



	LCA100L	Units
Load Voltage	350	V
Load Current	120	mA
Max R <sub>ON</sub>	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<sub>RMS</sub> Input/Output Isolation
- FCC Compatible
- VDE Compatible
- No EMI/RFI Generation
- Machine Insertable, Wave Solderable
- Current Limiting, Surface Mount and Tape & Reel Versions Available

### 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

### 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

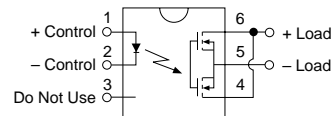
### Ordering Information

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

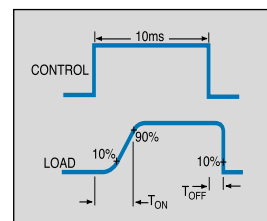
### Pin Configuration

#### 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 <sup>1</sup>	mW
Input Control Current Peak (10ms)	-	-	50 1	mA A
Reverse Input Voltage	-	-	5	V
Total Power Dissipation	-	-	800 <sup>2</sup>	mW
Isolation Voltage Input to Output	3750	-	-	V <sub>RMS</sub>
Operational Temperature	-40	-	+85	°C
Storage Temperature	-40	-	+125	°C
Soldering Temperature (10 Seconds Max.)				
DIP Package	-	-	+260	°C
Surface Mount Package	-	-	+220	°C

<sup>1</sup> Derate Linearly 1.33 mW/°C

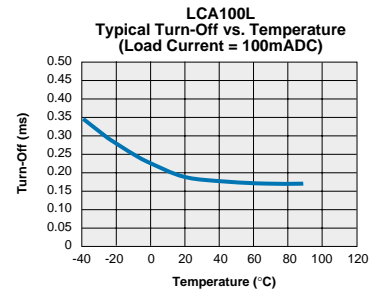
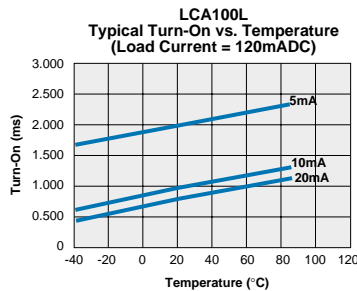
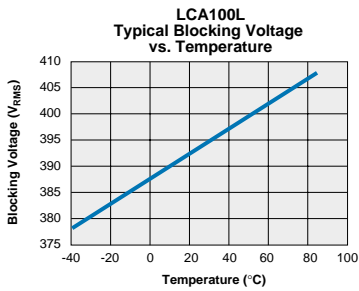
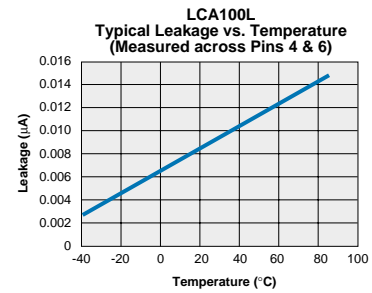
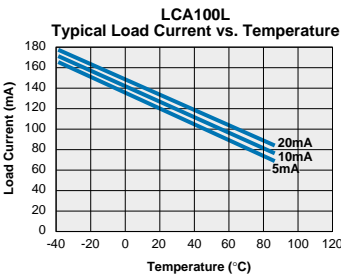
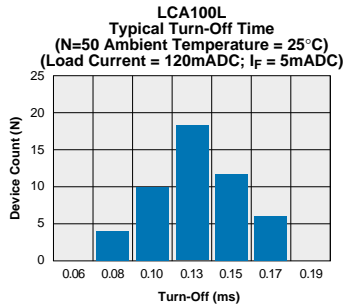
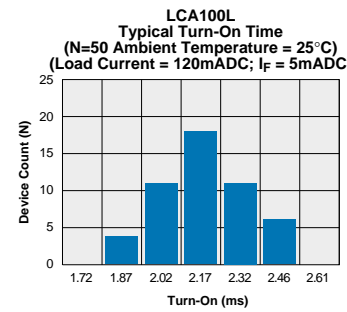
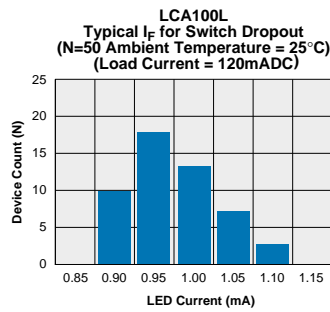
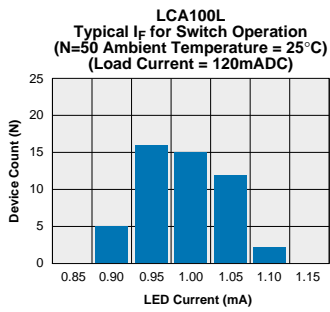
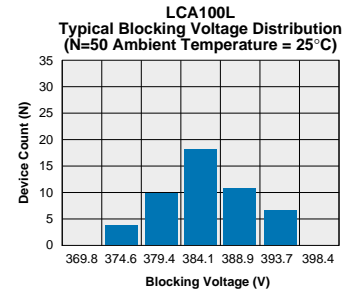
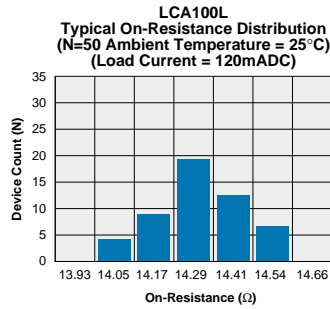
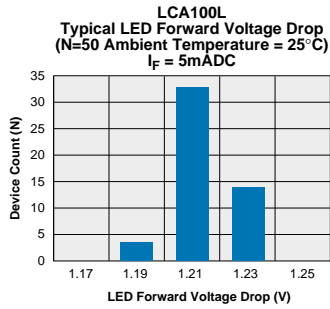
<sup>2</sup> Derate Linearly 6.67 mW/°C

