



Parameters	Ratings	Units
Load Voltage	400	V _p
Load Current	150	mA
Max R _{ON}	25	Ω

Features

- Small 8-Pin DIP Package
- Low Drive Power Requirements (TTL/CMOS Compatible)
- 100% Solid State
- Arc-Free With No Snubbing Circuits
- 3750V_{rms} Input/Output Isolation
- No EMI/RFI Generation
- Machine Insertable, Wave Solderable
- Current Limiting
- Surface Mount and Tape Reel Version Available.

Applications

- Telecommunications
 - Telecom Switching
 - Tip/Ring Circuits
 - Modem Switching (Laptop, Notebook, Pocket Size)
 - Hook Switch
 - Dial Pulsing
 - Ground Start
 - Ringing 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

PAA110L is a 400V, 150mA, 25Ω dual 1-Form-A (normally open) relay. This performance leader provides high peak load voltage handling capability and improved peak load current handling. Integrated current-limiting circuitry limits current to 280mA at room temperature.

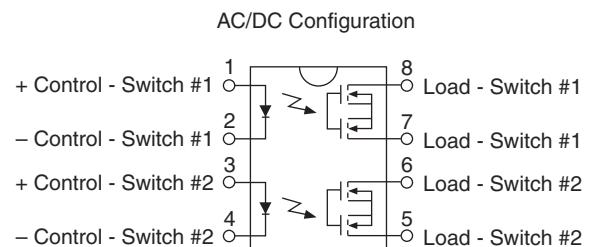
Approvals

- UL Recognized Component: File # E76270
- CSA Certified Component: File # 1175739
- EN/IEC 60950-1 Compliant

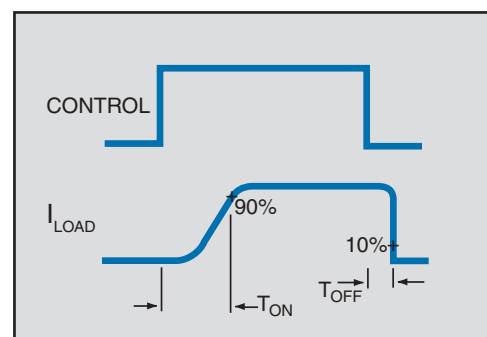
Ordering Information

Part #	Description
PAA110L	8-Pin DIP (50/Tube)
PAA110PL	8-Pin Flatpack (50/Tube)
PAA110PLTR	8-Pin Flatpack (1000/Reel)
PAA110LS	8-Pin Surface Mount (50/Tube)
PAA110LSTR	8-Pin Surface Mount (1000/Reel)

Pin Configuration



Switching Characteristics of Normally Open (Form A) Devices



Absolute Maximum Ratings

Parameter	Ratings	Units
Blocking Voltage	400	V_P
Reverse Input Voltage	5	V
Input Control Current	50	mA
Peak (10ms)	1	A
Input Power Dissipation ¹	150	mW
Total Power Dissipation ²	800	mW
Isolation Voltage Input to Output	3750	V_{rms}
Operational Temperature	-40 to +85	°C
Storage Temperature	-40 to +125	°C

