



	LAA125L	Units
Blocking Voltage	350	V <sub>P</sub>
Load Current	150	mA
Max R <sub>ON</sub>	18	Ω

### Features

- Small 8 Pin Packages
- 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
- No EMI/RFI Generation
- Machine Insertable, Wave Solderable
- Surface Mount and Tape & Reel Versions Available
- Current Limiting
- Flammability classification rating: V-0

### 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

LAA125L is a 350V, 150mA, 18Ω dual 1-Form-A relay. It combines enhanced peak load current capability and current limiting with low on-resistance.

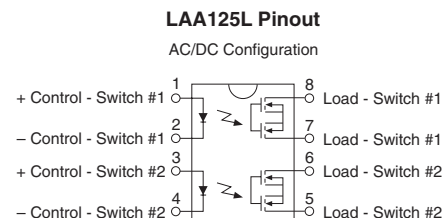
### Approvals

- UL Recognized: File Number E76270
- CSA Certified: File Number LR 43639
- Certified to:
  - EN 60950
  - EN 41003

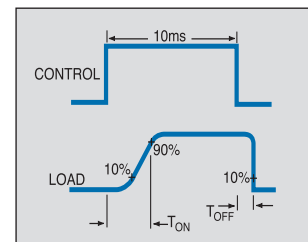
### Ordering Information

Part #	Description
LAA125L	8 Pin DIP (50/Tube)
LAA125LS	8 Pin Surface Mount (50/Tube)
LAA125LSTR	8 Pin Surface Mount (1,000/Reel)
LAA125PL	8 Pin Flat Pack (50/Tube)
LAA125PLTR	8 Pin Flat Pack (1,000/Reel)

### Pin Configuration



### Switching Characteristics of Normally Open (Form A) Devices



### Absolute Maximum Ratings (@ 25° C)

Parameter	Ratings	Units
Blocking Voltage	350	V <sub>p</sub>
Reverse Input Voltage	5	V
Input Control Current	50	mA
Peak (10ms)	1	A
Input Power Dissipation <sup>1</sup>	150	mW
Total Power Dissipation <sup>2</sup>	800	mW
Isolation Voltage Input to Output	3750	V <sub>rms</sub>
Operational Temperature	-40 to +85	°C
Storage Temperature	-40 to +125	°C

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

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

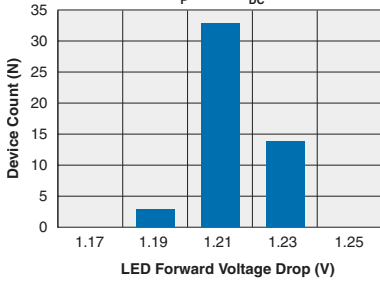
*Absolute Maximum Ratings are stress ratings. Stresses in excess of these ratings can cause permanent damage to the device. Functional operation of the device at conditions beyond those indicated in the operational sections of this data sheet is not implied.*

### Electrical Characteristics

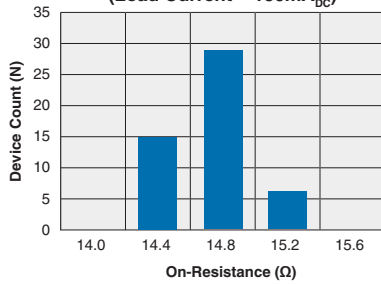
Parameter	Conditions	Symbol	Min	Typ	Max	Units
<b>Output Characteristics @ 25°C</b>						
Load Current	Continuous	I <sub>L</sub>	-	-	150	mA
Peak Load Current	10ms max	I <sub>LPK</sub>	-	-	400	mA
Load Current Limiting		I <sub>CL</sub>	190	235	280	mA
On-Resistance	I <sub>L</sub> =Load Current	R <sub>ON</sub>	-	-	18	Ω
Off-State Leakage Current	V <sub>L</sub> =350V	I <sub>LEAK</sub>	-	-	1	μA
Switching Speeds						
Turn-On	I <sub>F</sub> =5mA, V <sub>L</sub> =10V	T <sub>ON</sub>	-	-	5	ms
Turn-Off	I <sub>F</sub> =5mA, V <sub>L</sub> =10V	T <sub>OFF</sub>	-	-	5	ms
Output Capacitance	50V; f=1MHz	C <sub>OUT</sub>	-	50	-	pF
<b>Input Characteristics @ 25°C</b>						
Input Control Current	I <sub>L</sub> =170mA	I <sub>F</sub>	5	-	-	mA
Input Dropout Current	-	-	0.4	0.7	-	mA
Input Voltage Drop	I <sub>F</sub> =5mA	V <sub>F</sub>	0.9	1.2	1.4	V
Reverse Input Current	V <sub>R</sub> =5V	I <sub>R</sub>	-	-	10	μA
Input to Output Capacitance	-	C <sub>I/O</sub>	-	3	-	pF

