

SINGLE POLE OptoMOS® RELAYS

LCA110/LCA110L



DESCRIPTION

LCA110 is a 350V, 120mA, 35Ω 1-Form-A relay. It provides a perfect solution where high sensitivity is required. Current limiting version is available. ("L" suffix)

FEATURES

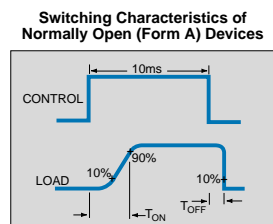
- Small 6 Pin DIP Package
- Low Drive Power Requirements (TTL/CMOS Compatible)
- No Moving Parts
- High Reliability
- Arc-Free With No Snubbing Circuits
- 3750V_{RMS} Input/Output Isolation
- FCC Compatible
- VDE Compatible
- No EMI/RFI Generation
- Machine Insertable, Wave Solderable
- Current Limiting,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

OPTIONS / SUFFIXES

- L: Current Limiting
- S: Surface Mount Package
- TR: Tape & Reel



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

RATINGS (@ 25° C)

Parameter	Min	Typ	Max	Units
Input Power Dissipation	-	-	150 ¹	mW
Input Control Current Peak (10ms)	-	-	50	mA
Reverse Input Voltage	-	-	1	A
Total Power Dissipation	-	-	5	V
Capacitance Input to Output	-	-	800 ²	mW
Isolation Voltage Input to Output	-	3	-	pF
Operational Temperature	3750	-	-	V _{RMS}
Storage Temperature	-40	-	+85	°C
Soldering Temperature DIP Package	-40	-	+125	°C
Soldering Temperature Surface Mount Package (10 Seconds Max.)	-	-	+260	°C
	-	-	+220	°C

¹ Derate Linearly 1.33 mw/°C
² Derate Linearly 6.67 mw/°C

Note: For Mechanical Dimensions See Pages 408-415

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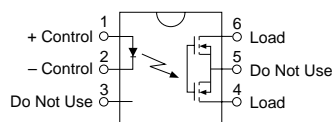
LCA110/LCA110L

SPECIFICATIONS

PARAMETER	CONDITIONS	SYMBOL	LCA110			LCA110L			UNITS	
			MIN	TYP	MAX	MIN	TYP	MAX		
Output Characteristics @ 25°C										
Load Voltage (Peak)	-	V_L	-	-	350	-	-	350	V	
Load Current (Continuous)	AC/DC Configuration	I_L	-	-	120	-	-	120	mA	
	DC Configuration	I_L	-	-	200	-	-	200	mA	
Peak Load Current	10ms	I_{LPK}	-	-	350	-	-	-	mA	
On-Resistance	AC/DC Configuration	R_{ON}	-	23	35	-	19	35	Ω	
	DC Configuration	R_{ON}	-	7	10	-	7	10	Ω	
Off-State Leakage Current	$V_L=350V$	I_{LEAK}	-	-	1	-	-	1	μA	
Switching Speeds	$I_F=5mA, V_L=10V$	Turn-On	T_{ON}	-	-	3	-	-	3	ms
		Turn-Off	T_{OFF}	-	-	3	-	-	3	ms
Output Capacitance	50V; f=1MHz	C_{OUT}	-	25	-	-	25	-	pF	
Load Current Limiting	-	I_{CL}	-	-	-	130	170	210	mA	
Input Characteristics @ 25°C										
Input Control Current	$I_L=120mA$	I_F	2	-	50	2	-	50	mA	
Input Dropout Current	-	I_F	0.4	0.7	-	0.4	0.7	-	mA	
Input Voltage Drop	$I_F=5mA$	V_F	0.9	1.2	1.4	0.9	1.2	1.4	V	
Reverse Input Voltage	-	V_R	-	-	5	-	-	5	V	
Reverse Input Current	$V_R=5V$	I_R	-	-	10	-	-	10	μA	
Input to Output Capacitance	-	$C_{I/O}$	-	3	-	-	3	-	pF	
Input to Output Isolation	-	$V_{I/O}$	3750	-	-	3750	-	-	V_{RMS}	

