



Features

- 16 Pin SOIC Package (PCMCIA Compatible)
- Couples Analog and Digital Signals
- Wide Bandwidth (>200kHz)
- High Gain Stability
- Low Input/Output Capacitance
- Low Power Consumption
- 0.01% Servo Linearity
- THD 87dB Typical
- Machine Insertable, Wave Solderable
- Surface Mount and Tape Reel Versions Available

Applications

- Modem Transformer Replacement With No Insertion Loss
- Digital Telephone Isolation
- Power Supply Feedback Voltage/Current
- Medical Sensor Isolation
- Audio Signal Interfacing
- Isolation of Process Control Transducers

Description

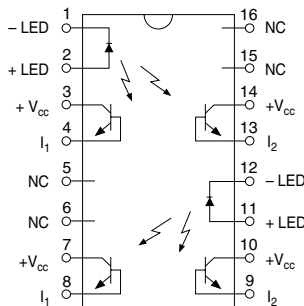
The LOC211P Dual Linear Optocoupler features an infrared LED optically coupled with two phototransistors. One feedback (input) phototransistor is used to generate a control signal that provides a servomechanism to the LED drive current, thus compensating for the LEDs nonlinear time and temperature characteristics. The other (output) phototransistor provides an output signal that is linear with respect to the servo LED current. The product features wide bandwidth, high input to output isolation and excellent servo linearity.

Approvals

- UL Recognized: File Number E76270
- CSA Certified: File Number LR 43639-10
- Certified to:
 - EN 60950
 - EN 41003

Pin Configuration

LOC211 Pinout



Ordering Information

| Part # | Description |
|-----------|-----------------------------|
| LOC211P | 16 Pin Flatpack (50/Tube) |
| LOC211PTR | 16 Pin Flatpack (1000/Reel) |

K3 Sorted Bins

| |
|-----------------------|
| Bin 1 = 0.733 - 0.886 |
| Bin 2 = 0.887 - 1.072 |

Bin Matrix

| Suffix | Bin | |
|--------|-----------------------|---------------------------|
| | Top Pole Optocoupler* | Bottom Pole Optocoupler** |
| K | 1 | 1 |
| L | 1 | 2 |
| M | 2 | 1 |
| N | 2 | 2 |

*Top Pole Optocoupler: Pins 1,2,3,4,13, and 14
 **Bottom Pole Optocouplers: Pins 7 through 12

- Orders for the LOC211P product will be shipped using bins available at the date of the order. Any bin can be shipped.

Part Number Information

The LOC211 are shipped in anti-static tubes (50 pieces each) or tape/reel (1,000 pieces each). Each container has only 1 bin combination which will be branded on each part with the appropriate bin letter K, L, M, or N in the lower right hand corner. Suffix representation is described in the "Bin Matrix".

Absolute Maximum Ratings (@ 25° C)

| Parameter | Min | Typ | Max | Units |
|---|------|-----|------------------|------------------|
| Input Power Dissipation | - | - | 150 ¹ | mW |
| Input Control Current | - | - | 100 | mA |
| Input LED Reverse Voltage | - | - | 5 | V |
| Peak (10ms) | - | - | 1 | A |
| Total Package Dissipation | - | - | 800 ² | mW |
| Isolation Voltage Input to Output | 3750 | - | - | V _{RMS} |
| Operational Temperature | -40 | | +85 | °C |
| Storage Temperature | -40 | - | +125 | °C |
| Soldering Temperature (10 Seconds Max) | - | - | +220 | °C |

