



| | PAA110 | Units |
|---------------------|--------|-------|
| Load Voltage | 400 | V |
| Load Current | 150 | mA |
| Max R _{ON} | 22 | Ω |

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_{RMS} Input/Output Isolation
- VDE Compatible
- FCC 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

PAA110 is a 400V, 150mA, 22Ω 2-Form-A relay. This performance leader provides high peak load voltage handling capability and improved peak load current handling.

Approvals

- UL Recognized: File Number E76270
- CSA Certified: File Number LR 43639-10
- BSI Certified:
 - BS EN 60950:1992 (BS7002:1992) Certificate #:7344
 - BS EN 41003:1993 Certificate #:7344

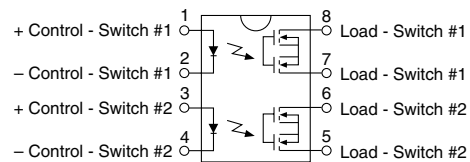
Ordering Information

| Part # | Description |
|-----------|---------------------------------|
| PAA110 | 8 Pin DIP (50/Tube) |
| PAA110P | 8 Pin Flatpack (50/Tube) |
| PAA110PTR | 8 Pin Flatpack (1000/Reel) |
| PAA110S | 8 Pin Surface Mount (50/Tube) |
| PAA110STR | 8 Pin Surface Mount (1000/Reel) |

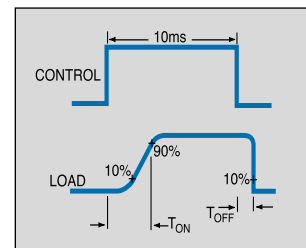
Pin Configuration

PAA110 Pinout

AC/DC 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 DIP Package | - | - | +260 | °C |
| Flatpack/Surface Mount Package (10 Seconds Max.) | - | - | +220 | °C |

