CPC1822

4V Output Solar Cell

CLARE
An IXYS Company

	CPC1822	Units
Open Circuit Voltage	4	V
Short Circuit Current	50	uA

* Direct sunlight (Approximately 6000 lux)

Features

- 4V Output
- Triggers with Natural Sunlight
- Provides True Wireless Power
- No EMI/RFI Generation
- Wave Solderable
- Replacement of Discrete Components
- Solid State Reliability
- Small 8-Pin Surface Mount SOIC

Applications

- Portable Electronics
- Solar Battery Chargers
- Battery Operated Equipment
- Consumer Electronics
- Off-Grid Installation
- Wireless Sensors and Detection
- Self Powered Sunlight/ Light Detection
- Self Powered Products
- Remote Installation

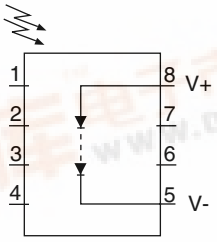
Description

The CPC1822 is a monolithic photovoltaic string of solar cells with switching circuitry. When operating in sunlight or a bright artificial light environment the optical energy will activate the cell array and generate a voltage at the output. The solar cells are capable of generating a floating source voltage and current sufficient to drive and power CMOS IC's, logic gates and/or provide "trickle charge" for battery applications.

Ordering Information

Part #	Description
CPC1822N	8-Pin Clear Molded SOIC Package

Pin Configuration



8-Pin SOIC

Absolute Maximum Ratings

Parameter	Ratings	Units
Reverse Voltage	10	V
Operational Temperature	-40 to +85	°C
Storage Temperature	-40 to +125	°C

Electrical absolute maximum ratings are at 25°C

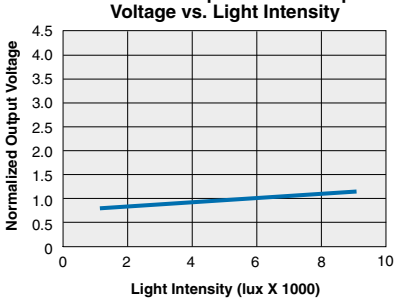
Absolute Maximum Ratings are stress ratings. Stresses in excess of these ratings can cause permanent damage to the device. Functional operation of the device at conditions beyond those indicated in the operational sections of this data sheet is not implied.

Electrical Characteristics

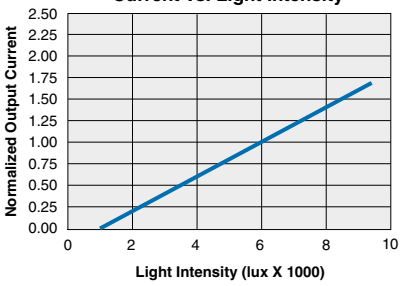
Parameter	Conditions	Symbol	Min	Typ	Max	Units
Output Characteristics @ 25°C						
Open Circuit Voltage	Direct Sun (6000 lux)	V_{OC}	-	4.2	-	V
	High Intensity Lamp	V_{OC}	-	4.5	-	V
Short Circuit Current	Direct Sun (6000 lux)	I_{SC}	-	50	-	µA

PERFORMANCE DATA*

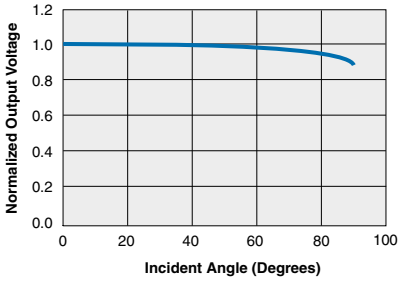
CPC1822
Normalized Open Circuit Output Voltage vs. Light Intensity



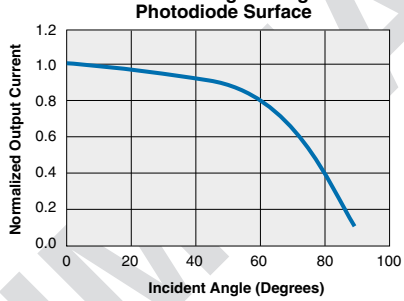
CPC1822
Normalized Short Circuit Output Current vs. Light Intensity



CPC1822
Normalized Open Circuit Output Voltage vs. Incident Angle of Light to Photodiode Surface



CPC1822
Normalized Short Curcuit Output Current vs. Incident Angle of Light to Photodiode Surface



*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.

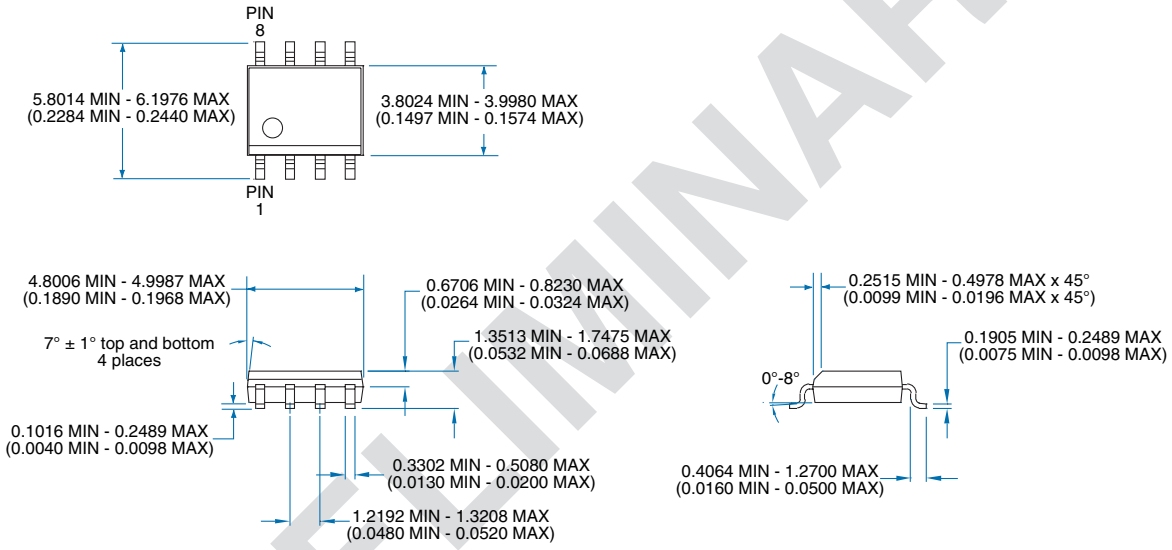
Manufacturing Information

Soldering
Recommended soldering processes are limited to 245ºC component body temperature for 10 seconds.

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

MECHANICAL DIMENSIONS

8-Pin SOIC



Dimensions:
mm
(inches)

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

Specification: DS-CPC1822-R0B

8/23/05