



	LCA100	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
- 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

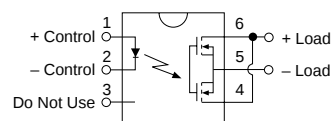
Ordering Information

Part #	Description
LCA100	6 Pin DIP (50/Tube)
LCA100S	6 Pin Surface Mount (50/Tube)
LCA100STR	6 Pin Surface Mount (1000/Reel)

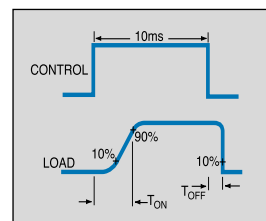
Pin Configuration

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/°C

² Derate Linearly 6.67 mW/°C

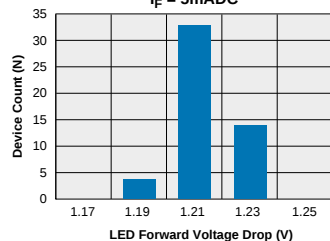
Absolute Maximum Ratings are stress ratings. Stresses in excess of these ratings can cause permanent damage to the device. Functional operation of the device at these or any other conditions beyond those indicated in the operational sections of this data sheet is not implied. Exposure of the device to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

Electrical Characteristics

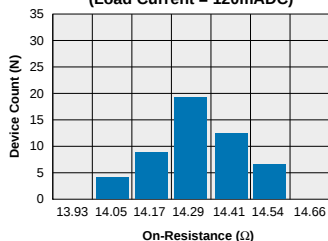
Parameter	Conditions	Symbol	Min	Typ	Max	Units
Output Characteristics @ 25°C						
Load Voltage (Peak)	-	V _L	-	-	350	V
Load Current (Continuous)	-	I _L	-	-	120	mA
AC/DC Configuration	-	I _L	-	-	200	mA
DC Configuration	-	I _L	-	-	200	mA
Peak Load Current	10ms	I _L PK	-	-	350	mA
On-Resistance						
AC/DC Configuration	I _L =120mA	R _{ON}	-	-	25	Ω
DC Configuration	I _L =200mA	R _{ON}	-	-	8	Ω
Off-State Leakage Current	V _L =350V	I _{LEAK}	-	-	1	μA
Switching Speeds						
Turn-On	I _F =5mA, V _L =10V	T _{ON}	-	-	5	ms
Turn-Off	I _F =5mA, V _L =10V	T _{OFF}	-	-	5	ms
Output Capacitance	50V; f=1MHz	C _{OUT}	-	35	-	pF
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*

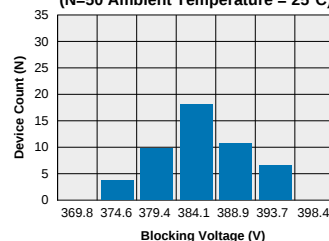
LCA100
Typical LED Forward Voltage Drop
(N=50 Ambient Temperature = 25°C)
 $I_F = 5\text{mA DC}$



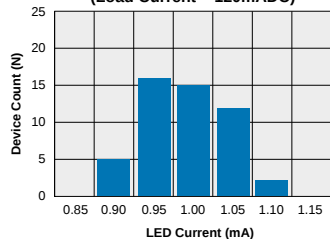
LCA100
Typical On-Resistance Distribution
(N=50 Ambient Temperature = 25°C)
(Load Current = 120mA DC)



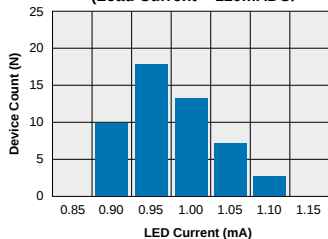
LCA100
Typical Blocking Voltage Distribution
(N=50 Ambient Temperature = 25°C)



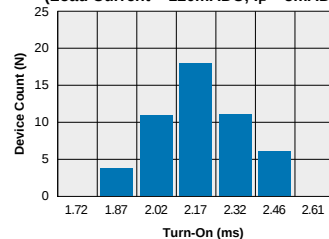
LCA100
Typical I_F for Switch Operation
(N=50 Ambient Temperature = 25°C)
(Load Current = 120mA DC)



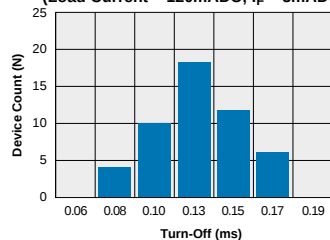
LCA100
Typical I_F for Switch Dropout
(N=50 Ambient Temperature = 25°C)
(Load Current = 120mA DC)



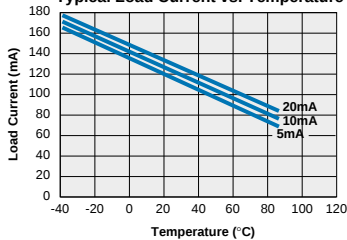
LCA100
Typical Turn-On Time
(N=50 Ambient Temperature = 25°C)
(Load Current = 120mA DC; $I_F = 5\text{mA DC}$)



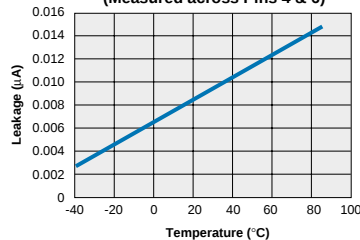
LCA100
Typical Turn-Off Time
(N=50 Ambient Temperature = 25°C)
(Load Current = 120mA DC; $I_F = 5\text{mA DC}$)