¹ Derate Linearly 1.33 mW/°C

² Derate Linearly 6.67 mW/°C

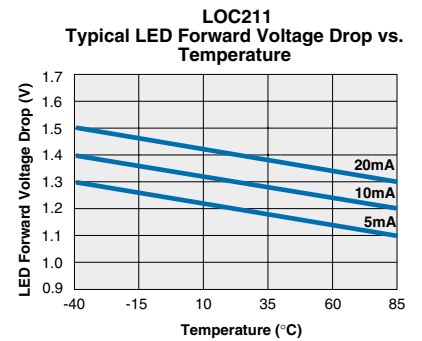
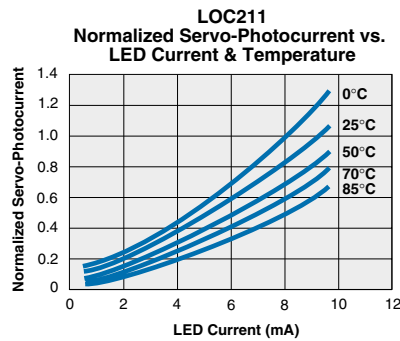
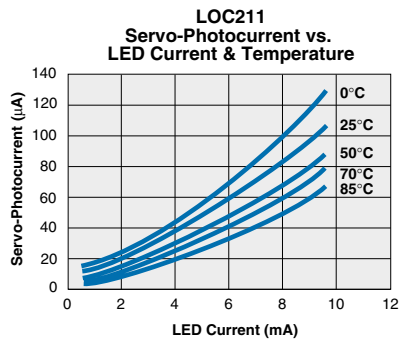
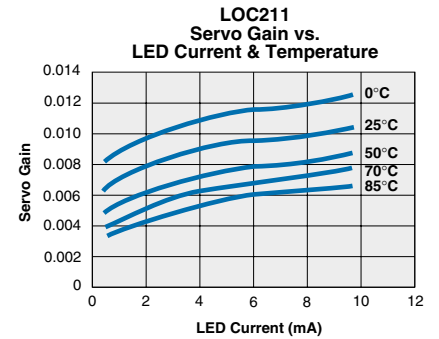
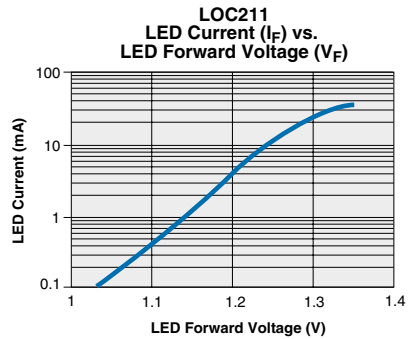
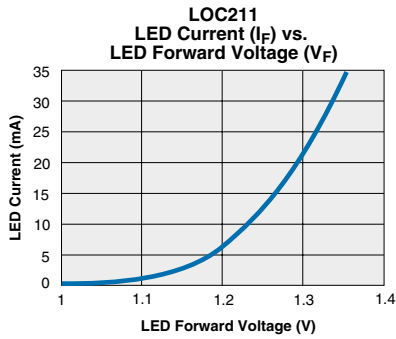
Absolute Maximum Ratings are stress ratings. Stresses in excess of these ratings can cause permanent damage to the device. Functional operation of the device at conditions beyond those indicated in the operational sections of this data sheet is not implied.

Electrical Characteristics

| Parameter | Conditions | Symbol | Min | Typ | Max | Units |
|---|---|------------------|-------|-------|-------|-------|
| Input Characteristics @ 25°C | | | | | | |
| LED Voltage Drop | I _F =2-10mA | V _F | 0.9 | 1.2 | 1.4 | V |
| Reverse LED Current | V _R =5V | I _R | - | - | 10 | µA |
| Coupler/Detector Characteristics @ 25°C | | | | | | |
| Dark Current | I _F =0mA, V _{CC} =15V | I _D | - | 1 | 25 | nA |
| K1, Servo Gain (I ₁ /I _F) | I _F =2-10mA, V _{CC} =15V | K1 | 0.008 | - | 0.030 | - |
| K2, Forward Gain (I ₂ /I _F) | I _F =2-10mA, V _{CC} =15V | K2 | 0.006 | - | 0.030 | - |
| K3, Transfer Gain (K ₂ /K ₁) | I _F =2-10mA, V _{CC} =15V | K3 | 0.733 | - | 1.072 | - |
| ΔK3, Transfer Gain Linearity (non-servoed) | I _F =2-10mA | ΔK3 | - | - | 1.0 | % |
| K3 Temperature Coefficient | I _F =2-10mA, V _{det} =-5V | ΔK3/ΔT | - | 0.005 | - | %/°C |
| Common Mode Rejection Ratio | V=20V _{p-p} , R _L =2KΩ, F=100Hz | CMRR | - | 130 | - | dB |
| Total Harmonic Distortion | F ₀ =350Hz, 0dBm | THD | -96 | -87 | -80 | dB |
| Frequency Response | Photoconductive Operation | BW (-3dB) | - | 200 | - | kHz |
| | Photovoltaic Operation | BW (-3dB) | - | - | 40 | kHz |
| Input/Output Capacitance | - | C _{I/O} | - | 3 | - | pF |

NOTE: All parameters above are for each optocoupler.

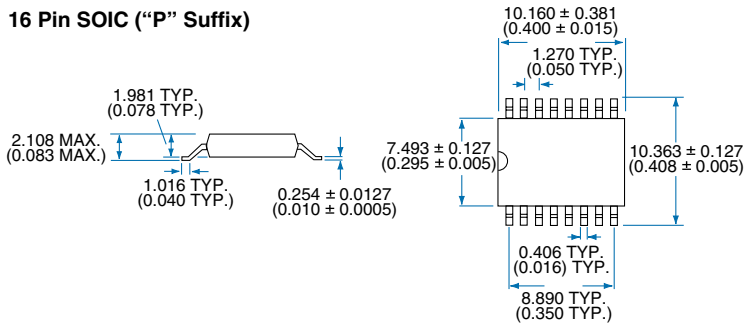
PERFORMANCE DATA*



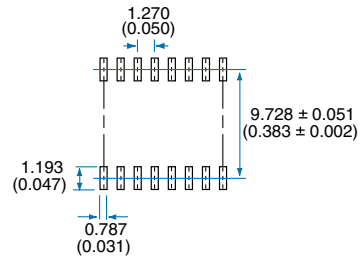
* The Performance data shown in the graphs above is typical of device performance. For guaranteed parameters not indicated in the written specifications, please contact our application department.