¹ Derate Linearly 1.33 mw/°C

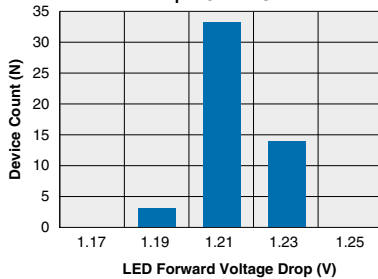
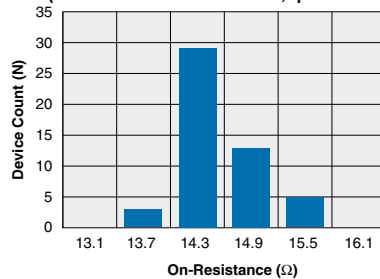
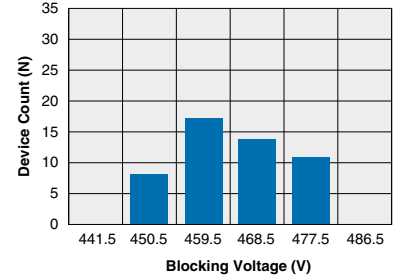
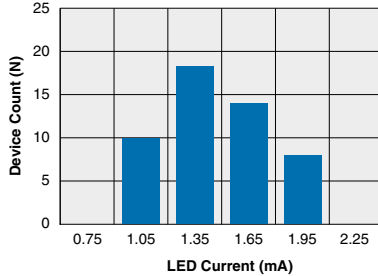
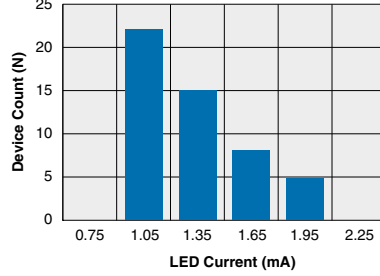
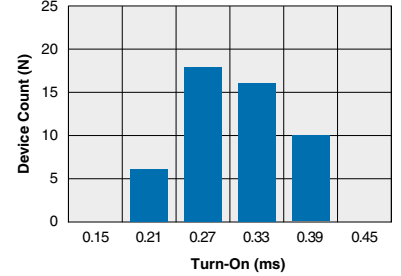
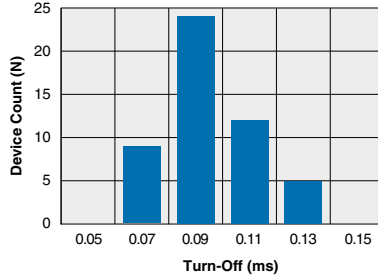
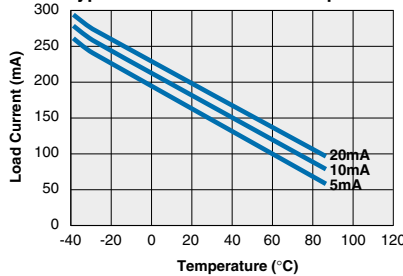
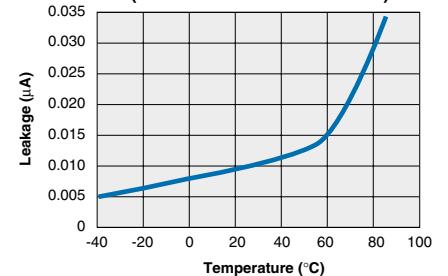
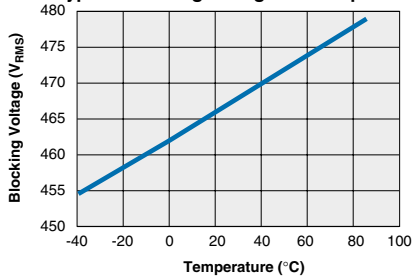
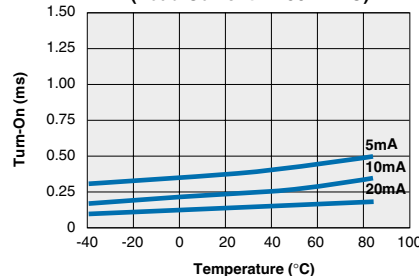
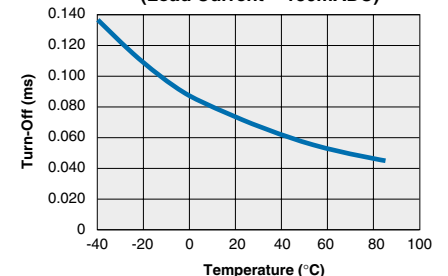
² Derate Linearly 6.67 mw/°C

