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LCA710

Single Pole OptoMOS[®] Relay



	LCA710	Units
Load Voltage	60	V
Load Current	1	A
Max R _{ON}	0.5	Ω

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

Description

LCA710 is a 60V, 1A, 0.5Ω 1-Form-A relay. It features the highest peak load current capability available in an OptoMOS relay.

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

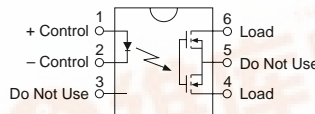
Ordering Information

Part #	Description
LCA710	6 Pin DIP (50/Tube)
LCA710S	6 Pin Surface Mount (50/Tube)
LCA710STR	6 Pin Surface Mount (1000/Reel)

Pin Configuration

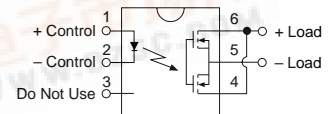
LCA710 Pinout

AC/DC Configuration

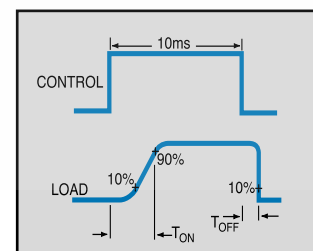


LCA710 Pinout

DC Only Configuration



Switching Characteristics of Normally Open (Form A) Devices





LCA710

Absolute Maximum Ratings (@ 25° C)

Parameter	Min	Typ	Max	Units
Input Power Dissipation	-	-	150 ¹	mW
Input Control Current Peak (10ms)	-	-	50 1	mA 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 DIP Package	-	-	+260	°C
Surface Mount Package (10 Seconds Max.)	-	-	+220	°C

¹ Derate Linearly 1.33 mW/°C

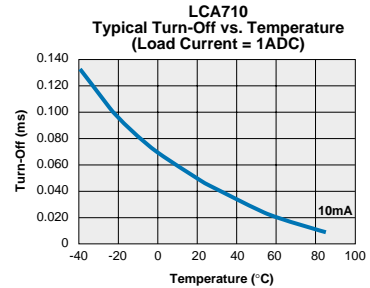
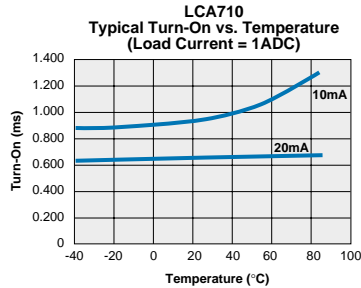
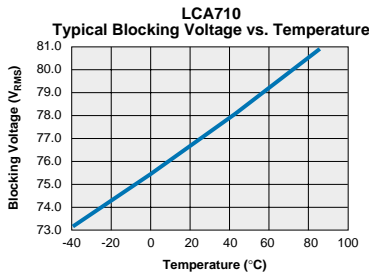
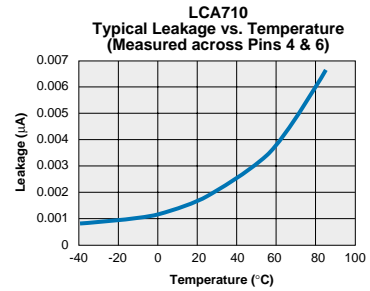
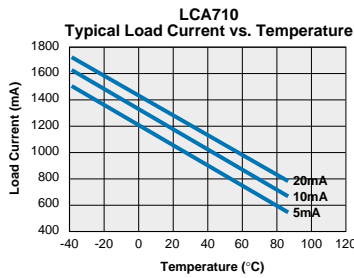
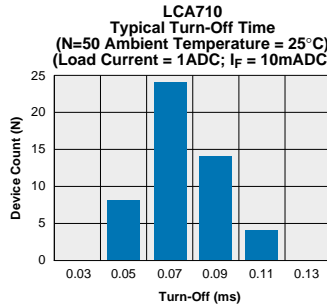
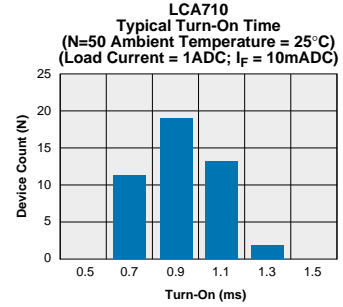
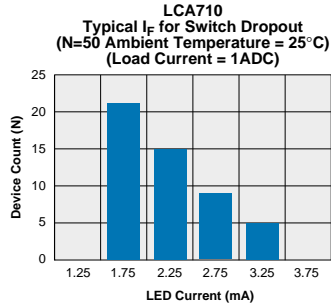
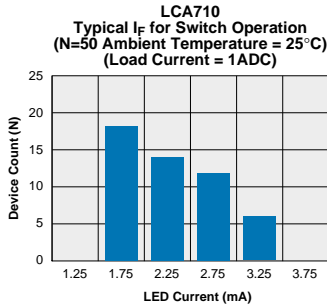
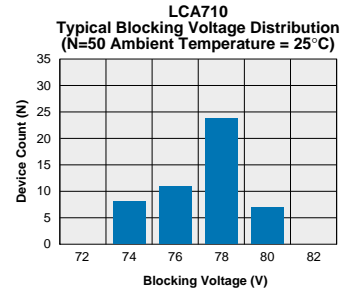
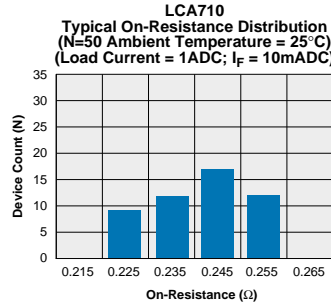
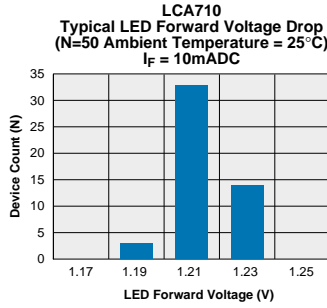
² Derate Linearly 6.67 mW/°C

