



APPLICATION NOTE :
101

APPLICABLE SOCKETS:
SM-1000-003

FEATURES

- Small size and weight
- High-reliability design
- Hermetically sealed
- High transient immunity
- Compatible with M12883/52 & /53 socket module and track mount

Power supply	28Vdc
Qualified to	MIL-PRF-83726/25

PRINCIPLE TECHNICAL CHARACTERISTICS

Enclosure: Hermetic Sealed per MIL-STD-883, Method 1014	Yes
Finish:	Tin/lead Plate
Terminals: Gold Plate per MIL-G-45204 Type II, Class 2, Grade C	Plug-in
Weight :	0.56 oz. Max

DESCRIPTION

The TDH-1610 Time Delay Relays have been designed with thick film hybrid microelectronics timing circuits and are packaged in a hermetically sealed military style enclosure. The TDH-1610 series are qualified to MIL-PRF-83726/25 and designed to withstand severe environmental conditions encountered in military/aerospace applications. These relays are suited for use in power control, communication circuits and many other applications where power switching and high reliability are required over a wide temperature range.

ELECTRICAL SPECIFICATION

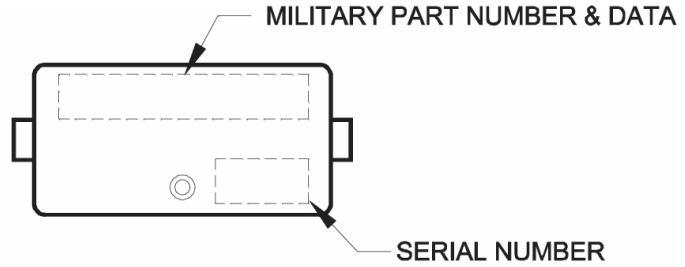
Input (Control) Parameters	
Timing:	
a. Operation, Time Delay on	Release
b. Method	Fixed Period
c. Range	0.05 to 500 Seconds [6]
d. Accuracy	±10% [1]
Recycle Time	10 ms, Max [5]
Operations: (X1-X2)	
a. Input & Control Voltage	20-30 Vdc
b. Operating Current	10 mA, Max @ +25° C
Transients: MIL-STD-704A, Limit 1	
a. Spike Susceptibility	+80 Volts Max
b. Positive, Transients	±600 Volts Max
c. Self-Generated	none
Electromagnetic Interference Per MIL-STD-461	Class 1D [3]
Power Loss	1ms [2]
Output (Load) Parameters	
Contact Form	SPST
Contact Rating:	150 mA
Voltage Drop, Maximum	2 Vdc
Leakage Current, Maximum:	
a. at 28 Vdc and 25° C	1 Microampere
b. at 28 Vdc and 125° C	10 Microamperes
Dielectric Strength:	
a. @ Sea Level, 60 Hz	1,000 Vrms [4]
b. @ 80,000 ft., 60 Hz	350 Vrms
Insulation Resistance @ 500 Vdc	1,000 M Ω [4]

