Absolute Maximum Ratings @ 25ºC

Parameter	Ratings	Units
Blocking Voltage	60	V_P
Reverse Input Voltage	5	V
Input Control Current	50	mA
Peak (10ms)	1	A
Input Power Dissipation [1]	100	mW
Total Power Dissipation [2]	800	mW
Isolation Voltage, Input to Output	3750	V_{rms}
ESD Rating, Human Body Model	8	kV
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.

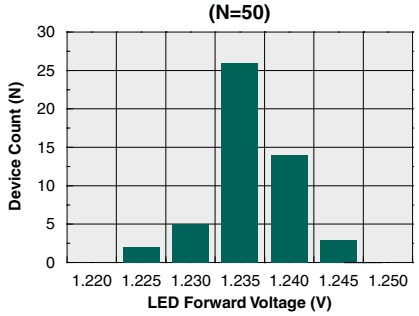
Electrical Characteristics @ 25ºC

Parameter	Conditions	Symbol	Min	Typ	Max	Units
Output Characteristics						
Load Current						
AC/DC Configuration, Continuous	I_F=0mA	I_L	-	-	1	A_{rms} / A_{DC}
DC Configuration, Continuous			-	-	2	A_{DC}
Peak	I_F=0mA , t ≤ 10ms	I_{LPK}	-	-	±5	A_P
On-Resistance [1]						
AC/DC Configuration	I_F=0mA, I_L=1A	R_{ON}	-	0.39	0.6	Ω
DC Configuration	I_F=0mA, I_L=2A		-	0.1	0.2	
Switching Speeds						
Turn-On	I_F=5mA, V_L=10V	t_{on}	-	0.63	3	ms
Turn-Off		t_{off}	-	1.5	3	
Off-State Leakage Current	I_F=2mA, V_L=60V	I_{LEAK}	-	-	1	µA
Output Capacitance	I_F=2mA, V_L=50V, f=1MHz	C_{OUT}	-	125	-	pF
Input Characteristics						
Input Control Current to Activate	I_L=1A	I_F	-	0.22	2	mA
Input Control Current to Deactivate	-	I_F	0.1	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						
Capacitance, Input to Output	-	$C_{I/O}$	-	3	-	pF

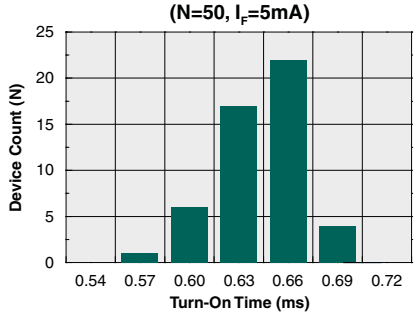
[1] Measurement taken within 1 second of on-time.

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

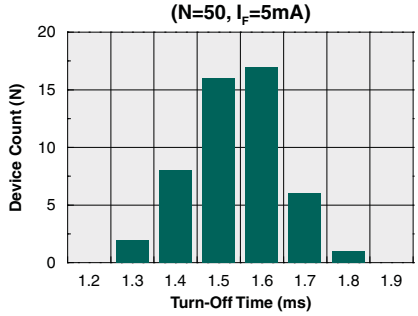
Typical LED Forward Voltage Drop (N=50)



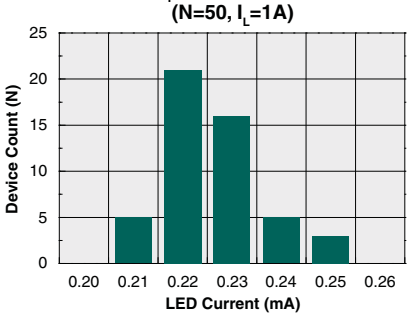
Typical Turn-On Time (N=50, I_F=5mA)