¹ Derate Linearly 1.33 mW/°C

² Derate Linearly 6.67 mW/°C

Electrical absolute maximum ratings are at 25°C

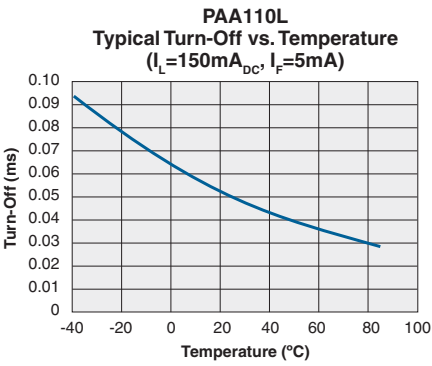
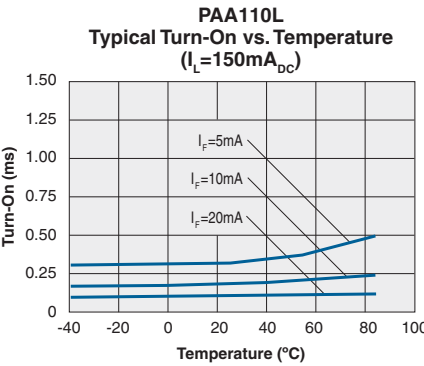
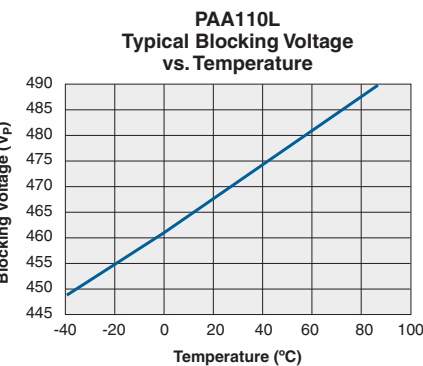
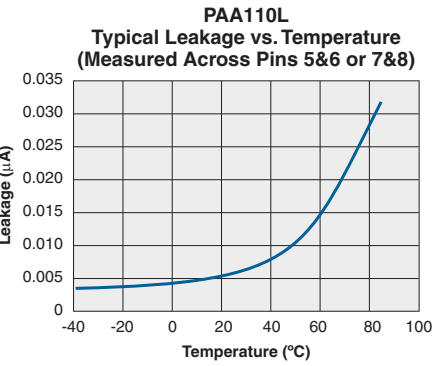
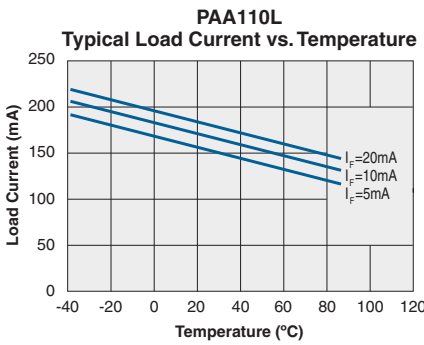
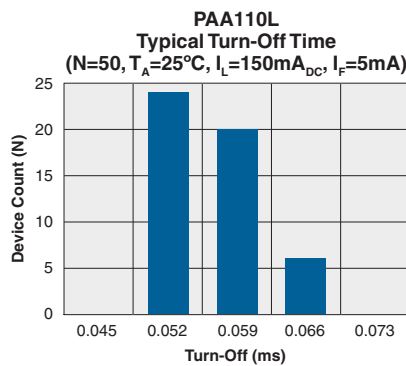
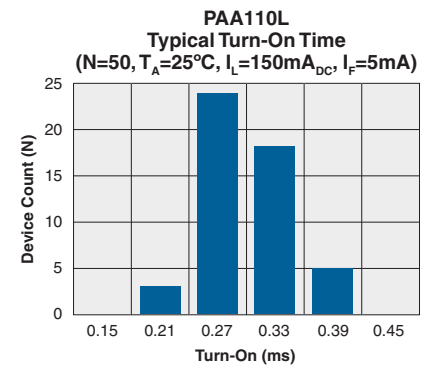
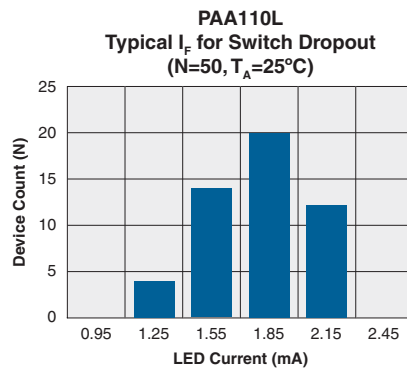
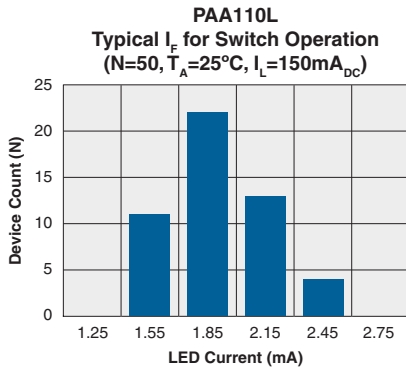
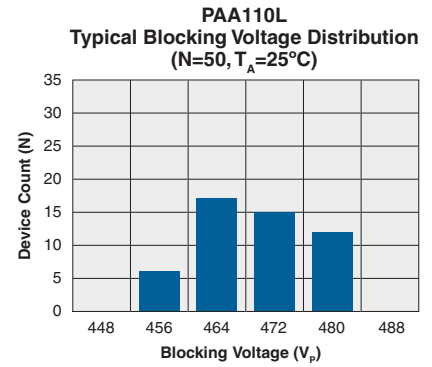
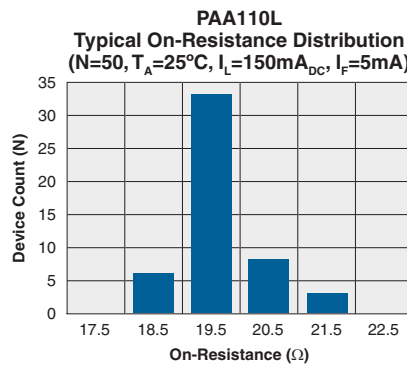
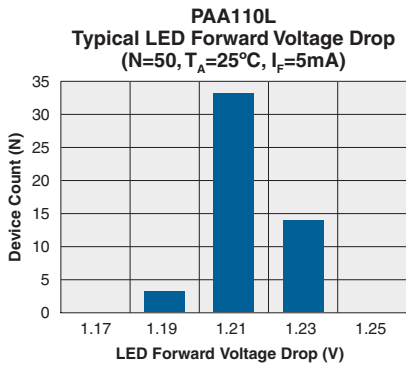
Absolute Maximum Ratings are stress ratings. Stresses in excess of these ratings can cause permanent damage to the device. Functional operation of the device at conditions beyond those indicated in the operational sections of this data sheet is not implied.

