



Parameters	Ratings	Units
Blocking Voltage	600	V _P
Load Current	150	mA
Max On-resistance	22	Ω

Features

- 5000V_{rms} Input/Output Isolation
- Small 6-Pin DIP Package
- Low Drive Power Requirements (TTL/CMOS Compatible)
- No Moving Parts
- High Reliability
- Arc-Free With No Snubbing Circuits
- No EMI/RFI Generation
- Machine Insertable, Wave Solderable

Applications

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

Description

The PLA192 is a 1-Form-A solid state relay that uses optically coupled relay technology to provide an enhanced 5000V_{rms} isolation barrier between the input and the output of the relay.

These efficient MOSFET switches use Clare's patented OptoMOS[®] architecture. The optically coupled output is controlled by a highly efficient GaAIAs infrared LED.

Approvals

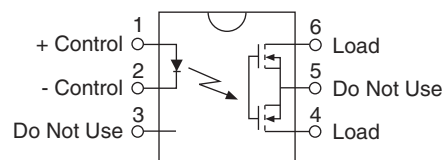
- UL Approved Component: File # E76270
- CSA Certified Component: Certificate # 1175739
- EN/IEC 60950 Compliant

Ordering Information

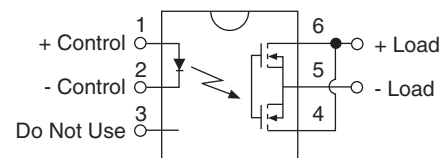
Part #	Description
PLA192	6-Pin DIP (50/Tube)
PLA192S	6-Pin Surface Mount (50/Tube)
PLA192STR	6-Pin Surface Mount (1000/Reel)

Pin Configuration

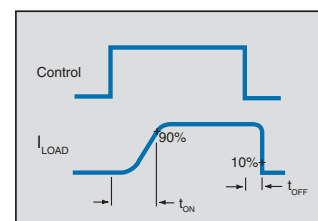
AC/DC Configuration



DC Only Configuration



Switching Characteristics of Normally Open (Form A) Devices



Absolute Maximum Ratings

Parameter	Min	Max	Units
Blocking Voltage	-	600	V_P
Reverse Input Voltage	-	5	V
Input Control Current	-	50	mA
Peak (10ms)	-	1	A
Input Power Dissipation ¹	-	150	mW
Total Package Dissipation ²	-	800	mW
Isolation Voltage, Input to Output	5000	-	V_{rms}
Operational Temperature	-40	+85	°C
Storage Temperature	-40	+125	°C