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

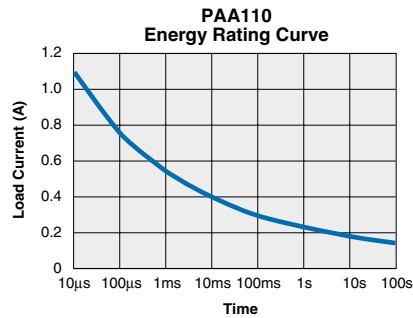
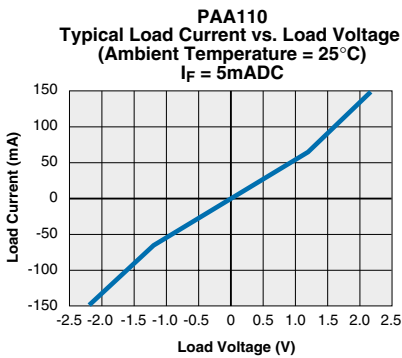
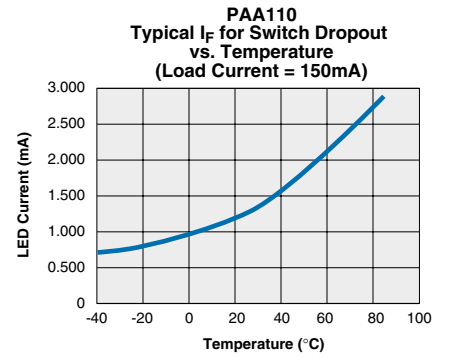
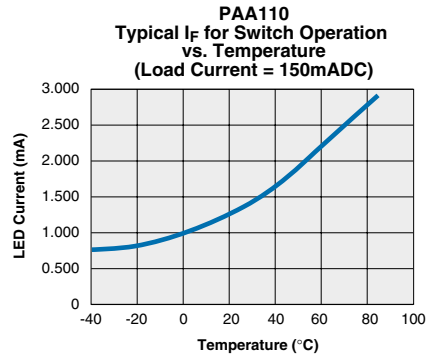
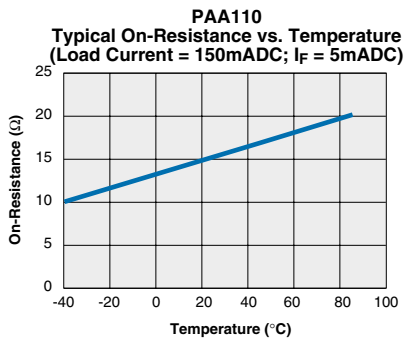
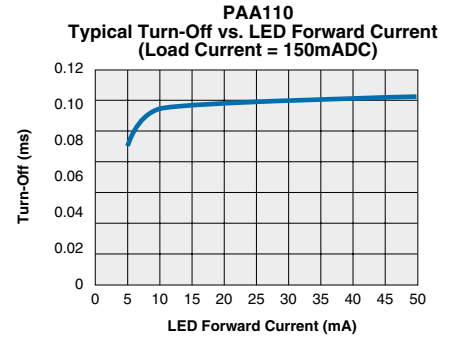
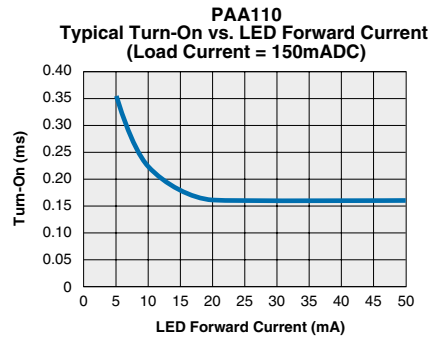
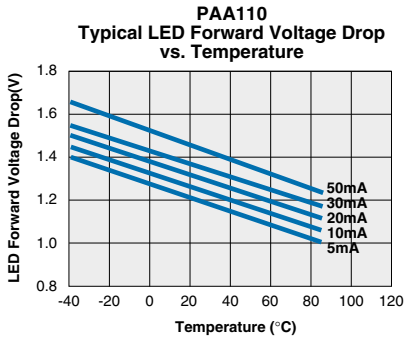
| Parameter | Conditions | Symbol | Min | Typ | Max | Units |
|---|--|-------------------|------|-----|------|------------------|
| Output Characteristics @ 25°C | | | | | | |
| Load Voltage (Peak) | - | V _L | - | - | 400 | V |
| Load Current* (Continuous) AC/DC Configuration | - | I _L | - | - | 150 | mA |
| Peak Load Current | 10ms | I _{LPK} | - | - | 400 | mA |
| On-Resistance AC/DC Configuration | I _L =150mA | R _{ON} | - | 15 | 22 | Ω |
| Off-State Leakage Current | V _L =400V | I _{LEAK} | - | - | 1 | μA |
| Switching Speeds | | | | | | |
| Turn-On | I _F =5mA, V _L =10V | T _{ON} | - | - | 1 | ms |
| Turn-Off | I _F =5mA, V _L =10V | T _{OFF} | - | - | 0.25 | ms |
| Output Capacitance | 50V; f=1MHz | C _{OUT} | - | 25 | - | pF |
| Load Current Limiting | | I _{CL} | - | - | - | mA |
| Input Characteristics @ 25°C | | | | | | |
| Input Control Current | I _L =150mA | 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} |

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

PERFORMANCE DATA*
PAA110
 Typical LED Forward Voltage Drop
 (N=50 Ambient Temperature = 25°C)
 $I_F = 5\text{mADC}$