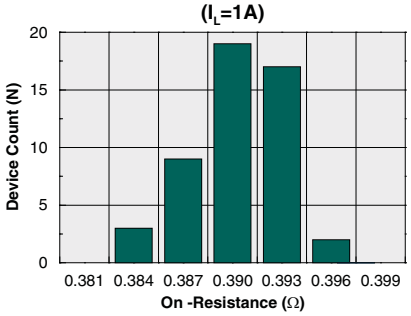
Typical Turn-Off Time (N=50, I_F=5mA)



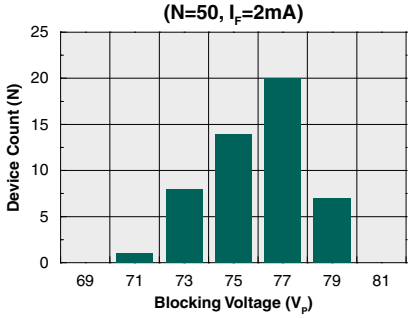
Typical I_F for Switch Operation (N=50, I_L=1A)



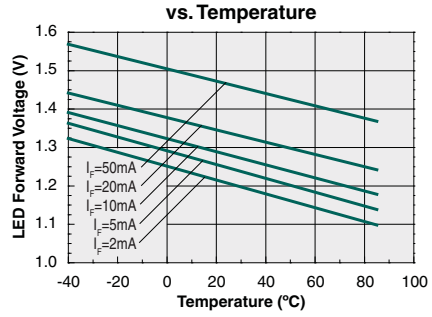
Typical On-Resistance Distribution (I_L=1A)



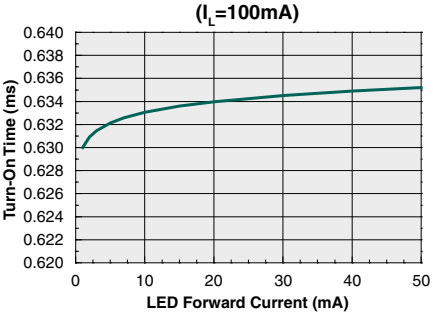
Typical Blocking Voltage Distribution (N=50, I_F=2mA)



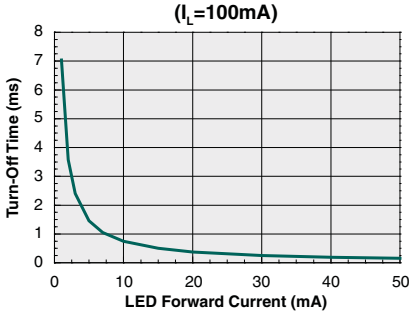
LED Forward Voltage vs. Temperature



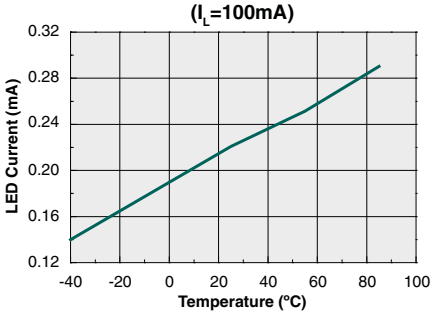
Typical Turn-On Time vs. LED Forward Current (I_L=100mA)



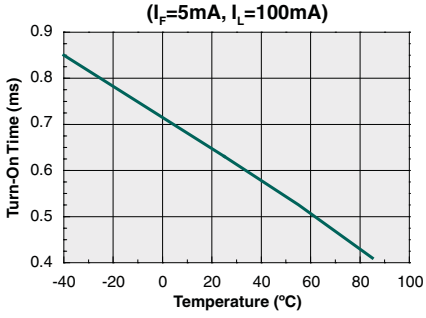
Typical Turn-Off Time vs. LED Forward Current (I_L=100mA)



