



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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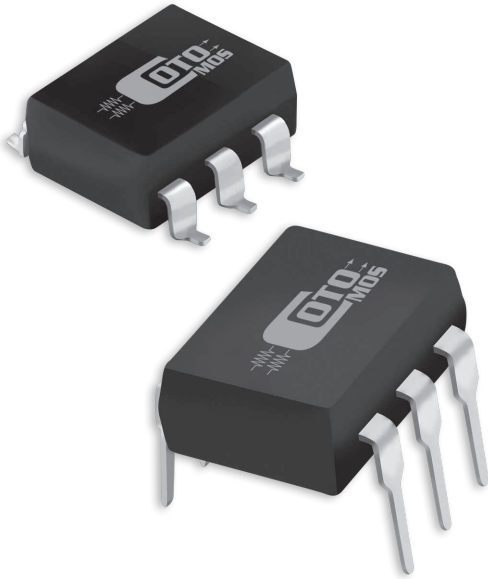


**CotoMOS® CT140/CS140**

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.

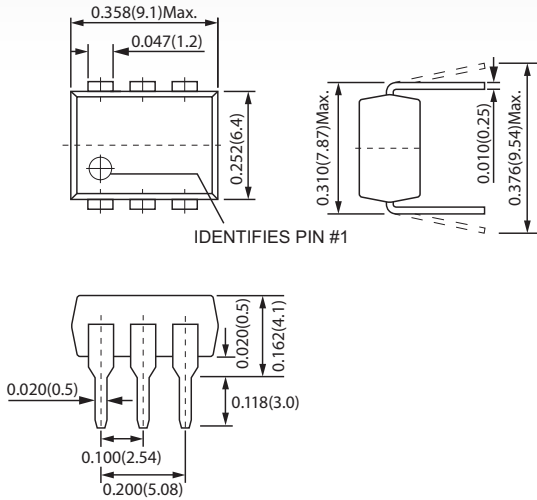
**CT140/CS140 Features**

- ▶ Contact Form: 1A
- ▶ Load Voltage: 1500V Maximum
- ▶ Operation LED Current: 5.0mA Maximum
- ▶ Load Current: 45mA Maximum
- ▶ On-Resistance: 180Ω Typical
- ▶ Low Off-State Leakage Current: 10μA Maximum
- ▶ I/O Breakdown Voltage: 3750Vrms Minimum
- ▶ Suffix - H for I/O Breakdown Voltage: 5000Vrms Minimum

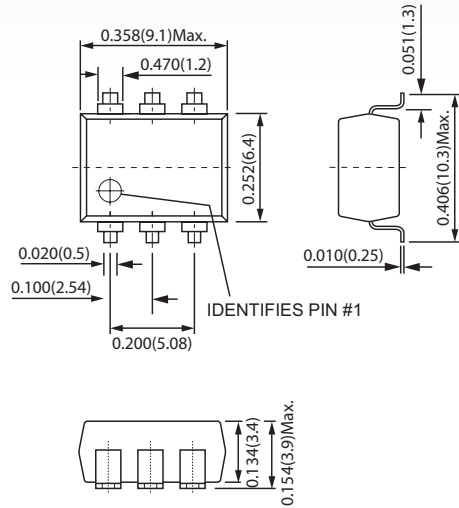


**DIMENSIONS**  
*in Inches (Millimeters)*

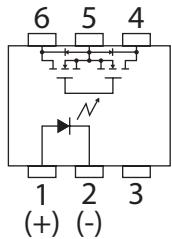
CT140



CS140

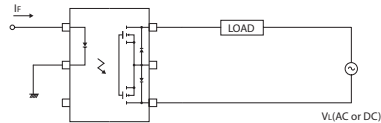


**TERMINAL IDENTIFICATION**

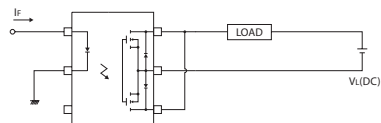


- |                  |                      |
|------------------|----------------------|
| 1: Anode (LED)   | 4,6: Drain (MOS FET) |
| 2: Cathode (LED) | 5: Source (MOS FET)  |
| 3: NC            |                      |

