



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China





Parameter	Rating	Units
Blocking Voltage	100	V_P
Load Current	350	mA_{rms} / mA_{DC}
On-Resistance (max)	3	Ω

Features

- 3750V_{rms} Input/Output Isolation
- Low Drive Power Requirements (TTL/CMOS Compatible)
- High Reliability
- Arc-Free With No Snubbing Circuits
- No EMI/RFI Generation
- Machine Insertable, Wave Solderable
- Small 6-Pin Package
- Surface Mount Tape & Reel Version Available
- Flammability Classification Rating of V-0

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

The PLA134 is a single-pole, normally open (1-Form-A) Solid State Relay that uses optically coupled MOSFET technology to provide 3750V_{rms} of input-to-output isolation. With its combination of low on-resistance and high load current handling, the PLA134 is suitable for a variety of industrial applications.

Its optically coupled outputs, which use the patented OptoMOS architecture, are controlled by a highly efficient GaAlAs infrared LED.

Because Solid State Relays have no moving parts, they can offer faster, bounce-free switching in a more compact surface mount or through hole package than traditional electromechanical relays.

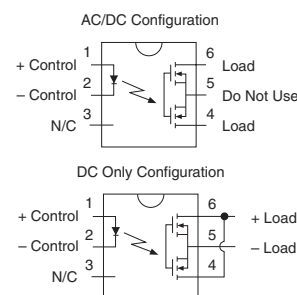
Approvals

- UL Recognized Component: File E76270
- CSA Certified Component: Certificate 1175739
- EN/IEC 60950-1 Certified Component:
TUV Certificate B 09 07 49410 004

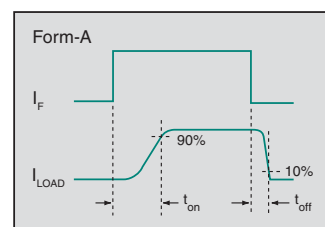
Ordering Information

Part Number	Description
PLA134	6-Pin DIP (50/Tube)
PLA134S	6-Pin Surface Mount (50/Tube)
PLA134STR	6-Pin Surface Mount (1,000/Reel)

Pin Configuration



Switching Characteristics of Normally Open Devices



Absolute Maximum Ratings @ 25°C

Parameter	Ratings	Units
Blocking Voltage	100	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