MECHANICAL DATA

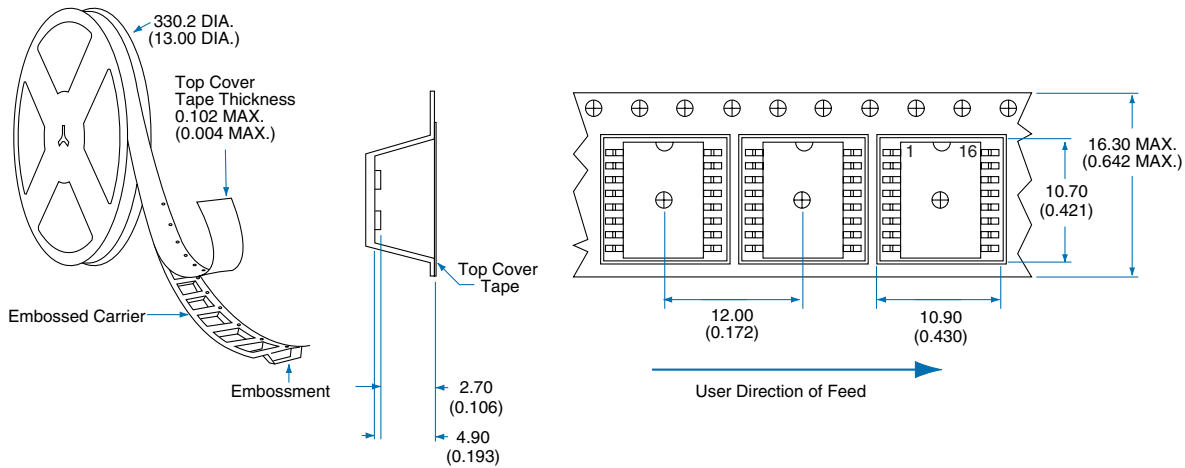
16 Pin SOIC ("P" Suffix)



PC Board Pattern (Top View)



Tape and Reel Packaging for 16 Pin SOIC Package



Dimensions
mm
(inches)

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

Clare, Inc. makes no representations or warranties with respect to the accuracy or completeness of the contents of this publication and reserves the right to make changes to specifications and product descriptions at any time without notice. Neither circuit patent licenses nor indemnity are expressed or implied. Except as set forth in Clare's Standard Terms and Conditions of Sale, Clare, Inc. assumes no liability whatsoever, and disclaims any express or implied warranty, relating to its products including, but not limited to, the implied warranty of merchantability, fitness for a particular purpose, or infringement of any intellectual property right.

The products described in this document are not designed, intended, authorized or warranted for use as components in systems intended for surgical implant into the body, or in other applications intended to support or sustain life, or where malfunction of Clare's product may result in direct physical harm, injury, or death to a person or severe property or environmental damage. Clare, Inc. reserves the right to discontinue or make changes to its products at any time without notice.



Стандарт Электрон Связь

Мы молодая и активно развивающаяся компания в области поставок электронных компонентов. Мы поставляем электронные компоненты отечественного и импортного производства напрямую от производителей и с крупнейших складов мира.

Благодаря сотрудничеству с мировыми поставщиками мы осуществляем комплексные и плановые поставки широчайшего спектра электронных компонентов.

Собственная эффективная логистика и склад в обеспечивает надежную поставку продукции в точно указанные сроки по всей России.

Мы осуществляем техническую поддержку нашим клиентам и предпродажную проверку качества продукции. На все поставляемые продукты мы предоставляем гарантию .

Осуществляем поставки продукции под контролем ВП МО РФ на предприятия военно-промышленного комплекса России , а также работаем в рамках 275 ФЗ с открытием отдельных счетов в уполномоченном банке. Система менеджмента качества компании соответствует требованиям ГОСТ ISO 9001.

Минимальные сроки поставки, гибкие цены, неограниченный ассортимент и индивидуальный подход к клиентам являются основой для выстраивания долгосрочного и эффективного сотрудничества с предприятиями радиоэлектронной промышленности, предприятиями ВПК и научно-исследовательскими институтами России.

С нами вы становитесь еще успешнее!

Наши контакты:

Телефон: +7 812 627 14 35

Электронная почта: sales@st-electron.ru

Адрес: 198099, Санкт-Петербург,
Промышленная ул, дом № 19, литера Н,
помещение 100-Н Офис 331