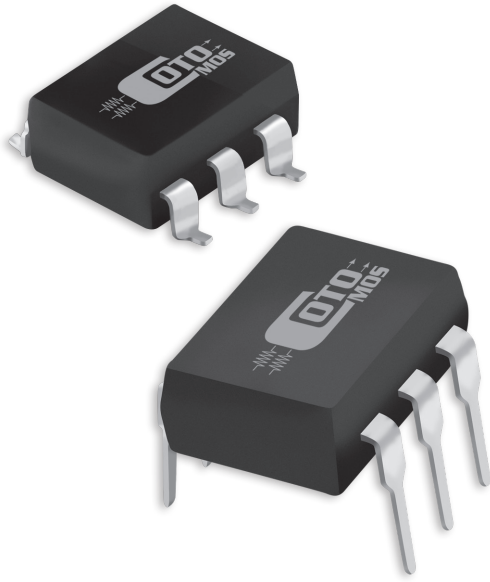


CotoMOS[®] CT139/CS139

The CT139 and CS139 combine Coto quality and economy in an industry standard 6-pin DIP package. The CT 139 and CS139 offer industry-leading switching capability in through-hole and surface-mount packages. Both relays can be configured to switch 50mA AC/DC in A-Configuration, 70mA DC in B-Configuration and 90mA in C-Configuration. See our Application Note entitled "How to Increase Your Current Capacity of 6-pin CotoMOS[®] Solid State MOSFET Relays by up to 100%" for additional details. Relays are ideally suited for Industrial, Battery Management and Test & Measurement Applications where high voltage switching is required.

CT139/CS139 Features

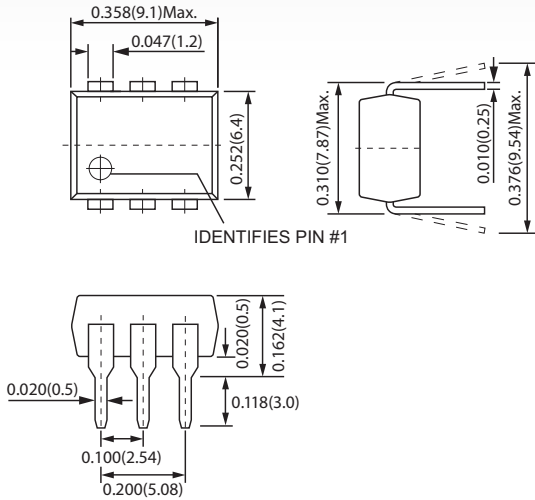
- ▶ Contact Form: 1A
- ▶ Load Voltage: 1000V Maximum
- ▶ Operation LED Current: 5.0mA Maximum
- ▶ Load Current: 50mA Maximum
- ▶ On-Resistance: 75Ω Typical
- ▶ Low Off-State Leakage Current: 10μA Maximum
- ▶ I/O Breakdown Voltage: 3750Vrms Minimum
- ▶ Suffix - H for I/O Breakdown Voltage: 5000Vrms Minimum



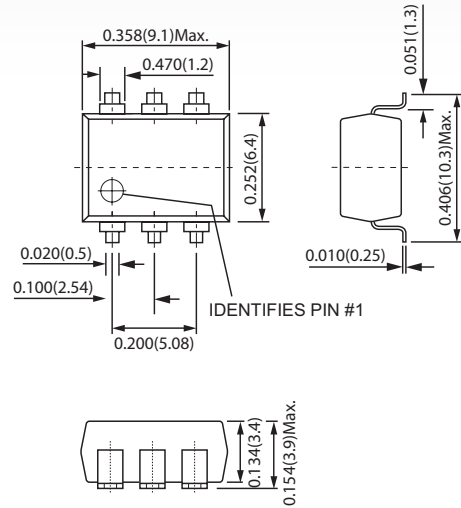
DIMENSIONS

in Inches (Millimeters)

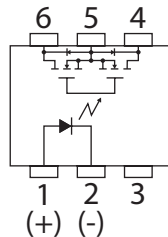
CT139



CS139



TERMINAL IDENTIFICATION



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

CT139/CS139 MAXIMUM RATINGS (Ambient Temperature: 25°C)			
Parameters	Symbol	Units	Value
INPUT SPECIFICATIONS			
Continuous LED Current	I _F	mA	50
Peak LED Current	I _{FP}	mA	500
LED Reverse Voltage	V _R	V	5
Input Power Dissipation	P _{in}	mW	75
OUTPUT SPECIFICATIONS			
Load Voltage	V _L	V (AC peak or DC)	1000
Load Current	I _L	mA	50 / 70 / 90
Peak Load Current	I _{Peak}	A	0.15
Output Power Dissipation	P _{Out}	mW	360
RELAY SPECIFICATIONS			
Total Power Dissipation	P _T	mW	410
I/O Breakdown Voltage	V _{I/O}	V _{rms}	3750
Operating Temperature	T _{Opr}	°C	-40 ~ +85
Storage Temperature	T _{Stg}	°C	-40 ~ +100

CT139/CS139 ELECTRICAL SPECIFICATIONS (Ambient Temperature: 25°C)						
Parameters	Symbol	Test Conditions	Units	Min	Typ	Max
INPUT						
LED Forward Voltage	V _F	I _F =10mA	V	1.0	1.17	1.5
Operation LED Current	I _{F On}		mA		0.9	5.0
Recovery LED Voltage	V _{F Off}		V	0.5	1.0	
OUTPUT						
On-Resistance Drain to Drain	R _{On}	I _F =10mA, I _L =Rating Time to flow is within 1 sec.	Ω		75	150
Off-State Leakage Current	I _{Leak}	I _F =0mA, V _L =1000V	μA			10
Output Capacitance	C _{Out}	V _L =0V, f=1MHz	pF		100	
TRANSMISSION						
Turn-On Time	T _{On}	I _F =10mA, I _L =Rating	ms		0.3	1.0
Turn-Off Time	T _{Off}		ms		0.04	0.5
COUPLED						
I/O Insulation Resistance	R _{I/O}		Ω	10 ¹⁰		
I/O Capacitance	C _{I/O}	f=1MHz	pF		1.3	

Environmental Ratings:

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

CT139/CS139 GRAPHS

