



|                   | LCA715 | Units          |
|-------------------|--------|----------------|
| Blocking Voltage  | 60     | V <sub>P</sub> |
| Load Current      | 1.8    | A              |
| Max On-resistance | 0.25   | Ω              |

#### Features

- Small 6 Pin 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
- No EMI/RFI Generation
- Machine Insertable, Wave Solderable
- Surface Mount and Tape & Reel Versions Available

#### Applications

- Instrumentation
  - Multiplexers
  - Data Acquisition
  - Electronic Switching
  - I/O Subsystems
  - Meters (Watt-Hour, Water, Gas)
- Medical Equipment—Patient/Equipment Isolation
- Security
- Aerospace
- Industrial Controls

#### Description

LCA715 is a 60V, 1.8A, 0.25Ω 1-Form-A relay. It features the highest load current capability in a 6 pin DIP package. It's high performance features include a 1.8 amp load current capability and very low on-resistance.

#### Approvals

- UL Recognized: File Number E76270
- CSA Certified: File Number LR 43639-10
- Certified to:
  - EN 60950
  - EN 41003

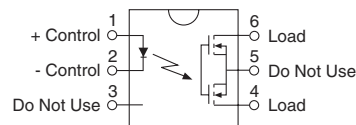
#### Ordering Information

| Part #    | Description                     |
|-----------|---------------------------------|
| LCA715    | 6 Pin DIP (50/Tube)             |
| LCA715S   | 6 Pin Surface Mount (50/Tube)   |
| LCA715STR | 6 Pin Surface Mount (1000/Reel) |

#### Pin Configuration

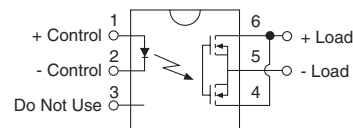
##### LCA715 Pinout

AC/DC Configuration

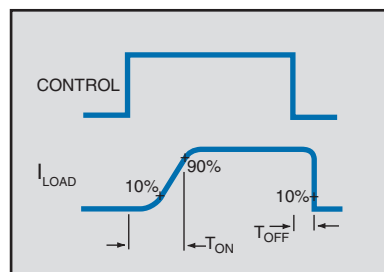


##### LCA715 Pinout

DC Only Configuration



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



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

| Parameter                         | Ratings          | Units            |
|-----------------------------------|------------------|------------------|
| Blocking Voltage                  | 60               | V <sub>P</sub>   |
| Reverse Input Voltage             | 5                | V                |
| Input Control Current Peak (10ms) | 50               | mA               |
|                                   | 1                | A                |
| Input Power Dissipation           | 150 <sup>1</sup> | mW               |
| Total Power Dissipation           | 800 <sup>2</sup> | 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