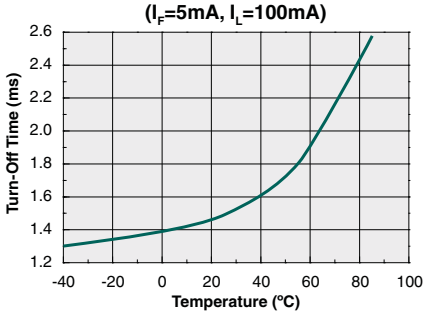
Typical I_F for Switch Operation vs. Temperature (I_L=100mA)



Typical Turn-On Time vs. Temperature (I_F=5mA, I_L=100mA)



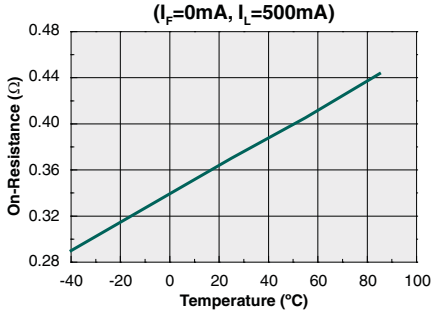
Typical Turn-Off Time vs. Temperature (I_F=5mA, I_L=100mA)



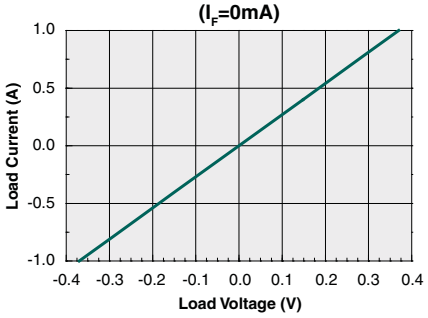
*The Performance data shown in the graphs above is typical of device performance. For guaranteed parameters not indicated in the written specifications, please contact our application department.

PERFORMANCE DATA* (@25ºC Unless Otherwise Noted)

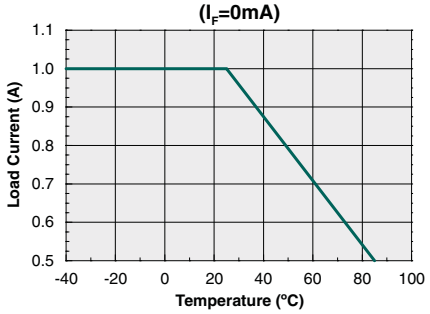
Typical On-Resistance vs. Temperature AC/DC Configuration (I_F=0mA, I_L=500mA)



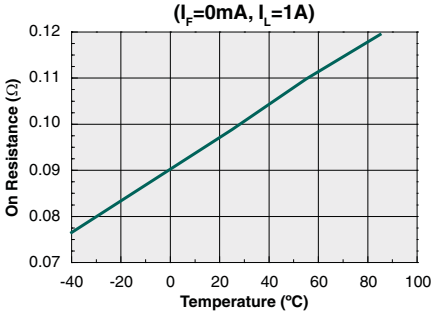
Typical Load Current vs. Load Voltage AC/DC Configuration (I_F=0mA)



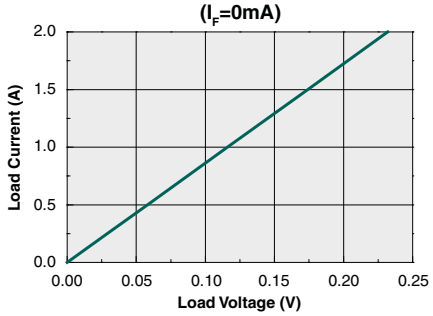
Maximum Load Current vs. Temperature AC/DC Configuration (I_F=0mA)



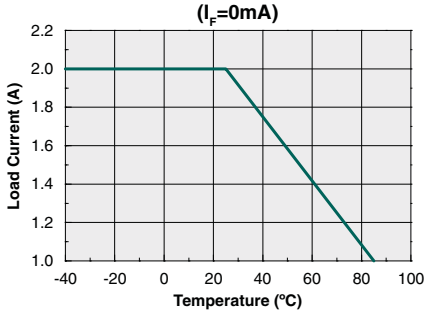
Typical On-Resistance vs. Temperature DC-Only Configuration (I_F=0mA, I_L=1A)



