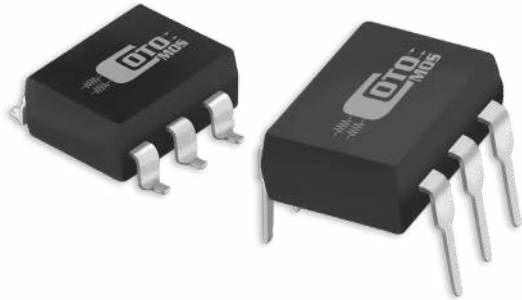


## Description

The CT140 and CS140 combine Coto quality and economy in an industry standard 6 pin DIP package. Both the CT140 and the CS140 offer high voltage switching and high load current. The CT140 utilizes a thru hole lead configuration, while the CS140 offers a surface mount option when the application requires it. Both relays are ideally suited to the needs of Test and Measurement, Solar, and Battery Management.

## Device Package



## Features

- ▶ Contact Form: 1A
- ▶ Load Voltage: 1500V Maximum
- ▶ Operation LED Current: 5.0mA Maximum
- ▶ Load Current: 45mA A(AC), 50mA B(DC), 75mA C(DC)
- ▶ 3750 / 5000 Vrms InputOutput Isolation
- ▶ Output Capacitance: 58pF Typical
- ▶ Low Off-State Leakage Current: 10µA Maximum

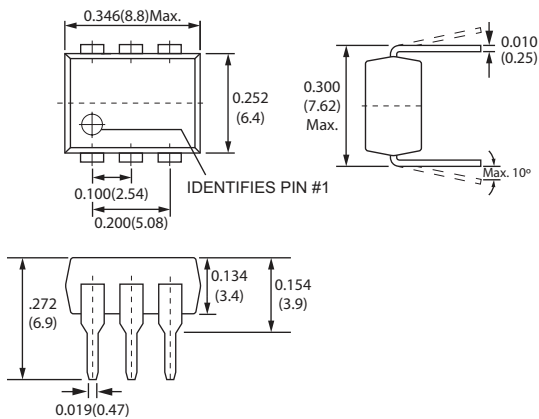
## Applications

- ▶ Telecommunications (PC, Electronic notepad).
- ▶ Measuring and testing equipment.
- ▶ Industrial control.
- ▶ Automatic meter reading device.
- ▶ High inspection machine Arc-Free with no snubbing circuits

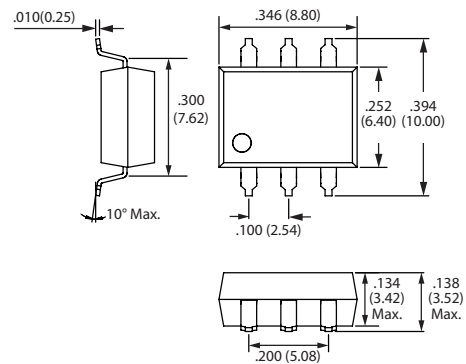
## DIMENSIONS

*in Inches (Millimeters)*

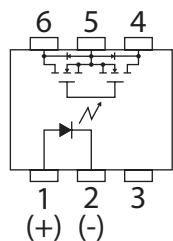
CT140



CS140

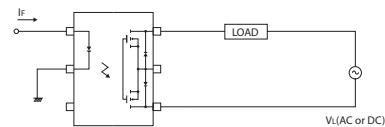


### Terminal Identification

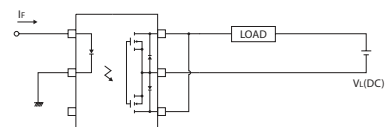


- |                  |                      |
|------------------|----------------------|
| 1: Anode (LED)   | 4,6: Drain (MOS FET) |
| 2: Cathode (LED) | 5: Source (MOS FET)  |
| 3: NC            |                      |

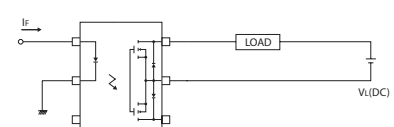
### CONNECTIONS



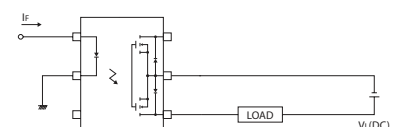
**A** Control bi-directional signal



**C** On-Resistance is 1/2 of B-connection



**B** On-Resistance is 1/2 of A-connection



## Specifications

### Absolute Maximum Ratings

Parameters		Symbol	Rating	Unit
Input	Continuous LED Current	$I_F$	50	mA
	Peak LED Current (f=100 Hz, duty=1%)	$I_{FP}$	1000	mA
	LED Reverse Voltage	$V_R$	5	V
	Input Power Dissipation	$P_{In}$	75	mW
Output	Load Voltage	$V_L$	1500	V (AC peak or DC)
	Load Current	$I_L$	A	45mA (AC)
			B	50mA (DC)
			C	75mA (DC)
	Peak Load Current	$I_{Peak}$	180	mA
Output Power Dissipation	$P_{out}$	450	mW	
Total Power Dissipation		$P_T$	500	mW
I/O Breakdown Voltage (RH=60%, 1 min)		$V_{I/O}$	3750	Vrms
I/O Breakdown Voltage (suffix-V) (RH=60%, 1 min)		$V_{I/O}$	5000	Vrms
Operating Temperature		$T_{opr}$	-40 to +85	°C
Storage Temperature		$T_{stg}$	-40 to +100	°C
Pin Soldering Temperature (10 sec. max)		$T_{sol}$	260	°C

### Electro-Optical Characteristics

Parameters		Symbol	Conditions	Min.	Typ.	Max.	Unit
Input	LED Forward Voltage	$V_F$	$I_F=10mA$		1.2	1.5	V
	Operation LED Current	$I_{FON}$		0.7	0.8	5.0	mA
	Recovery LED Voltage	$V_{FOFF}$			0.35	0.5	V
Output	On-Resistance Drain to Drain	$R_{on}$	$I_F=10mA, I_L=Rating$ $I_F=10mA, I_L<5mA$		130 220	200 300	$\Omega$
	Off-State Leakage Current	$I_{LEAK}$	$I_F=0mA, V_L=1500V$			10	$\mu A$
	Output Capacitance	$C_{out}$	$V_L=0V, f=1MHz$		58		pF
Trans- mission	Turn-On Time	$T_{ON}$	$I_F=10mA, I_L=Rating$		0.3	1.0	ms
	Turn-Off Time	$T_{OFF}$			0.3	0.2	ms
Coupled	I/O Isolation Resistance	$R_{I/O}$		$10^{10}$			$\Omega$
	I/O Capacitance	$C_{I/O}$	$f=1MHz$		0.8	1.5	pF

### Environmental Ratings:

Operating Temp: -40°C to +85°C; Storage Temp: -40 to +100 C.