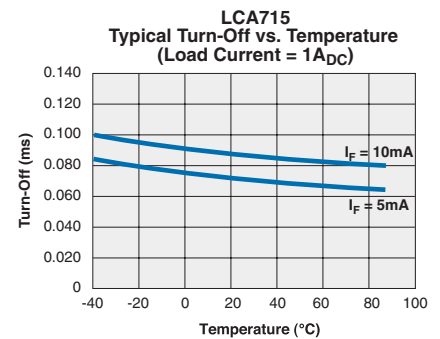
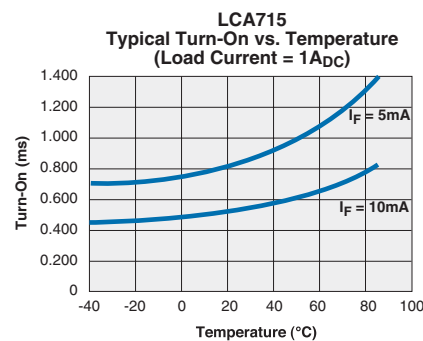
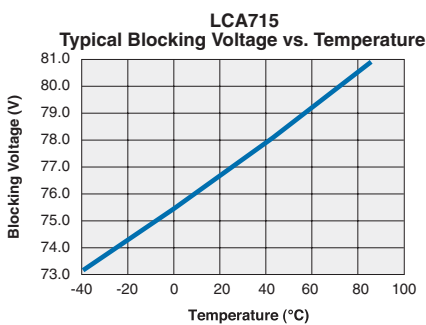
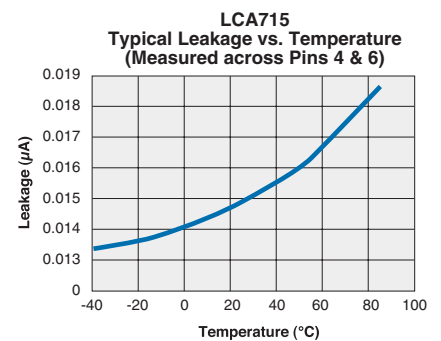
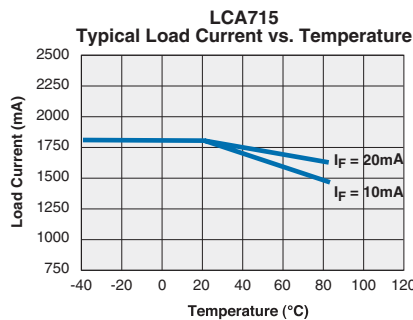
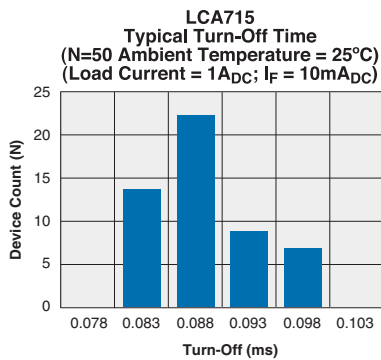
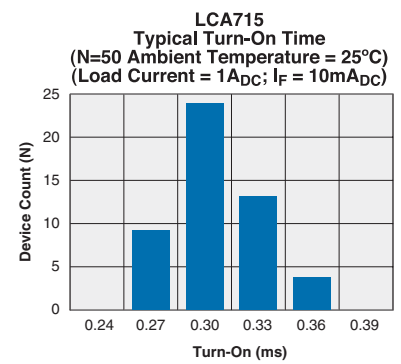
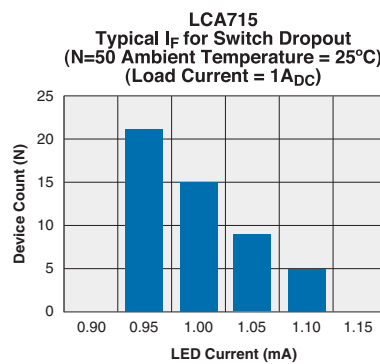
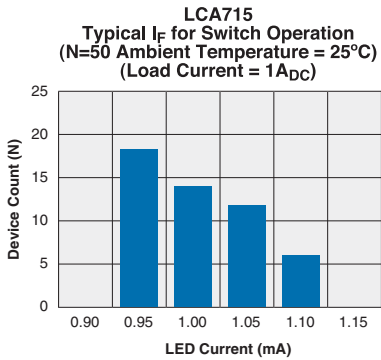
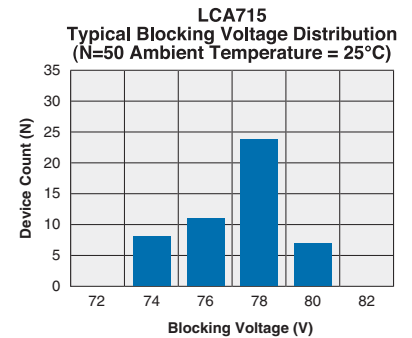
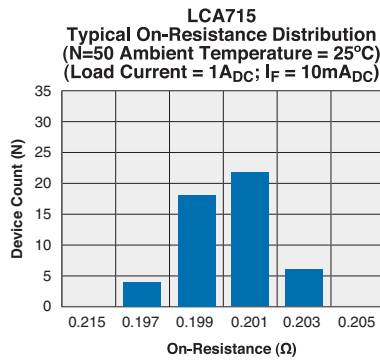
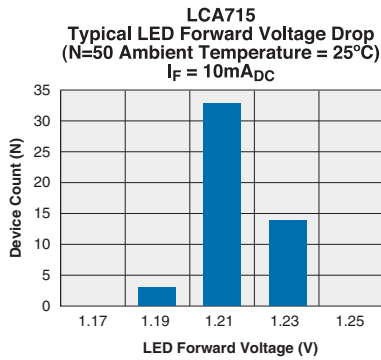
<sup>2</sup> Derate Linearly 6.67 mW/°C

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.

