FEATURES

- **Small size and weight**
- **High-reliability design**
- **Hermetically sealed**
- **High transient immunity**
- **Qualified to MIL-PRF-83726/22**
- **Reverse Polarity Protection**

APPLICATION NOTE:
101

PRINCIPLE TECHNICAL CHARACTERISTICS

Seal: Hermetic Tested per MIL- STD-883, Method 1014	1×10^{-6} atm, cm^3/s max leakage
Finish:	Tin/lead Plate
Terminals:	
	A (Tin Plate) Solder-lug
	W (Tin Plate) Plug-in PCB mountable
Weight	0.5 Ounce max.

DESCRIPTION

The TD-1435 Time Delay Relays are designed with thick film hybrid microelectronics timing circuits and are packaged in a hermetically sealed military style enclosure. The TD-1435 series are qualified to MIL-PRF-83726/20 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	Operate
b. Method	Fixed Period
c. Range	0.05 to 500 Seconds
d. Accuracy	±10% [1]
Recycle Time	10 ms, Max [5]
Operations: (X1-X2)	
a. Input & Control Voltage	18-32 Vdc
b. Operating Current	5 mA, Max @ +25° C
Transients: MIL-STD-704A, Limit 1	
a. Spike Susceptibility	+80 Volts Max -600 Volts Max
b. Self-Generated Spikes	None
Electromagnetic Interference Per MIL-STD-461	Class 1D [3]
Power Interrupt	1 Millisecond [2]
Output (Load) Parameters	
Contact Form	SPST
Contact Rating:	250 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. Operation	-55 to +125° C
b. Non-Operating	-55 to +125° C
Vibration: a. Sinusoidal	
10-80 Hz	0.06" DA
80-3000 Hz	30 G
b. Random: 50-2000 Hz, MIL-STD-810	0.4 G^2/Hz
Shock, 0.5 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