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

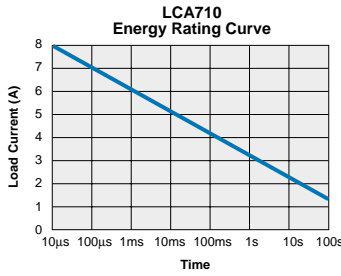
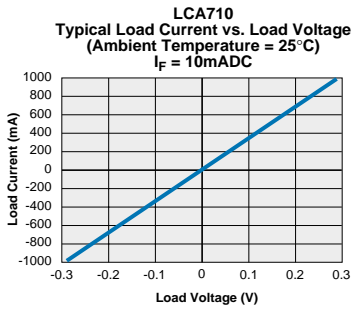
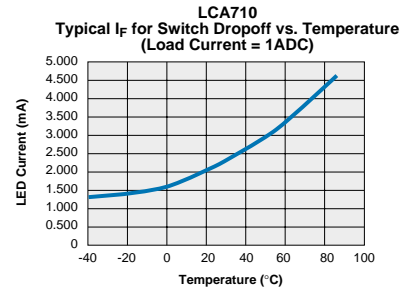
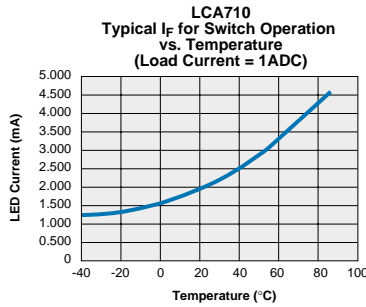
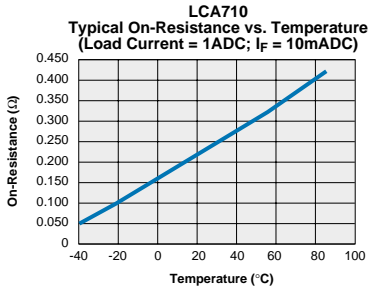
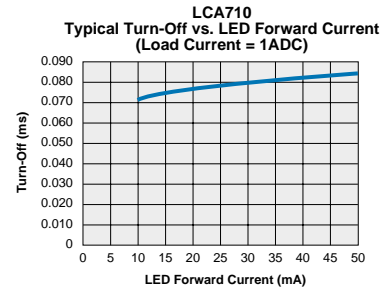
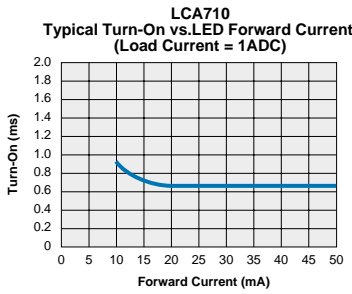
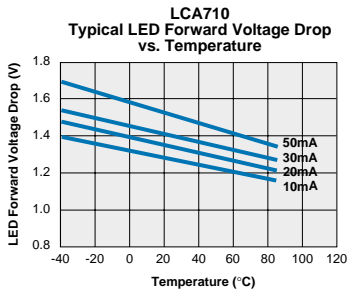
Parameter	Conditions	Symbol	Min	Typ	Max	Units
Output Characteristics @ 25°C						
Load Voltage (Peak)	-	V _L	-	-	60	V
Load Current (Continuous)	-	I _L	-	-	1.0	A
AC/DC Configuration	-	I _L	-	-	1.8	A
DC Configuration	-	I _L	-	-	1.8	A
Peak Load Current	10ms	I _{LPK}	-	-	5.0	A
On-Resistance	-	R _{ON}	-	-	-	Ω
AC/DC Configuration	I _L =1A	R _{ON}	-	0.3	0.5	Ω
DC Configuration	I _L =1.8A	R _{ON}	-	0.1	0.15	Ω
Off-State Leakage Current	V _L =60V	I _{LEAK}	-	-	1	μA
Switching Speeds	-	-	-	-	-	-
Turn-On	I _F =10mA, V _L =10V	T _{ON}	-	-	2.5	ms
Turn-Off	I _F =10mA, V _L =10V	T _{OFF}	-	-	0.25	ms
Output Capacitance	50V; f=1MHz	-	-	220	-	pF
Capacitance Input to Output	-	-	-	3	-	pF
Input Characteristics @ 25°C						
Input Control Current	I _L =1A	I _F	10	-	50	mA
Input Dropout Current	-	I _F	0.4	0.7	-	mA
Input Voltage Drop	I _F =10mA	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
Common Characteristics @ 25°C						
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.