¹ Derate Linearly 1.33 mW/°C

² Derate Linearly 6.67 mW/°C

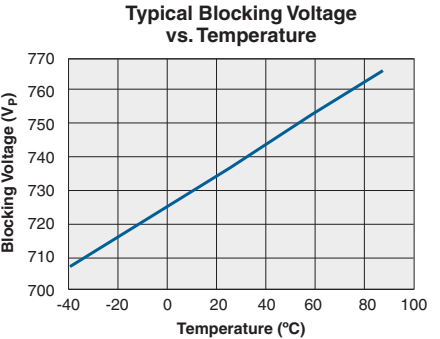
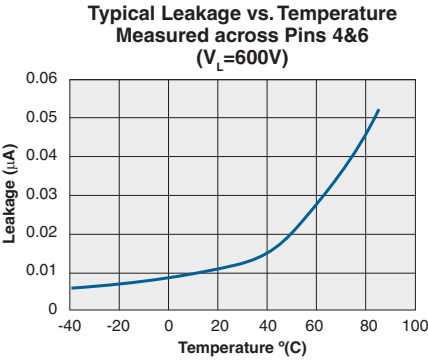
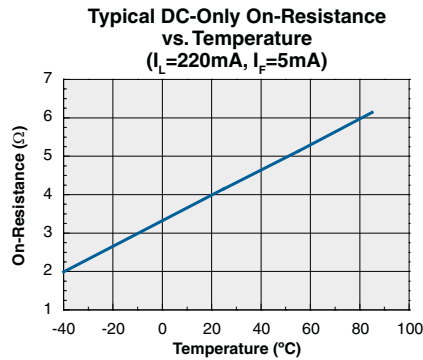
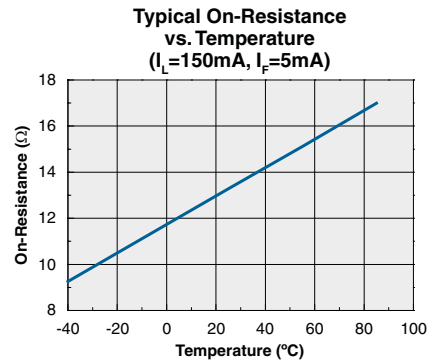
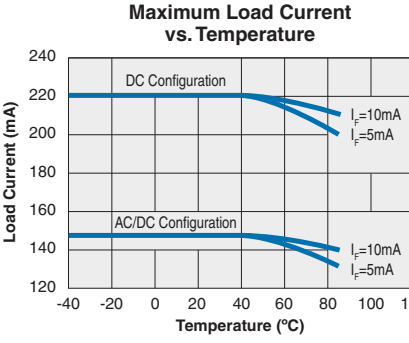
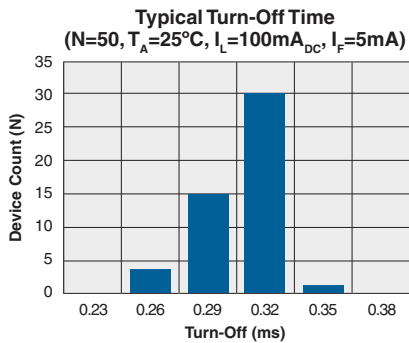
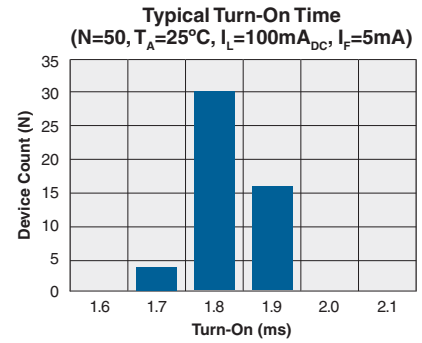
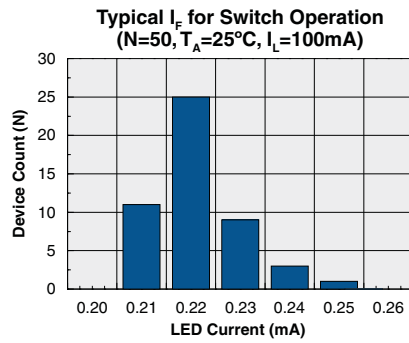
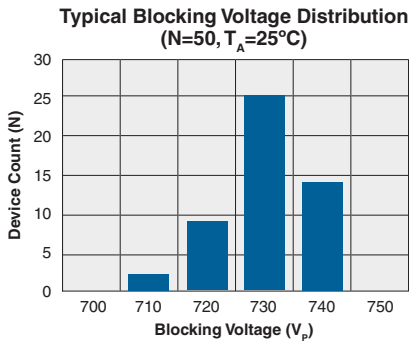
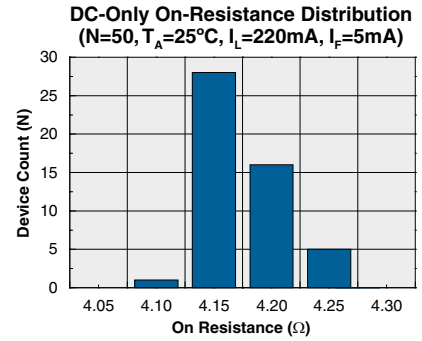
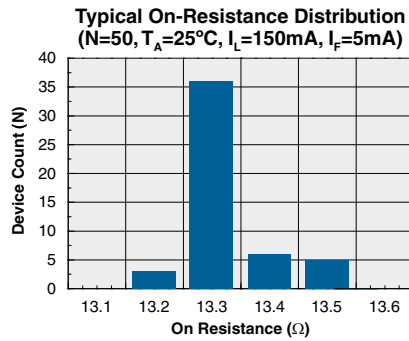
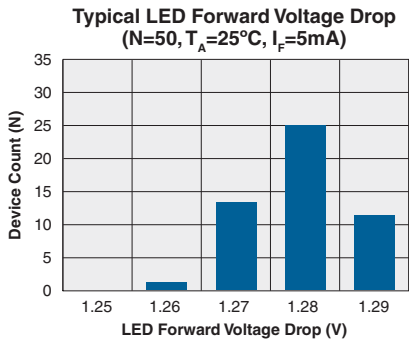
Electrical absolute maximum ratings are at 25°C