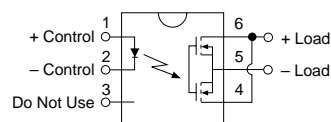
LCA110/LCA110L Pinout

AC/DC Configuration



LCA110/LCA110L Pinout

DC Only Configuration

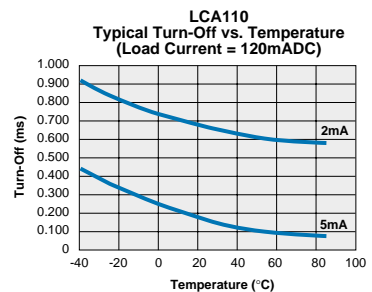
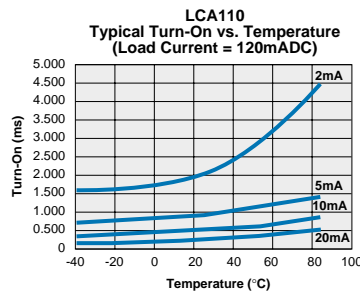
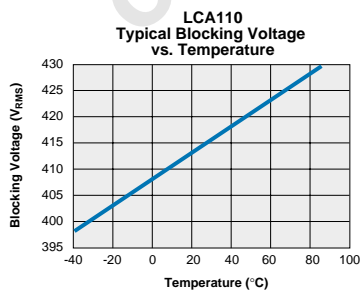
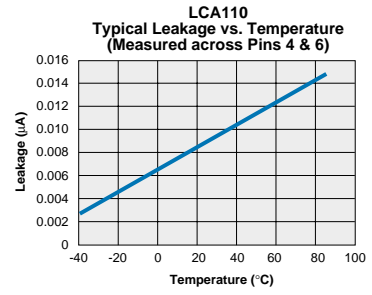
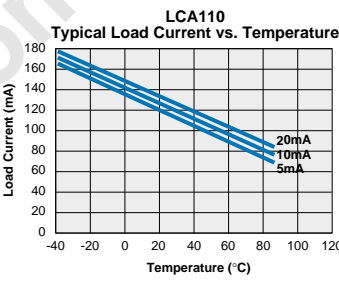
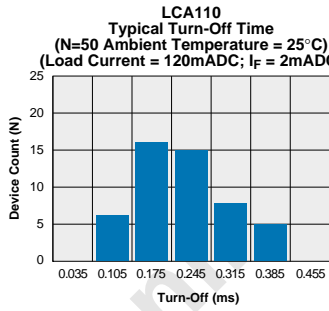
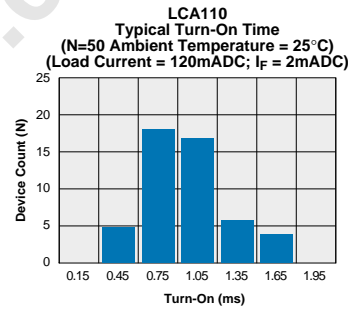
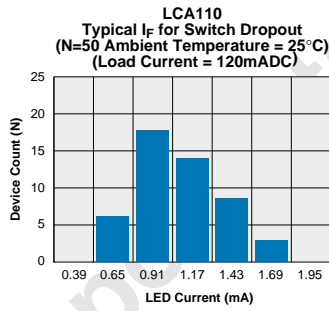
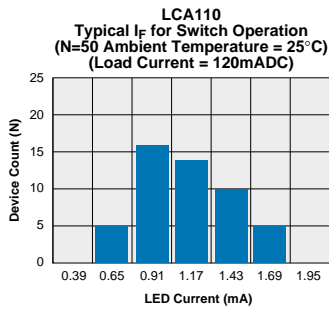
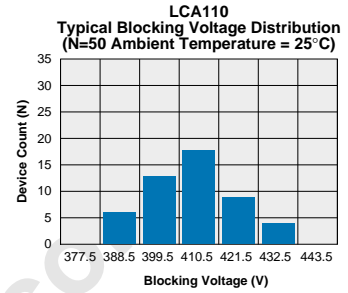
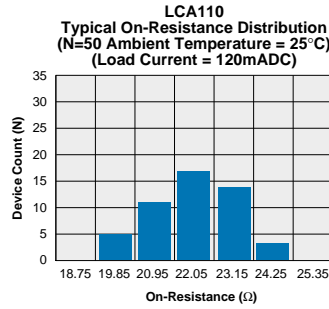
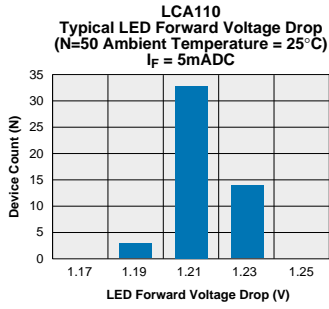


