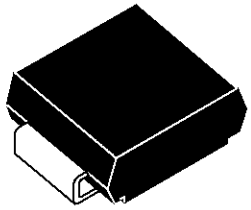
SGS-THOMSON MICROELECTRONICS

SMLVT3V3

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



SOD 6
(Plastic)

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_{amb} = 25°C)

Symbol	Parameter		Value	Unit
P_p	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_{lead} = 75°C	1.7	W
I_{FSM}	Non repetitive surge peak forward current	t_p = 10 ms	50	A
T_{stg} T_j	Storage temperature range Maximum junction temperature		- 65 to + 175 175	°C °C
T_l	Maximum lead temperature for soldering during 10 s		260	°C

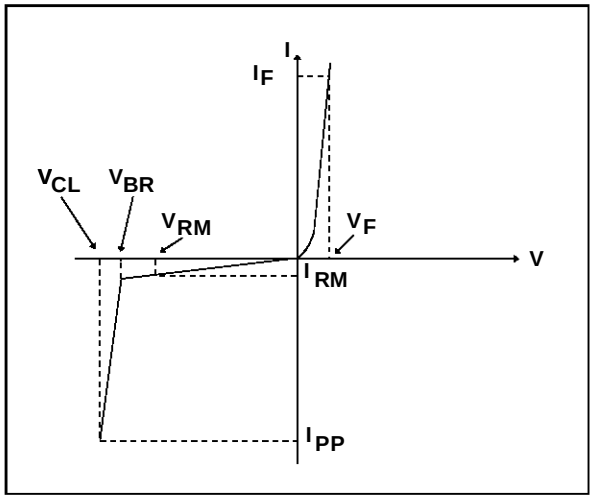
THERMAL RESISTANCE

Symbol	Parameter	Value	Unit
$R_{th\ (j-l)}$	Junction to lead on infinite heatsink	20	°C/W

ELECTRICAL CHARACTERISTICS

(T_{amb} = 25°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 µs		V_{CL} @ I_{PP} max 8/20 µs		C max note 2	C max note 3
	µA	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 = 0V , F = 1MHz.

Note 3 : V_R = 3V3 , F = 1MHz.

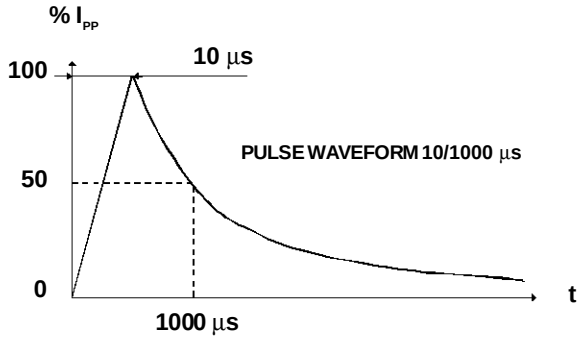


Fig. 1 : Power dissipation derating versus ambient temperature.

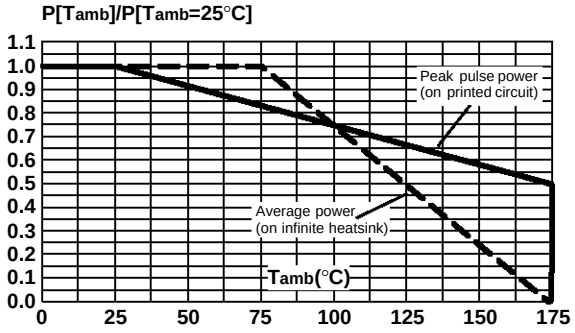


Fig. 2 : Peak pulse power versus exponential pulse duration (Tj initial = 25°C)

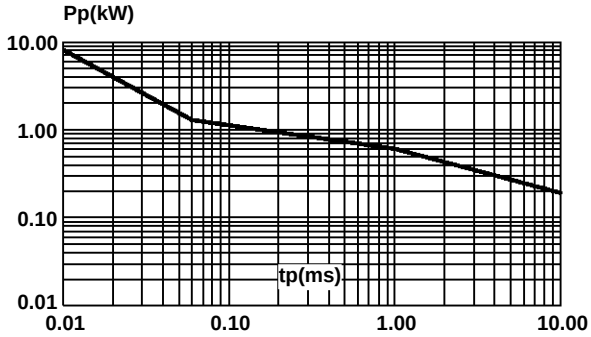


Fig. 3 : Clamping voltage versus peak pulse current (Tj initial = 25°C).
Exponential waveform t_p = 20 µs and t_p = 1 ms.