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

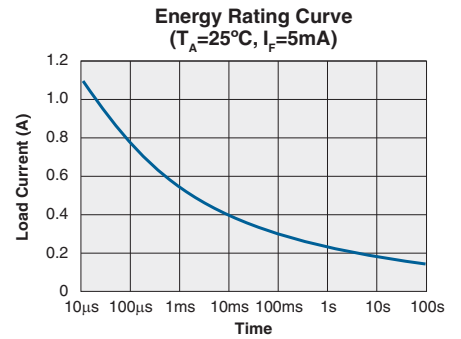
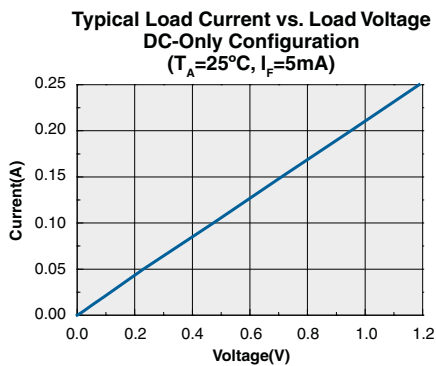
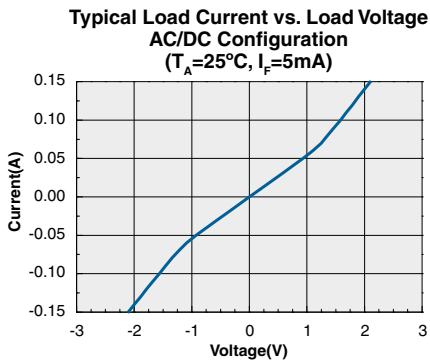
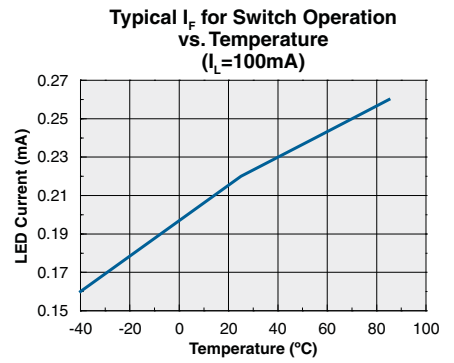
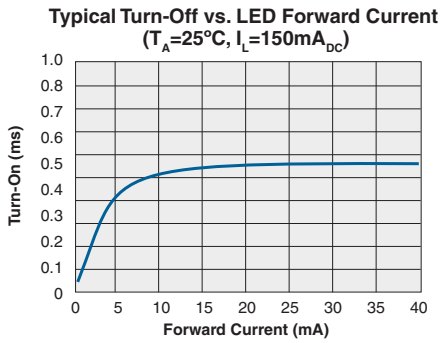
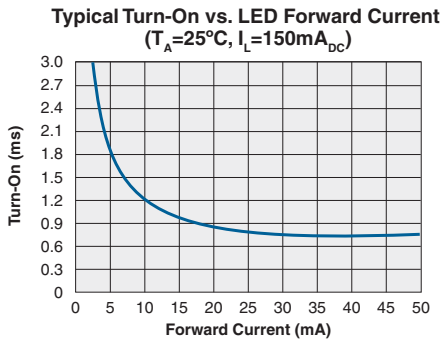
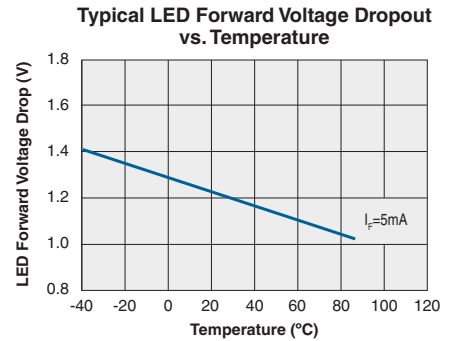
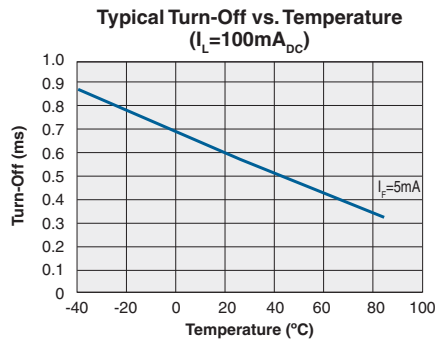
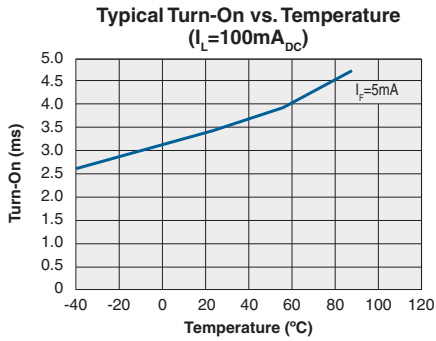
Parameters	Conditions	Symbol	Min	Typ	Max	Units
Output Characteristics @ 25°C						
Load Current						
Continuous, AC/DC Configuration	-	I_L	-	-	150	mA
Continuous, DC Configuration	-		-	-	220	
Peak	t=10ms	I_{LPK}	-	-	400	
On-Resistance						
AC/DC Configuration	$I_L=150mA$	R_{ON}	-	13.3	22	Ω
DC Configuration	$I_L=220mA$		-	4.15	8	
Off-State Leakage Current	$V_L=600V$	I_{LEAK}	-	-	1	μA
Switching Speeds						
Turn-On	$I_F=5mA, V_L=10V$	t_{ON}	-	-	5	ms
Turn-Off		t_{OFF}	-	-	5	
Output Capacitance	$V_L=50V, f=1MHz$	C_{OUT}	-	50	-	pF
Input Characteristics @ 25°C						
Input Control Current	$I_L=100mA$	I_F	-	0.22	5	mA
Input Dropout Current	-	I_F	0.2	0.21	-	mA
Input Voltage Drop	$I_F=5mA$	V_F	0.9	1.2	1.4	V
Reverse Input Current	$V_R=5V$	I_R	-	-	10	μA
Common Characteristics @ 25°C						
Input to Output Capacitance	-	C_{IO}	-	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.