*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

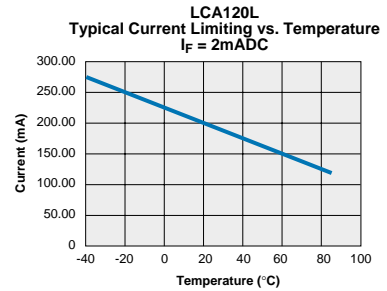
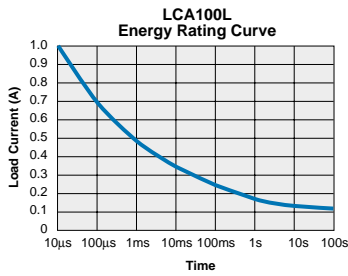
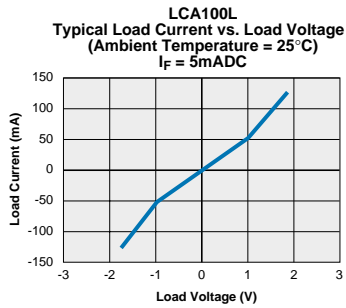
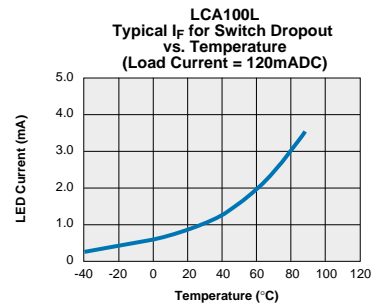
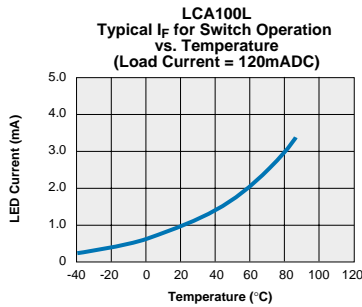
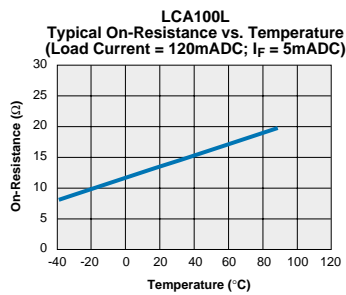
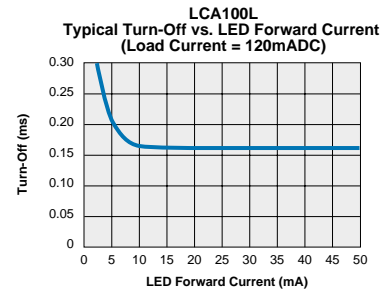
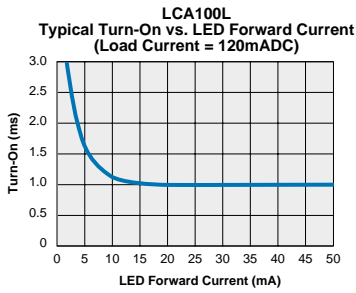
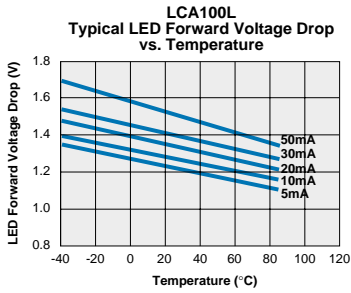
PARAMETER	CONDITIONS	SYMBOL	MIN	TYP	MAX	UNITS
<b>Output Characteristics @ 25°C</b>						
Load Voltage (Peak)	-	V <sub>L</sub>	-	-	350	V
Load Current (Continuous)						
AC/DC Configuration	-	I <sub>L</sub>	-	-	120	mA
DC Configuration	-	I <sub>L</sub>	-	-	200	mA
Peak Load Current	10ms	I <sub>LPK</sub>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

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.

