



	LCA100L	Units
Load Voltage	350	V
Load Current	120	mA
Max R _{ON}	25	Ω

Description

LCA100 is a 350V, 120mA, 25Ω 1-Form-A relay. It features the lowest on-resistance in an OptoMOS relay with 350V peak load voltage. Current limiting version is also available. ("L" suffix)

Features

- Small 6 Pin DIP Package
- Low Drive Power Requirements (TTL/CMOS Compatible)
- No Moving Parts
- High Reliability
- Arc-Free With No Snubbing Circuits
- 3750V_{RMS} Input/Output Isolation
- FCC Compatible
- VDE Compatible
- No EMI/RFI Generation
- Machine Insertable, Wave Solderable
- Current Limiting, Surface Mount and Tape & Reel Versions Available

Approvals

- UL Recognized: File Number E76270
- CSA Certified: File Number LR 43639-10
- BSI Certified to:
 - BS EN 60950:1992 (BS7002:1992)
Certificate #: 7344
 - BS EN 41003:1993
Certificate #: 7344

Applications

- Telecommunications
 - Telecom Switching
 - Tip/Ring Circuits
 - Modem Switching (Laptop, Notebook, Pocket Size)
 - Hookswitch
 - Dial Pulsing
 - Ground Start
 - Ringer Injection
- Instrumentation
 - Multiplexers
 - Data Acquisition
 - Electronic Switching
 - I/O Subsystems
 - Meters (Watt-Hour, Water, Gas)
- Medical Equipment—Patient/Equipment Isolation
- Security
- Aerospace
- Industrial Controls

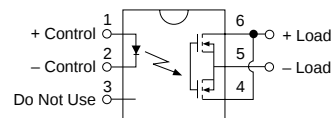
Ordering Information

Part #	Description
LCA100L	6 Pin DIP (50/Tube)
LCA100LS	6 Pin Surface Mount (50/Tube)
LCA100LSTR	6 Pin Surface Mount (1000/Reel)

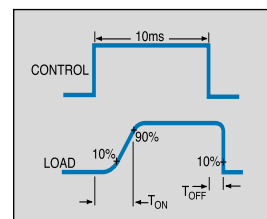
Pin Configuration

LCA100/LCA100L Pinout

DC Only Configuration



Switching Characteristics of Normally Open (Form A) Devices



Absolute Maximum Ratings (@ 25° C)

