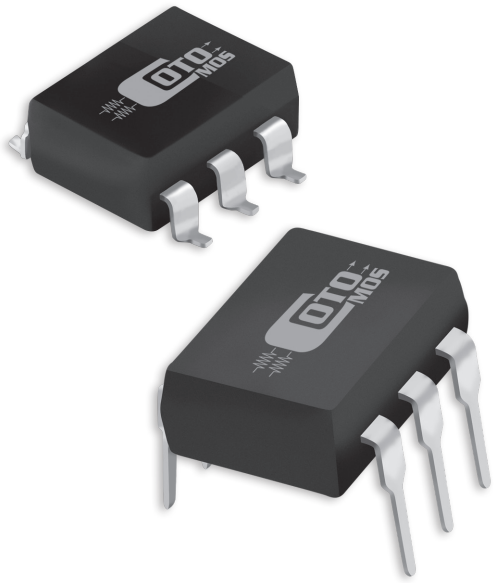
CT140/CS140



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.

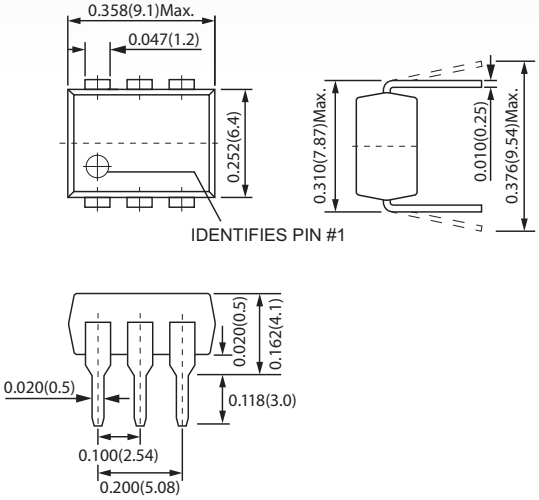
CT140/CS140 Features

- 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

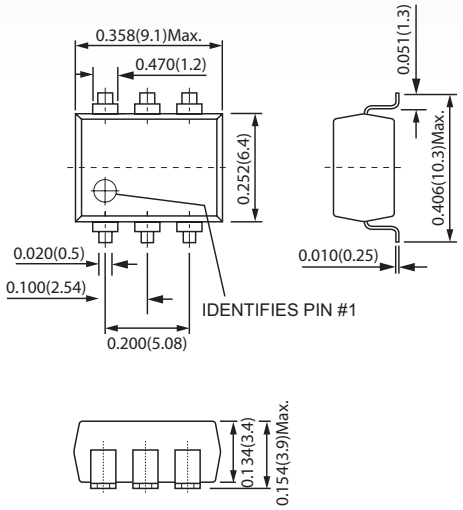
DIMENSIONS

in Inches (Millimeters)

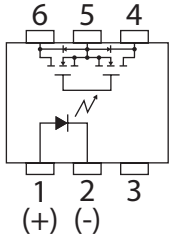
CT140



CS140

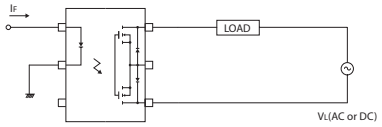


TERMINAL IDENTIFICATION

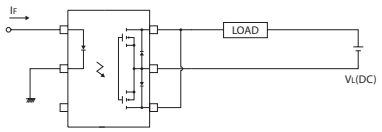


1: Anode (LED) 2: Cathode (LED) 3: NC	4,6: Drain (MOS FET) 5: Source (MOS FET)

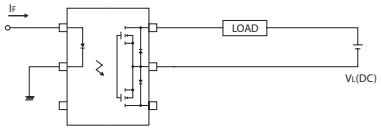
CONNECTIONS



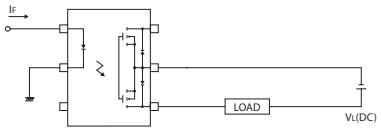
A Control bi-directional signal



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



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



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CT140/CS140 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)	1500	
Load Current *(See connections on previous page)*	I_L	mA	A	45mA (AC or DC)
			B	50mA (DC)
			C	70mA (DC)
Peak Load Current	I_{Peak}	mA	200	
Output Power Dissipation	P_{Out}	mW	450	
RELAY SPECIFICATIONS				
Total Power Dissipation	P_T	mW	500	
I/O Breakdown Voltage	$V_{I/O}$	Vrms	3750	
Operating Temperature	T_{Opr}	°C	-40 ~ +85	
Storage Temperature	T_{Stg}	°C	-40 ~ +100	

CT140/CS140 ELECTRICAL SPECIFICATIONS (Ambient Temperature: 25°C)

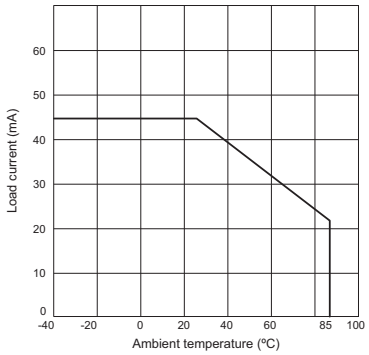
Parameters	Symbol	Test Conditions	Units	Min	Typ	Max
INPUT						
LED Forward Voltage	V_F	I_F=10mA	V	1.0	1.17	1.5
Operation LED Current	$I_{F\ On}$		mA		0.9	5.0
Recovery LED Voltage	$V_{F\ Off}$		V	0.5	1.0	
OUTPUT						
On-Resistance Drain to Drain	R_{On}	I_F=10mA, I_L=Rating I_F=10mA, I_L<5mA	Ω		110 180	200 300
Off-State Leakage Current	I_{Leak}	I_F=0mA, V_L=1500V	µA			10
Output Capacitance	C_{Out}	V_L=0V, f=1MHz	pF		83	
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:

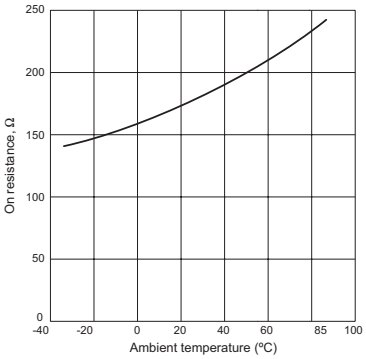
Operating Temp: -40°C to +85°C; Storage Temp: –40 to +100°C.

