

Absolute Maximum Ratings @ 25°C

Parameter	Ratings	Units
Blocking Voltage	250	V _P
Reverse Input Voltage	5	V
Input LED Current		
Continuous	50	mA
Peak (10ms)	1	A
Input Control Current	10	mA
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

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.

Typical values are characteristic of the device at +25°C, and are the result of engineering evaluations. They are provided for information purposes only, and are not part of the manufacturing testing requirements.

¹ Derate Linearly 1.33 mW/°C

² Derate Linearly 1.67 mW/°C

Recommended Operating Conditions

Parameter	Symbol	Configuration	Min	Nominal	Max	Units
Load Current, Continuous	1	AC/DC	-	-	200	mA _{rms} / mA _{DC}
	'L	DC-Only	-	-	350	mA _{DC}
Input Control Current	I _F	-	3	5	10	mA
Operating Temperature Range	T _A	-	-40	-	+85	C

Electrical Characteristics @ 25°C

Parameter	Conditions	Symbol	Min	Тур	Max	Units	
Output Characteristics							
Current Limit							
AC/DC Configuration	1 - 5mA = 1/2 + 5V/2 + 5mc		300	366	450	m۸	
DC Configuration	$I_{\rm F}$ =5111A, $V_{\rm L}$ =±5V, t=5111S	LMT	600	730	920	ША _Р	
On-Resistance							
AC/DC Configuration	$1-5m\Lambda$ $1-100m\Lambda$	R _{on} –	6	13	15	Ω	
DC Configuration	I _F =5IIIA, I _L =100IIIA		1.5	3.3	3.75		
Off-State Leakage Current	V _L =200V	I _{LEAK}	-	1.3e ⁻⁵	1	μA	
Switching Speeds							
Turn-On	1 - 5mA = 10mA = 10	t _{on}	- (0.845	2	me	
Turn-Off	$I_{\rm F}$ =5111A, $I_{\rm L}$ =1011A, $V_{\rm L}$ =10V	t _{off}		0.26	2	1115	
Output Capacitance	I _F =0mA, V _L =1V, f=1MHz	C	-	205		pF	
	I _F =0mA, V _L =50V, f=1MHz	0		65			
Input Characteristics							
Input Control Current to Activate	I _L =100mA	۱ _F	-	-	2	mA	
Input Control Current to Deactivate	I _L =100mA	۱ _F	0.2	-	-	mA	
LED Forward Voltage	I _F =5mA	V _F	1.15	1.37	1.5	V	
Common Characteristics							
Input to Output Capacitance	-	C _{I/O}	-	3	-	pF	





PERFORMANCE DATA*









*Unless otherwise noted, data presented in these graphs is typical of device operation at 25°C. For guaranteed parameters not indicated in the written specifications, please contact our application department.





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Manufacturing Information

Moisture Sensitivity



All plastic encapsulated semiconductor packages are susceptible to moisture ingression. IXYS Integrated Circuits classifies 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) classification 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) Classification		
CPC1510GS	MSL 1		

ESD Sensitivity



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

Soldering Profile

Provided in the table below is the IPC/JEDEC J-STD-020 Classification Temperature (T_C) and the maximum dwell time the body temperature of these surface mount devices may be (T_C - 5)°C or greater. The Classification Temperature sets the Maximum Body Temperature allowed for these devices during reflow soldering processes.

Device	Classification Temperature (T_c)	Dwell Time (t _p)	Max Reflow Cycles
CPC1510GS	250°C	30 seconds	3

The maximum wave soldering conditions of the through-hole devices is provided in the following table. Dwell time is the time it takes for the pins to pass through both waves.

Device	Maximum Wave Temperature	Body Temperature	Dwell Time	Wave Cycles
CPC1510G	260°C	250°C	10 seconds	1

Board Wash

IXYS Integrated Circuits recommends the use of no-clean flux formulations. Board washing to reduce or remove flux residue following the solder reflow process is acceptable provided proper precautions are taken to prevent damage to the device. These precautions include but are not limited to: using a low pressure wash and providing a follow up bake cycle sufficient to remove any moisture trapped within the device due to the washing process. Due to the variability of the wash parameters used to clean the board, determination of the bake temperature and duration necessary to remove the moisture trapped within the package is the responsibility of the user (assembler). Cleaning or drying methods that employ ultrasonic energy may damage the device and should not be used. Additionally, the device must not be exposed to halide flux or solvents that are Chlorine, Bromine, Fluorine, or lodine-based.



R04



Mechanical Dimensions

CPC1510G



CPC1510GS



1.524 TYP

(0.060 TYP)







Dimensions mm (inches)



CPC1510GSTR Tape & Reel



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

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