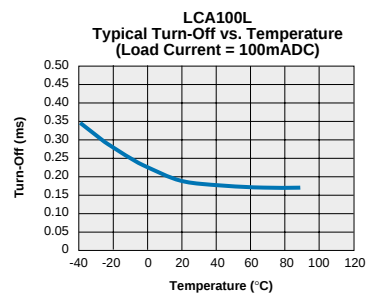
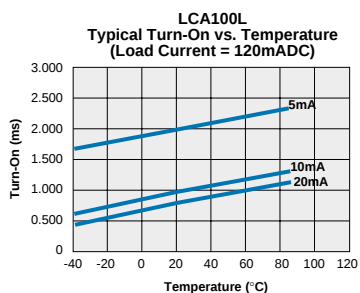
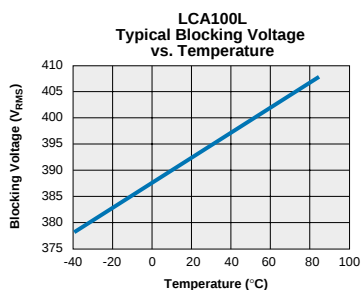
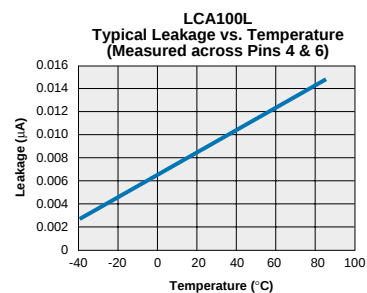
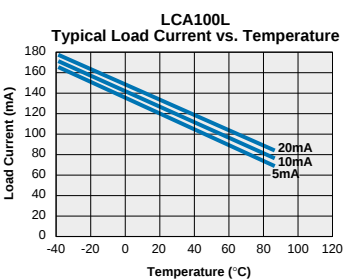
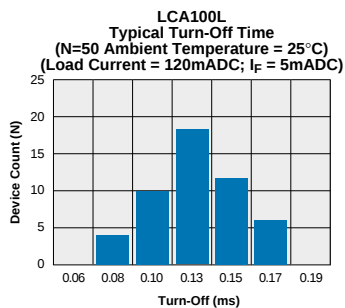
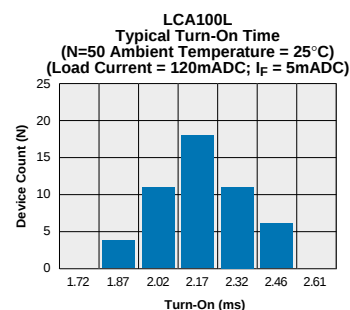
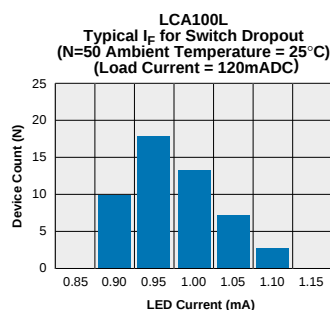
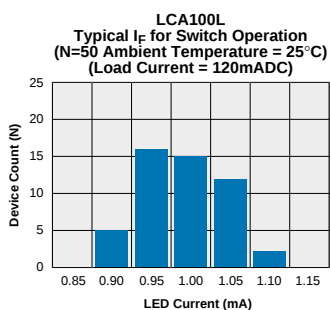
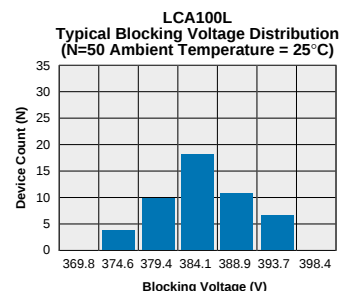
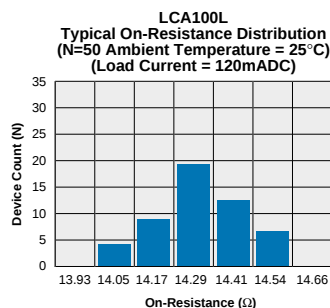
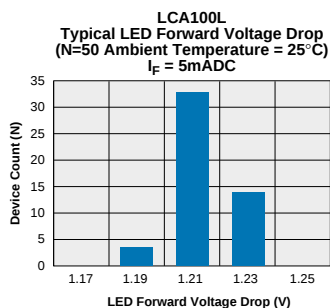
Parameter	Min	Typ	Max	Units
Input Power Dissipation	-	-	150 ¹	mW
Input Control Current	-	-	50	mA
Peak (10ms)	-	-	1	A
Reverse Input Voltage	-	-	5	V
Total Power Dissipation	-	-	800 ²	mW
Isolation Voltage Input to Output	3750	-	-	V _{RMS}
Operational Temperature	-40	-	+85	°C
Storage Temperature	-40	-	+125	°C
Soldering Temperature (10 Seconds Max.)				
DIP Package	-	-	+260	°C
Surface Mount Package	-	-	+220	°C

¹ Derate Linearly 1.33 mW/°C² Derate Linearly 6.67 mW/°C

Absolute Maximum Ratings are stress ratings. Stresses in excess of these ratings can cause permanent damage to the device. Functional operation of the device at these or any other conditions beyond those indicated in the operational sections of this data sheet is not implied. Exposure of the device to the absolute maximum ratings for an extended period may degrade the device and effect its reliability.