GENERAL CHARACTERISTICS

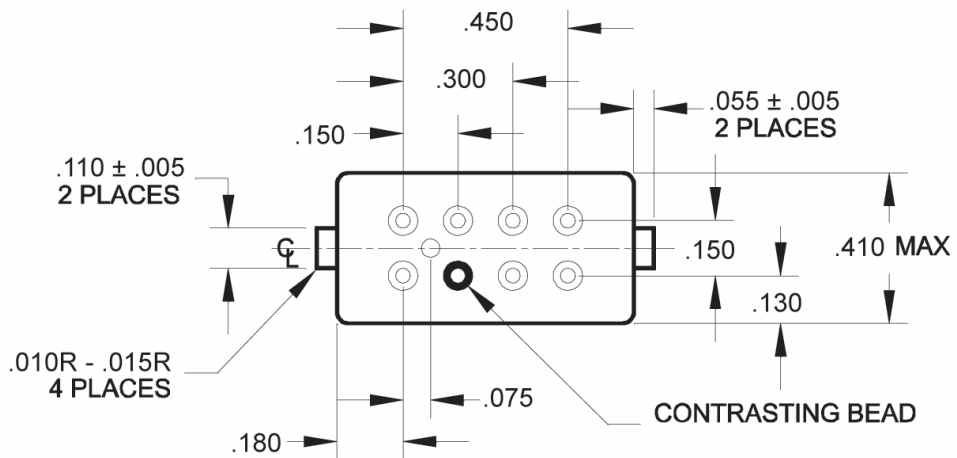
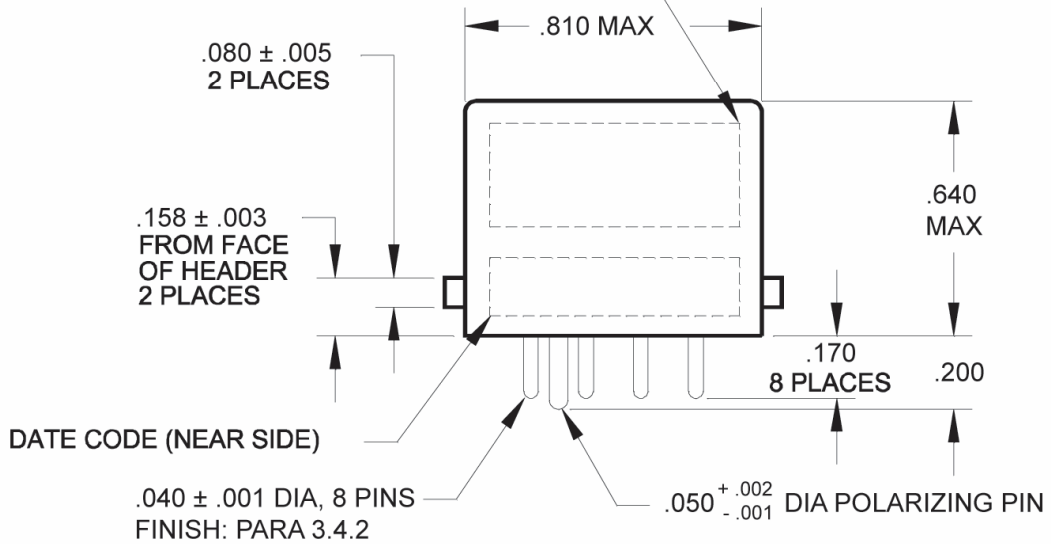
Ambient Temperatures Range:	
a. Operating	-55 to +125° C
b. Non-Operating	-55 to +125° C
Vibration:	
a. Sinusoidal	
10-55 Hz	1.524 mm DA
55-500 Hz	10 G
500-3000 Hz	20 G
b. Random: 50-2000 Hz, MIL-STD-810	0.2 G ² /Hz
Shock @ 6 ± 1 MS, 1/2 Sine, 3 Axis	1,100 G
Acceleration, in any Axis	100 G
Life at Rated Resistive Load; Minimum	1,000,000 operations

MECHANICAL SPECIFICATIONS

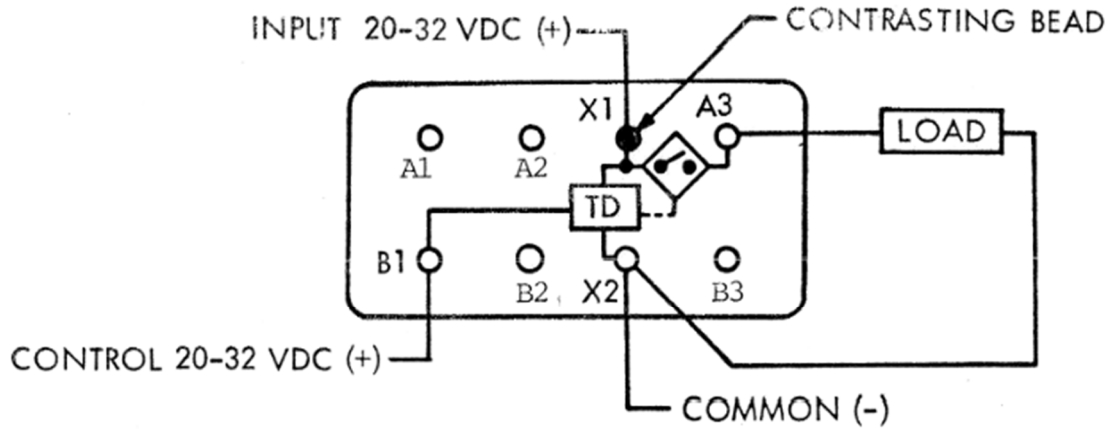
Dimensions in inches
Tolerances, unless otherwise specified
XXX ± .010
XX ± .03



NAMEPLATE (NEAR SIDE)
CIRCUIT DIAGRAM (FAR SIDE)