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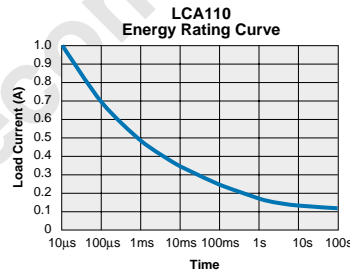
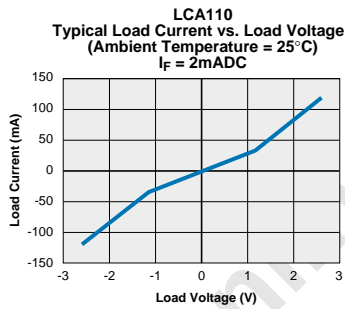
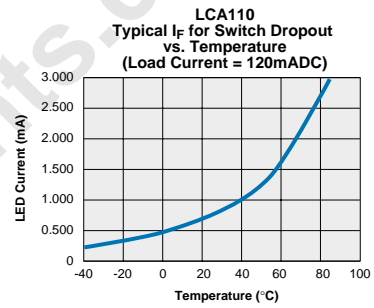
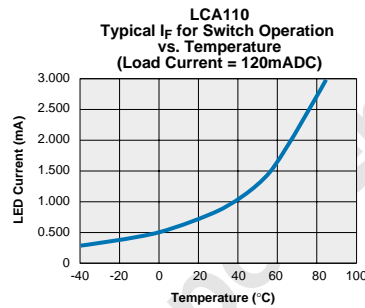
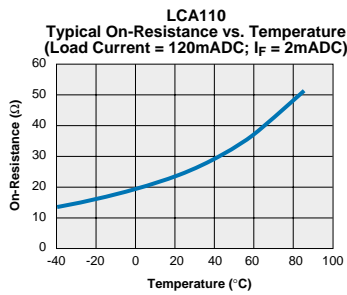
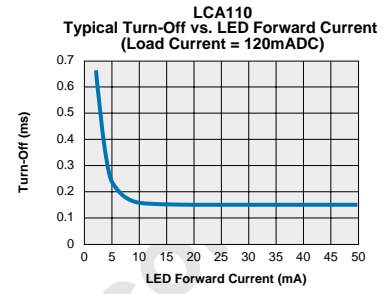
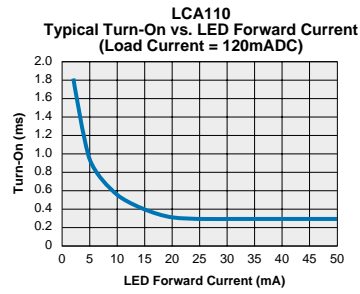
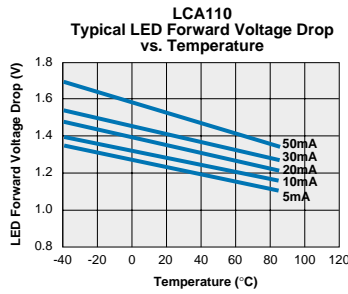
PERFORMANCE DATA