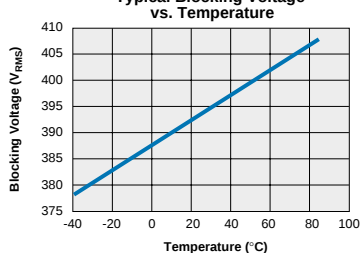
LCA100
Typical Load Current vs. Temperature



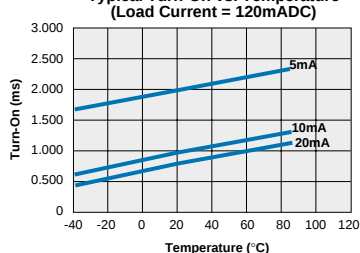
LCA100
Typical Leakage vs. Temperature
(Measured across Pins 4 & 6)



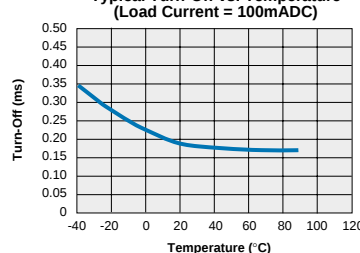
LCA100
Typical Blocking Voltage vs. Temperature



LCA100
Typical Turn-On vs. Temperature
(Load Current = 120mA DC)

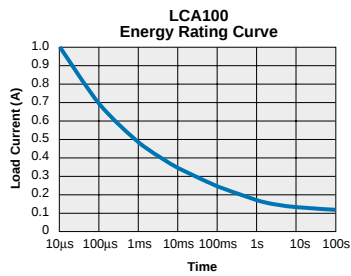
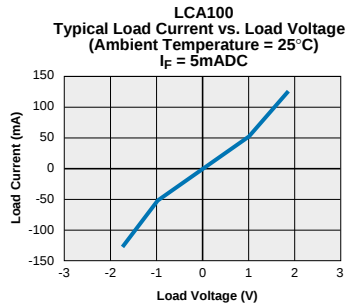
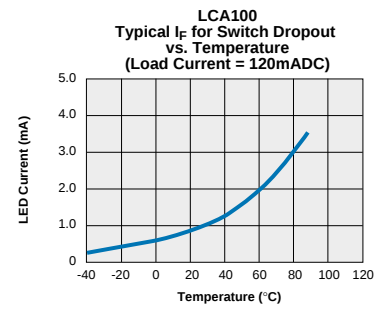
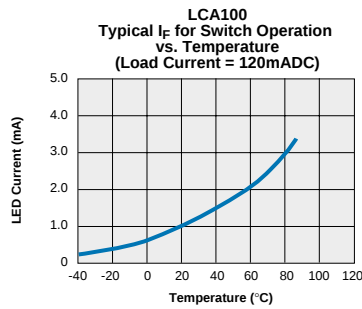
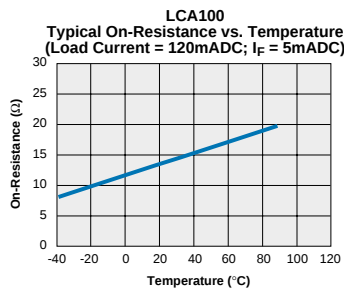
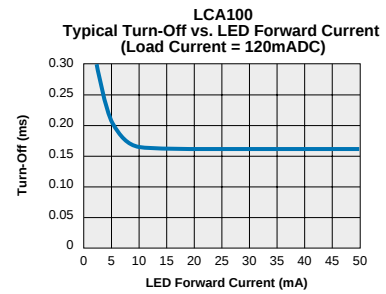
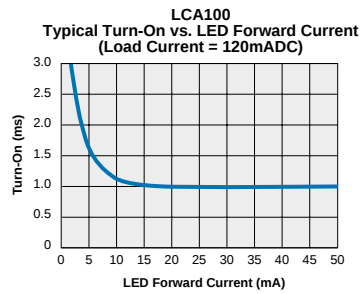
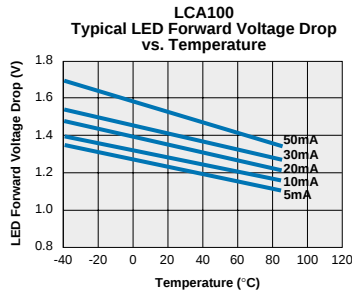


LCA100
Typical Turn-Off vs. Temperature
(Load Current = 100mA DC)



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)

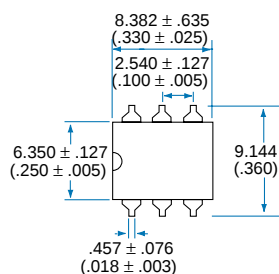
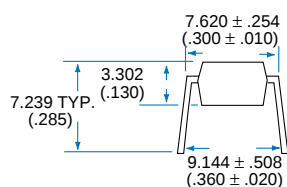
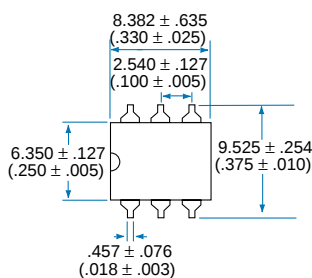


Figure 1: A technical drawing of a square plate with four holes. The drawing shows the overall dimensions and the dimensions of the holes and their spacing. The overall width and height are $7.620 \pm .127$ ($300 \pm .005$). The distance between the centers of the holes is $5.080 \pm .127$ ($200 \pm .005$). The diameter of each hole is $6.350 \pm .127$ ($250 \pm .005$). The distance from the center of a hole to the nearest edge is $6.350 \pm .127$ ($250 \pm .005$). The hole diameter is also labeled as 6-800 DIA. (6-.031 DIA.).

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