Absolute Maximum Ratings (@ 25° C)

Parameter	Min	Typ	Max	Units
Input Power Dissipation	-	-	150[1]	mW
Input Control Current	-	-	100	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
Flatpack/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.

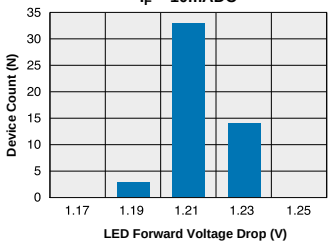
Electrical Characteristics

Parameter	Conditions	Symbol	Min	Typ	Max	Units
Output Characteristics @ 25°C						
Load Voltage (Peak)	-	V_L	-	-	250	V
Load Current (Continuous)	-	I_L	-	-	120	mA
Peak Load Current	10ms max	I_{LPK}	-	-	340	mA
On-Resistance	I_L=120 mA	R_{ON}	-	-	20	Ω
Off-State Leakage Current	V_L=250V	I_{LEAK}	-	-	1	mA
Switching Speeds						
Turn-On	I_F=10mA, V_L=10V	T_{ON}	-	-	5	mS
Turn-Off	I_F=10mA, V_L=10V	T_{OFF}	-	-	5	mS
Output Capacitance	50V; f=1MHz	C_{OUT}	-	50	-	pF
***Input Characteristics @ 25°C**						
Input Control Current	I_L=120mA	I_F	10	-	100	mA
Input Dropout Current	-	-	0.8	1.4	-	mA
Input Voltage Drop	I_F=10mA	V_F	0.9	1.2	1.4	V
Reverse Input Voltage	-	V_R	-	-	5	V
Reverse Input Current	V_R=5V	I_R	-	-	20	mA
Input to Output Capacitance	-	$C_{I/O}$	-	3	-	pF
Input to Output Isolation	-	$V_{I/O}$	3750	-	-	V_{RMS}

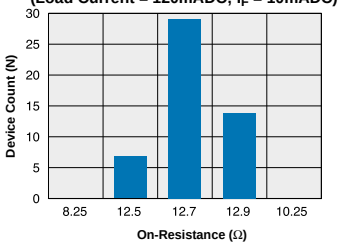
*Input characteristics represent requirements of two parallel connected LEDs.

PERFORMANCE DATA*

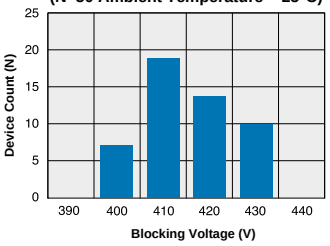
LCA220
Typical LED Forward Voltage Drop
(N=50 Ambient Temperature = 25°C)
I_F = 10mADC



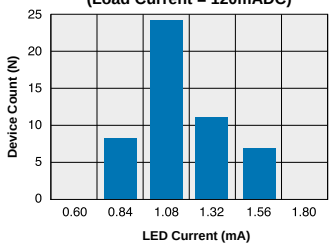
LCA220
Typical On-Resistance Distribution
(N=50 Ambient Temperature = 25°C)
(Load Current = 120mADC; I_F = 10mADC)



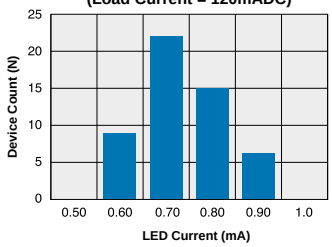
LCA220
Typical Blocking Voltage Distribution
(N=50 Ambient Temperature = 25°C)



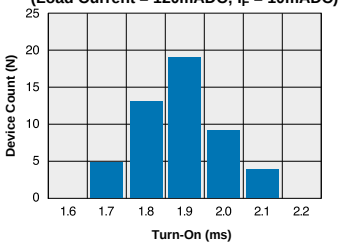
LCA220
Typical I_F for Switch Operation
(N=50 Ambient Temperature = 25°C)
(Load Current = 120mADC)



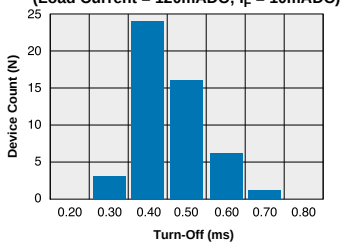
LCA220
Typical I_F for Switch Dropout
(N=50 Ambient Temperature = 25°C)
(Load Current = 120mADC)



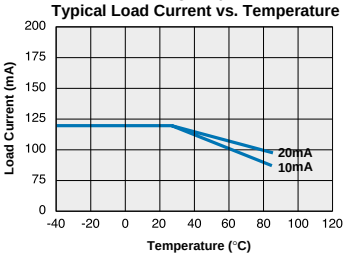
LCA220
Typical Turn-On Time
(N=50 Ambient Temperature = 25°C)
(Load Current = 120mADC; I_F = 10mADC)



