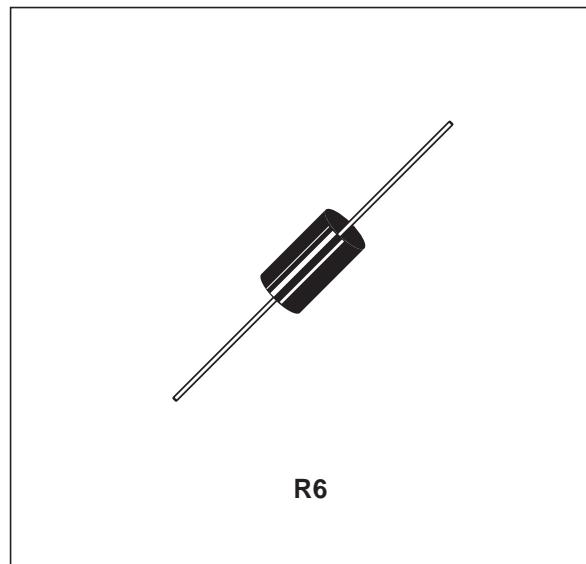


**LDP24A****TRANSIENT PROTECTION
LOAD DUMP****FEATURES**

- TRANSIENT VOLTAGE SUPPRESSOR DIODE ESPECIALLY DESIGNED FOR LOAD DUMP PROTECTION
- COMPLIANT WITH MAIN STANDARDS SUCH AS:
ISO / DTR 7637

DESCRIPTION

Transient voltage suppressor diodes especially useful in protecting integrated circuits, MOS, hybrids and other overvoltages sensitive semiconductors and components.

**ABSOLUTE RATINGS (limiting values)**

Symbol	Parameter	Value	Unit
V _{PP}	Peak pulse load dump overvoltage See note 1	100	V
P	Power dissipation on infinite heatsink	5	W
I _{FSM}	Non repetitive surge peak forward current. T_j initial = 25°C t_p = 10 ms	500	A
T _{stg}	Storage temperature range.	- 65 to + 175	°C
T _j	Maximum operating temperature	175	°C
T _L	Maximum lead temperature for soldering during 10 sec at 4 mm from case.	230	°C

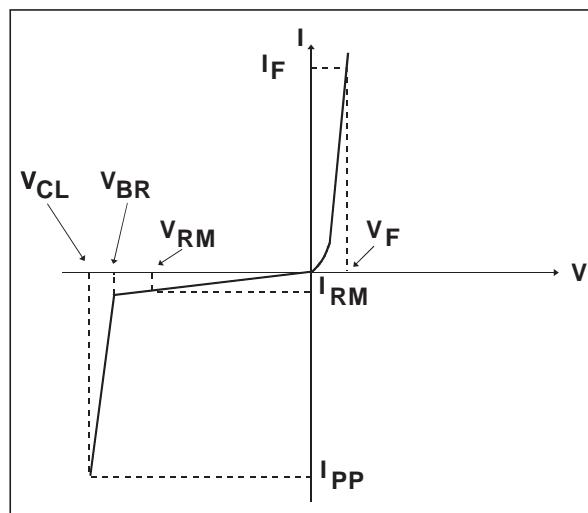
THERMAL RESISTANCES

Symbol	Parameter	Value	Unit
R _{th} (j-a)	Junction ambient thermal resistance on infinite heatsink L _{lead} = 10 mm	15	°C/W

Note 1: For surges greater than the maximum values, the diode will present a short-circuit Anode - Cathode.

ELECTRICAL CHARACTERISTICS

Symbol	Parameter
V_{RM}	Stand-off voltage.
V_{BR}	Breakdown voltage.
V_{CL}	Clamping voltage.
I_{PP}	Peak pulse current.
αT	Temperature coefficient of V_{BR} .
C	Capacitance
I_{RM}	Leakage current at V_{RM}
V_F	Peak forward voltage drop