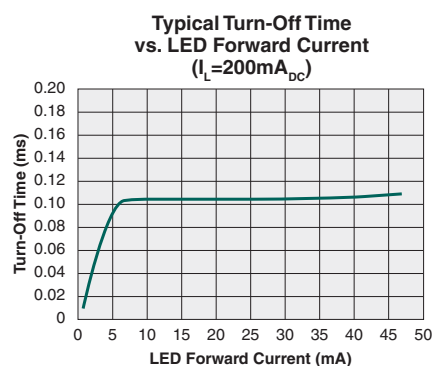
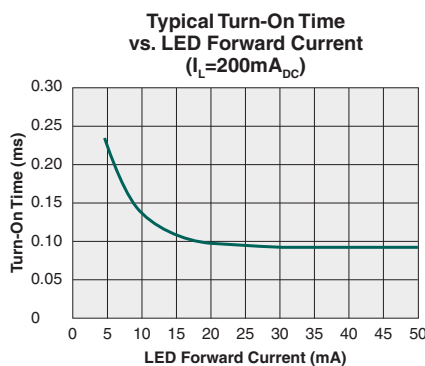
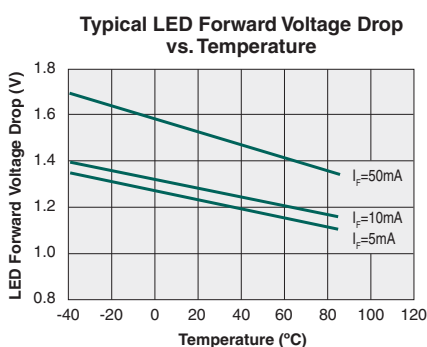
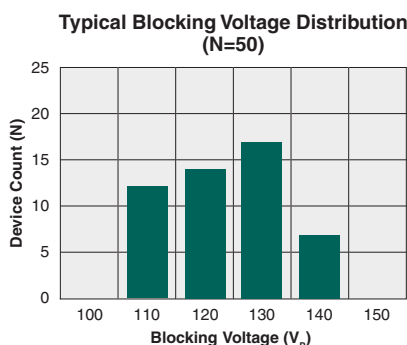
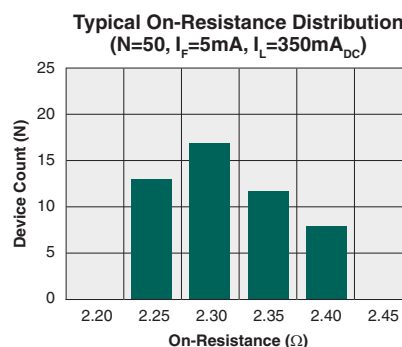
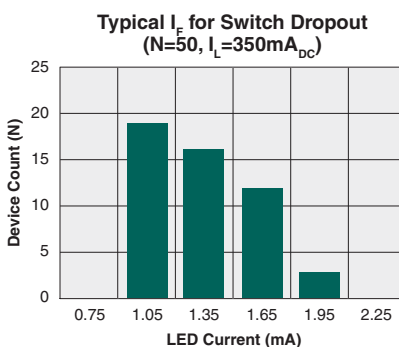
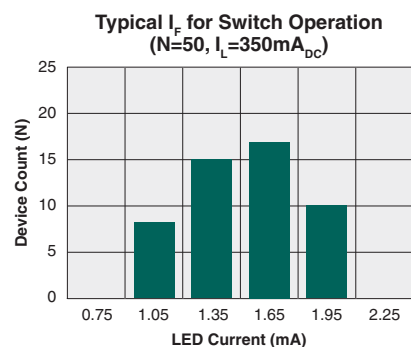
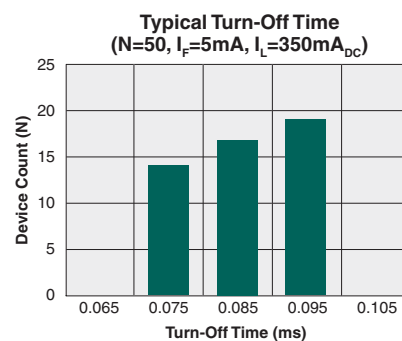
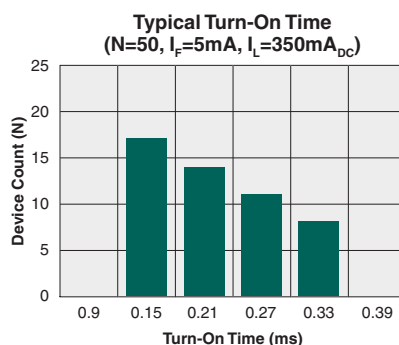
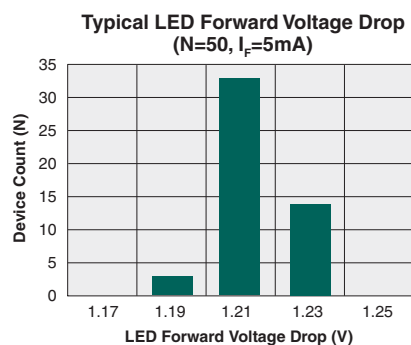
¹ Derate linearly 1.33 mW / °C

² Derate linearly 6.67 mW / °C

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.