Electrical Characteristics

Parameter	Conditions	Symbol	Min	Typ	Max	Units
Output Characteristics @ 25°C						
Load Current, Continuous	-	I_L	-	-	150	mA
On-Resistance	$I_L=150\text{mA}$	R_{ON}	-	18	25	Ω
Off-State Leakage Current	$V_L=400\text{V}$	I_{LEAK}	-	-	1	μA
Switching Speeds						
Turn-On	$I_F=5\text{mA}, V_L=10\text{V}$	t_{ON}	-	0.3	1	ms
Turn-Off		t_{OFF}	-	0.058	0.5	
Output Capacitance	50V; f=1MHz	C_{OUT}	-	25	-	pF
Load Current Limiting	-	I_{CL}	190	235	280	mA
Capacitance Input to Output	-	-	-	3	-	pF
Input Characteristics @ 25°C						
Input Control Current	$I_L=150\text{mA}$	I_F	-	-	5	mA
Input Dropout Current	-	I_F	0.4	-	-	mA
Input Voltage Drop	$I_F=5\text{mA}$	V_F	0.9	1.2	1.4	V
Reverse Input Current	$V_R=5\text{V}$	I_R	-	-	10	μA
Common Characteristics @ 25°C						
Input to Output Capacitance	-	C_{IO}	-	3	-	pF

