



# COM - TECH

# CT-201ADM-883

A DIVISION OF SEMITRONICS CORP.  
**MOSFET DRIVER WITH ACTIVE DISCHARGE**

## FEATURES

- Active gate discharge circuitry
- Optical isolation
- High isolation voltage
- Fast turn off speed
- Low off state output impedance

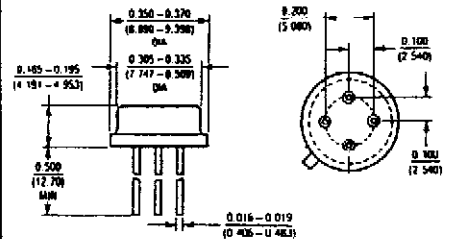
## APPLICATIONS

- High side switching
- Solid state relays
- Process Controls
- Robotics
- Automatic Test Equipment
- Automotive Applications
- Programmable Controllers, etc.

## 4 PIN TO-5



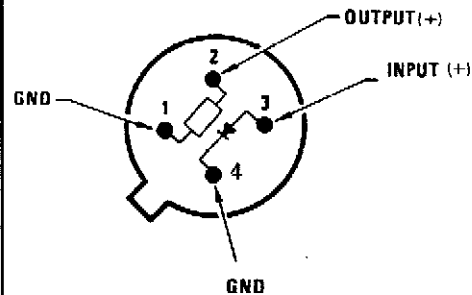
## PACKAGE OUTLINE



## DESCRIPTION

The CT-201ADD is an isolated photovoltaic Mosfet driver used when a high degree of electrical isolation is required. The driver can isolate the Mosfet from more sensitive control circuitry and enable the source and drain connections to reach any potential within the range of the isolation voltage. High photo efficiency produces fast turn on. A low off state impedance insures fast turn off and immunity from dv/dt when the Mosfet is in the off state.

The typical input circuit is a limiting resistor connected in series with the input Led. When activated, Infrared energy is optically coupled to a photovoltaic diode array producing a voltage which charges the gate of the Mosfet being driven. When current to the Led is turned off the gate of the Mosfet is discharged and held in a low impedance state. The CT-201ADD is packaged in an 8 pin side brazed hermetic package and is rated over the full military temperature range. Hi-Rel screening is available.



## Absolute Maximum Ratings

Led Forward Current	Steady State .....	50 ma
Led Forward Current	Peak 10 % Duty Cycle .....	75 ma
Led Reverse Voltage	Reverse Current, -10 ua .....	5 V
Output Voltage	Open Circuit .....	16 V
Output Current	I Led = 50ma .....	75 ua
Operating Temperature	.....	-55 C to +125 C
Storage Temperature	.....	-55 C to +150 C

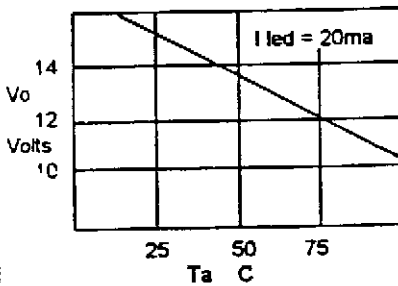
## Electrical Characteristics

25 C unless otherwise noted

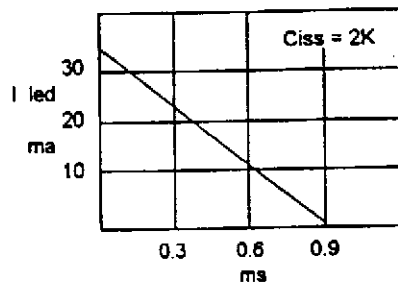
PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
Short Circuit current	Isc	I Led = 10 ma , Vo = 0 V	18	23		ua
		I Led = 20 ma , Vo = 0 V	35	43		ua
		I Led = 30 ma , Vo = 0 V	55	65		ua
Open Circuit Voltage	Voc	I Led = 10 ma	13.0	14.0		V
		I Led = 20 ma	13.5	14.5		V
		I Led = 30 ma	14.0	15.0		V
Led Forward Voltage	Vf led	I Led = 20ma		1.3	1.5	V
Led Reverse Current	Ir Led	Vr = -5V	-5.0	-0.1		ua
Off State Voltage	V off	I led = 0.0 ma lo = -10 ua		0.65	0.85	V
Isolation Voltage	V iso	All input pins to all output pins	1000			V DC

### Typical characteristics

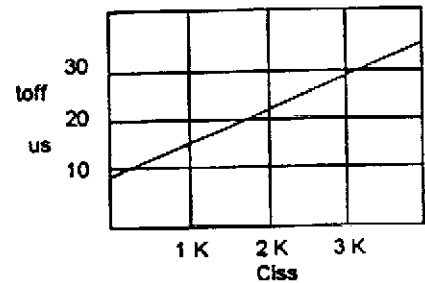
Vo vs Temperature



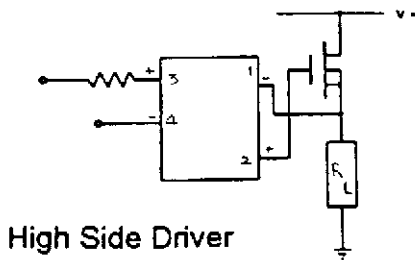
Turn On Time vs I led



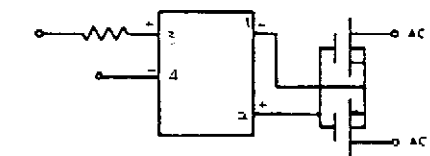
Turn off Time vs Ciss



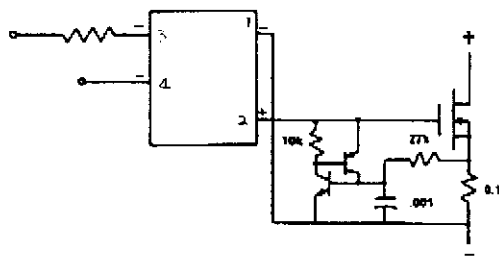
### Typical Applications



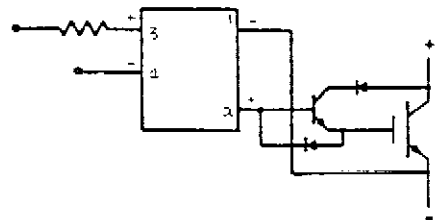
High Side Driver



AC Solid State Relay



DC Relay with Short Circuit Production



IGBT Driver