

## DUAL POLE OptoMOS® RELAYS

### LAA110/LAA110L



### FEATURES

- Small 8 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

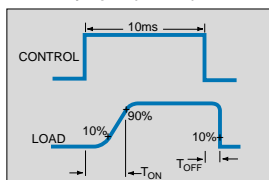
### APPROVALS

- 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

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

Switching Characteristics of Normally Open (Form A) Devices



### DESCRIPTION

LAA110 is a 350V, 120mA, 35Ω 2-Form-A relay. It provides an integrated solution to fit most applications where two Form-A relays are required. Current limiting version is available ("L" suffix, see specification for variations in performance).

### 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 <sup>1</sup>	mW
Input Control Current	-	-	50	mA
Peak (10ms)	-	-	1	A
Reverse Input Voltage	-	-	5	V
Total Power Dissipation	-	-	800 <sup>2</sup>	mW
Capacitance				
Input to Output	-	3	-	pF
Isolation Voltage				
Input to Output	3750	-	-	V <sub>RMS</sub>
Operational Temperature	-40	-	+85	°C
Storage Temperature	-40	-	+125	°C
Soldering Temperature				
DIP Package	-	-	+260	°C
Flatpack/Surface Mount Package	-	-	+220	°C
(10 Seconds Max.)				

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

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

Note: For Mechanical Dimensions See Pages 408-415

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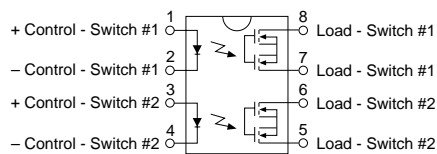
### LAA110/LAA110L

## SPECIFICATIONS

PARAMETER	CONDITIONS	SYMBOL	LAA110			LAA110L			UNITS
			MIN	TYP	MAX	MIN	TYP	MAX	
<b>Output Characteristics @ 25°C</b>									
Load Voltage (Peak)	-	$V_L$	-	-	350	-	-	350	V
Load Current (Continuous) AC/DC Configuration	-	$I_L$	-	-	120	-	-	120	mA
Peak Load Current	10ms max	$I_{LPK}$	-	-	350	-	-	-	mA
On-Resistance AC/DC Configuration	$I_L=120mA$	$R_{ON}$	-	25	35	-	30	35	$\Omega$
Off-State Leakage Current	$V_L=350V$	$I_{LEAK}$	-	-	1	-	-	1	$\mu A$
Switching Speeds	$I_F=5mA, V_L=10V$ $I_F=5mA, V_L=10V$	$T_{ON}$ $T_{OFF}$	-	-	3	-	-	3	ms
Turn-On			-	-	3	-	-	3	ms
Turn-Off									
Output Capacitance	50V; f=1MHz	$C_{OUT}$	-	25	-	-	25	-	pF
Load Current Limiting	-	$I_{CL}$	-	-	-	130	170	210	mA
<b>Input Characteristics @ 25°C</b>									
Input Control Current	$I_L=120mA$	$I_F$	5	-	50	5	-	50	mA
Input Dropout Current	-	-	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	$\mu A$
Input to Output Capacitance	-	$C_{I/O}$	-	3	-	-	3	-	pF
Input to Output Isolation	-	$V_{I/O}$	3750	-	-	3750	-	-	$V_{RM}$