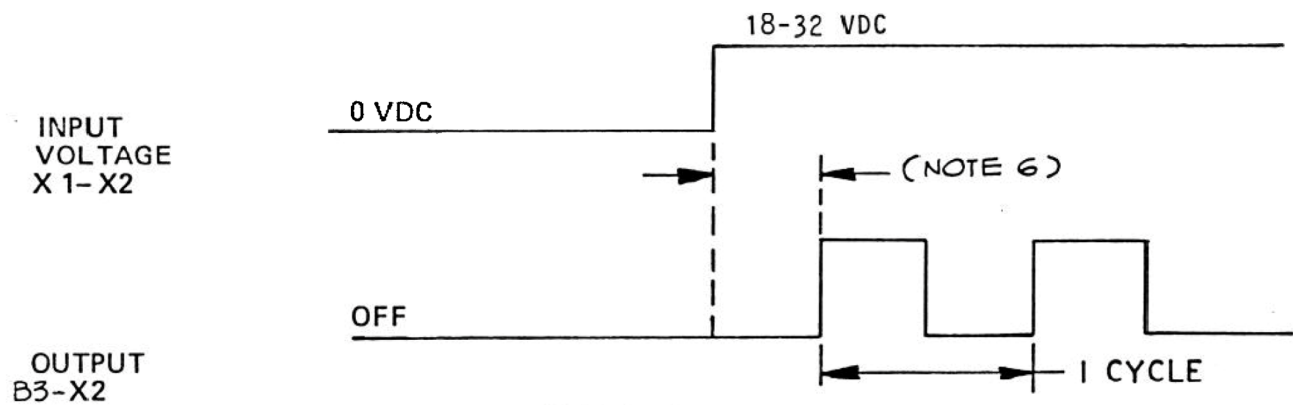## MECHANICAL SPECIFICATIONS

Printed Circuit "W"
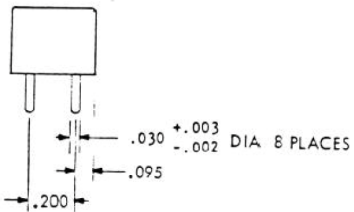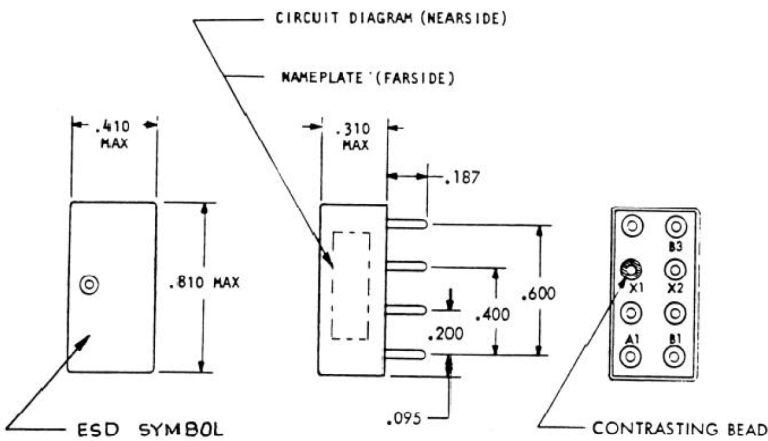
Flange Mounting "A"
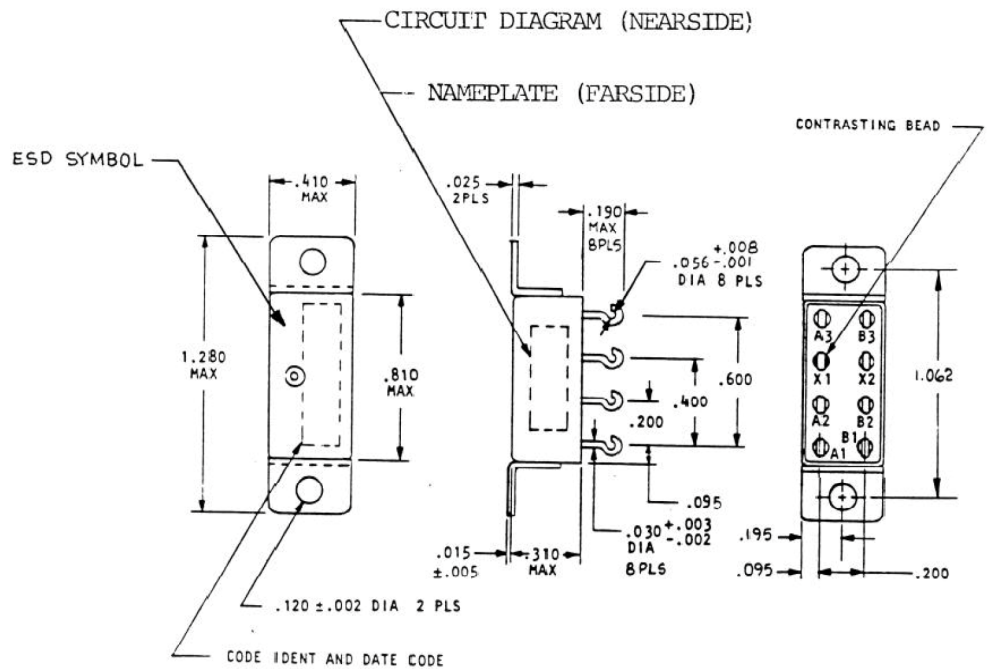
DIAGRAMS

CIRCUIT DIAGRAM

INPUT VOLTAGE X 1– X2

OUTPUT B3–X2
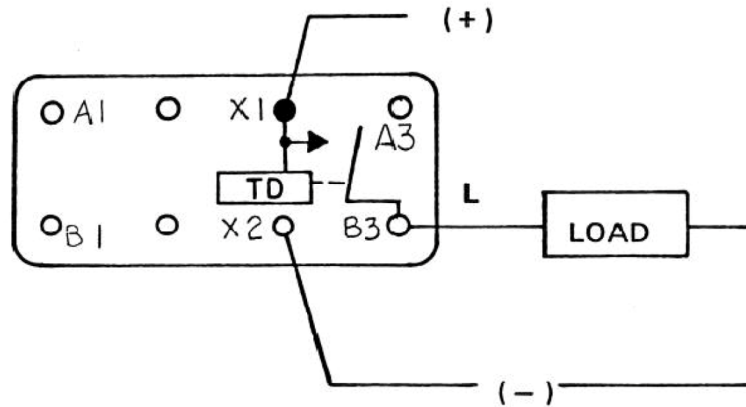
TIMING DIAGRAM

NUMBERING SYSTEM

```
        PCB Mount                                    Flange Mount
TD-1412   -   2500    W                    TD-1412  -  2500     A
   |          |       |                       |         |       |
   1          3       4                       1         3       4


M83726/22 - 2500    W                      M83726/22 - 2500     A
   |   |     |       |                        |   |      |       |
   1   2     3       4                        1   2      3       4
```

1. Model Number or Basic "MIL-PRF" Series number.
2. Military "Slash" number.
3. Timing Cycle, Fixed: 100 milliseconds to 60 seconds. (See Note 5).
4. Mounting style
   W = Printed circuit mountable.
   A = Flange mount with solder hook terminals.

NOTES

1. The accuracy specification applies for any combination of operating temperature and voltage.
2. 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.
3. Terminals X1, X2 and L 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.
4. Recycle time is defined as the maximum time power must be removed from terminal X1 to assure that a new cycle can be completed within the specified timing tolerance.
5. A four digit number defines the length of one complete cycle, expressed in milliseconds. "On" time is 50% of each cycle.
   The first three digits are significant figures, used to define the the specific cycle. The fourth digit represents the number of zeros to follow the first three digits.
   Examples:
   - 1001 = 1 cycle/second (1,000 milliseconds cycle)
   - 2500 = 4 cycle/seconds (25 milliseconds cycle)
   - 6002 = 1 cycle/minute (60,000 milliseconds cycle)

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