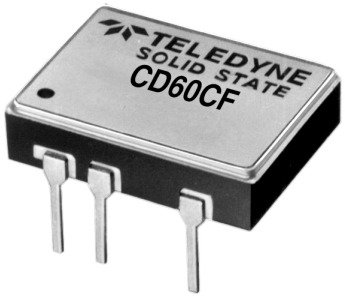
NORMALLY ON, OPTICALLY ISOLATED 0.5 A, 140 VDC

Part Number*	Relay Description
CD60CF	Normally ON DC Solid State Relay, 6 pin Dip Ceramic (for surface mount add “s” prefix)

* The Y suffix denotes parameters tested to MIL-PRF-28750 test methods. The W suffix denotes parameters tested to Teledyne specifications.



ELECTRICAL SPECIFICATION

(-55°C TO +105°C UNLESS OTHERWISE SPECIFIED)

INPUT (CONTROL) SPECIFICATION

	Min	Typ	Max	Units
Bias Voltage	3.8		6.0	Vdc
Bias Current @ 5 Vdc	18	21	25	mAdc
Control Voltage				
Turn-On	3.2			Vdc
Turn-Off			0.3	Vdc
Control Current	0		1	mAdc
Control Voltage Range	0		18	Vdc

OUTPUT (LOAD) SPECIFICATION

	Min	Typ	Max	Units
Output Current Rating (Continuous)			0.50	Adc
Operating V_{IIN} Voltage (Continuous)			140	Vdc
Output Voltage Drop @ Rated Load Current	0.15	0.90	1.9	Vdc
ON Resistance				
@ T_J = 25 °C			2.0	ohm
@ T_J = 105 °C			3.8	ohm
Leakage Current @ V_{IIN} = 140 Vdc			50	µA
Turn-On Time		100	250	µSec
Turn-Off Time		100	350	µSec
Electrical System Spike			±600	Vdc
Insulation Resistance	100			Mohm
Isolation (Input to Output Capacitance)		5		pF

FEATURES

- Two ohm maximum on resistance
- Normally open even with Bias (Vin) OFF
- TTL and CMOS compatible control
- Overload capacity
- Paralleling Capability
- Opto Isolated Control
- Low profile hermetic ceramic package
- Output transient protection
- Surface mount

APPLICATIONS

- **Protection circuits**
- **Normally on switch**

DESCRIPTION

Normally on solid state switches are electronic replacements for the conventional electromechanical relay with normally ON contactors.
Opto isolated control feature, high reliability, and low weight makes this normally ON solid state switch a good replacement for the electromechanical switch.
The control (input) and load (output) are optically isolated to protect input logic circuits from voltage and current transients which can occur on the output supply. The optical isolation also provides a full floating output, thus allowing the load to be connected to either output terminal. The control circuit is buffered to enable the relay to be driven directly from standard CMOS or open collector TTL logic circuits.

OUTPUT (LOAD) SPECIFICATION

	Min	Typ	Max	Units
Output Capacitance @ 25 Vdc, 100 Khz		200		pF
Overload Capacity				
V_{IN}= 0 Vdc or Open	1.28			A
(SSR P_D - Limit to 4.46 watt max. @ T_C = 25° C for 10 sec. max.)				
Dielectric Withstanding Voltage			750	Vac
Junction Temperature (T_J Max)			150	°C
Storage Temperature	-55		125	°C
Thermal Resistance Junction to Ambient (θ_{JA})			80	°C/W
Thermal Resistance Junction to Case (θ_{JC})			28	°C/W
Weight			2.0	gr