PAA110
 Typical On-Resistance Distribution
 (N=50 Ambient Temperature = 25°C)
 (Load Current = 150mADC; $I_F = 5\text{mADC}$)

PAA110
 Typical Blocking Voltage Distribution
 (N=50 Ambient Temperature = 25°C)

PAA110
 Typical I_F for Switch Operation
 (N=50 Ambient Temperature = 25°C)
 (Load Current = 150mADC)

PAA110
 Typical I_F for Switch Dropout
 (N=50 Ambient Temperature = 25°C)

PAA110
 Typical Turn-On Time
 (N=50 Ambient Temperature = 25°C)
 (Load Current = 150mADC; $I_F = 5\text{mADC}$)

PAA110
 Typical Turn-Off Time
 (N=50 Ambient Temperature = 25°C)
 (Load Current = 150mADC; $I_F = 5\text{mADC}$)

PAA110
 Typical Load Current vs. Temperature

PAA110
 Typical Leakage vs. Temperature
 (Measured across Pins 4 & 6)

PAA110
 Typical Blocking Voltage vs. Temperature

PAA110
 Typical Turn-On vs. Temperature
 (Load Current = 150mADC)

PAA110
 Typical Turn-Off vs. Temperature
 (Load Current = 150mADC)


* 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.

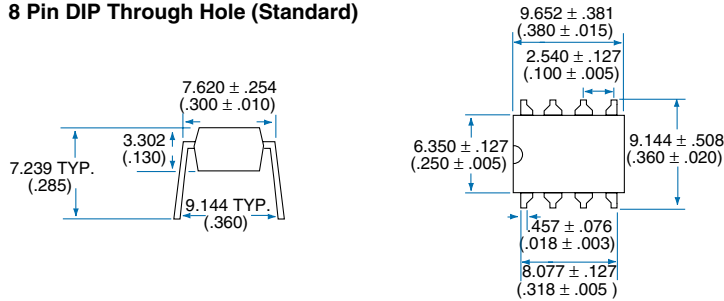
PERFORMANCE DATA*



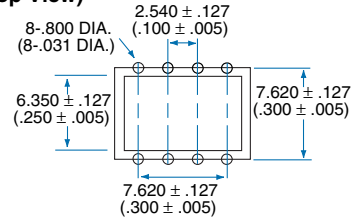
* The Performance data shown in the graphs above is typical of device performance. For guaranteed parameters not indicated in the written specifications, please contact our application department.

MECHANICAL DIMENSIONS

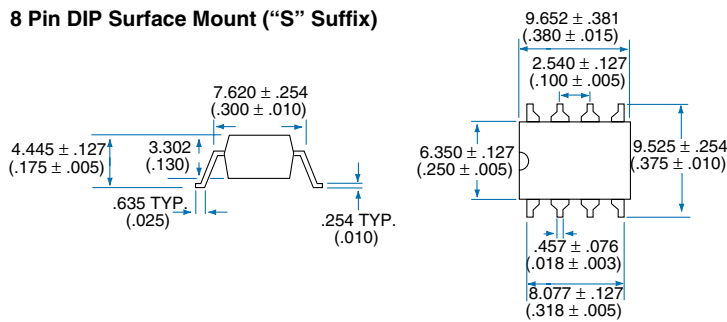
8 Pin DIP Through Hole (Standard)



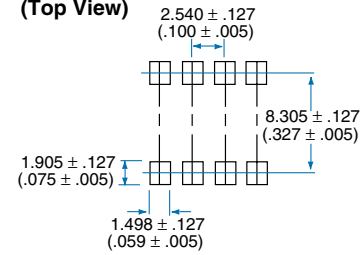
PC Board Pattern (Top View)



