SGS-THOMSON MICROELECTRONICS

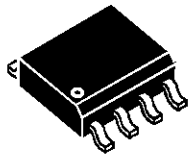
DDP6V8

Application Specific Discretes
A.S.D.™

DUAL VOLTAGE PROTECTION

FEATURES

- DUAL TRANSIL™ PROVIDING BREAKDOWN VOLTAGES :
  T1 : V_{BR} = 6.8V
  T : V_{BR} = 13.6V
- SUPPRESSES SPIKES FROM 5V AND 12V SMPS
- ESD PROTECTION UP TO 25kV
- LOW LEAKAGE CURRENT



SO8
(Plastic)

DESCRIPTION

Dual Transil for computer board protection. The transils suppress spikes from both the 5V and 12V power supplies, protecting both EPROMs and TTL compatible circuits.

ESD protection up to 25kV is also guaranteed : useful during a power-down or power supply disconnection.

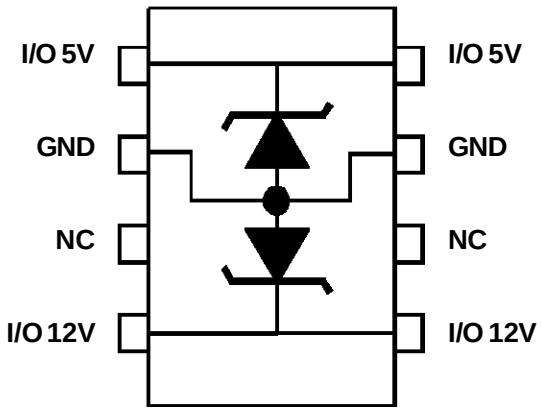
COMPLIES WITH THE FOLLOWING STANDARDS :

- IEC801-2 15kV (air discharge)
- IEC801-4 40A 5/50 ns (repetitive 2.5kHz)
- IEC801-5 0.5kV 1.2/50µs
  12A 8/20µs

- MIL STD 883C - METHOD 3015-6
  Vp = 25kV C = 100pF R = 1500Ω
  3 positive and 3 negative strikes (F = 1Hz)

- HUMAN BODY TEST :
  Vp = 4kV C = 150pF R = 150Ω

FUNCTIONNAL DIAGRAM

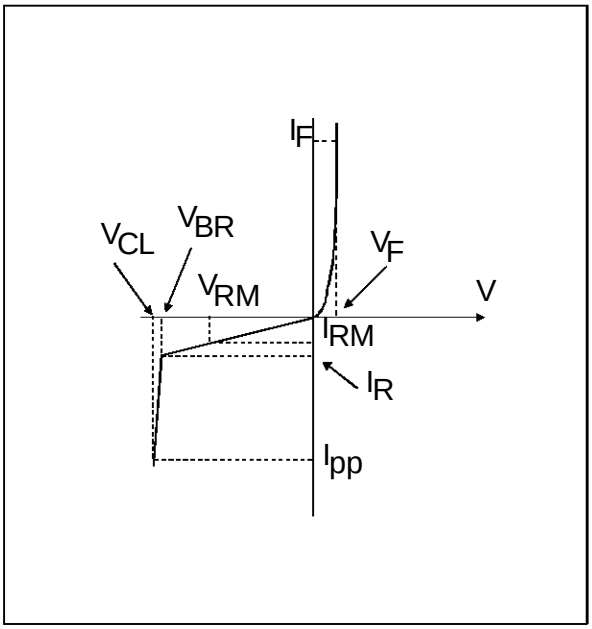


ABSOLUTE MAXIMUM RATINGS ($0°C \le T_{amb} \le 70°C$)

Symbol	Parameter	Value	Unit
I_{pp}	Peak pulse current for 8/20 µs pulse	12	A
T_{stg} Tj	Storage Temperature Range Maximum Junction Temperature	- 55 to + 150 125	°C °C

ELECTRICAL CHARACTERISTICS (T_{amb}=25°C)

Symbol	Parameter
V_{RM}	Stand-off voltage.
V_{BR}	Breakdown voltage.
V_{CL}	Clamping voltage.
C1, C2	Capacitance.
I_{RM}	Leakage current.
I_{PP}	Peak pulse current.