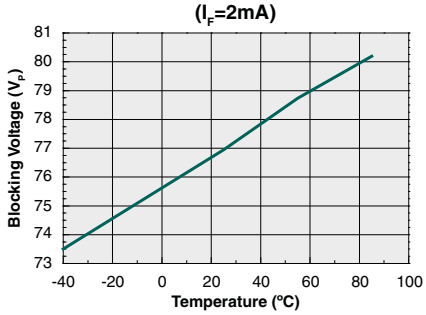
Load Current vs. Load Voltage DC-Only Configuration (I_F=0mA)



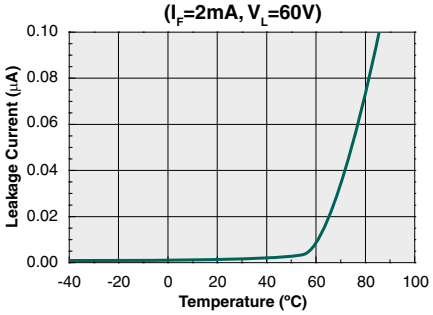
Maximum Load Current vs. Temperature DC-Only Configuration (I_F=0mA)



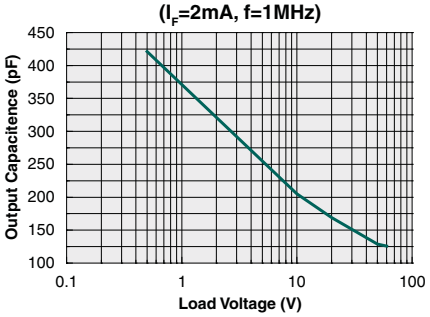
Typical Blocking Voltage vs. Temperature (I_F=2mA)



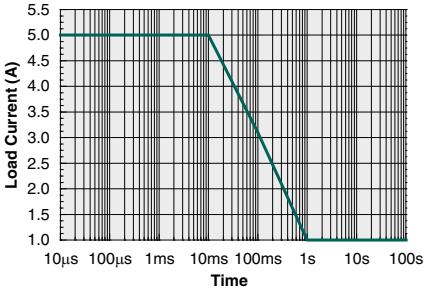
Typical Leakage Current vs. Temperature (I_F=2mA, V_L=60V)



Output Capacitance vs. Load Voltage (I_F=2mA, f=1MHz)



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.

Manufacturing Information

Moisture Sensitivity

All plastic encapsulated semiconductor packages are susceptible to moisture ingression. 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
LCB710 / LCB710S	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.

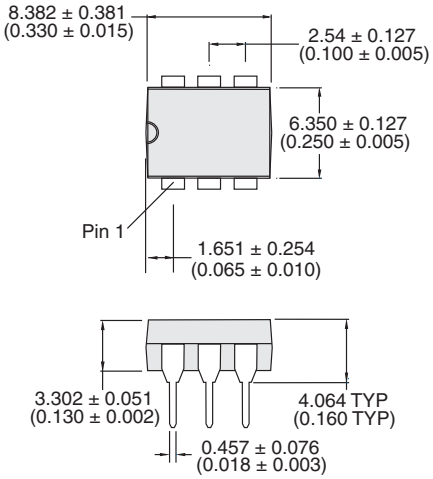
Device	Maximum Temperature x Time
LCB710 / LCB710S	250°C for 30 seconds

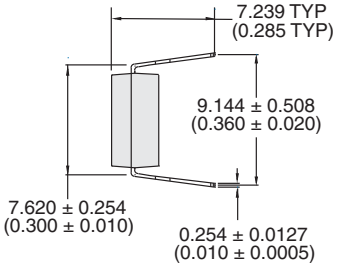
Board Wash

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.