Symbol	Test Conditions		Min.	Typ.	Max.	Unit
I_{PP}	Pulse duration: 40ms		30			A
I_{RM}	$T_i = 25^\circ\text{C}$	$V_{RM} = 24 \text{ V}$			50	μA
	$T_i = 85^\circ\text{C}$	$V_{RM} = 24 \text{ V}$			300	μA
V_{BR}	$T_i = 25^\circ\text{C}$	$I_R = 1\text{mA}$	25		32	V
V_{CL}	$T_i = 85^\circ\text{C}$	see table1			40	V
αT					10	$10^{-4}/^\circ\text{C}$
C	$F = 1\text{MHz}$	$V_R = 0\text{V}$		8000		pF
V_F	$I_{FM} = 10\text{A}$			0.9		V

LOAD DUMP TEST GENERATOR CIRCUIT (SCHAFFNER NSG 506 C). Issued from ISO / DTR 7637.

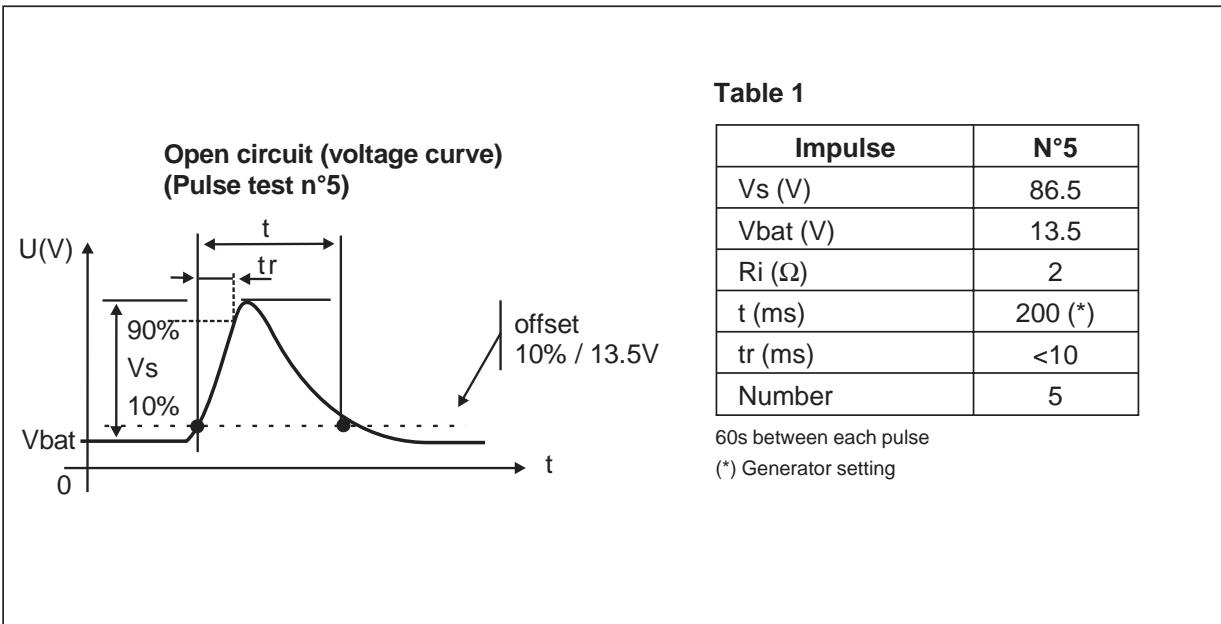


Fig. 1: Peak pulse power versus exponential pulse duration (T_j initial=85°C).

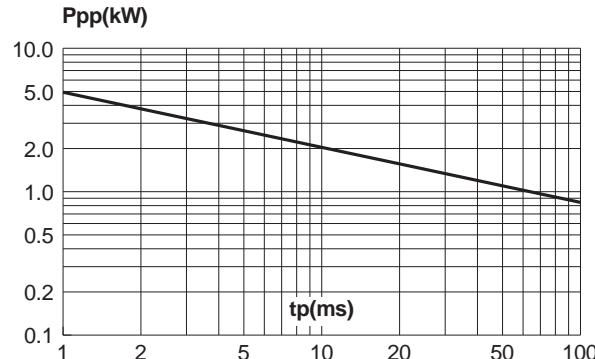


Fig. 3: Relative variation of peak pulse power versus junction temperature.

