
	VOLTAGE[V]		AC85 - 132 1 $\phi$ or DC110 - 170									
	CURRENT[A]	ACIN 100V	3.6typ (lo=100%)									
INDUT	FREQUENCY[Hz]		47 - 440 or DC									
INPUT	EFFICIENCY[%]		72typ	79typ	82typ	83typ	85typ	85typ	85typ	85typ		
	INRUSH CURRENT[A]	ACIN 100V	15typ (lo=100	1%)								
	LEAKAGE CURRENT[mA]		0.5max (60Hz	0.5max (60Hz, According to UL, CSA and DEN-AN)								
	VOLTAGE[V]		3	5	12	15	24	24	36	48		
	CURRENT[A]	*3	30	30	12.5	10	6.3	6.3 (Peak 10)	4.2	3.2		
	LINE REGULATION[I	mV]	20max	20max	48max	60max	96max	96max	144max	192max		
	LOAD REGULATION	[mV]	40max	40max	100max	120max	150max	150max	240max	300max		
	DIDDI E(m)/m m1	0 to +50°C *1	80max	80max	120max	120max	120max	120max	150max	150max		
	RIPPLE[mVp-p]	-10 - 0℃ *1	140max	140max	160max	160max	160max	160max	200max	200max		
OUIPUI	DIDDLE NOICEIMV: ::1	0 to +50°C *1	120max	120max	150max	150max	150max	150max	250max	350max		
	RIPPLE NOISE[mVp-p]	-10 - 0℃ *1	160max	160max	180max	180max	180max	180max	300max	400max		
	TEMPERATURE REQUIRATIONSVII	0 to +50℃	50max	50max	120max	150max	240max	240max	360max	480max		
	TEMPERATURE REGULATION[mV]	-10 to +50℃	60max	60max	150max	180max	290max	290max	450max	600max		
	DRIFT[mV] *2		20max	20max	48max	60max	96max	96max	144max	192max		
	START-UP TIME[ms]		200max (ACIN 85V, 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	d the output is a	vailable as optio	nal: 12, 15, 24, 3	36, 48V ±10		
	OUTPUT VOLTAGE SETTING[V]				11.5 - 12.5	14.4 - 15.6	23.0 - 25.0	23.0 - 25.0	34.5 - 37.5	46.0 - 50.0		
	OVERCURRENT PROTECTION		Works over 105% of rating (works over 105% of peak current at option -H) and recovers automatically									
PROTECTION	OVERVOLTAGE PROTECTION		4.00 - 5.25V   Works at 115 - 140% of rating									
CIRCUIT AND	OPERATING INDICATION		Not provided									
OTHERS	REMOTE SENSING		Not provided									
	REMOTE ON/OFF		Not provided									
	INPUT-OUTPUT		AC2,000V 1minute, Cutoff current = 10mA, DC500V 50M $\Omega$ min (At Room Temperature)									
ISOLATION	INPUT-FG		AC2,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (At Room Temperature)									
	OUTPUT-FG		AC500V 1minute, Cutoff current = 100mA, DC500V 50M $\Omega$ min (At Room Temperature)									
	OPERATING TEMP.,HUMID.AND	ALTITUDE	-10 to +60℃, 20 - 90%RH (Non condensing) (Refer to DERATING CURVE), 3,000m (10,000feet) max									
FNIVIDONIMENT	STORAGE TEMP., HUMID. AND	ALTITUDE	-20 to +75°C, 20 - 90%RH (Non condensing), 9,000m (30,000feet) max									
ENVIRONMENT	VIBRATION		10 - 55Hz, 19.6m/s <sup>2</sup> (2G), 3minutes period, 60minutes each along X, Y and Z axis									
	IMPACT		196.1m/s <sup>2</sup> (20	)G), 11ms, onc	ce each X, Y ar	nd Z axis						
SAFETY AND	AGENCY APPROVAL	LS	UL60950-1, C	SA C22.2 No.	60950-1 Comp	lies with DEN-A	AN					
REGULATIONS	CONDUCTED NOISE	•	Complies with	FCC-B, VCC	I-B							
OTUEDO	CASE SIZE/WEIGHT	'	75×36×222	mm (W×H×C	)) / 550g max (v	without chassis	and cover)					
OTHERS	COOLING METHOD		Convection		-							

- \*1 Measured by 20MHz oscilloscope or Ripple-Noise meter(equivalent to KEISOKU-GIKEN: RM101).
  \*2 Drift is the change in DC output for an eight hour period after a half-hour warm-up at 25°C with the input voltage held constant at the rated input/output.
  \*3 Peak load for 15 sec. or less is acceptable (The average current has to be less than the rated current).
- \*4 Please contact us about safety approvals for the model with option.
   \* Derating is required when operated with chassis and cover.

June 29, 2011 **LCA-14** 

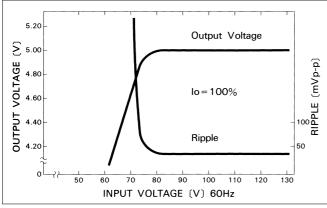




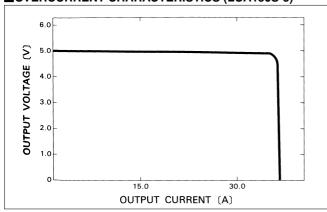


#### Performance data

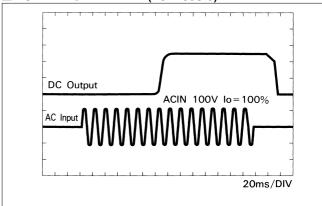
#### ■STATIC CHARACTERISTICS (LCA150S-5)



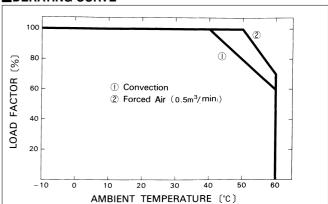
#### **■OVERCURRENT CHARACTERISTICS (LCA150S-5)**



## ■RISETIME & FALLTIME (LCA150S-5)







June 29, 2011 **LCA-15** 

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