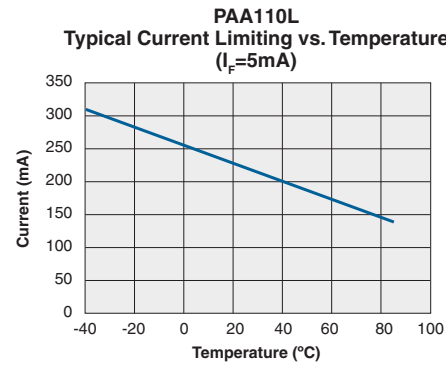
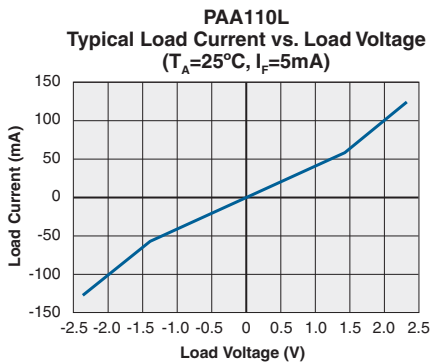
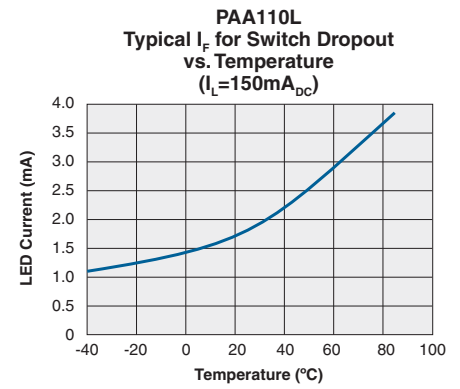
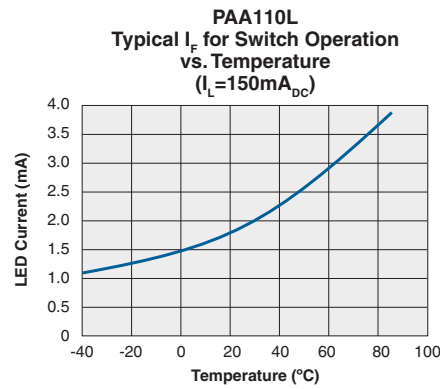
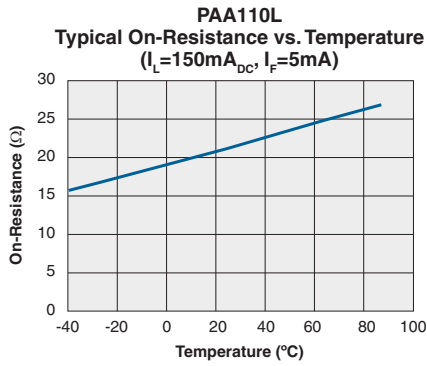
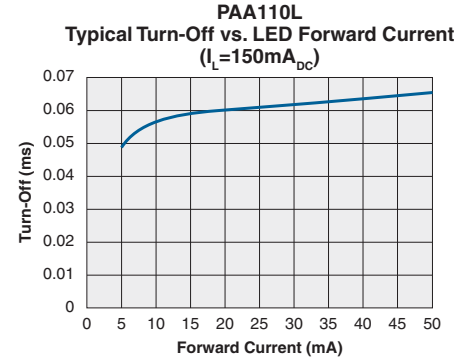
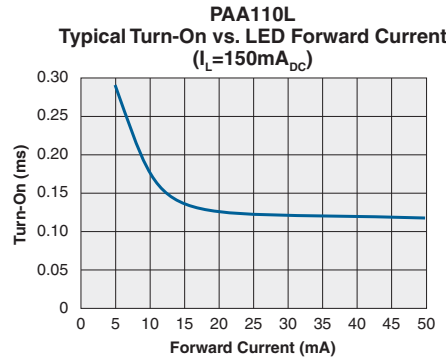
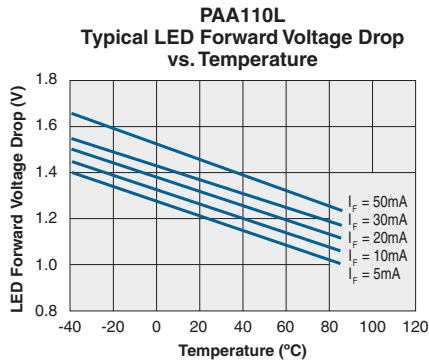
*NOTE: If both poles operate simultaneously load current must be derated so as not to exceed the package power dissipation value.

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*



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Manufacturing Information

Soldering

For proper assembly, the component must be processed in accordance with the current revision of IPC/JEDEC standard J-STD-020. Failure to follow the recommended guidelines may cause permanent damage to the device resulting in impaired performance and/or a reduced lifetime expectancy.