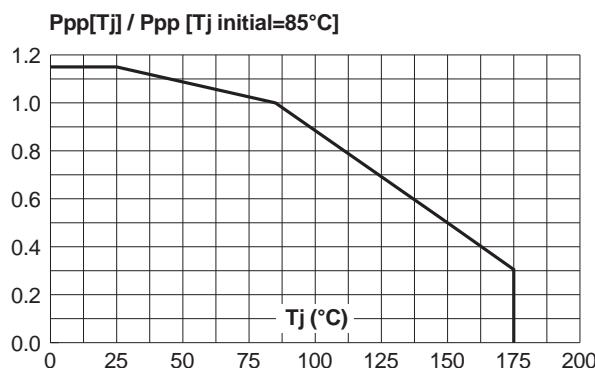


Fig. 5: Variation of thermal impedance junction to ambient versus pulse duration (printed circuit board FR4, $e(Cu)=35\mu m$, $SCu=1cm^2$).

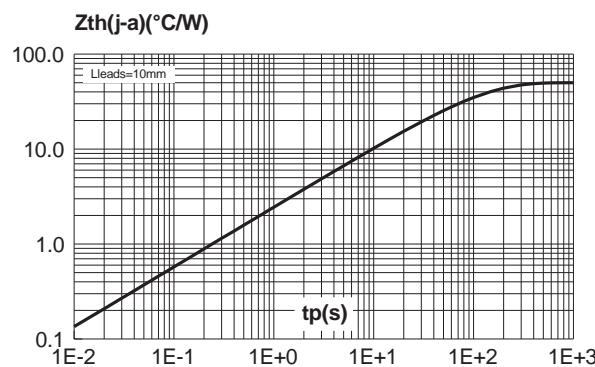


Fig. 2 : Peak pulse current versus exponential pulse duration (T_j initial=85°C).

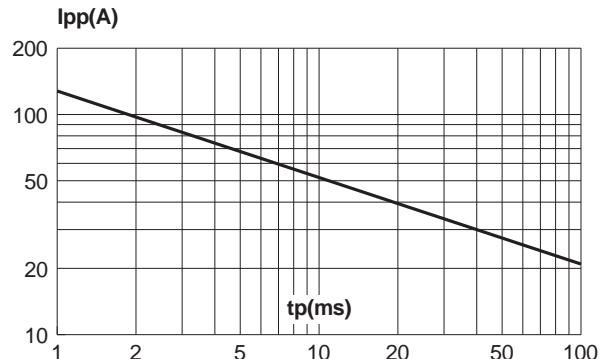


Fig. 4: Continuous power dissipation versus ambient temperature.

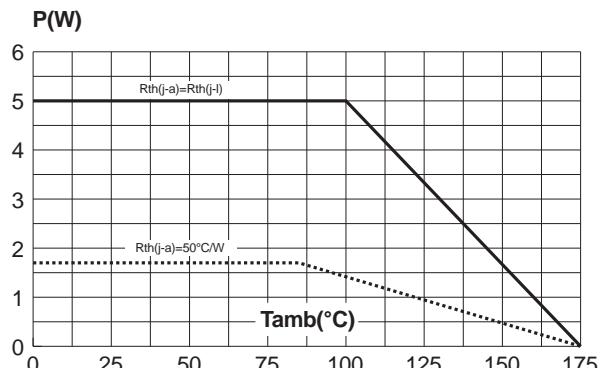
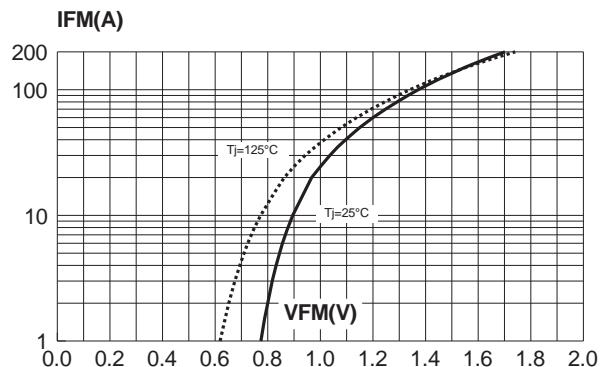


Fig. 6 : Peak forward voltage drop versus peak forward current (typical values).



