ELECTRONICS, INC.
44 FARRAND STREET
BLOOMFIELD, NJ 07003
(973) 748–5089
http://www.nteinc.com

NTE4901
Surge Clamping, Overvoltage Transient Suppressor, Bidirectional

Description:

The NTE4901 is a bidirectional transient voltage suppressor diode in an axial lead type package designed for protecting intergrated circuits, MOS, hybrids and other voltage–sensitive semiconductors and components.

Features:

- High Surge Capability
- Very Fast Clamping Time

Absolute Maximum Ratings:

Peak Pulse Power (1ms Exponential Pulse, Initial T_J = +25°C, Note 1), P_P 1.5kW
Power Dissipation (T_A = +75°C, On Infinite heatsink), P_D 5W
Non–Repetitive Surge Peak Forward Current (Initial T_J = +25°C, t = 10ms), I_{FSM} 250A
Operating Junction Temperature, T_J . . . . . +175°C
Storage temperature Range, T_{stg} . . . . . –65° to +175°C
Lead Temperature (During Soldering, 4mm from case, 10sec max.), T_L . . . . . +230°C
Thermal Resistance, Junction–to–Case (On Infinite Heatsink), R_{thJ-C} . . . . . 20°C/W

Note 1. For surges higher than the maximum value, the diode will present a short–circuit anode–cathode.

Electrical Characteristics: (Note 2, Note 3)

Parameter	Symbol	Test Conditions		Min	Typ	Max	Unit
Stand–Off Voltage	V_{RM}	I_{RM} = 300μA		–	–	5	V
Breakdown Voltage	$V_{(BR)}$	I_R = 1mA, Note 4		6	–	–	V
Clamping Voltage	$V_{(CL)}$	1ms expo	I_{PP} = 1A Max	–	–	7.1	V
			I_{PP} = 10A Max	–	–	7.5	V
Peak Pulse Current	I_{PP}	1ms expo		–	–	160	A
		8–20μs expo		–	–	1340	A
Temperature Coefficient of $V_{(BR)}$				–	–	5.7	10^{-4}/°C
Capacitance	C	V_R = 0, f = 1MHz		–	11000	–	pF

Note 2. The NTE4901 is bidirectional device; electrical characteristics apply in both directions.
Note 3. Clamping time (0V o $V_{(BR)}$): $t_{clamping}$ < 5ns.
Note 4. Pulse Test: Pulse Width ≤ 50ms, Duty Cycle < 2%.