**PERFORMANCE DATA\***

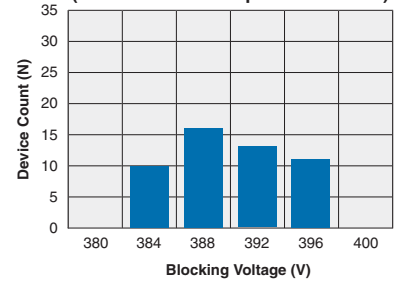
**LAA125L**  
Typical LED Forward Voltage Drop  
(N=50 Ambient Temperature = 25°C)  
 $I_F = 5\text{mA}_{DC}$



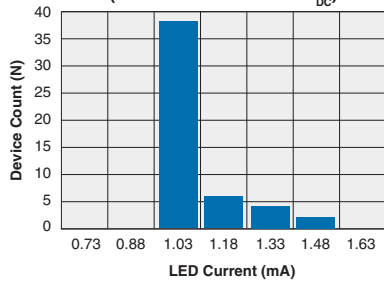
**LAA125L**  
Typical On-Resistance Distribution  
(N=50 Ambient Temperature = 25°C)  
(Load Current = 150mA<sub>DC</sub>)



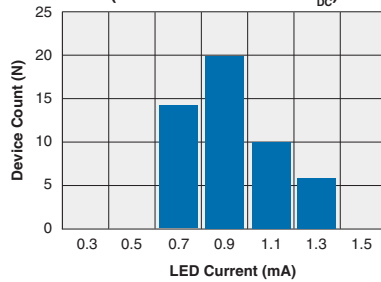
**LAA125L**  
Typical Blocking Voltage Distribution  
(N=50 Ambient Temperature = 25°C)



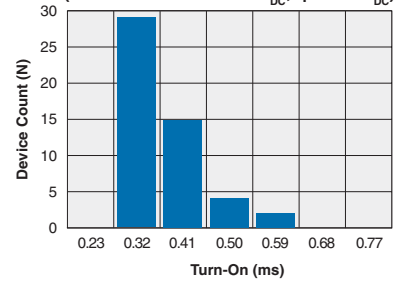
**LAA125L**  
Typical  $I_F$  for Switch Operation  
(N=50 Ambient Temperature = 25°C)  
(Load Current = 150mA<sub>DC</sub>)



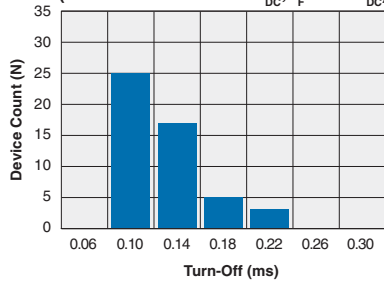
**LAA125L**  
Typical  $I_F$  for Switch Dropout  
(N=50 Ambient Temperature = 25°C)  
(Load Current = 150mA<sub>DC</sub>)



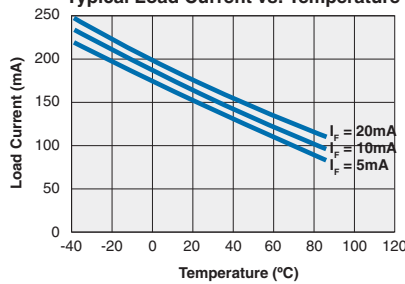
**LAA125L**  
Typical Turn-On Time  
(N=50 Ambient Temperature = 25°C)  
(Load Current = 150mA<sub>DC</sub>;  $I_F = 5\text{mA}_{DC}$ )



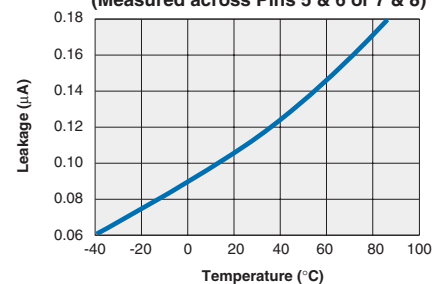
**LAA125L**  
Typical Turn-Off Time  
(N=50 Ambient Temperature = 25°C)  
(Load Current = 150mA<sub>DC</sub>;  $I_F = 5\text{mA}_{DC}$ )