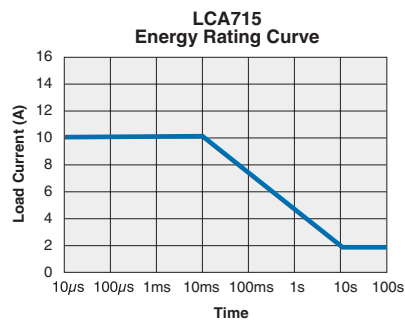
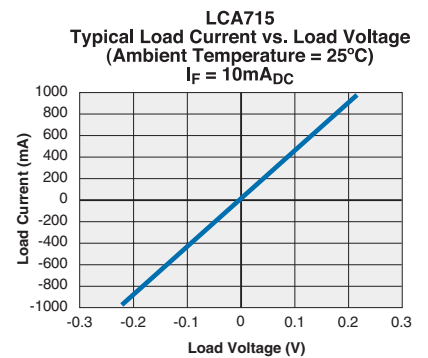
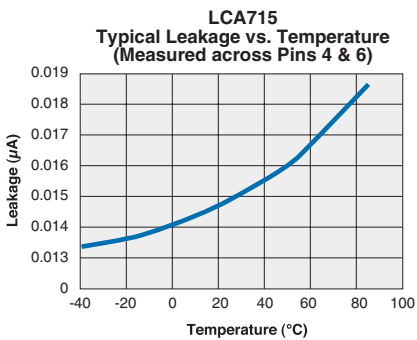
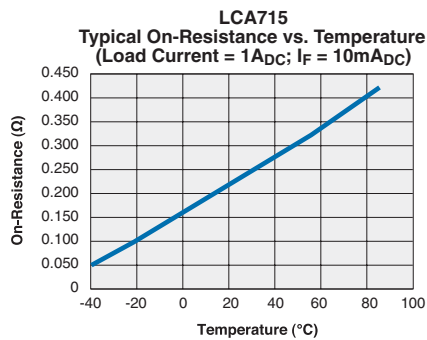
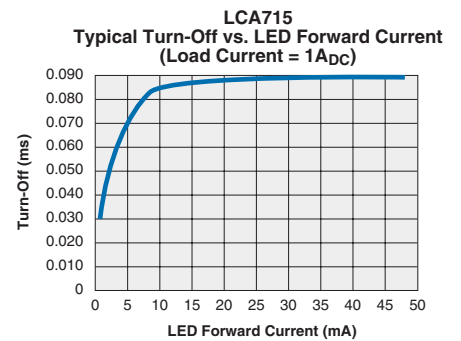
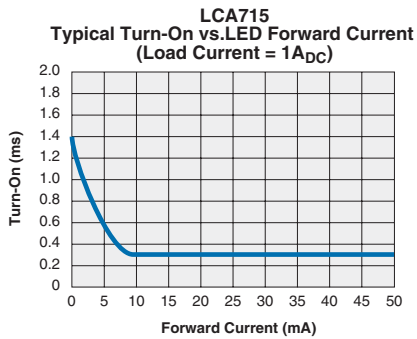
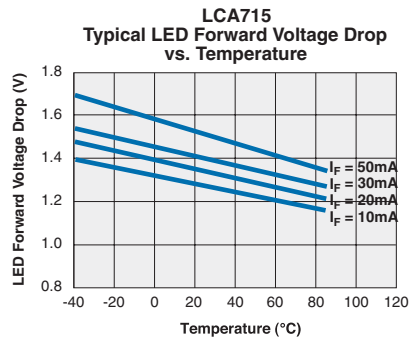
**Electrical Characteristics**

| Parameter                            | Conditions                                | Symbol            | Min | Typ | Max  | Units |
|--------------------------------------|-------------------------------------------|-------------------|-----|-----|------|-------|
| <b>Output Characteristics @ 25°C</b> |                                           |                   |     |     |      |       |
| Load Current                         |                                           |                   |     |     |      |       |
| AC/DC Configuration                  | Continuous, Free Air                      | I <sub>L</sub>    | -   | -   | 1.8  | A     |
| DC Configuration                     | Continuous, Free Air                      | I <sub>L</sub>    | -   | -   | 2.1  | A     |
| Peak Load Current                    | 10ms                                      | I <sub>LPK</sub>  | -   | -   | 10.0 | A     |
| On-Resistance                        |                                           |                   |     |     |      |       |
| AC/DC Configuration                  | I <sub>L</sub> =1A                        | R <sub>ON</sub>   | -   | 0.2 | 0.25 | Ω     |
| DC Configuration                     | I <sub>L</sub> =1.8A                      | R <sub>ON</sub>   | -   | 0.1 | 0.15 | Ω     |
| Off-State Leakage Current            | V <sub>L</sub> =60V                       | I <sub>LEAK</sub> | -   | -   | 1    | μA    |
| Switching Speeds                     |                                           |                   |     |     |      |       |
| Turn-On                              | I <sub>F</sub> =10mA, V <sub>L</sub> =10V | T <sub>ON</sub>   | -   | -   | 2.5  | ms    |
| Turn-Off                             | I <sub>F</sub> =10mA, V <sub>L</sub> =10V | T <sub>OFF</sub>  | -   | -   | 0.25 | ms    |
| Output Capacitance                   | 50V; f=1MHz                               | -                 | -   | 220 | -    | pF    |
| <b>Input Characteristics @ 25°C</b>  |                                           |                   |     |     |      |       |
| Input Control Current                | I <sub>L</sub> =1A                        | I <sub>F</sub>    | 10  | -   | -    | mA    |
| Input Dropout Current                | -                                         | I <sub>F</sub>    | 0.4 | 0.7 | -    | mA    |
| Input Voltage Drop                   | I <sub>F</sub> =10mA                      | 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    |
| <b>Common Characteristics @ 25°C</b> |                                           |                   |     |     |      |       |
| Input to Output Capacitance          | -                                         | C <sub>I/O</sub>  | -   | 3   | -    | pF    |

**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.

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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.