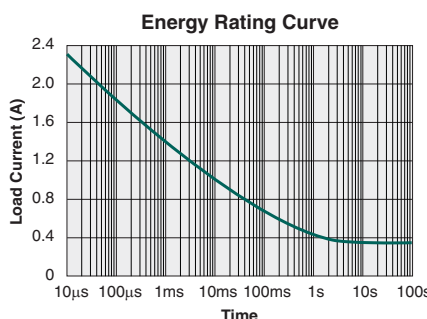
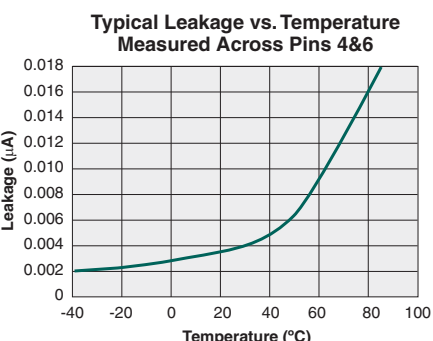
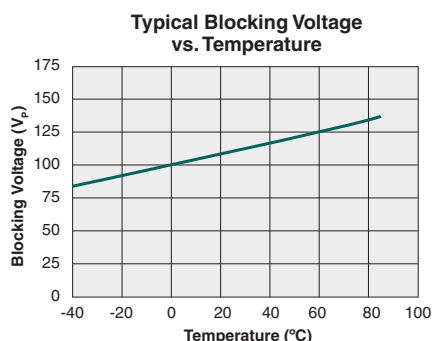
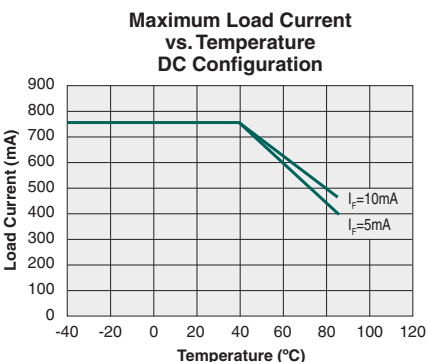
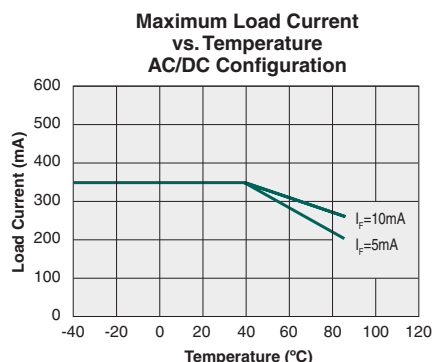
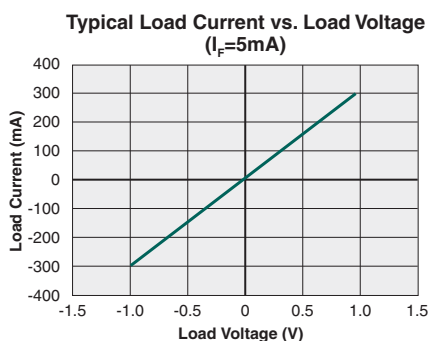
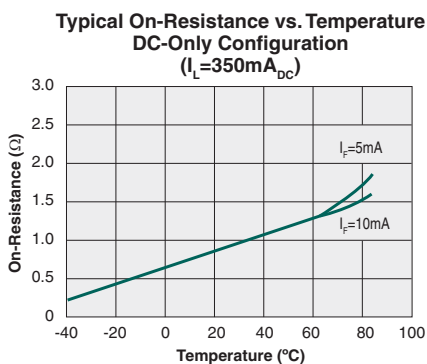
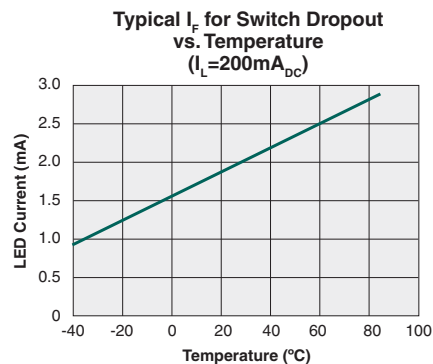
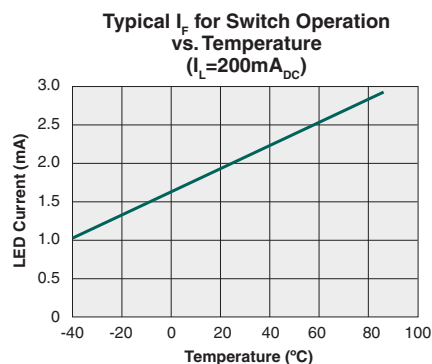
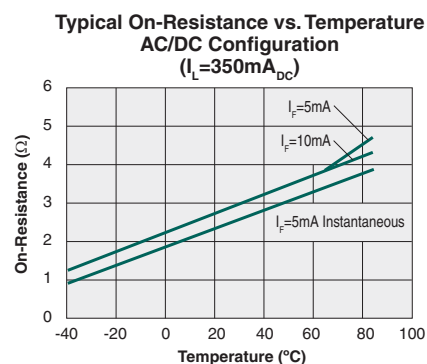
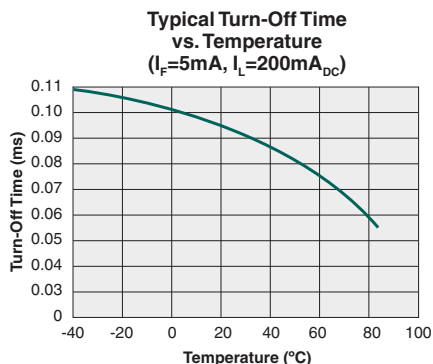
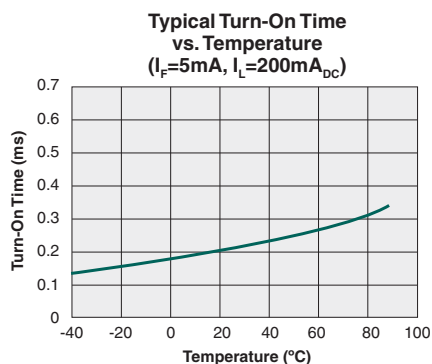
Electrical Characteristics @ 25°C