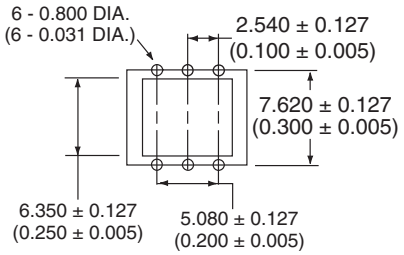
Mechanical Dimensions

LCB710



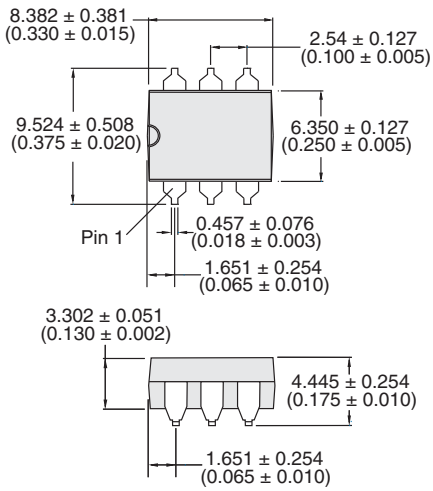


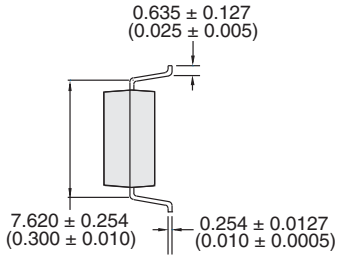
PCB Hole Pattern



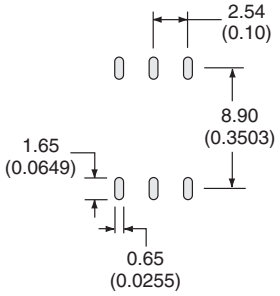
Dimensions
mm
(inches)

LCB710S



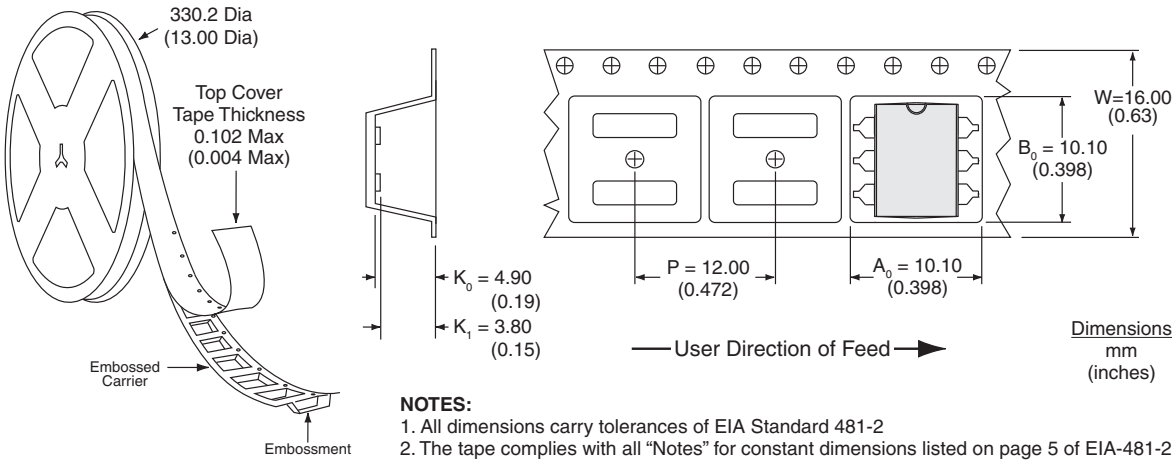


PCB Land Pattern



Dimensions
mm
(inches)

LCB710STR Tape & Reel



NOTES:
1. All dimensions carry tolerances of EIA Standard 481-2
2. The tape complies with all "Notes" for constant dimensions listed on page 5 of EIA-481-2

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

Specification: DS-LCB710-R02

12/22/2012