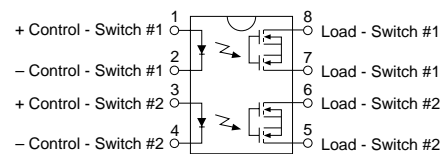
#### LAA110 Pinout

AC/DC Configuration



#### LAA110L Pinout

AC/DC Configuration



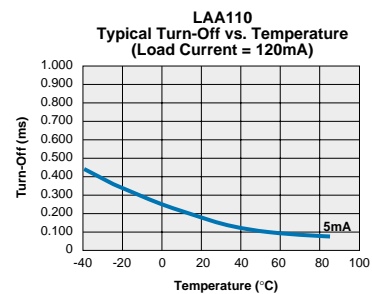
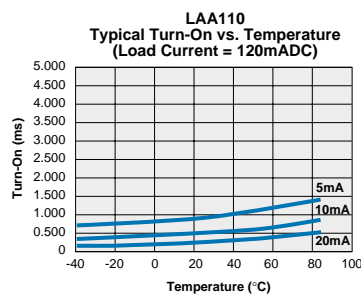
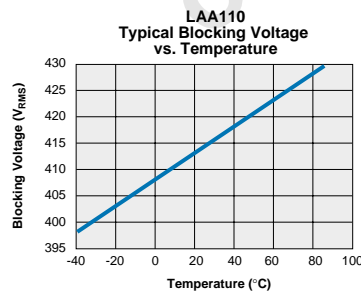
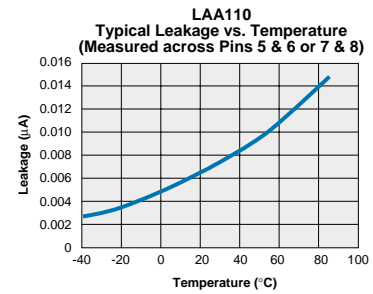
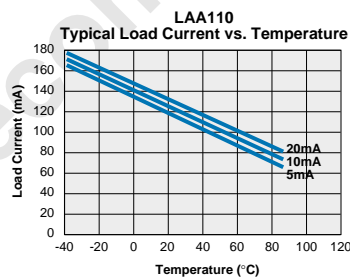
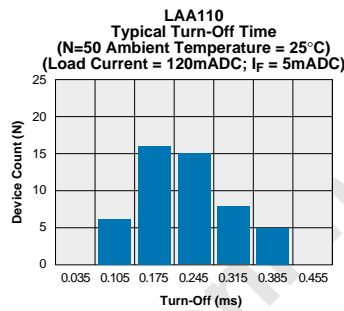
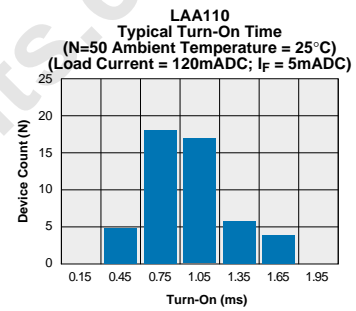
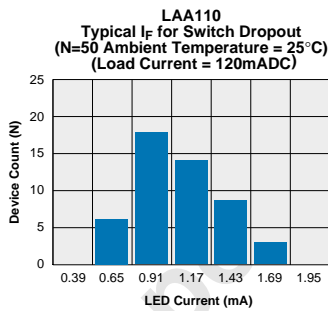
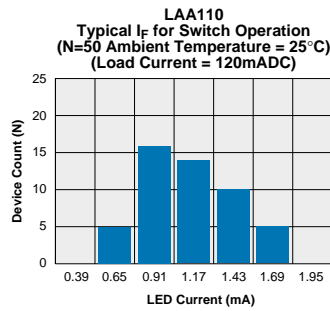