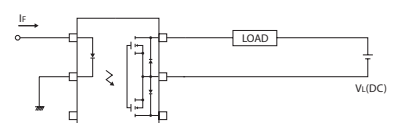
**CONNECTIONS**



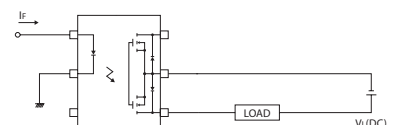
**A** Control bi-directional signal



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



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



| CT140/CS140 MAXIMUM RATINGS (Ambient Temperature: 25°C)   |                   |                   |            |                 |
|---|-------------------|-------------------|------------|-----------------|
| Parameters  | Symbol            | Units             | Value      |                 |
| <b>INPUT SPECIFICATIONS</b>                               |                   |                   |            |                 |
| Continuous LED Current                                    | I <sub>F</sub>    | mA                | 50         |                 |
| Peak LED Current  | I <sub>FP</sub>   | mA                | 500        |                 |
| LED Reverse Voltage                                       | V <sub>R</sub>    | V                 | 5          |                 |
| Input Power Dissipation                                   | P <sub>in</sub>   | mW                | 75         |                 |
| <b>OUTPUT SPECIFICATIONS</b>                              |                   |                   |            |                 |
| Load Voltage  | V <sub>L</sub>    | V (AC peak or DC) | 1500       |                 |
| Load Current<br><i>(See connections on previous page)</i> | I <sub>L</sub>    | mA                | A          | 45mA (AC or DC) |
|   |                   |                   | B          | 50mA (DC)       |
|   |                   |                   | C          | 70mA (DC)       |
| Peak Load Current   | I <sub>Peak</sub> | mA                | 200        |                 |
| Output Power Dissipation                                  | P <sub>Out</sub>  | mW                | 450        |                 |
| <b>RELAY SPECIFICATIONS</b>                               |                   |                   |            |                 |
| Total Power Dissipation                                   | P <sub>T</sub>    | mW                | 500        |                 |
| I/O Breakdown Voltage                                     | V <sub>I/O</sub>  | V <sub>rms</sub>  | 3750       |                 |
| Operating Temperature                                     | T <sub>OpR</sub>  | °C                | -40 ~ +85  |                 |
| Storage Temperature                                       | T <sub>Stg</sub>  | °C                | -40 ~ +100 |                 |

| CT140/CS140 ELECTRICAL SPECIFICATIONS (Ambient Temperature: 25°C) |                    |   |       |                  |            |            |
|---|--------------------|---|-------|------------------|------------|------------|
| Parameters  | Symbol             | Test Conditions   | Units | Min              | Typ        | Max        |
| <b>INPUT</b>  |                    |   |       |                  |            |            |
| LED Forward Voltage   | V <sub>F</sub>     | I <sub>F</sub> =10mA  | V     | 1.0              | 1.17       | 1.5        |
| Operation LED Current   | I <sub>F On</sub>  |   | mA    |                  | 0.9        | 5.0        |
| Recovery LED Voltage  | V <sub>F Off</sub> |   | V     | 0.5              | 1.0        |            |
| <b>OUTPUT</b>   |                    |   |       |                  |            |            |
| On-Resistance<br>Drain to Drain                                   | R <sub>On</sub>    | I <sub>F</sub> =10mA, I <sub>L</sub> =Rating<br>I <sub>F</sub> =10mA, I <sub>L</sub> <5mA | Ω     |                  | 110<br>180 | 200<br>300 |
| Off-State Leakage Current   | I <sub>Leak</sub>  | I <sub>F</sub> =0mA, V <sub>L</sub> =1500V  | μA    |                  |            | 10         |
| Output Capacitance  | C <sub>Out</sub>   | V <sub>L</sub> =0V, f=1MHz  | pF    |                  | 83         |            |
| <b>TRANSMISSION</b>   |                    |   |       |                  |            |            |
| Turn-On Time  | T <sub>On</sub>    | I <sub>F</sub> =10mA, I <sub>L</sub> =Rating  | ms    |                  | 0.3        | 1.0        |
| Turn-Off Time   | T <sub>Off</sub>   |   | ms    |                  | 0.04       | 0.5        |
| <b>COUPLED</b>  |                    |   |       |                  |            |            |
| I/O Insulation Resistance   | R <sub>I/O</sub>   |   | Ω     | 10 <sup>10</sup> |            |            |
| I/O Capacitance   | C <sub>I/O</sub>   | f=1MHz  | pF    |                  | 1.3        |            |

#### Environmental Ratings:

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

# 40 SERIES GRAPHS