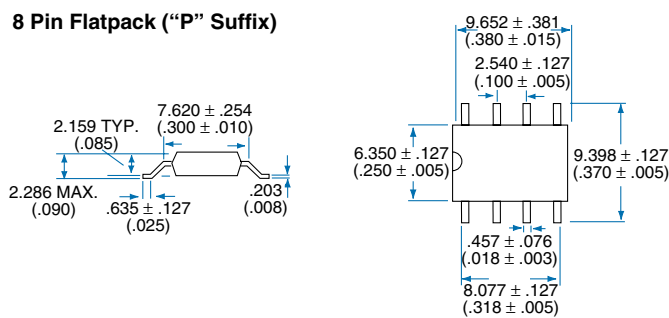
8 Pin DIP Surface Mount ("S" Suffix)



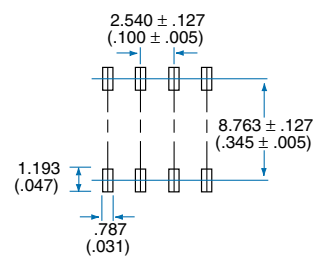
PC Board Pattern (Top View)



8 Pin Flatpack ("P" Suffix)



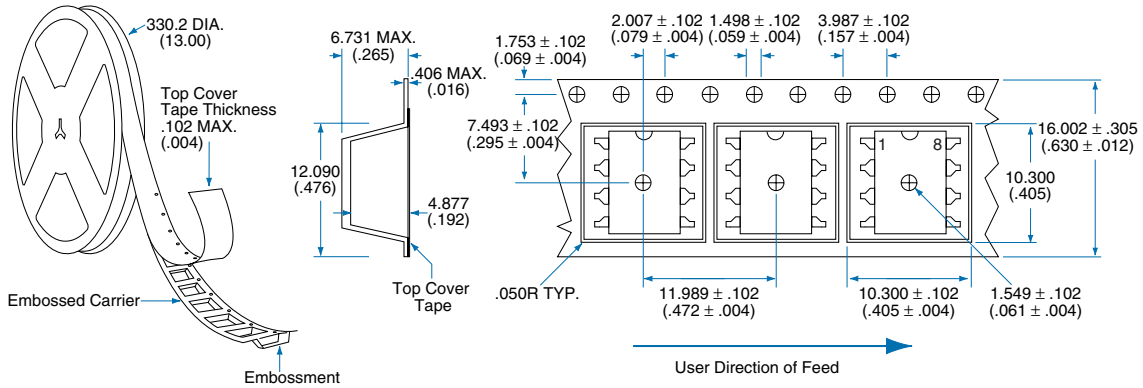
PC Board Pattern (Top View)



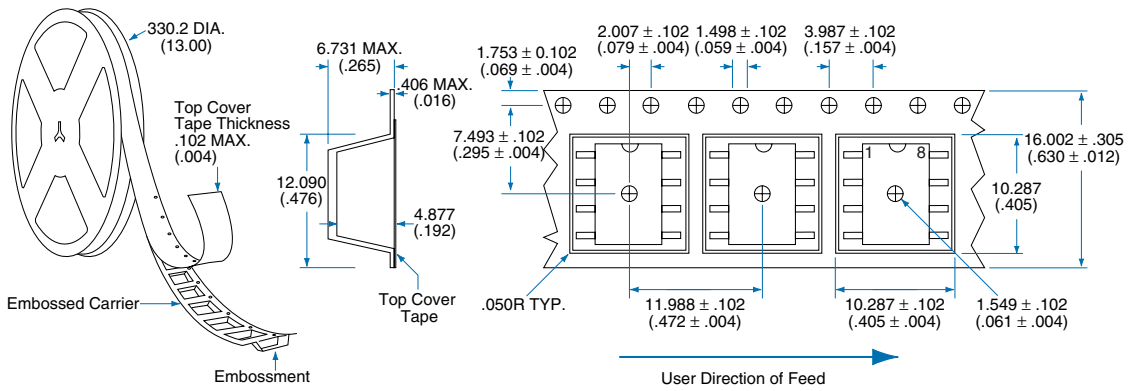
Dimensions
 mm
 (inches)

MECHANICAL DIMENSIONS

Tape and Reel Packaging for 8 Pin Surface Mount Package



Tape and Reel Packaging for 8 Pin Flatpack Package



Dimensions
mm
(inches)



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