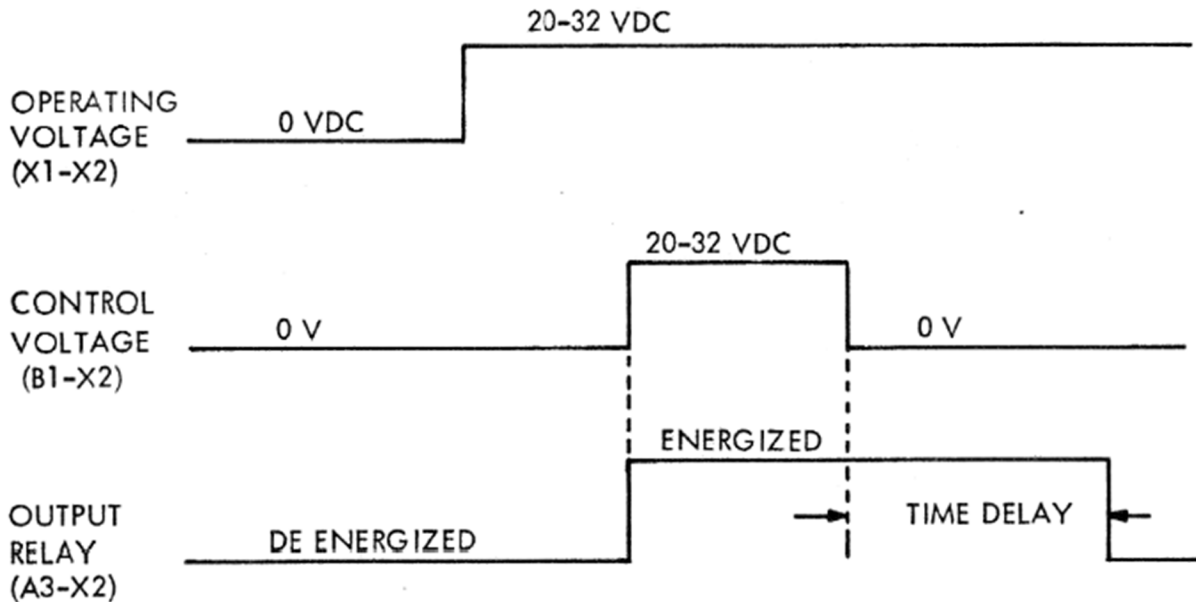


DIAGRAMS



CIRCUIT DIAGRAM

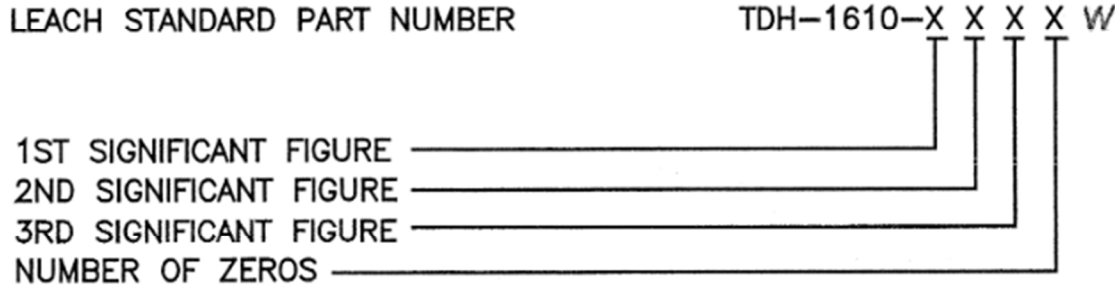
TERMINAL DESIGNATIONS ARE FOR REFERENCE ONLY AND DO NOT APPEAR ON PART.



TIMING DIAGRAM

NUMBERING SYSTEM

PART NUMBER CONSISTS OF THE BASIC NUMBER OF THIS SPECIFICATION SHEET AND A DASH NUMBER DENOTING THE REQUIRED TIME DELAY EXPRESSED IN MILLISECONDS.



EXAMPLE: TDH-1610-1202W

NOTES

1. The accuracy specification applies for any combination of operating temperature and voltage. For units with a timing range less than 1 second, add ± 10 milliseconds to the $\pm 10\%$ tolerance.
2. Transient and power loss specifications are based on a maximum duty cycle of 1/50.
3. EMI test limits will not be exceeded during the timing interval or when continuously energized under steady state conditions, per paragraph 3.26, MIL-PRF-83726.
4. Terminals X1, X2, Y1 and Y2 must be connected together during the test. Dielectric withstanding voltage and insulation resistance are measured at sea level between all mutually insulated terminals and between all terminals and case.
5. Recycle time is defined as the minimum time power must be removed from terminal X1 to assure that a new cycle can be completed within the specified timing tolerance.
6. A four digit number defines the time delay in milliseconds. The first three digits are significant figures, used to define the specific time delay. The fourth digit represents the number of zeros to follow the first three digits.

Examples:

1001 = 1 second (1,000 milliseconds)

2502 = 25 seconds (25,000 milliseconds)

5000 = 0.5 seconds (500 milliseconds)

For any inquiries, please contact your local sales representative: leachcorp.com