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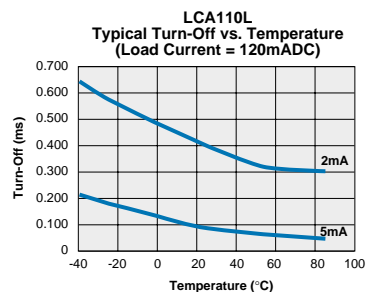
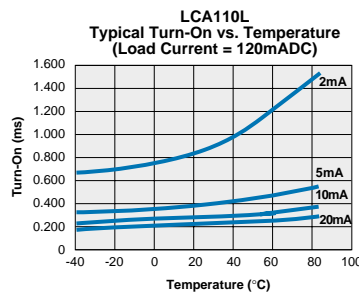
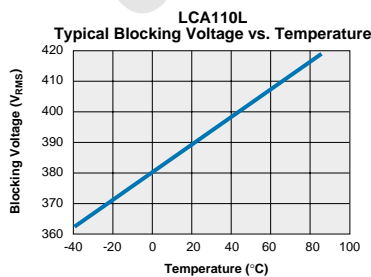
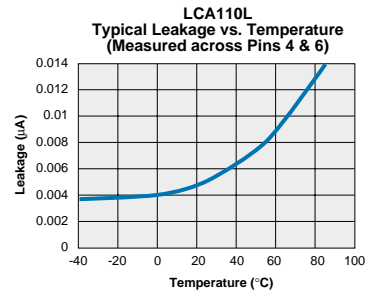
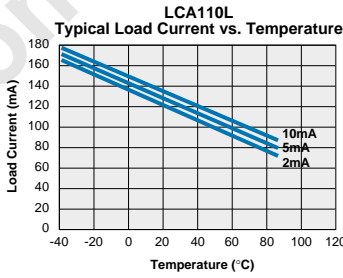
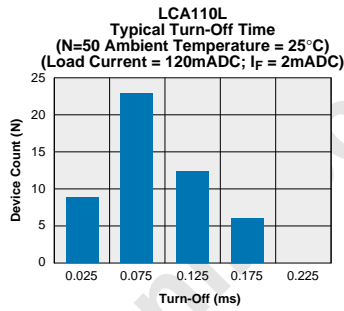
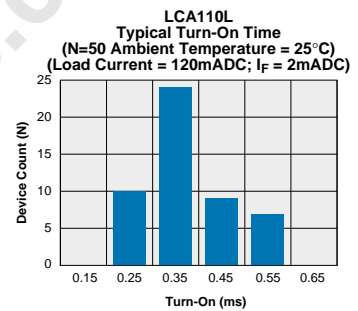
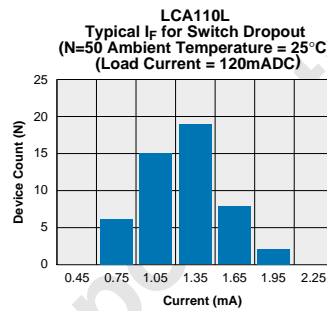
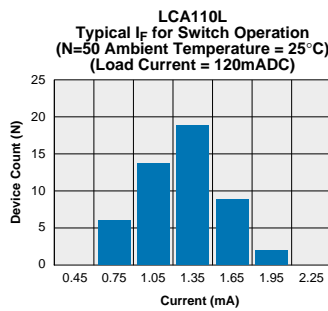
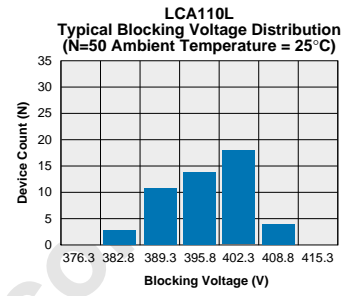
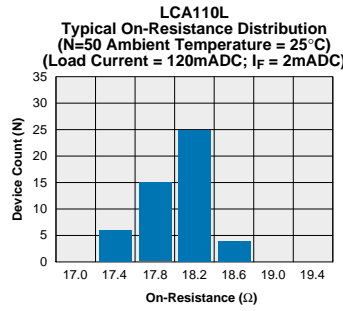
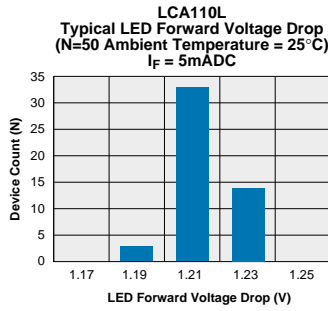
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