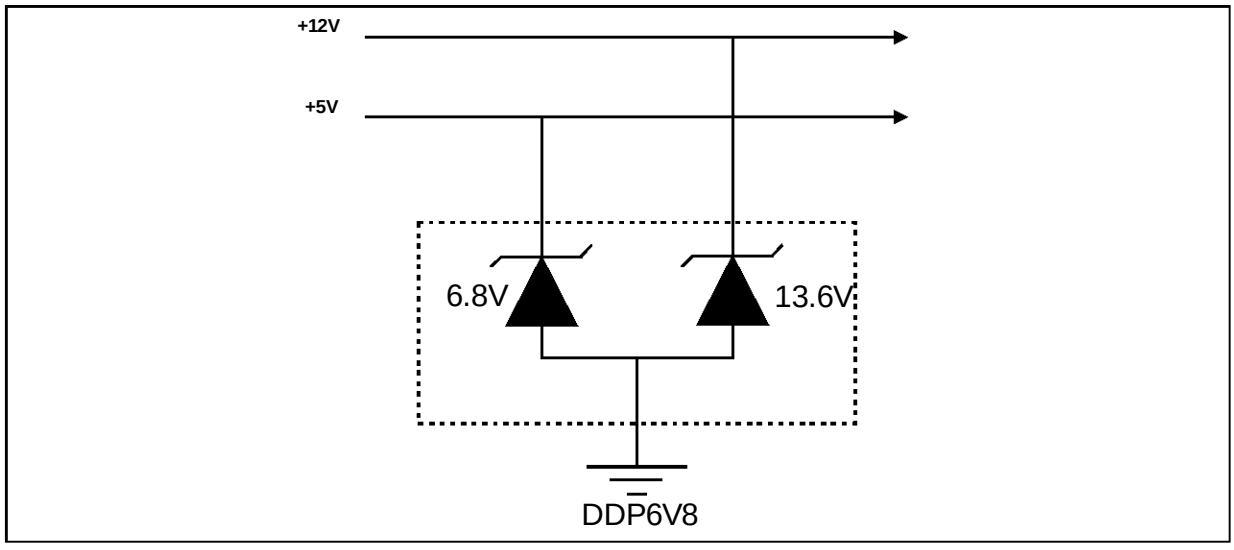


ELECTRICAL CHARACTERISTICS

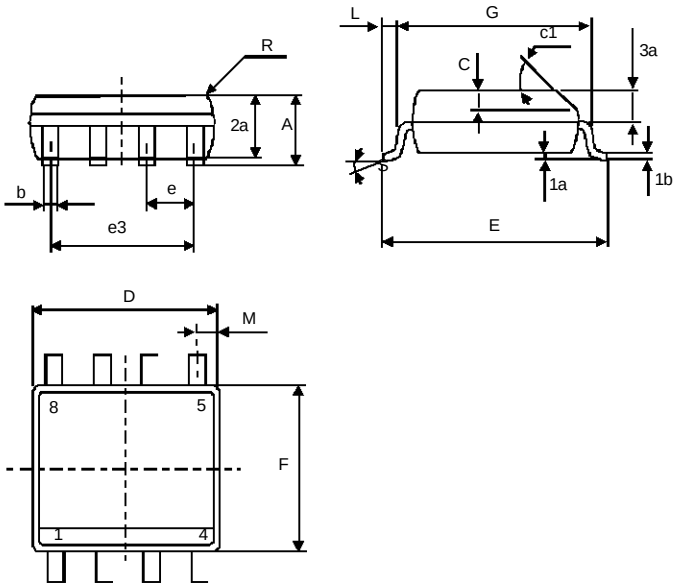
Type	I_{RM} @ V_{RM} max.		V_{BR} @ I_R min.		V_{CL} @ I_{PP} max. 8/20 µs note 1		C1 typ. note 2	C2 typ. note 3	αT max. note 4
	µA	V	V	mA	V	A	pF	pF	10^{-4}/°C
6V8 Transil	50	5	6.8	1	10	3	300	140	5
13.6V Transil	50	12	13.6	1	20	3	110	60	5

Note 1 : Between I/O pin and GND.
Note 2 : Between I/O pin and GND at 0V bias.
Note 3 : Between I/O pin and GND at V_{RM}.
Note 4 : $\Delta V_{BR} = \alpha T \times (T_{amb} - 25) \times V_{BR}(25°C)$

TYPICAL APPLICATION CIRCUIT



PACKAGE MECHANICAL DATA
SO8 (Plastic)



REF.	DIMENSIONS					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A			1.75			0.069
a1	0.1		0.25	0.004		0.010
a2			1.65			0.065
a3	0.65		0.85	0.026		0.033
b	0.35		0.48	0.014		0.019
b1	0.19		0.25	0.007		0.010
C	0.25		0.5	0.010		0.020
c1	45° (typ)					

REF.	DIMENSIONS					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
D	4.8		5.0	0.189		0.197
E	5.8		6.2	0.228		0.244
e		1.27			0.050	
e3		3.81			0.150	
F	3.8		4.0	0.15		0.157
L	0.4		1.27	0.016		0.050
M			0.6			0.024
S	8° (max)					

Marking : Logo, Date Code, DDP6V8
Weight : 0.08 g