Recommended soldering processes are limited to 260°C component body temperature for 10 seconds.

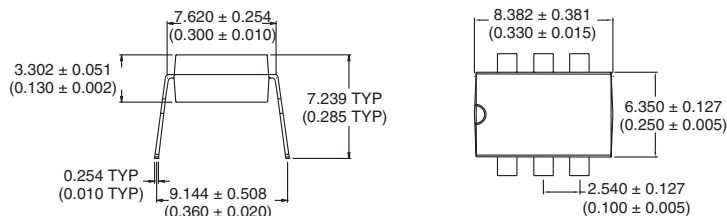
#### Washing

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

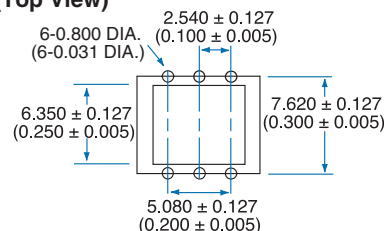


## MECHANICAL DIMENSIONS

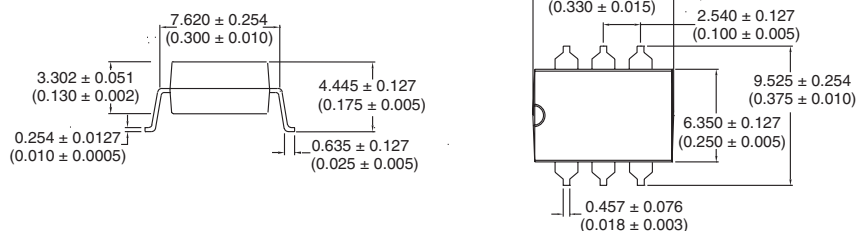
### 6 Pin DIP Through Hole (Standard)



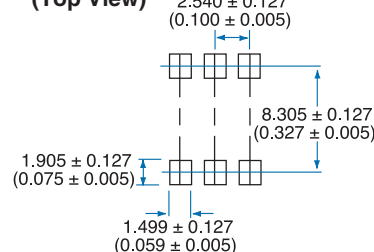
### PC Board Pattern (Top View)



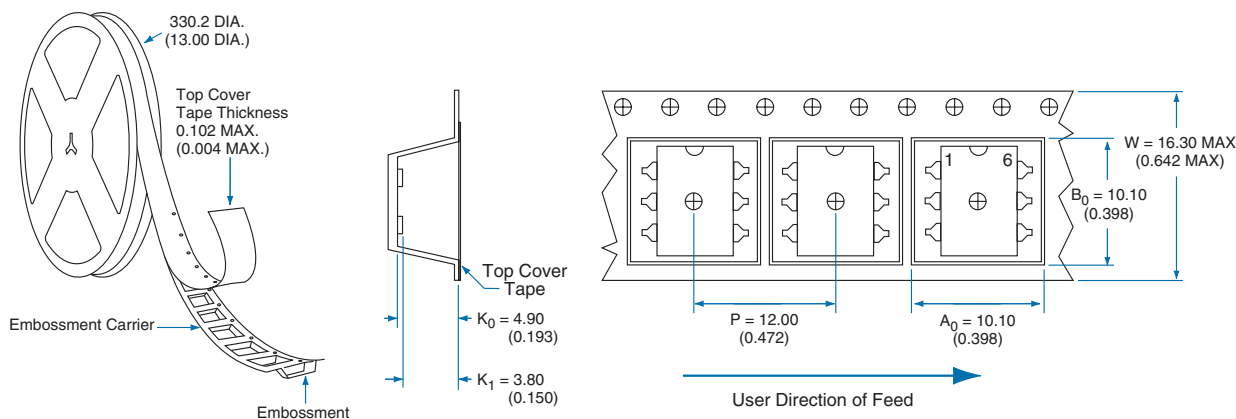
### 6 Pin Surface Mount ("S" Suffix)



### PC Board Pattern (Top View)



### Tape and Reel Packaging for Surface Mount Package



Dimensions:  
mm  
(inches)

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