LCA129

Single Pole OptoMOS® Relay

	LCA129	Units
Load Voltage	250	V
Load Current	170	mA
Max R_{ON}	20	Ω

Description

LCA129 is a 250V, 170mA 20Ω 1-Form-A relay. It features high sensitivity with enhanced peak load current capability.

Features

- Small 6 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
- FCC Compatible
- VDE Compatible
- No EMI/RFI Generation
- Machine Insertable, Wave Solderable
- 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

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

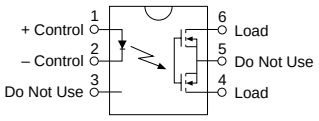
Ordering Information

Part #	Description
LCA129	6 Pin DIP (50/Tube)
LCA129S	6 Pin Surface Mount (50/Tube)
LCA129STR	6 Pin Surface Mount (1000/Reel)

Pin Configuration

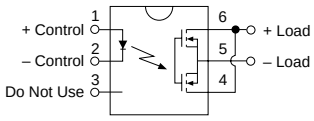
LCA129 Pinout

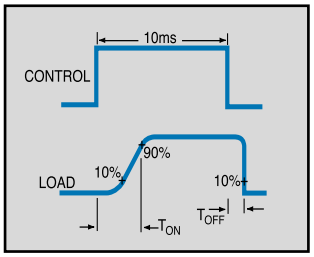
AC/DC Configuration



LCA129 Pinout

DC Only Configuration





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
Surface Mount Package (10 Seconds Max.)	-	-	+220	°C

[1] Derate Linearly 1.33 mw/°C

[2] Derate Linearly 6.67 mw/°C

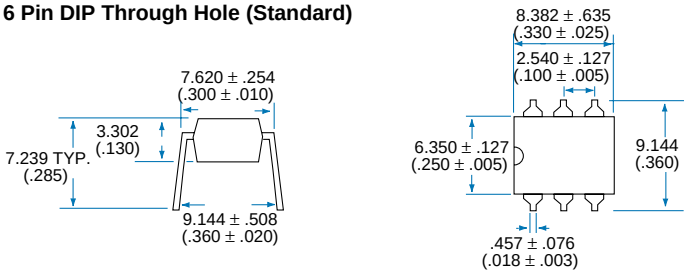
Absolute Maximum Ratings are stress ratings. Stresses in excess of these ratings can cause permanent damage to the device. Functional operation of the device at these or any other conditions beyond those indicated in the operational sections of this data sheet is not implied. Exposure of the device to the absolute maximum ratings for an extended period may degrade the device and effect its reliability.

Electrical Characteristics

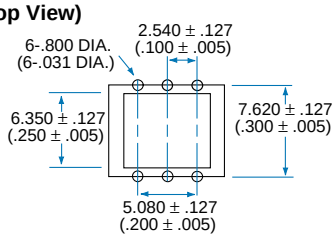
Parameter	Conditions	Symbol	Min	Typ	Max	Units
Output Characteristics @ 25°C						
Load Voltage (Peak)	-	V_L	-	-	250	V
Load Current (Continuous)						
AC/DC Configuration	-	I_L	-	-	170	mA
DC Configuration	-	I_L	-	-	300	mA
Peak Load Current	10ms	I_{LPK}	-	-	400	mA
On-Resistance						
AC/DC Configuration	I_L=Load Current	R_{ON}	-	12	20	Ω
DC Configuration	I_L=Load Current		-	4	6	Ω
Off-State Leakage Current	V_L=250V	I_{LEAK}	-	-	1	µA
Switching Speeds						
Turn-On	I_F=2mA, V_L=10V	T_{ON}	-	-	8	ms
Turn-Off	I_F =2mA, V_L=10V	T_{OFF}	-	-	8	ms
Output Capacitance	50V; f=1MHz	C_{OUT}	-	50	-	pF
Capacitance						
Input to Output	-	-	-	3	-	pF
Input Characteristics @ 25°C						
Input Control Current	I_L=Load Current	I_F	2	-	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
Common Characteristics @ 25°C						
Input to Output Capacitance	-	$C_{I/O}$	-	3	-	pF
Input to Output Isolation	-	$V_{I/O}$	3750	-	-	V_{RMS}

Mechanical Dimensions

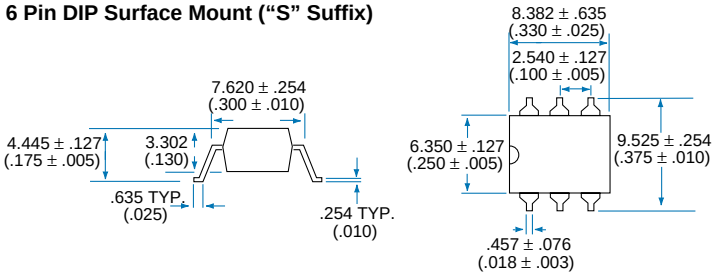
6 Pin DIP Through Hole (Standard)



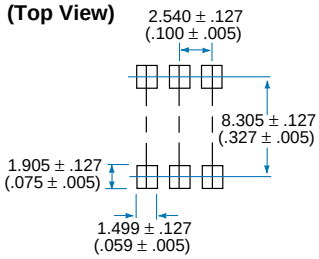
PC Board Pattern (Top View)



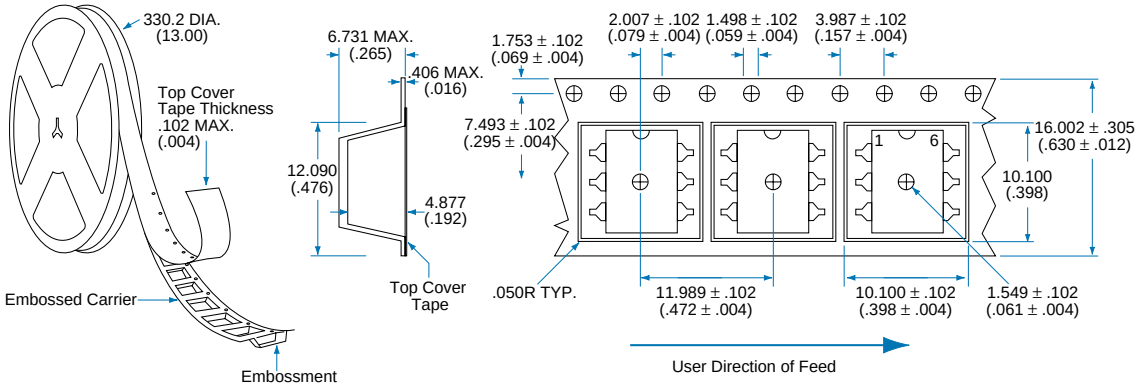
6 Pin DIP Surface Mount ("S" Suffix)



PC Board Pattern (Top View)



Tape and Reel Packaging for 6 Pin Surface Mount Package



Dimensions
mm
(inches)

CLARE

For additional information please visit our website at: www.clare.com

Specification: DS-LCA129-R2.0

6/25/02