40 SERIES GRAPHS

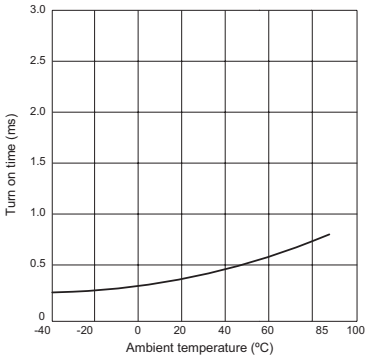
Load current Vs.
Ambient temperature



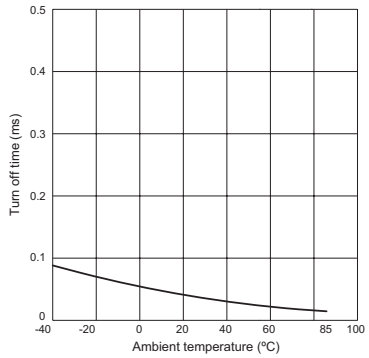
On resistance Vs.
Ambient temperature



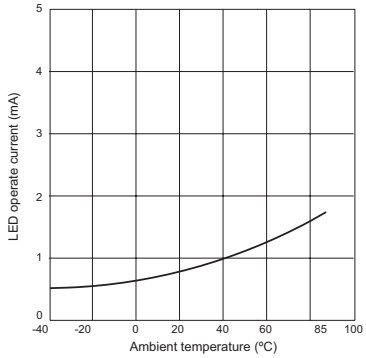
Turn on time Vs.
Ambient temperature



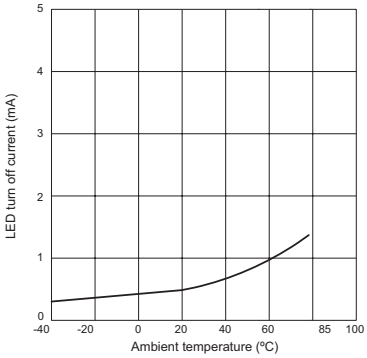
Turn off time Vs.
Ambient temperature



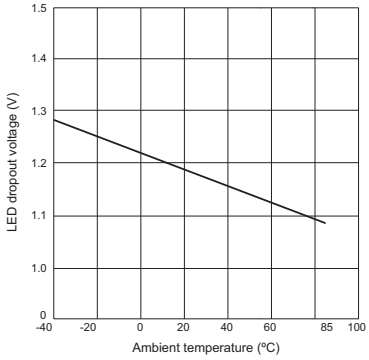
LED operate current Vs.
Ambient temperature



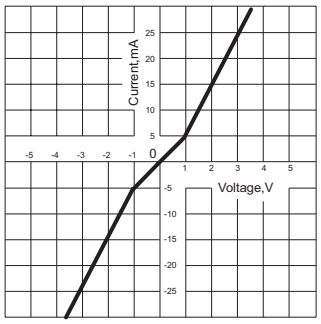
LED Turn off current Vs.
Ambient temperature



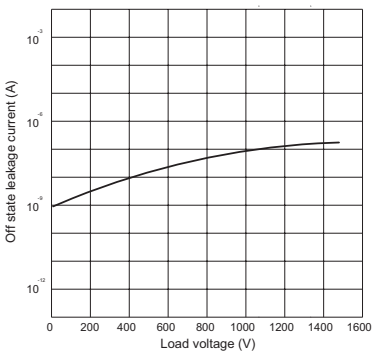
LED forward voltage Vs.
Ambient temperature



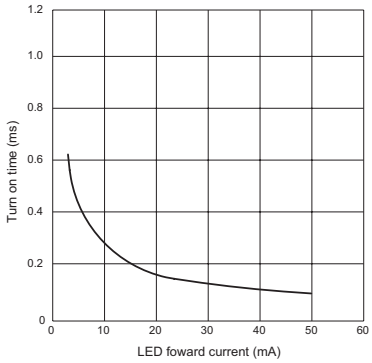
Voltage Vs. current characteristics
of output at MOS portion



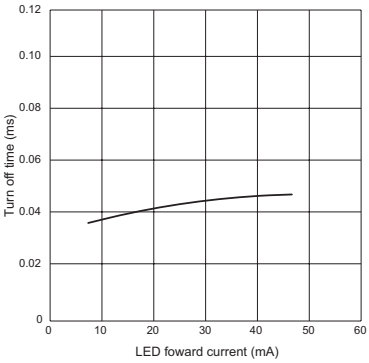
Off state leakage current



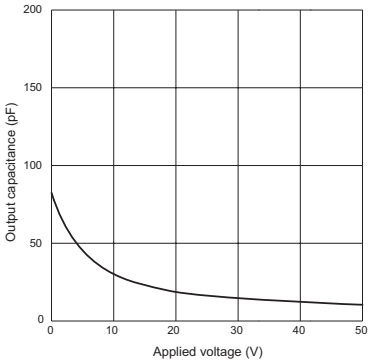
LED foward current Vs.
turn on time characteristics



LED foward current Vs.
turn off time characteristics



Applied voltage Vs.
output capacitance characteristics



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