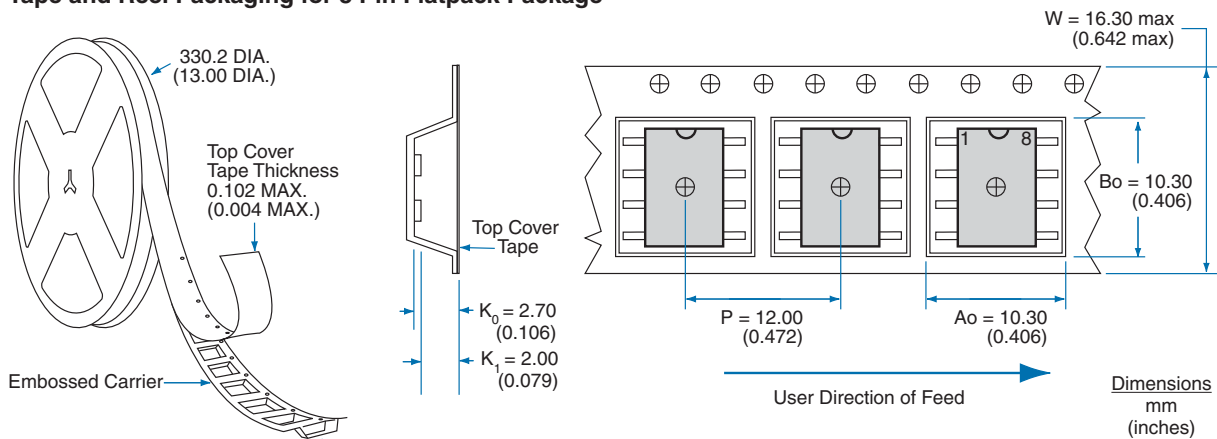
Washing

Clare does not recommend ultrasonic cleaning or the use of chlorinated solvents.



