



COM - TECH

A DIVISION OF SEMITRONICS CORP.

MOSFET DRIVER WITH ACTIVE DISCHARGE

CT-201HDD-883

FEATURES

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

APPLICATIONS

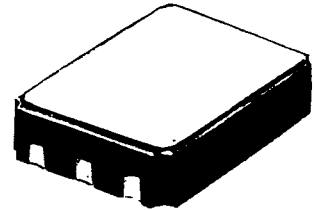
- High side switching
- Solid state relays
- Process Controls
- Robotics
- Automatic Test Equipment
- Automotive Applications
- Programmable Controllers, etc.

DESCRIPTION

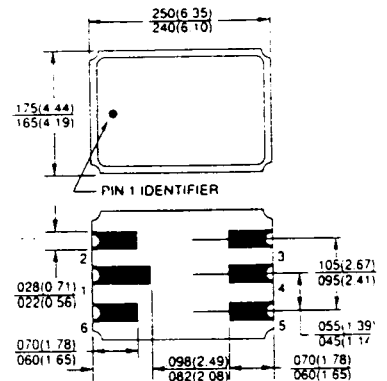
The CT-201HDD is an isolated photovoltaic Mosfet driver used when a high degree of electrical isolation is required. The driver can isolate the Mosfet from more sensitive control circuitry and enable the source and drain connections to reach any potential within the range of the isolation voltage. High 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-201HDD is packaged in an 6 pin leadless chip carrier package and is rated over the full military temperature range. Hi-Rel screening is available as denoted by an 883 suffix in the part number.

6 LEAD LCC



PACKAGE OUTLINE



PIN ASSIGNMENTS

1. LED ANODE
2. LED CATHODE
3. NC
4. MOSFET GATE OUTPUT
5. NC
6. MOSFET SOURCE

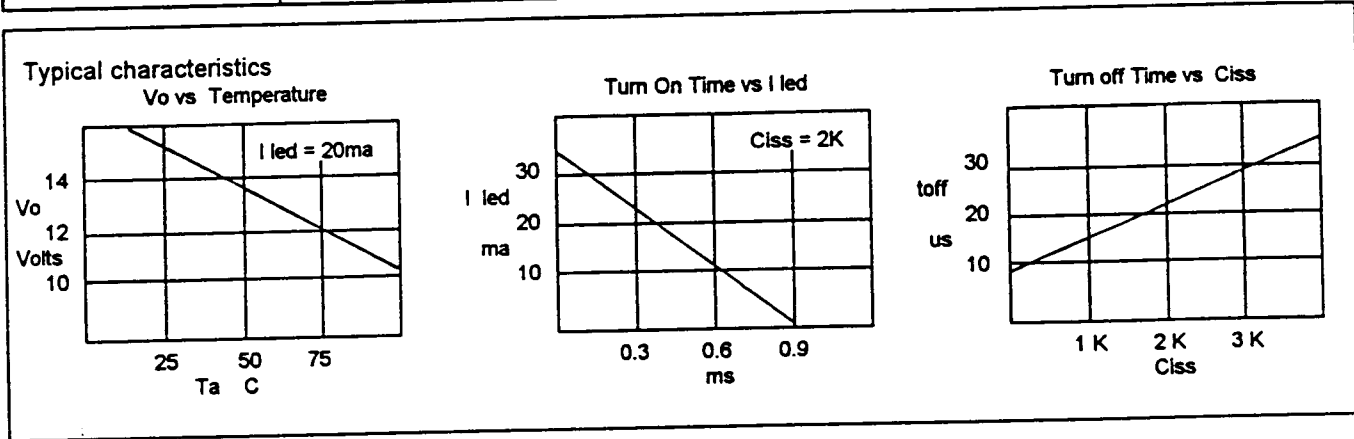
Absolute Maximum Ratings

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

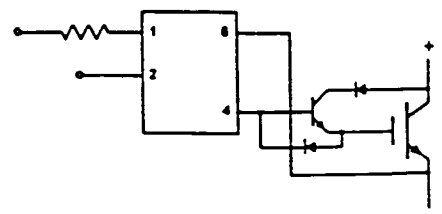
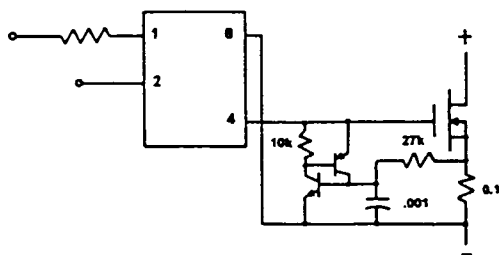
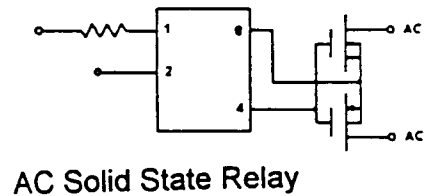
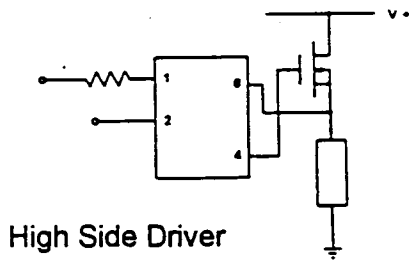
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Electrical Characteristics			25 C unless otherwise noted			
PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
Short Circuit current	Isc	I Led = 10 ma , Vo = 0 V	18	23		ua
		I Led = 20 ma , Vo = 0 V	35	43		ua
		I Led = 30 ma , Vo = 0 V	55	65		ua
Open 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 Applications



DC Relay with Short Circuit Protection

IGBT Driver