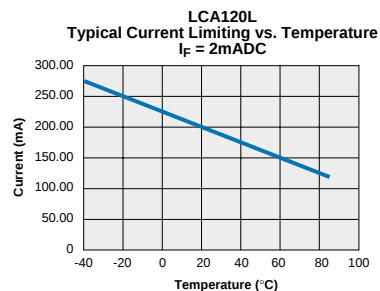
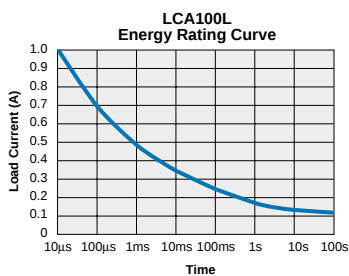
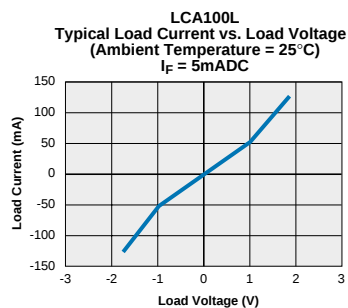
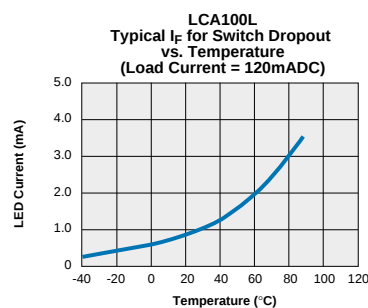
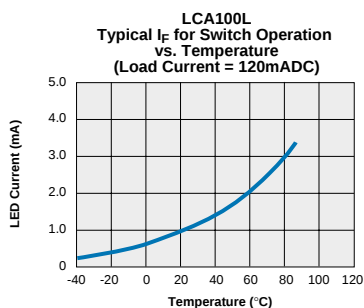
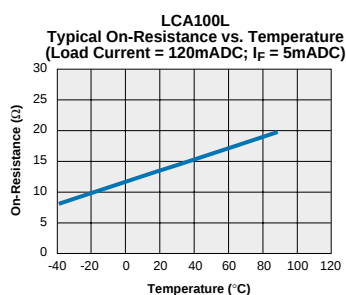
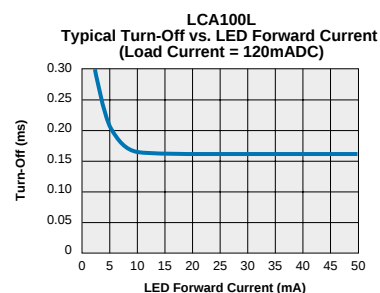
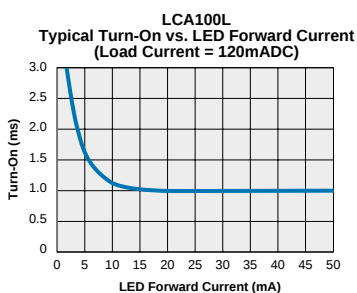
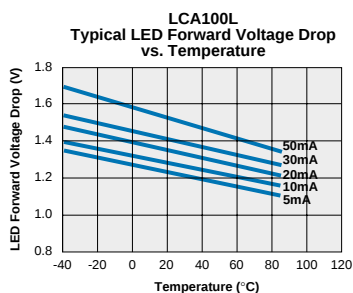
Electrical Characteristics

