

## LOW VOLTAGE TRANSIL™

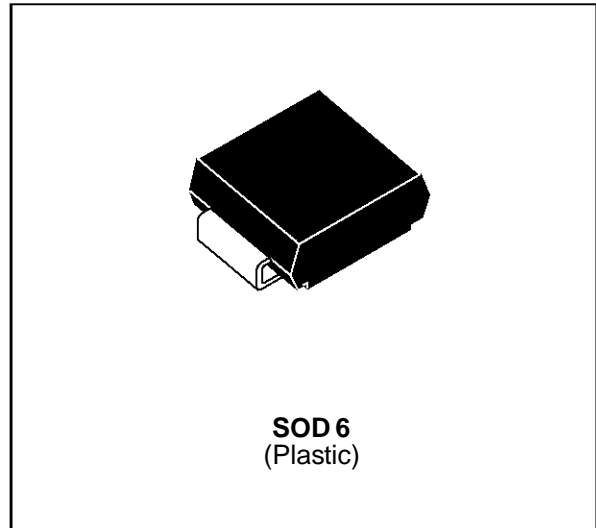
### FEATURES

- UNIDIRECTIONAL TRANSIL DIODE
- PEAK PULSE POWER=600 W @ 1ms
- REVERSE STAND-OFF VOLTAGE = 3.3 V
- LOW CLAMPING FACTOR
- FAST RESPONSE TIME

### DESCRIPTION

The SMLVT3V3 is dedicated to the protection of the new 3.3V - supplied CMOS and BICMOS technologies.

Its low clamping voltage at high current level guarantees an excellent protection for sensitive components.



### ABSOLUTE MAXIMUM RATINGS (T<sub>amb</sub> = 25°C)

Symbol	Parameter		Value	Unit
P <sub>p</sub>	Peak pulse power dissipation (see note 1 and derating curve Fig 1)		600	W
P	Power dissipation on infinite heatsink (see note 1 and derating curve Fig 1)	T <sub>lead</sub> = 75°C	1.7	W
I <sub>FSM</sub>	Non repetitive surge peak forward current	t <sub>p</sub> = 10 ms	50	A
T <sub>stg</sub> T <sub>j</sub>	Storage temperature range Maximum junction temperature		- 65 to + 175 175	°C °C
T <sub>l</sub>	Maximum lead temperature for soldering during 10 s		260	°C

### THERMAL RESISTANCE

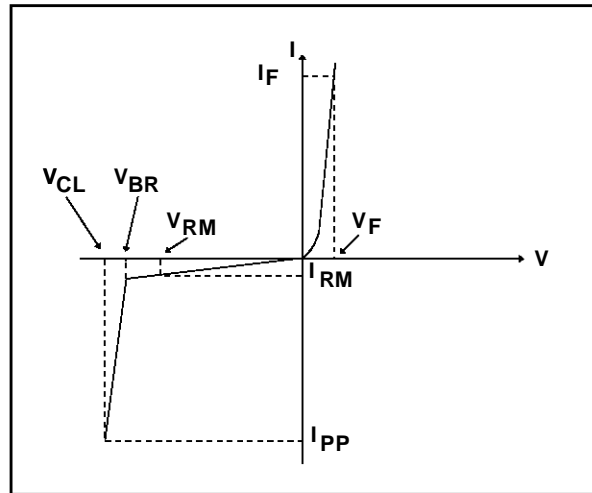
Symbol	Parameter	Value	Unit
R <sub>th(j-l)</sub>	Junction to lead on infinite heatsink	20	°C/W

# SMLVT3V3

## ELECTRICAL CHARACTERISTICS

( $T_{amb} = 25^{\circ}\text{C}$ , unless otherwise specified)

Symbol	Parameter
$V_{RM}$	Stand-off voltage.
$V_{BR}$	Breakdown voltage.
$V_{CL}$	Clamping voltage.
$I_{RM}$	Leakage current @ $V_{RM}$ .
$I_{PP}$	Peak pulse current.

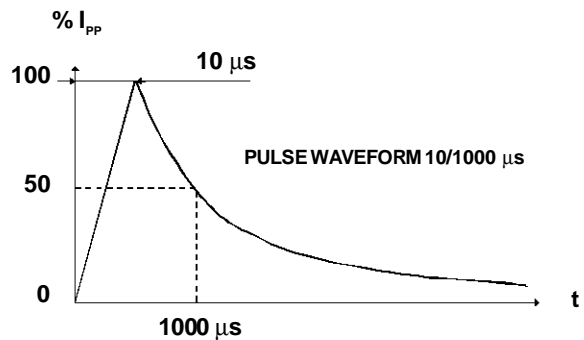


Type	$I_{RM}$ @ $V_{RM}$ max		$V_{BR}$ @ $I_R$ min		$V_{CL}$ @ $I_{PP}$ max 10/1000 $\mu\text{s}$		$V_{CL}$ @ $I_{PP}$ max 8/20 $\mu\text{s}$		C max note 2	C max note 3
	$\mu\text{A}$	V	V	mA	V	A	V	A	pF	pF
SMLVT3V3	200	3.3	4.1	1	7.3	50	10.3	200	5200	3300