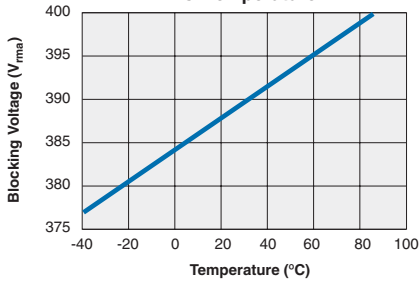
**LAA125L**  
Typical Load Current vs. Temperature



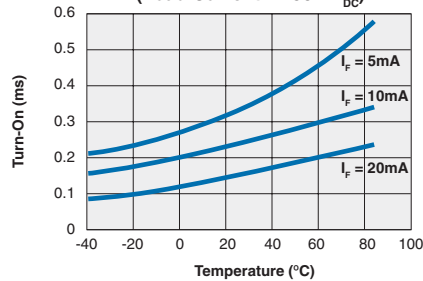
**LAA125L**  
Typical Leakage vs. Temperature  
(Measured across Pins 5 & 6 or 7 & 8)



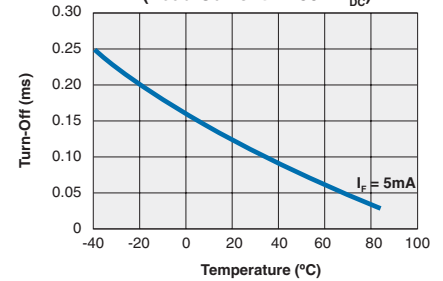
**LAA125L**  
Typical Blocking Voltage vs. Temperature



**LAA125L**  
Typical Turn-On vs. Temperature  
(Load Current = 150mA<sub>DC</sub>)

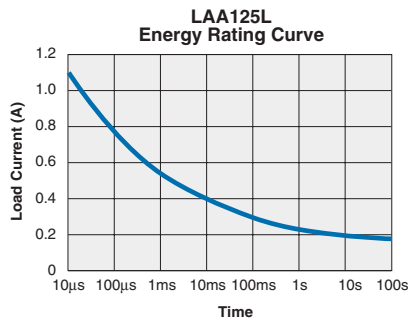
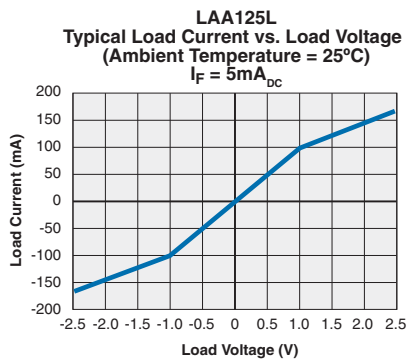
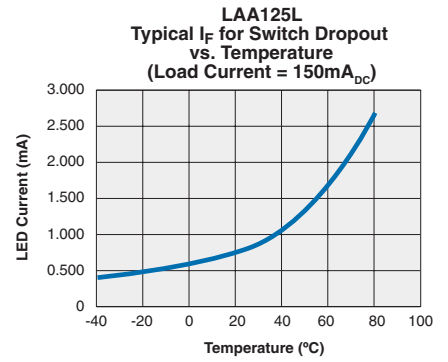
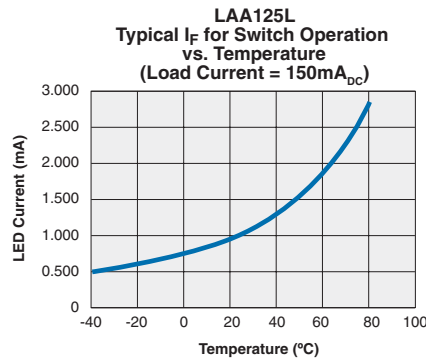
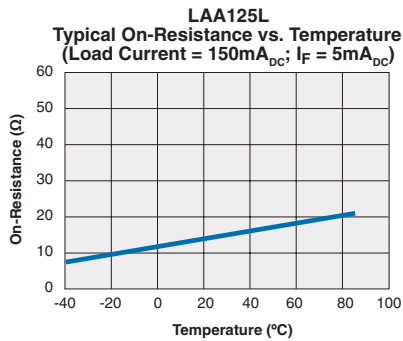
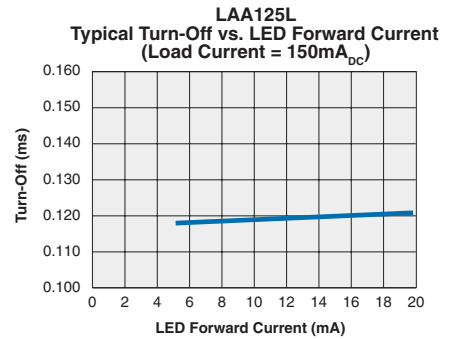
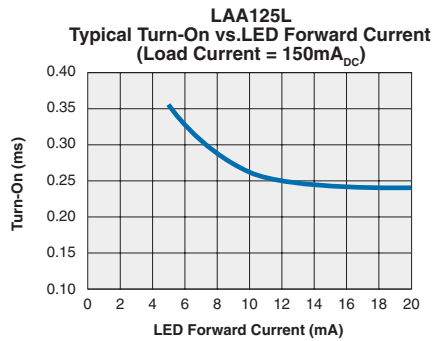
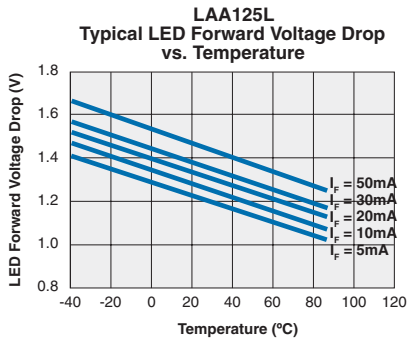