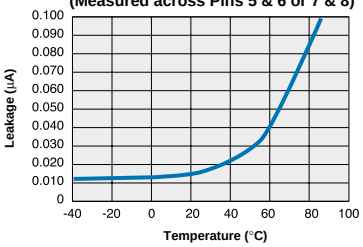
LCA220
Typical Turn-Off Time
(N=50 Ambient Temperature = 25°C)
(Load Current = 120mADC; I_F = 10mADC)



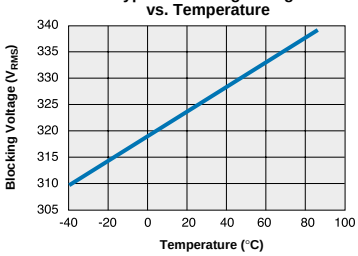
LCA220
Typical Load Current vs. Temperature



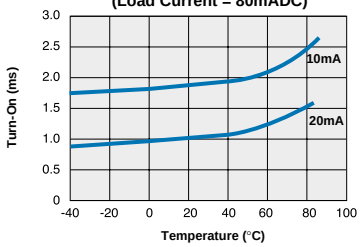
LCA220
Typical Leakage vs. Temperature
(Measured across Pins 5 & 6 or 7 & 8)



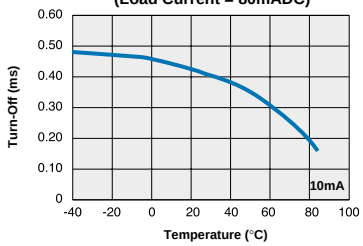
LCA220
Typical Blocking Voltage
vs. Temperature



LCA220
Typical Turn-On vs. Temperature
(Load Current = 80mADC)



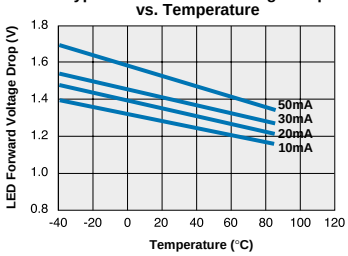
LCA220
Typical Turn-Off vs. Temperature
(Load Current = 80mADC)



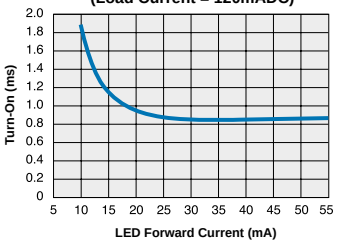
The Performance data shown in the graphs above is typical of device performance. For guaranteed parameters not indicated in the written specifications, please contact our application department.

PERFORMANCE DATA*

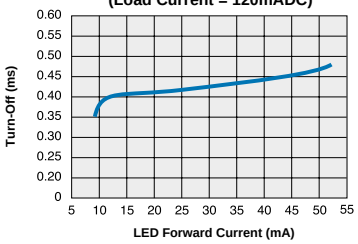
LCA220
Typical LED Forward Voltage Drop vs. Temperature



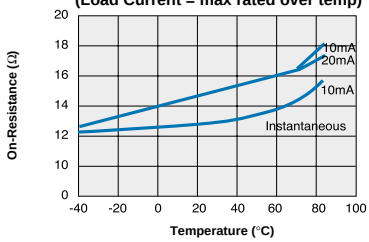
LCA220
Typical Turn-On vs. LED Forward Current (Load Current = 120mADC)



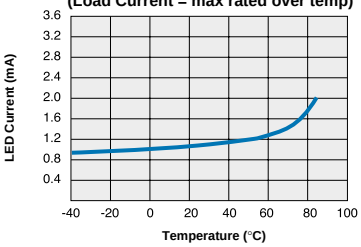
LCA220
Typical Turn-Off vs. LED Forward Current (Load Current = 120mADC)



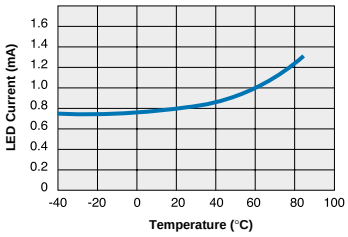
LCA220
Typical On-Resistance vs. Temperature (Load Current = max rated over temp)



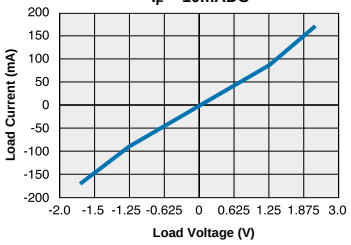
LCA220
Typical I_F for Switch Operation vs. Temperature (Load Current = max rated over temp)