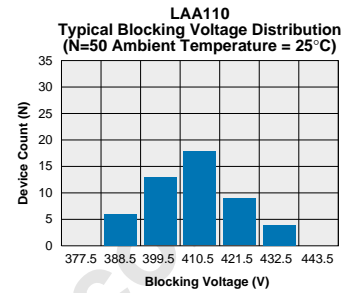
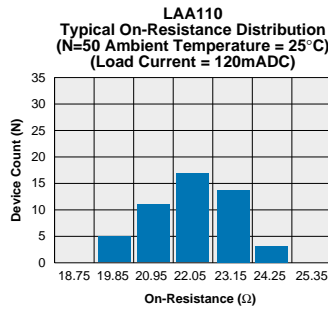
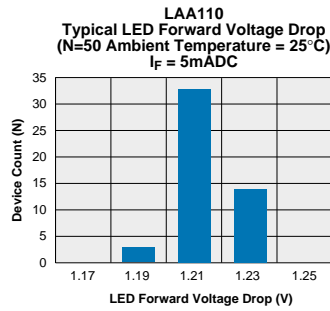
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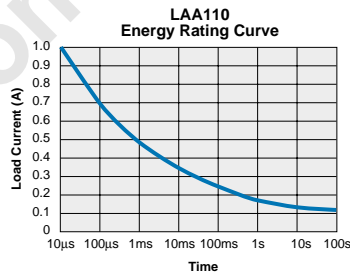
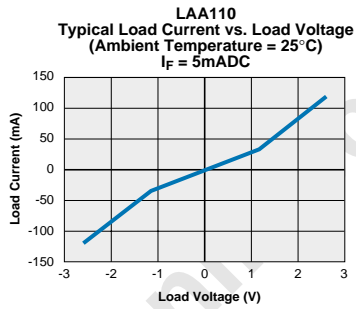
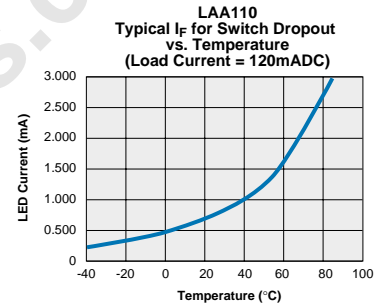
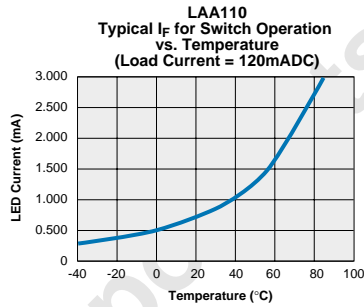
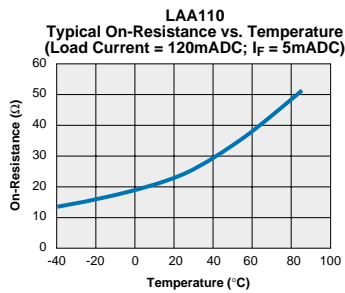
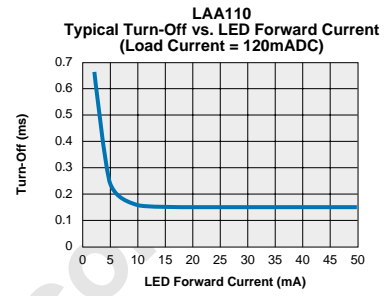
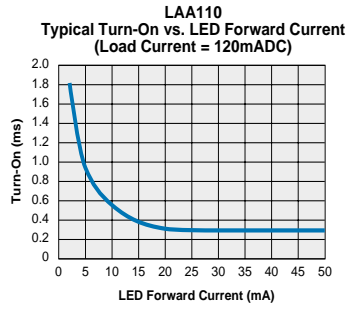
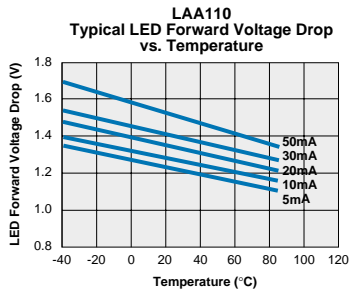
### PERFORMANCE DATA