**LAA125L**  
Typical Turn-Off vs. Temperature  
(Load Current = 150mA<sub>DC</sub>)



\*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.

**Manufacturing Information**

**Soldering**

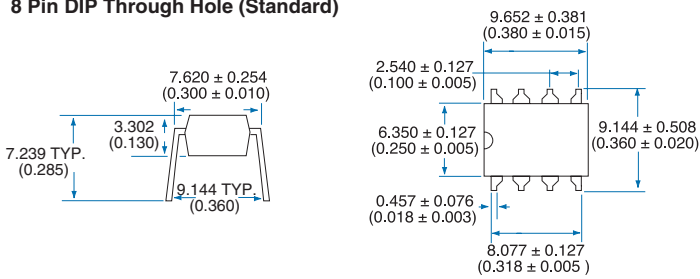
Recommended soldering processes are limited to 245°C component body temperature for 10 seconds.

**Washing**

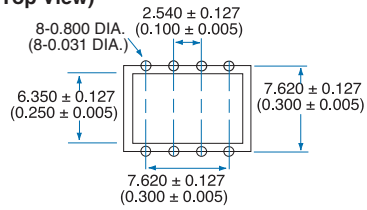
Clare does not recommend ultrasonic cleaning or the use of chlorinated solvents.

**MECHANICAL DIMENSIONS**

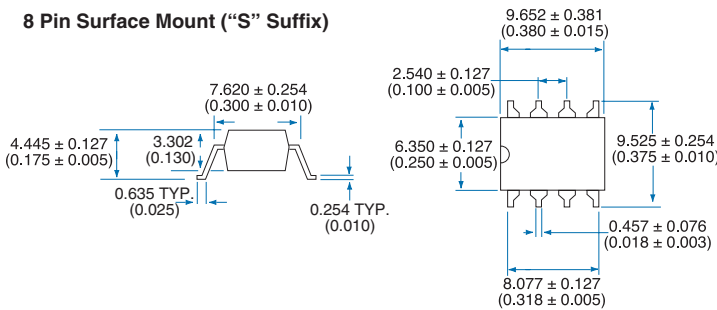
**8 Pin DIP Through Hole (Standard)**



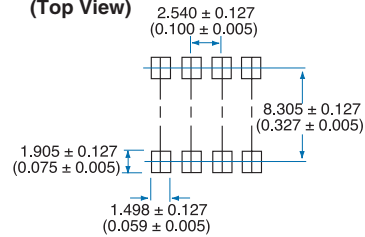
**PC Board Pattern (Top View)**



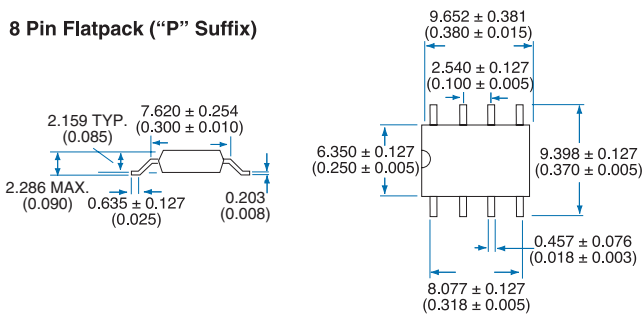