Parameter	Conditions	Symbol	Min	Typ	Max	Units
Output Characteristics						
Load Current (Continuous)	-	I _L	-	-	350	mA _{rms} / mA _{DC}
AC/DC Configuration			-	-	750	mA _{DC}
DC Configuration						
Peak Load Current	t=10ms	I _{LPK}	-	-	±1	mA _P
On-Resistance	I _F =350mA	R _{ON}	-	-	3	Ω
AC/DC Configuration			-	-	0.8	
DC Configuration			I _F =750mA			
Off-State Leakage Current	V _L =100V _P	I _{LEAK}	-	-	1	μA
Switching Speeds	I _F =5mA, I _L =10mA					
Turn-On		t _{on}	-	-	5	ms
Turn-Off		t _{off}				
Input Characteristics						
Input Control Current to Activate	I _L =350mA	I _F	-	-	5	mA
Input Control Current to Deactivate	-	I _F	0.4	-	-	mA
Input Voltage Drop	I _F =10mA	V _F	0.9	1.2	1.4	V
Reverse Input Current	V _R =5V	I _R	-	-	10	μA
Common Characteristics						
Capacitance, Input to Output	-	C _{I/O}	-	3	-	pF

PERFORMANCE DATA @ 25°C (Unless Otherwise Noted) *


*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 @ 25°C (Unless Otherwise Noted) *



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Manufacturing Information

Moisture Sensitivity



All plastic encapsulated semiconductor packages are susceptible to moisture ingress. IXYS Integrated Circuits Division classified all of its plastic encapsulated devices for moisture sensitivity according to the latest version of the joint industry standard, **IPC/JEDEC J-STD-020**, in force at the time of product evaluation. We test all of our products to the maximum conditions set forth in the standard, and guarantee proper operation of our devices when handled according to the limitations and information in that standard as well as to any limitations set forth in the information or standards referenced below.

Failure to adhere to the warnings or limitations as established by the listed specifications could result in reduced product performance, reduction of operable life, and/or reduction of overall reliability.

This product carries a **Moisture Sensitivity Level (MSL) rating** as shown below, and should be handled according to the requirements of the latest version of the joint industry standard **IPC/JEDEC J-STD-033**.

Device	Moisture Sensitivity Level (MSL) Rating
PLA134 / PLA134S	MSL 1

ESD Sensitivity



This product is **ESD Sensitive**, and should be handled according to the industry standard **JESD-625**.

Reflow Profile

This product has a maximum body temperature and time rating as shown below. All other guidelines of **J-STD-020** must be observed.