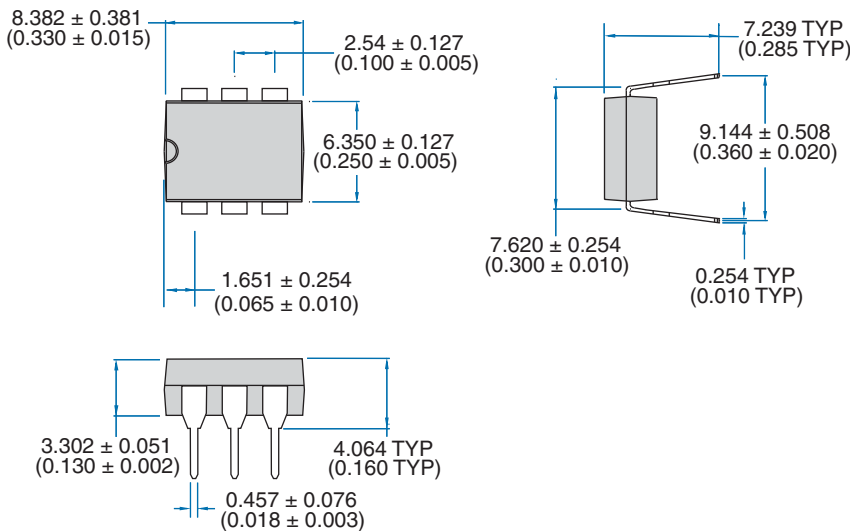
Washing

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

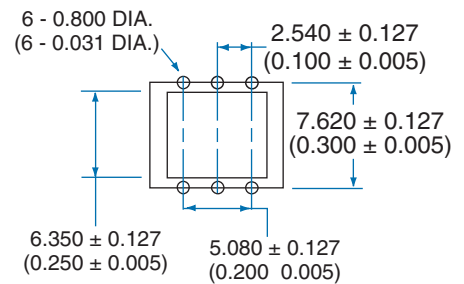


MECHANICAL DIMENSIONS

6-Pin DIP Thru-Hole Package

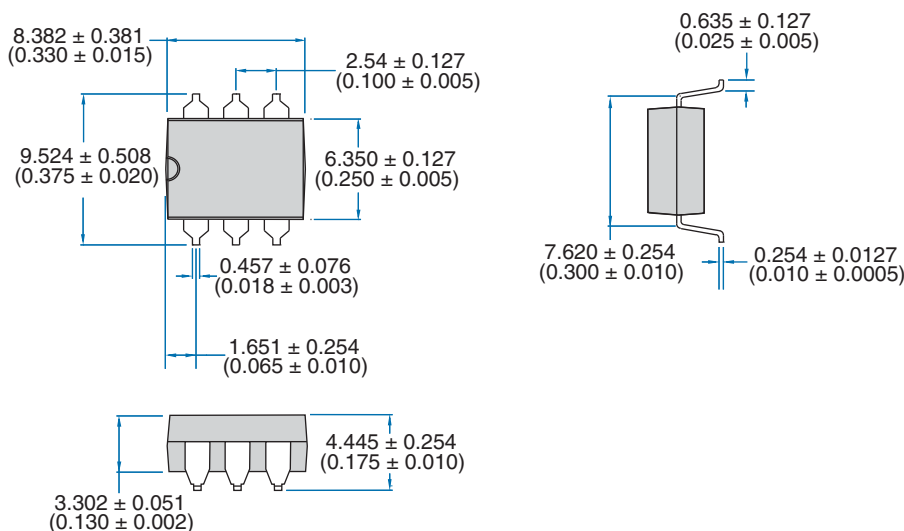


PC Board Pattern

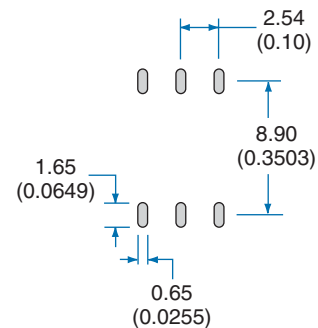


Dimensions
mm
(inches)