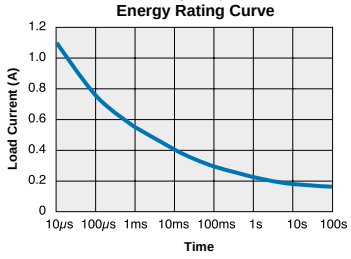
LCA220
Typical I_F for Switch Dropout vs. Temperature (Load Current = max rated over temp)



LCA220
Typical Load Current vs. Load Voltage (Ambient Temperature = 25°C)
I_F = 10mADC



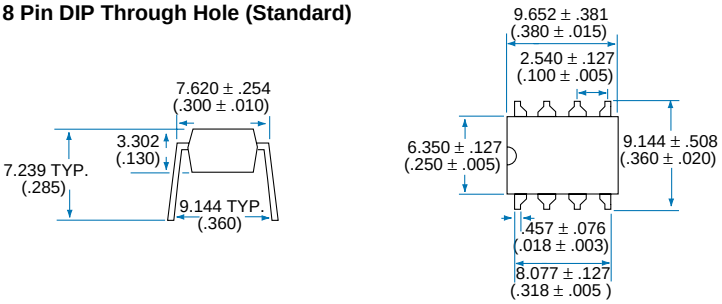
LCA220
Energy Rating Curve



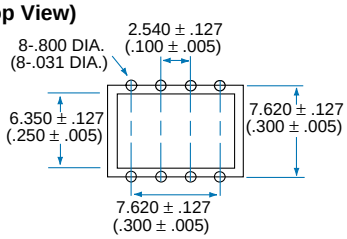
*The Performance data shown in the graphs above is typical of device performance. For guaranteed parameters not indicated in the written specifications, please contact our application department.

Mechanical Dimensions

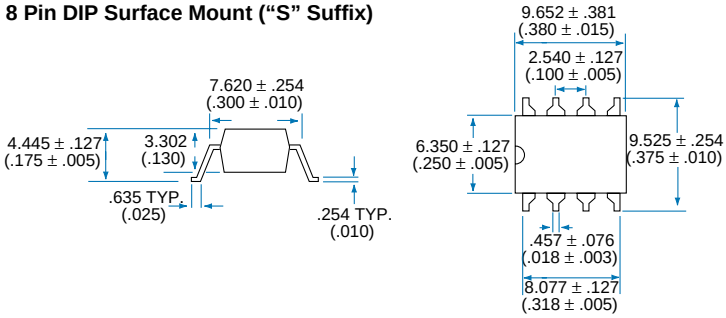
8 Pin DIP Through Hole (Standard)



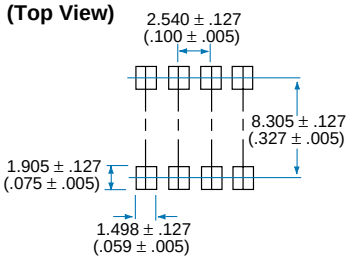
PC Board Pattern (Top View)



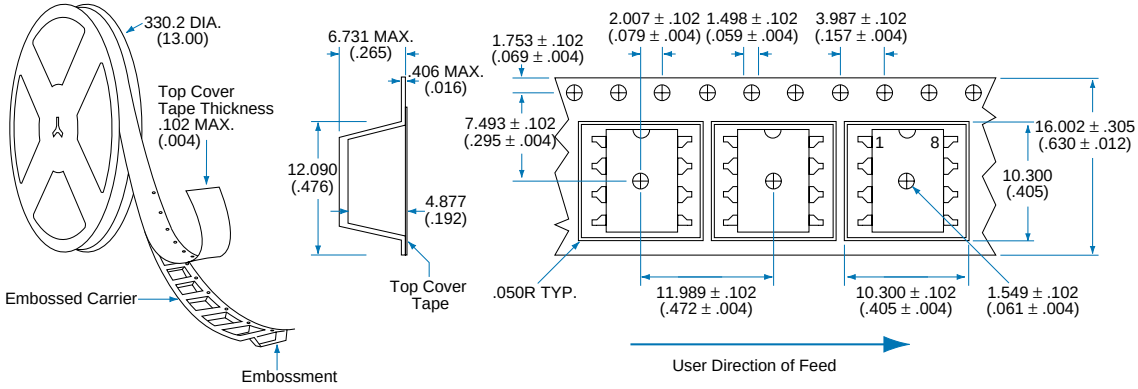
8 Pin DIP Surface Mount ("S" Suffix)



PC Board Pattern (Top View)



Tape and Reel Packaging for 8 Pin Surface Mount Package



Dimensions
mm
(inches)

CLARE

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

Specification: DS-LCA220-R6.0

6/25/02