BLOCK DIAGRAM

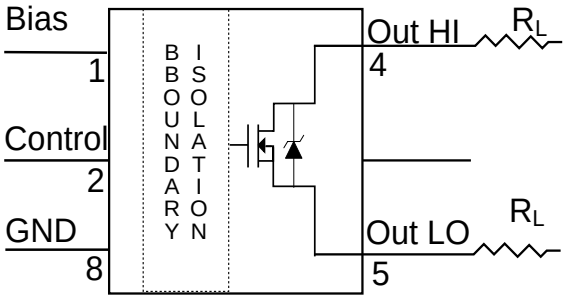
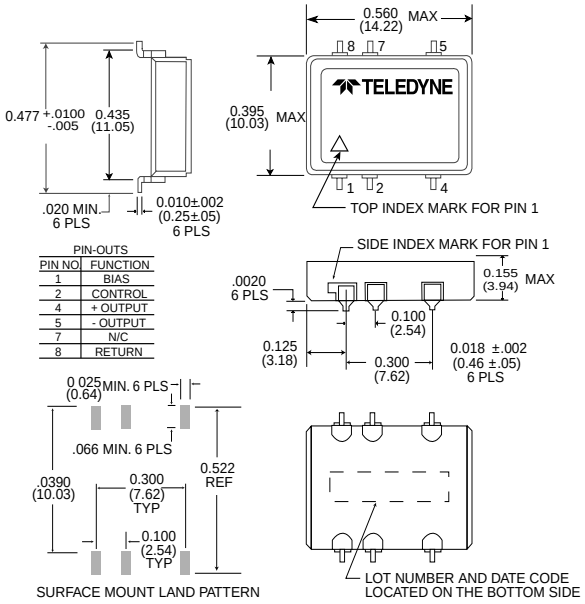
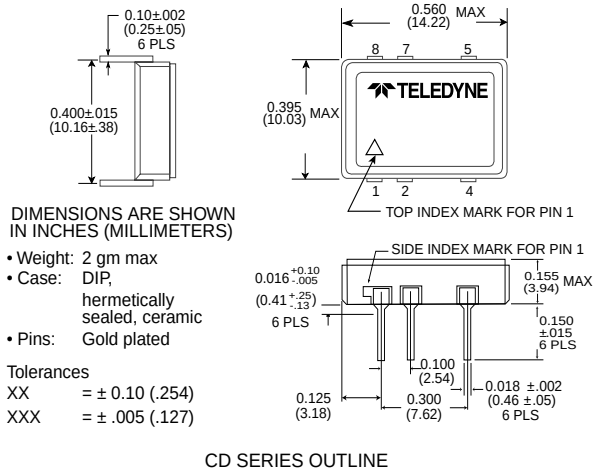


FIGURE 2

MECHANICAL SPECIFICATIONS



SCD SERIES OUTLINE



DIMENSIONS ARE SHOWN IN INCHES (MILLIMETERS)

- Weight: 2 gm max
- Case: DIP, hermetically sealed, ceramic
- Pins: Gold plated

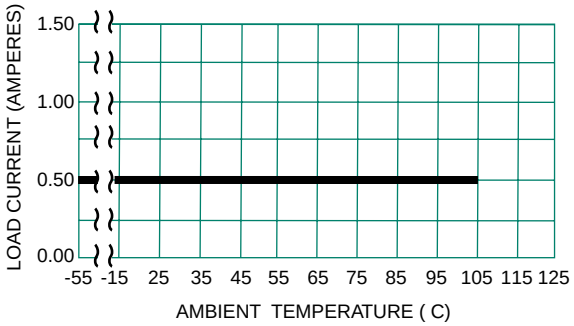
Tolerances
XX = ± 0.10 (.254)
XXX = ± .005 (.127)

CD SERIES OUTLINE

FIGURE 1

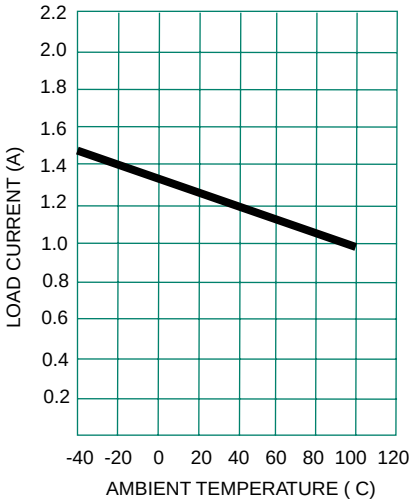
NOTES:

1. Control input is compatible with CMOS or TTL.
2. The rated input voltage is 5V for all tests unless otherwise specified.



OUTPUT CURRENT DERATING CURVE

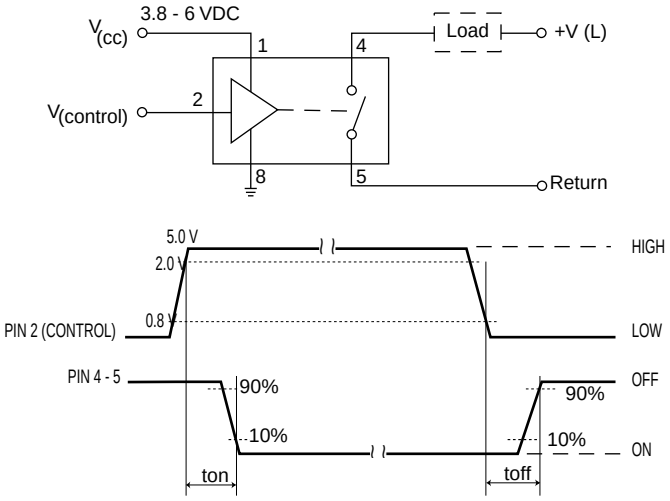
Figure 5



MINIMUM OVERLOAD CURRENT, NON REPETITIVE

(Pulse Tests)

Figure 7



TIMING DIAGRAM

Figure 6