6-Pin Surface Mount Package ("S" Suffix)



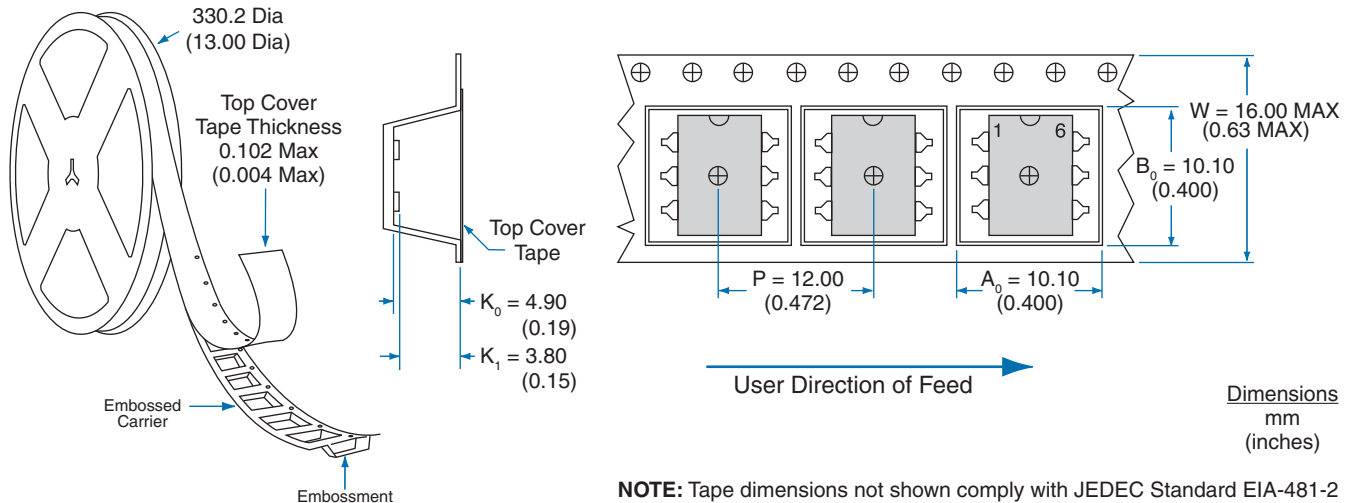
Recommended PCB Land Pattern



Dimensions
mm
(inches)

MECHANICAL DIMENSIONS

Tape and Reel Packaging for 6-Pin “S” Suffix Parts



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

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