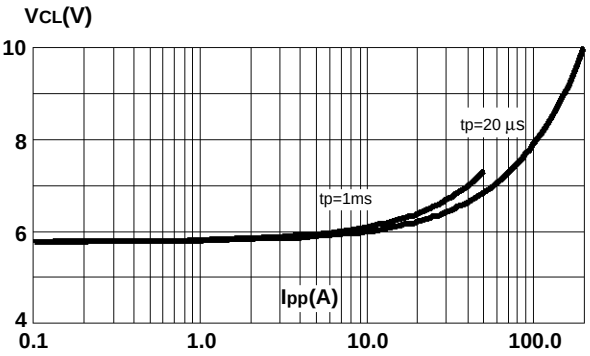


Fig. 4 : Capacitance versus reverse applied voltage (typical values).

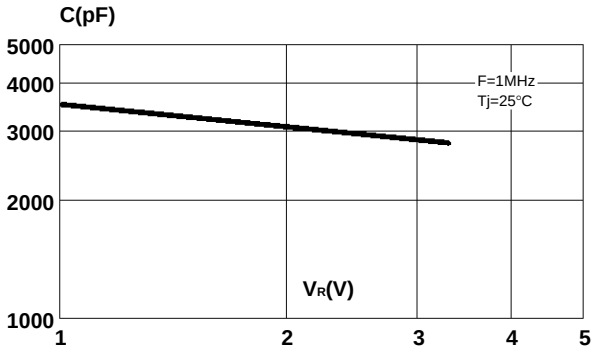


Fig. 5 : Peak forward voltage drop versus peak forward current (typical values).

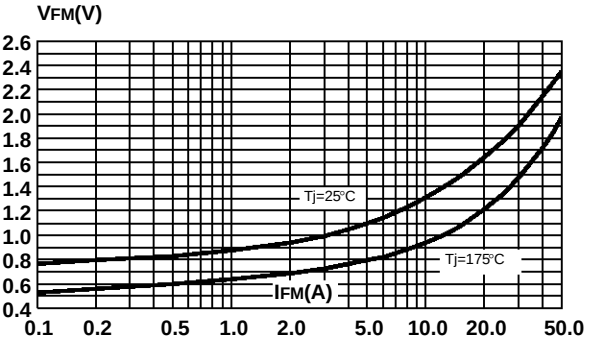
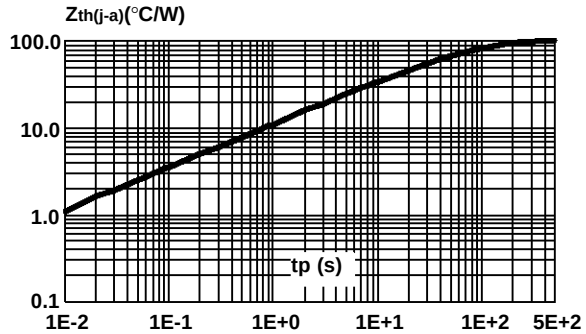
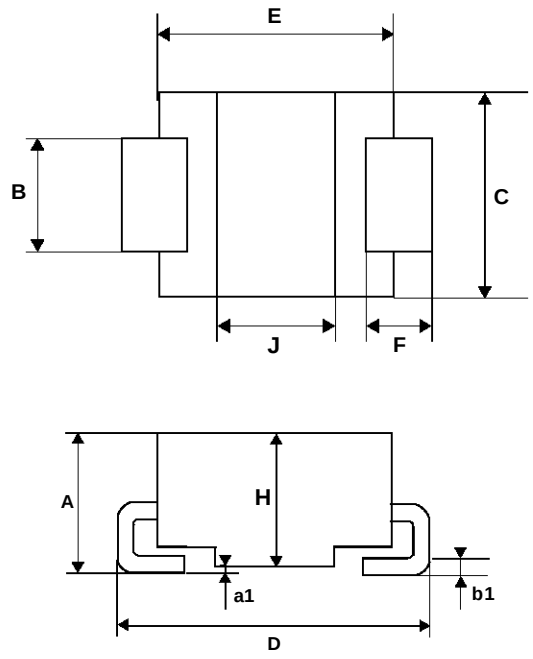


Fig. 6 : Relative variation of thermal impedance junction to ambient versus pulse duration.



PACKAGE MECHANICAL DATA

SOD6 (Plastic)



REF.	DIMENSIONS			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	2.44	2.62	0.096	0.103
a1	0.10	0.20	0.004	0.008
B	1.96	2.11	0.077	0.083
b1	0.25	0.35	0.010	0.014
C	3.65	3.93	0.143	0.155
D	5.39	5.59	0.212	0.220
E	4.15	4.30	0.163	0.170
F	1.00	1.27	0.039	0.050
H	2.33	2.41	0.092	0.095
J	2.05	2.13	0.080	0.084

Marking :

Logo, date code, type code and cathod band.

FOOT PRINT (in millimeters)

SOD6