LDP24A

Fig. 7: Non repetitive surge peak forward current versus sinusoidal pulse duration and corresponding value of I^2t .

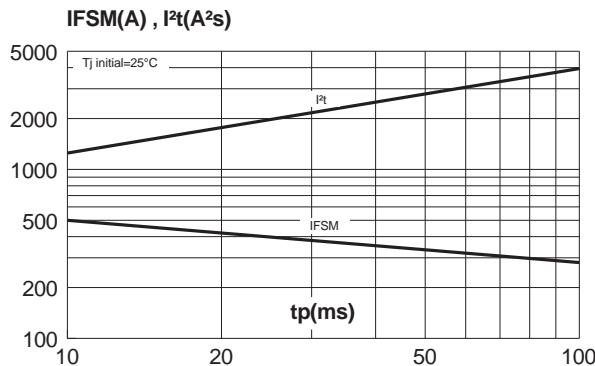
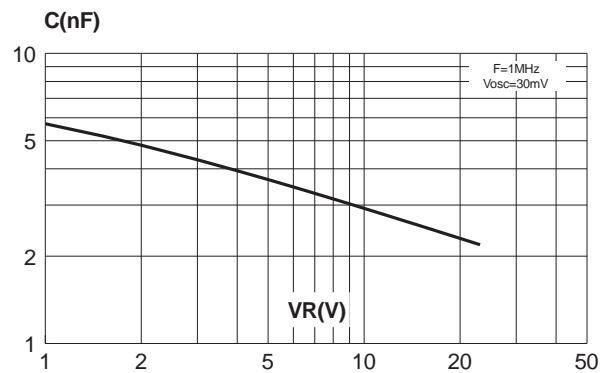
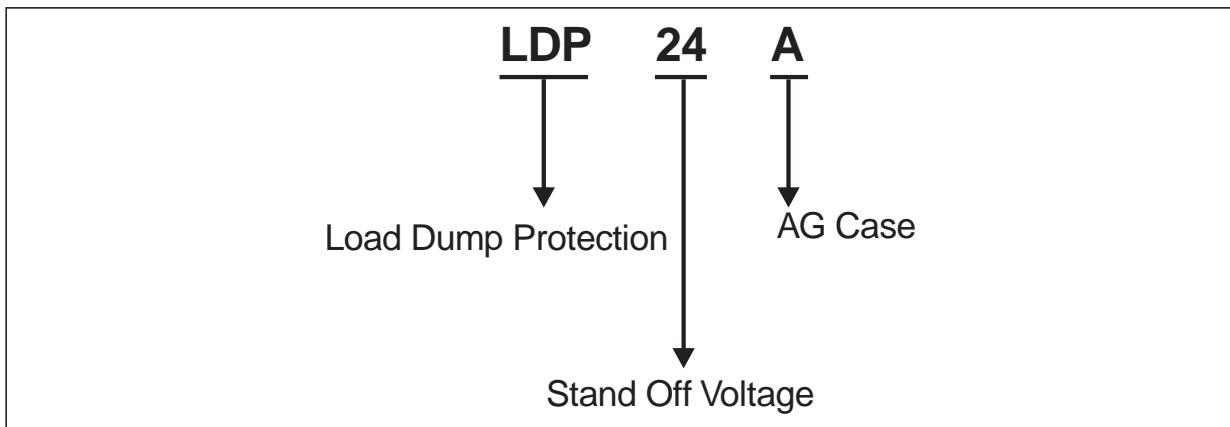


Fig. 8: Junction capacitance versus reverse applied voltage.



ORDER CODE



PACKAGE MECHANICAL DATA
R6 (Plastic)

REF.	DIMENSIONS					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	8.6		9.1	0.338		0.358
B	25.4			1		
Ø C	8.6		9.1	0.338		0.358
Ø D	1.2		1.3	0.047		0.051

Type	Marking	Package	Weight	Base qty	Delivery mode
LDP24A	LDP24A	R6	2.048 g	100	Ammopack
LDP24ARL	LDP24A	R6	2.048 g	1000	Tape & Reel

- Resin meets UL94-V0

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