**8 Pin Surface Mount ("S" Suffix)**



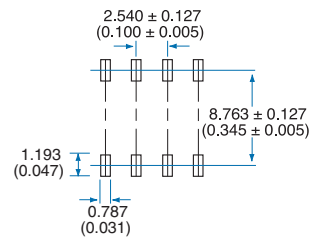
**PC Board Pattern (Top View)**



**8 Pin Flatpack ("P" Suffix)**



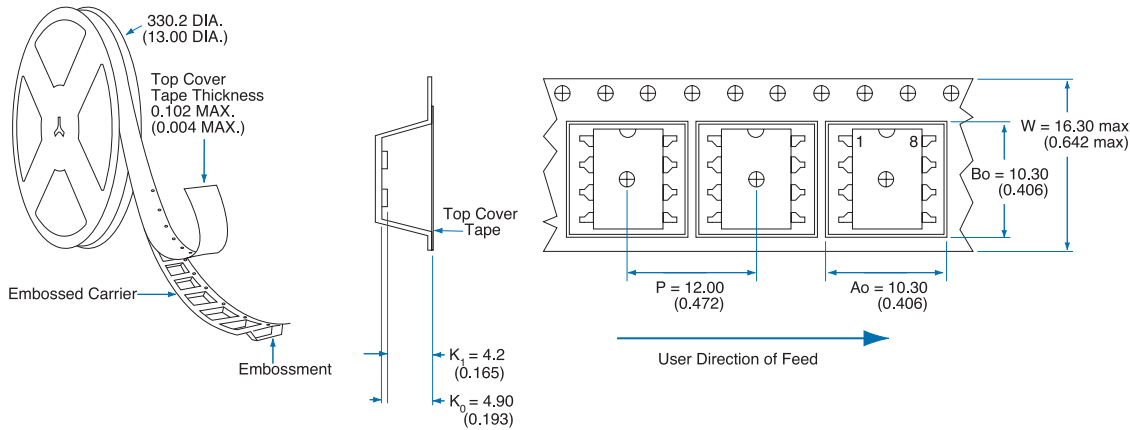
**PC Board Pattern (Top View)**



Dimensions  
mm  
(inches)

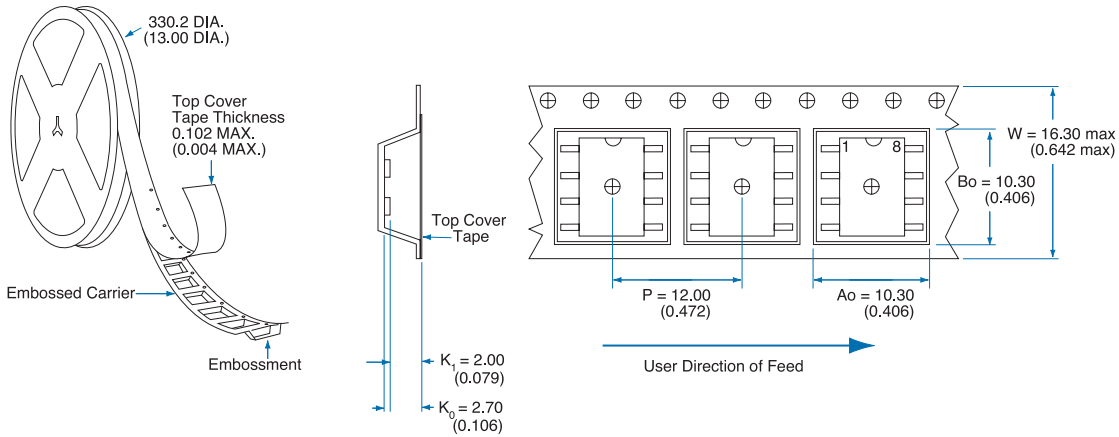
## MECHANICAL DIMENSIONS

### Tape and Reel Packaging for 8 Pin Surface Mount Package



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

### Tape and Reel Packaging for 8 Pin Flatpack Package



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

Dimensions  
mm  
(inches)

### For additional information please visit our website at: [www.clare.com](http://www.clare.com)

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