

LDS14 thru LDS48A

FEATURES

This series is used in automotive and vehicular applications where load-dump and field decay transients occur. The LDS 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 1×10^{-12} seconds (theoretical)
 Storage temperature: -50°C to $+200^{\circ}\text{C}$
 Operating temperature: -50° to $+175^{\circ}\text{C}$ (Figure 3)
 Forward surge rating: 200 amps, 8.3ms at 25°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.

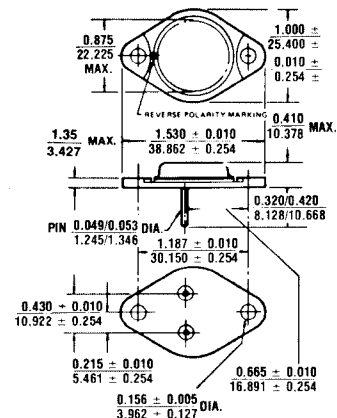
LDS 30 Series - Designed for a standard 24 volt power system.

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 μAMPS	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.

LDT S14 thru LDT S38 A

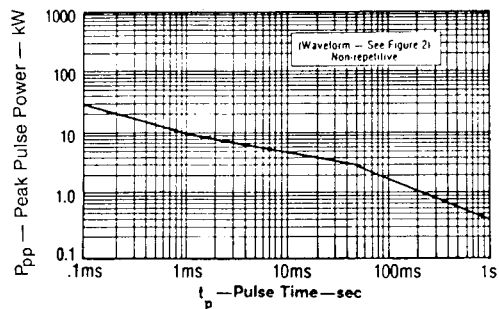
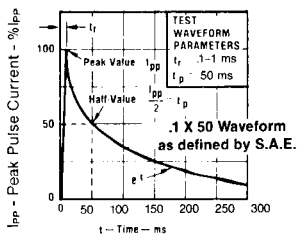
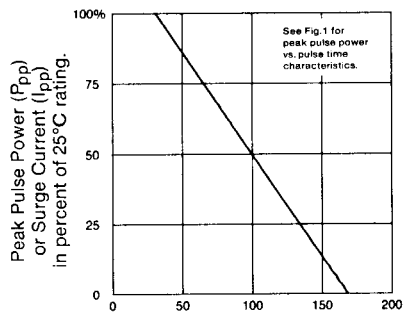


FIGURE 1
PEAK PULSE POWER
VS. PULSE TIME @ 25°C



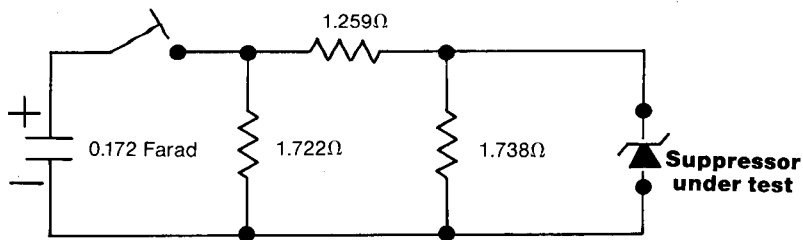
Pulse Wave Form (.1 X 50)

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