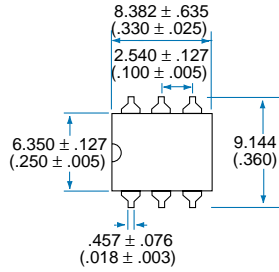
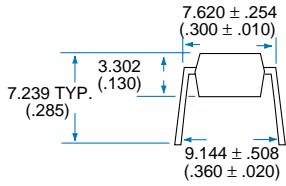
PERFORMANCE DATA\*



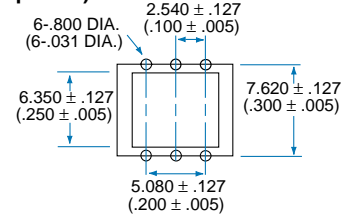
\*The Performance data shown in the graphs above is typical of device performance. For guaranteed parameters not indicated in the written specifications, please contact our application department.

**Mechanical Dimensions**

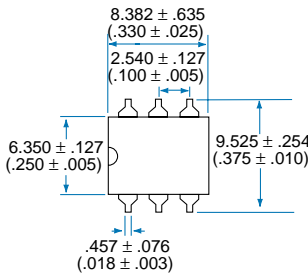
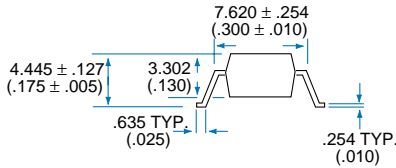
**6 Pin DIP Through Hole (Standard)**



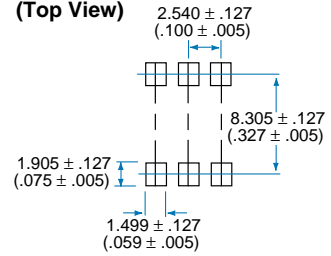
**PC Board Pattern (Top View)**



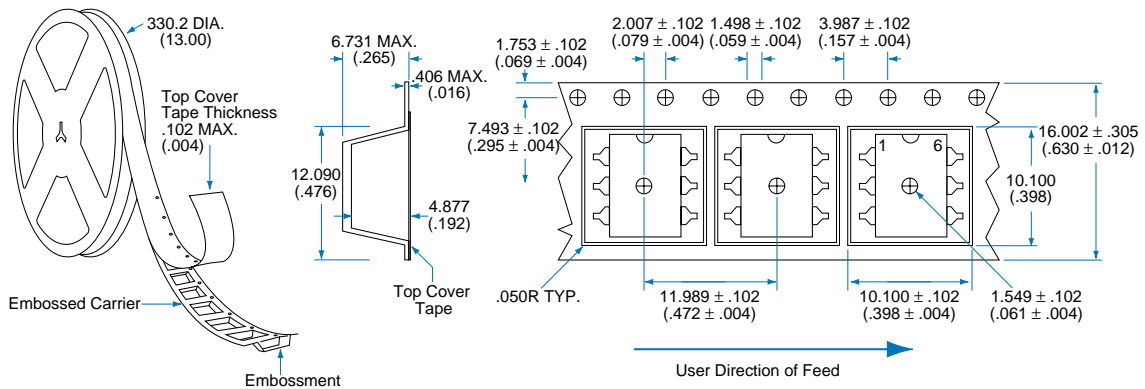
**6 Pin DIP Surface Mount ("S" Suffix)**



**PC Board Pattern (Top View)**



**Tape and Reel Packaging for 6 Pin Surface Mount Package**



Dimensions  
mm  
(inches)



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Clare Canada Ltd.  
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1852 West 11th Street, #348  
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Tel: 1-209-832-4367  
Fax: 1-209-832-4732  
Toll Free: 1-800-27-CLARE

##### Canada

Clare Canada Ltd.  
3425 Harvester Road, Suite 202  
Burlington, Ontario L7N 3N1  
Tel: 1-905-333-9066  
Fax: 1-905-333-1824

### EUROPE

##### European Headquarters

CP Clare nv  
Bampslaan 17  
B-3500 Hasselt (Belgium)  
Tel: 32-11-300868  
Fax: 32-11-300890

##### France

Clare France Sales  
Lead Rep  
99 route de Versailles  
91160 Champlan  
France  
Tel: 33 1 69 79 93 50  
Fax: 33 1 69 79 93 59

##### Germany

Clare Germany Sales  
ActiveComp Electronic GmbH  
Mitterstrasse 12  
85077 Manching  
Germany  
Tel: 49 8459 3214 10  
Fax: 49 8459 3214 29

##### Italy

C.L.A.R.E.s.a.s.  
Via C. Colombo 10/A  
I-20066 Melzo (Milano)  
Tel: 39-02-95737160  
Fax: 39-02-95738829

##### Sweden

Clare Sales  
Comptronic AB  
Box 167  
S-16329 Spånga  
Tel: 46-862-10370  
Fax: 46-862-10371

##### United Kingdom

Clare UK Sales  
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Tel: 44-1-823 352541  
Fax: 44-1-823 352797

### ASIA/PACIFIC

##### Asian Headquarters

Clare  
Room N1016, Chia-Hsin, Bldg II,  
10F, No. 96, Sec. 2  
Chung Shan North Road  
Taipei, Taiwan R.O.C.  
Tel: 886-2-2523-6368  
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