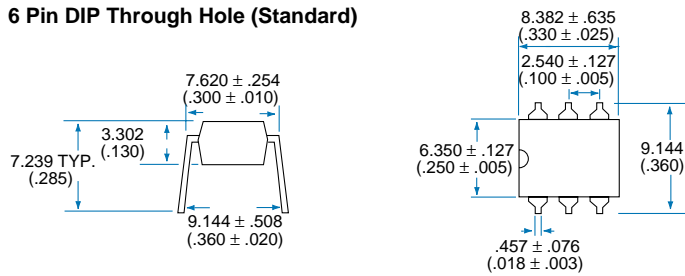
PERFORMANCE DATA*



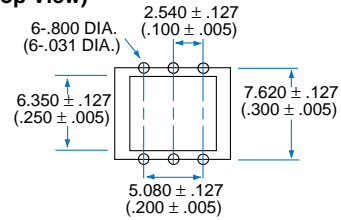
*The Performance data shown in the graphs above is typical of device performance. For guaranteed parameters not indicated in the written specifications, please contact our application department.

Mechanical Dimensions

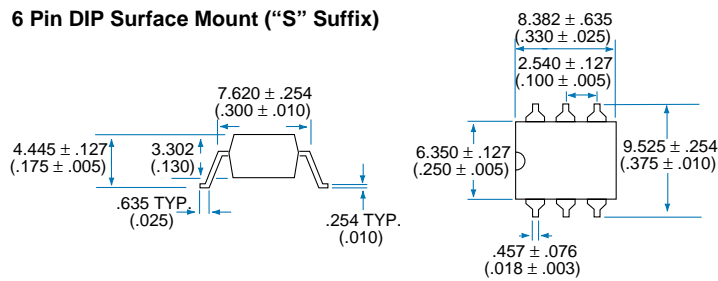
6 Pin DIP Through Hole (Standard)



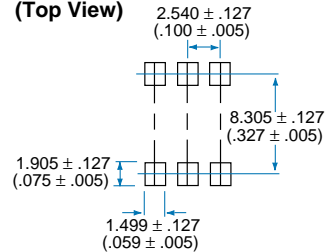
PC Board Pattern (Top View)



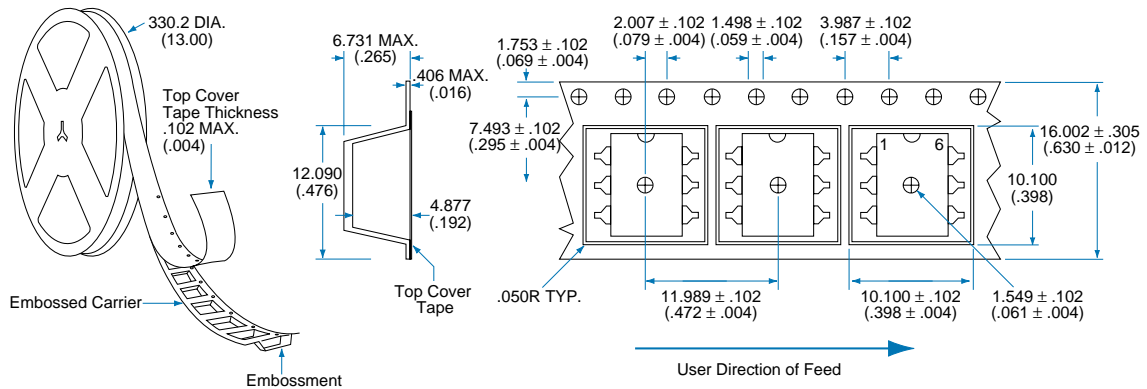
6 Pin DIP Surface Mount ("S" Suffix)



PC Board Pattern (Top View)



Tape and Reel Packaging for 6 Pin Surface Mount Package





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