

**FEATURES**

This series is used in automotive and vehicular applications where load-dump and field decay transients occur. The LDTS protects across-the-line dc power systems from Load Dump and Field Decay Voltage Transient Susceptibility on Power Leads.

- DESIGNED FOR DC POWER APPLICATIONS
- LOW CLAMPING RATIO

**MAXIMUM RATINGS**

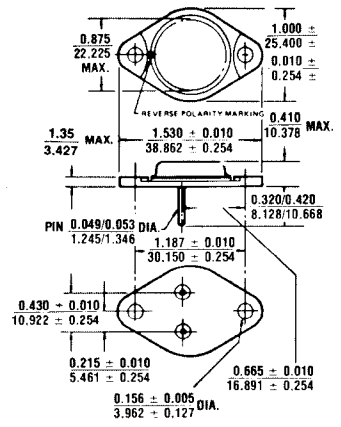
3000 Watts of Peak Pulse Power dissipation at 50ms (see Figure 1)  
 $t_{clamping}$  (0 volts to  $V_{(BR)}$  min.): Less than  $1 \times 10^{-12}$  seconds (theoretical)  
 Storage temperature:  $-50^{\circ}\text{C}$  to  $+200^{\circ}\text{C}$   
 Operating temperature:  $-50^{\circ}$  to  $+175^{\circ}\text{C}$  (Figure 3)  
 Forward surge rating: 200 amps, 8.3ms at  $25^{\circ}\text{C}$   
 Steady state power dissipation: 50 watts,  $T_C = 25^{\circ}\text{C}$   
 Repetition Rate (duty cycle): 0.1%

- LDS 14 Series** - Designed for a standard 12 volt power system.
- LDS 24 Series** - Designed for a standard 12 volt power system capable of sustaining a 24 volt (double voltage) jump start.
- LDS 30 Series** - Designed for a standard 24 volt power system.
- LDS 48 Series** - Designed for a standard 24 volt power system capable of sustaining a 48 volt (double voltage) jump start.

**ELECTRICAL CHARACTERISTICS**

MICROSEMI PART NUMBER	REVERSE STAND-OFF VOLTAGE $V_{WM}$ VOLTS	MINIMUM BREAKDOWN VOLTAGE $V_{(BR)}$ @ 20mA VOLTS	MAXIMUM CLAMPING VOLTAGE @ $I_{pp}$ $V_C$ VOLTS	MAXIMUM SURGE CURRENT (FIG. 2) @ $I_{pp}$ AMPS	MAXIMUM REVERSE LEAKAGE $V_{WM}$ ID $\mu$ AMPS	MAXIMUM VOLTAGE TEMP. Variation $V_{BR}$ mV/C
LDS 14	14.0	16.0	26.0	115.5	100.0	19.0
LDS 14A	14.0	16.0	23.5	128.0	100.0	17.0
LDS 24	24.0	26.5	43.0	70.0	100.0	31.0
LDS 24A	24.0	26.5	39.0	77.0	100.0	29.0
LDS 30	30.0	33.0	54.0	56.0	100.0	39.0
LDS 30A	30.0	33.0	48.5	62.0	100.0	36.0
LDS 48	48.0	53.0	86.0	34.0	100.0	55.0
LDS 48A	48.0	53.0	78.0	38.0	100.0	50.0

**TRANSIENT  
ABSORPTION  
ZENER**

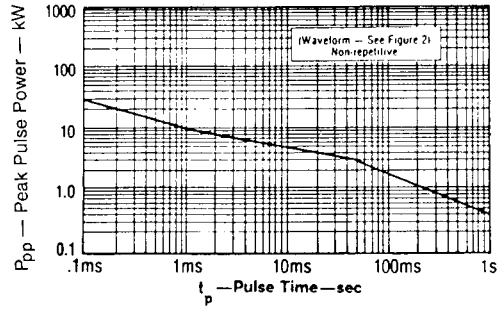


All dimensions in INCH / m.m. **FIGURE 1**

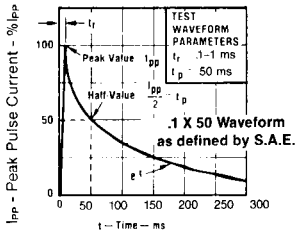
**MECHANICAL CHARACTERISTICS**

- CASE:** Industry standard TO-3 hermetically sealed, .052 inch diameter pins.
- FINISH:** All external surfaces are corrosion resistant and terminals solderable.
- POLARITY:** Standard polarity anode to case.
- WEIGHT:** 15 grams (Appx.).
- MOUNTING HARDWARE:** See page 2-9.

# LDT514 thru LDT538A

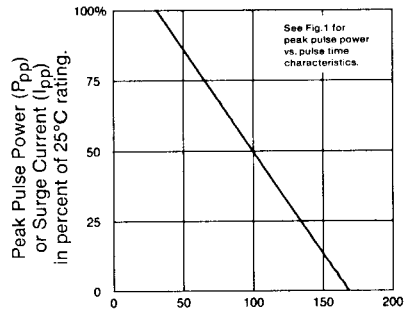


**FIGURE 1**  
PEAK PULSE POWER  
VS. PULSE TIME @ 25°C



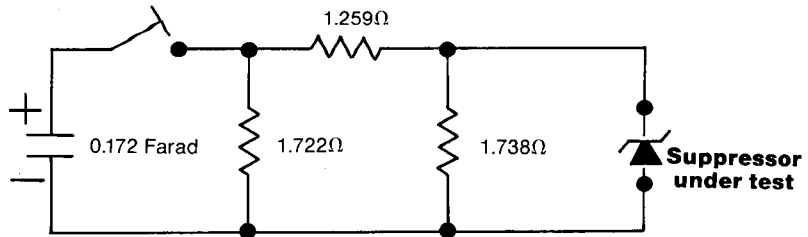
Pulse Wave Form (.1 X 50)

**FIGURE 2**  
SURGE WAVEFORM



$T_C$  - Case Temperature - °C

**FIGURE 3**  
DERATING CURVE



**Test circuit for simulated load dump in automotive and similar electrical applications.**

**FIGURE 4**