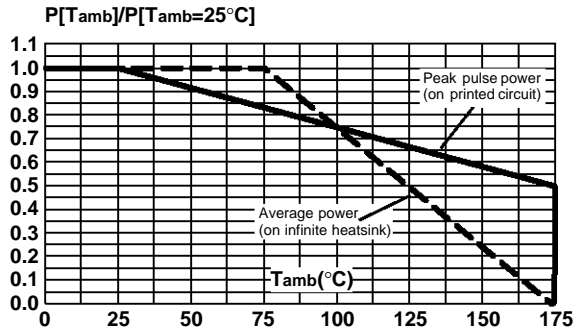
**Note 1** : For surges greater than the maximum values, the diode will present a short-circuit anode - cathode.

**Note 2** :  $V_R = 0\text{V}$ ,  $F = 1\text{MHz}$ .

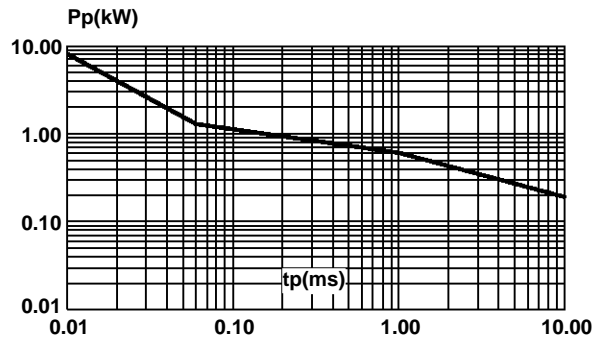
**Note 3** :  $V_R = 3\text{V3}$ ,  $F = 1\text{MHz}$ .



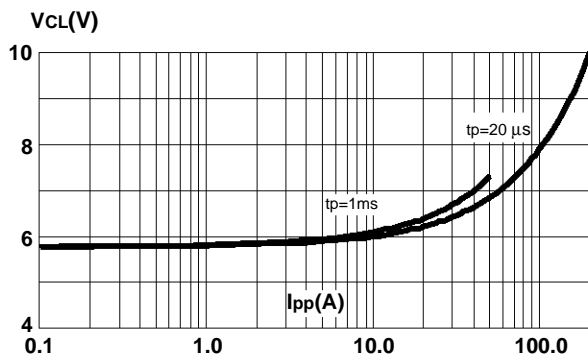
**Fig. 1 :** Power dissipation derating versus ambient temperature.



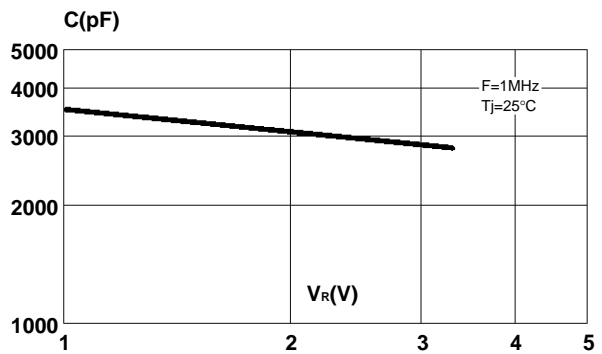
**Fig. 2 :** Peak pulse power versus exponential pulse duration ( $T_j$  initial = 25°C)



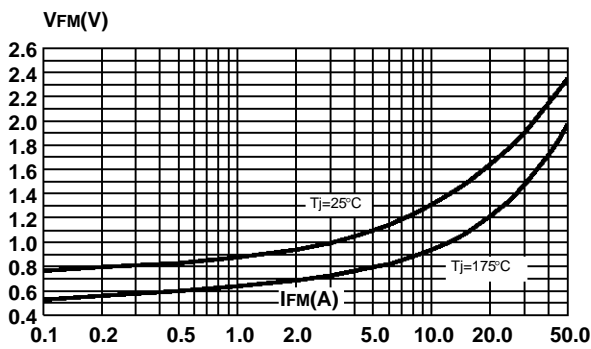
**Fig. 3 :** Clamping voltage versus peak pulse current ( $T_j$  initial = 25°C). Exponential waveform  $t_p = 20 \mu s$  and  $t_p = 1 ms$ .