PARAMETER	CONDITIONS	SYMBOL	MIN	TYP	MAX	UNITS
Output Characteristics @ 25°C						
Load Voltage (Peak)	-	V _L	-	-	350	V
Load Current (Continuous)	-	I _L	-	-	120	mA
AC/DC Configuration	-	I _L	-	-	200	mA
DC Configuration	-	I _L	-	-	-	mA
Peak Load Current	10ms	I _{LPK}	-	-	-	mA
On-Resistance	-	R _{ON}	-	-	25	Ω
AC/DC Configuration	I _L =120mA	R _{ON}	-	-	8	Ω
DC Configuration	I _L =200mA	R _{ON}	-	-	1	μA
Off-State Leakage Current	V _L =350V	I _{LEAK}	-	-	-	ms
Switching Speeds	-	T _{ON}	-	-	5	ms
Turn-On	I _F =5mA, V _L =10V	T _{OFF}	-	-	5	ms
Turn-Off	I _F =5mA, V _L =10V	C _{OUT}	-	35	-	pF
Output Capacitance	50V; f=1MHz	I _{CL}	130	170	210	mA
Load Current Limiting	-	-	-	-	-	-
Input Characteristics @ 25°C						
Input Control Current	I _L =120mA	I _F	5	-	50	mA
Input Dropout Current	-	I _F	0.4	0.7	-	mA
Input Voltage Drop	I _F =5mA	V _F	0.9	1.2	1.4	V
Reverse Input Voltage	-	V _R	-	-	5	V
Reverse Input Current	V _R =5V	I _R	-	-	10	μA
Input to Output Capacitance	-	C _{I/O}	-	3	-	pF
Input to Output Isolation	-	V _{I/O}	3750	-	-	V _{RMS}

PERFORMANCE DATA*


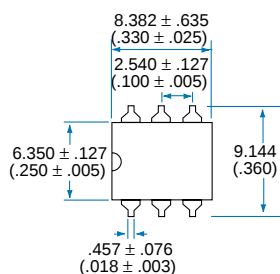
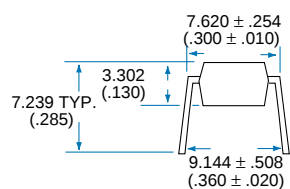
The Performance data shown in the graphs above is typical of device performance. For guaranteed parameters not indicated in the written specifications, please contact our application department.

PERFORMANCE DATA*



*The Performance data shown in the graphs above is typical of device performance. For guaranteed parameters not indicated in the written specifications, please contact our application department.

6 Pin DIP Through Hole (Standard)

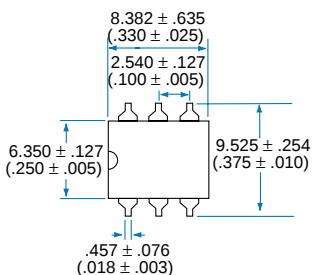


Technical drawing of a square plate with dimensions and tolerances:

- Overall width: $6.800 \pm .127$ (6-.031 DIA.)
- Overall height: $7.620 \pm .127$ (.300 ± .005)
- Inner square width: $5.080 \pm .127$ (.200 ± .005)
- Inner square height: $6.350 \pm .127$ (.250 ± .005)
- Four circular holes are located at the corners of the inner square.

Technical drawing of a mechanical part with dimensions:

- Overall width: $7.620 \pm .254$ ($.300 \pm .010$)
- Overall height: $4.445 \pm .127$ ($.175 \pm .005$)
- Top width: 3.302 ($.130$)
- Bottom width: $.635$ TYP ($.025$)
- Right side width: $.254$ TYP ($.010$)



(Top View)

Diagram illustrating the top view of a 2x3 grid of squares. The dimensions and tolerances are as follows:

- Top row width: $2.540 \pm .127$ ($.100 \pm .005$)
- Bottom row width: $1.905 \pm .127$ ($.075 \pm .005$)
- Left column height: $1.499 \pm .127$ ($.059 \pm .005$)
- Right column height: $8.305 \pm .127$ ($.327 \pm .005$)

330.2 DIA. (13.00)

Top Cover Tape Thickness .102 MAX. (.004)

Embossed Carrier

Embossment

6.731 MAX. (.265)

406 MAX. (.016)

12.090 (.476)

4.877 (.192)

1.753 ± .102 (.069 ± .004)

7.493 ± .102 (.295 ± .004)

.050R TYP.

2.007 ± .102 (.079 ± .004)

1.498 ± .102 (.059 ± .004)

3.987 ± .102 (.157 ± .004)

11.989 ± .102 (.472 ± .004)

10.100 ± .102 (.398 ± .004)

1.549 ± .102 (.061 ± .004)

16.002 ± .305 (.630 ± .012)

10.100 (.398)

User Direction of Feed

Rev. 1



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6/25/02