Device	Maximum Temperature x Time
PLA134 / PLA134S	250°C for 30 seconds

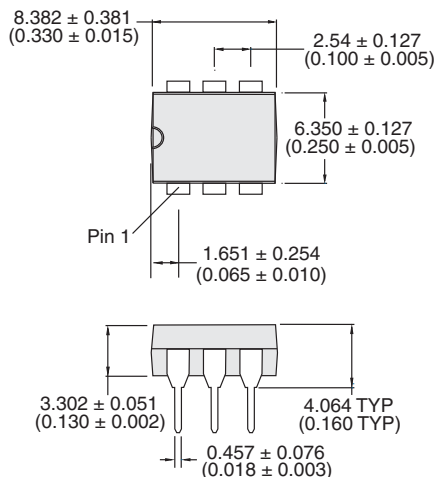
Board Wash

IXYS Integrated Circuits Division recommends the use of no-clean flux formulations. However, board washing to remove flux residue is acceptable. Since IXYS Integrated Circuits Division employs the use of silicone coating as an optical waveguide in many of its optically isolated products, the use of a short drying bake could be necessary if a wash is used after solder reflow processes. Chlorine- or Fluorine-based solvents or fluxes should not be used. Cleaning methods that employ ultrasonic energy should not be used.

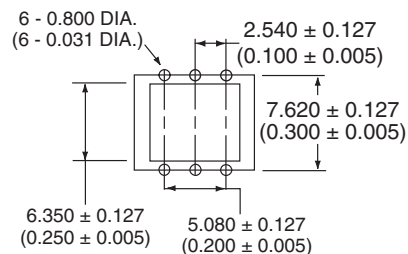


Mechanical Dimensions

PLA134

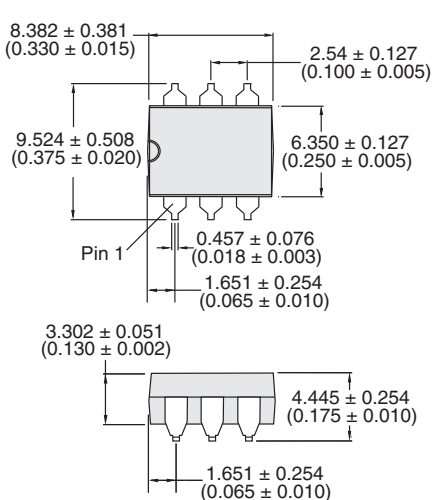


PCB Hole Pattern

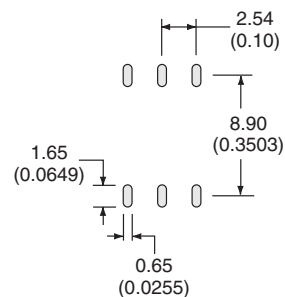


Dimensions
mm
(inches)

PLA134S

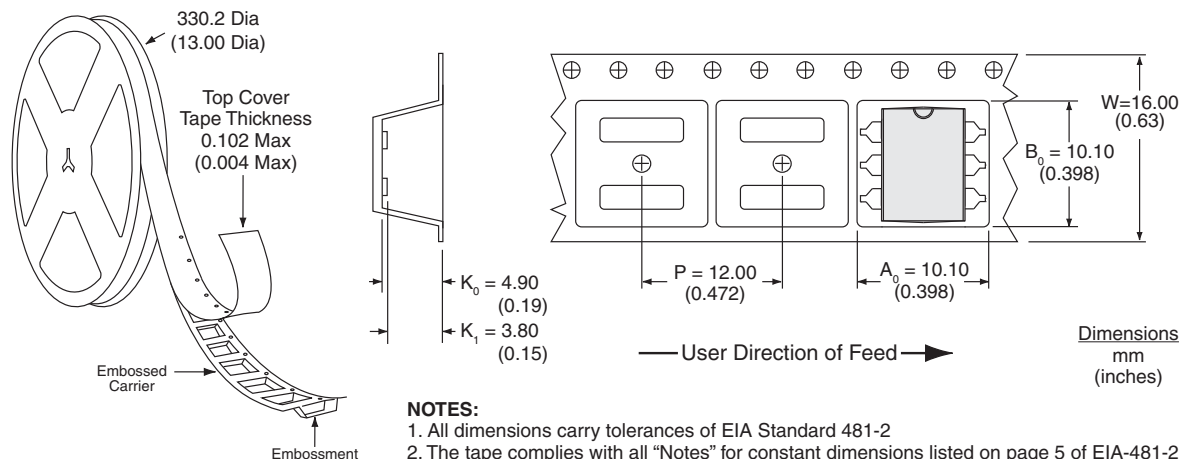


PCB Land Pattern



Dimensions
mm
(inches)

PLA134STR Tape & Reel



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

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