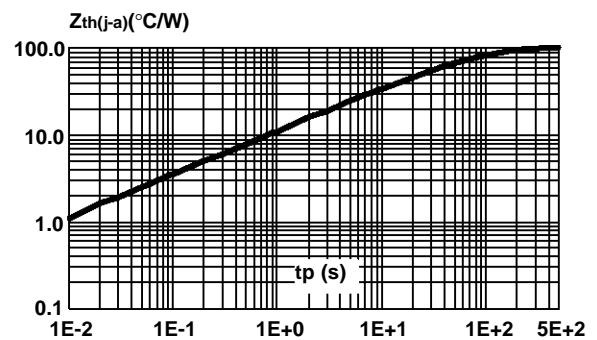
**Fig. 4 :** Capacitance versus reverse applied voltage (typical values).



**Fig. 5 :** Peak forward voltage drop versus peak forward current (typical values).

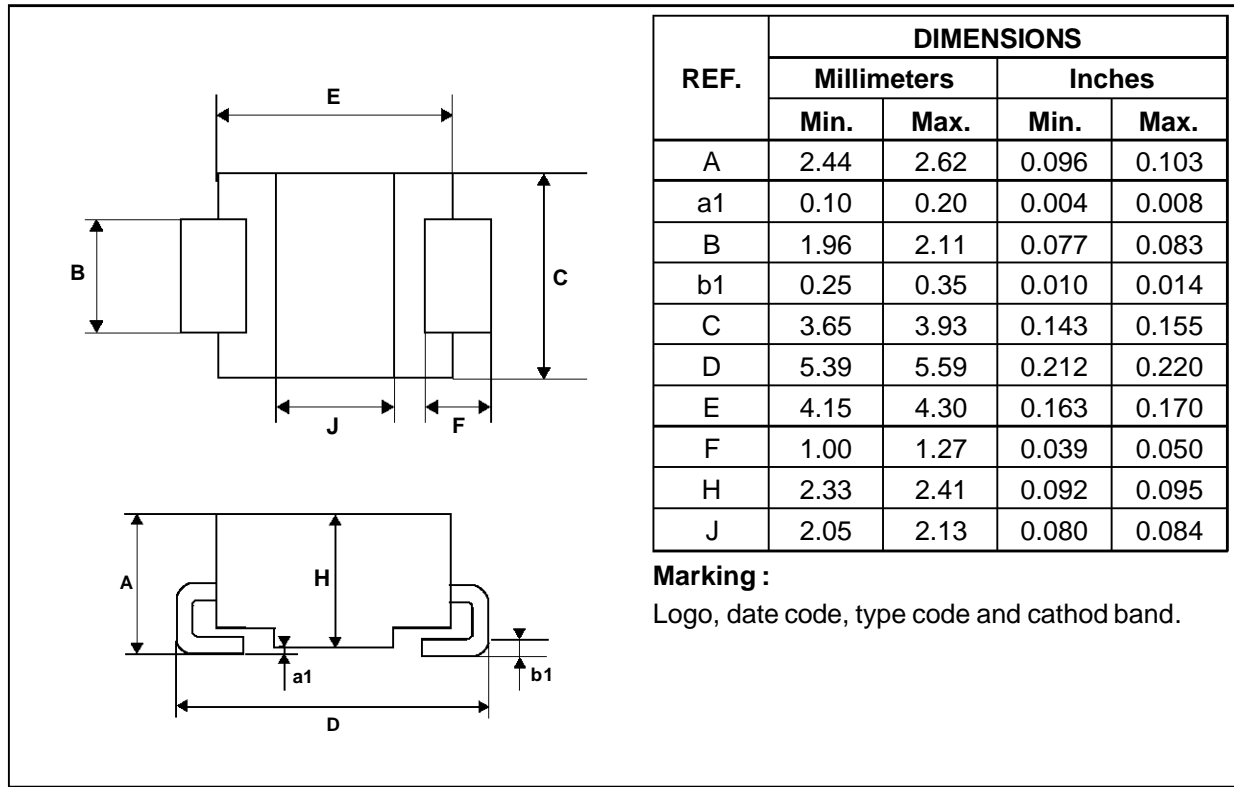


**Fig. 6 :** Relative variation of thermal impedance junction to ambient versus pulse duration.

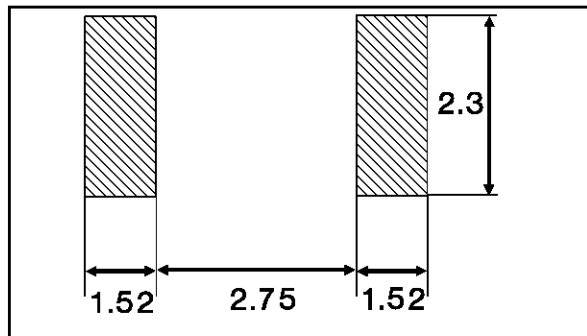


# SMLVT3V3

## PACKAGE MECHANICAL DATA SOD6 (Plastic)



## FOOT PRINT (in millimeters) SOD6



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