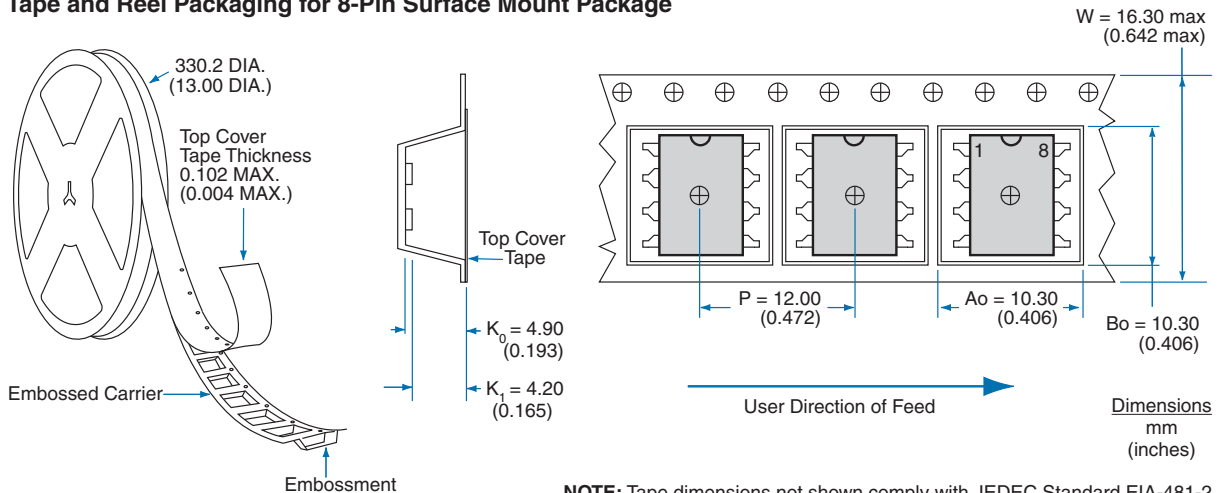
MECHANICAL DIMENSIONS

Tape and Reel Packaging for 8 Pin Flatpack Package



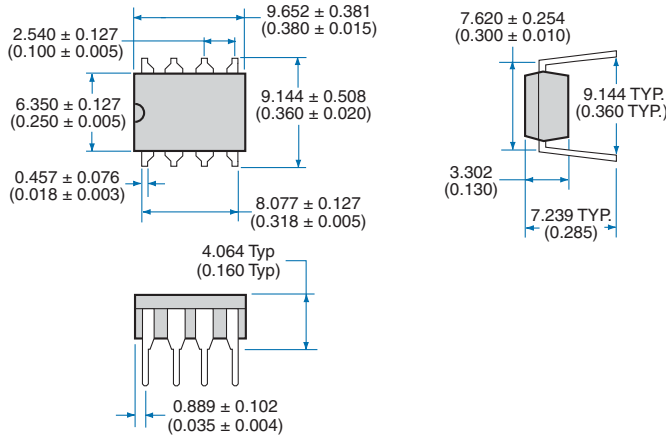
NOTE: Tape dimensions not shown comply with JEDEC Standard EIA-481-2

Tape and Reel Packaging for 8-Pin Surface Mount Package

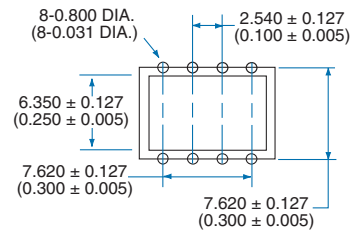


NOTE: Tape dimensions not shown comply with JEDEC Standard EIA-481-2

8-Pin DIP Through-Hole Package

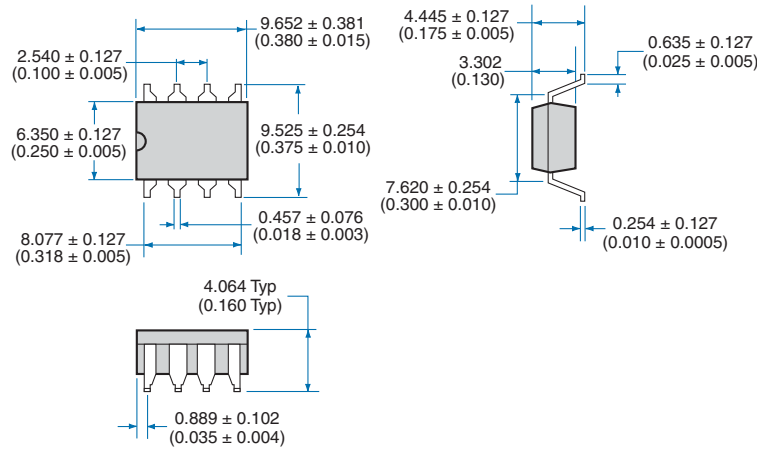


PC Board Pattern

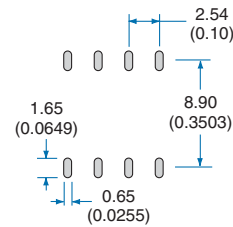


Dimensions
mm
(inches)

8-Pin Surface Mount Package

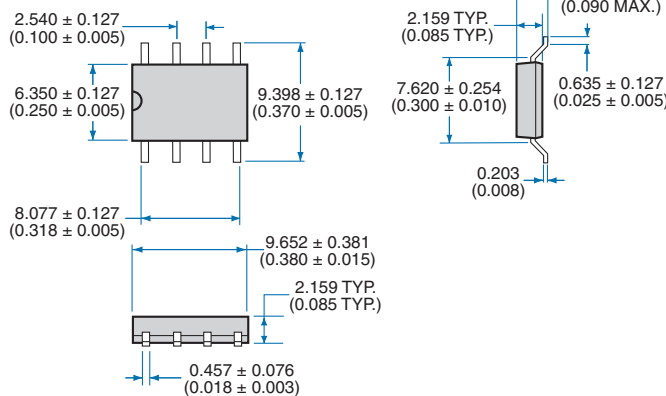


Recommended PCB Land Pattern

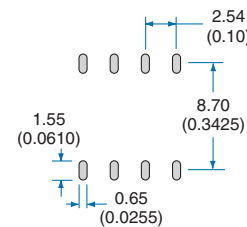


Dimensions
mm
(inches)

8 Pin Flatpack Package



Recommended PCB Land Pattern



Dimensions
mm
(inches)

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