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### LAA110/LAA110L

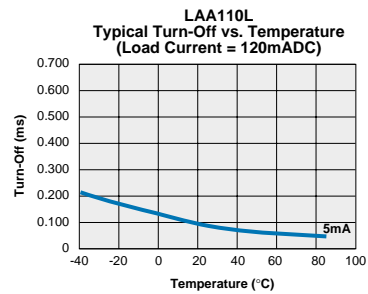
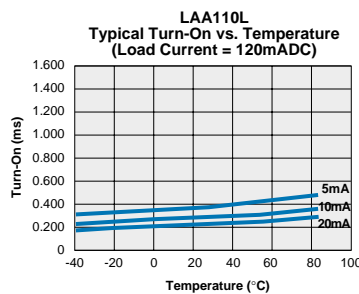
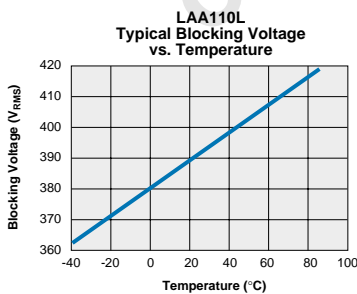
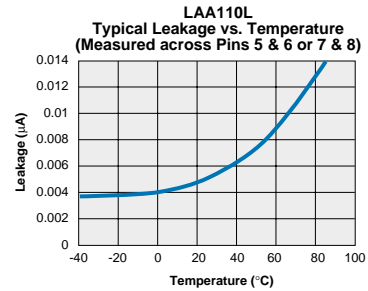
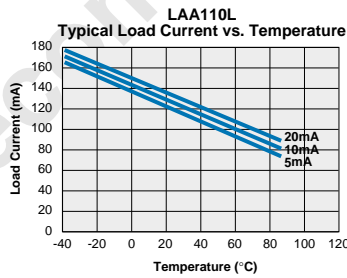
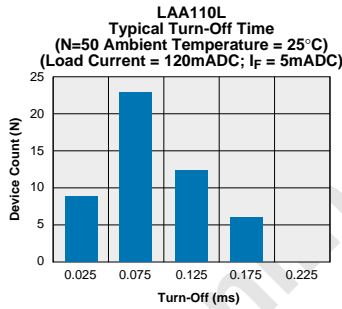
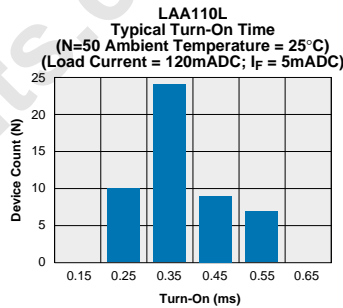
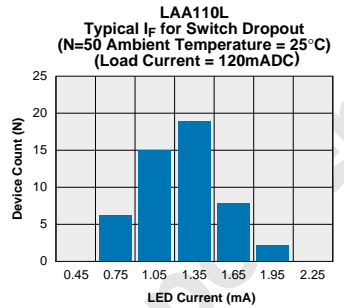
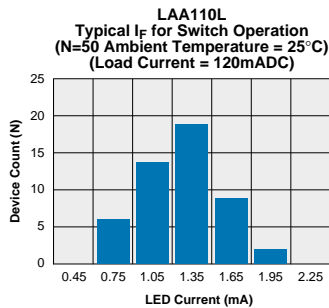
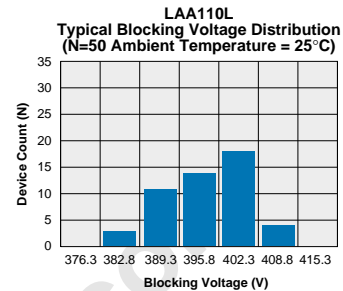
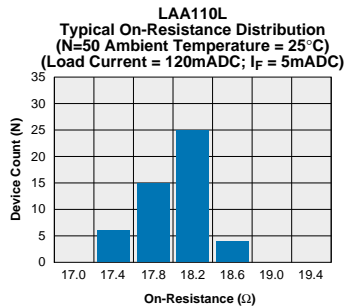
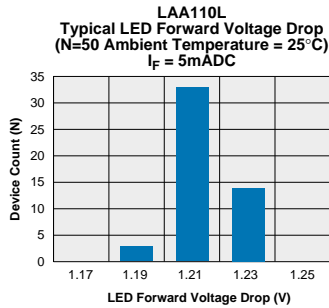
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