

**FEATURES**

- PROTECTS BOTH SINGLE-ENDED (0 to 5 V) AND SYMMETRICAL (+/- 2.5 V) SIGNALS
- UP TO 6 UNIDIRECTIONAL TRANSIL FUNCTIONS
- MINIMUM BREAKDOWN VOLTAGE = 6.1V  
MAXIMUM BREAKDOWN VOLTAGE = 7.2V
- LOW CAPACITANCE : C= 80 pF @ V<sub>RM</sub>

**DESCRIPTION**

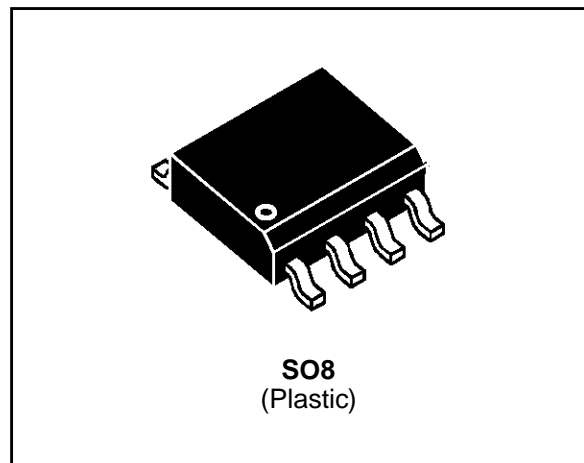
Dedicated to "ESD" PROTECTION, this TRANSIL array protects against surges of up to 25kV.

It is particularly recommended for parallel port protection where the line drivers withstand only 2 kV ESD surges.

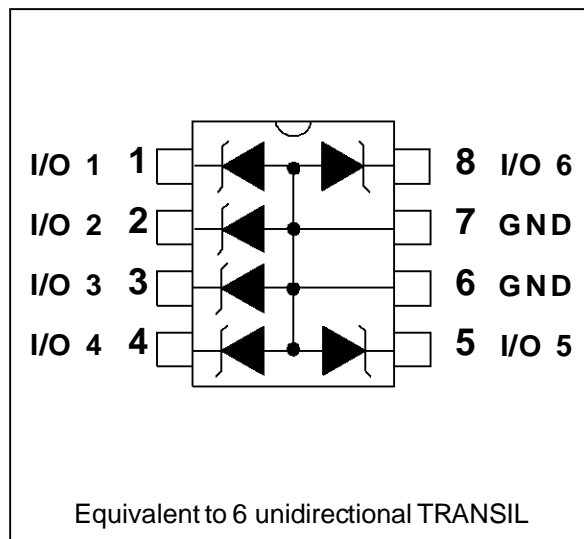
It clamps the voltage just above the logic level supply for positive transients, and to a diode drop below ground for negative transients.

**COMPLIES WITH THE FOLLOWING STANDARDS :**

- ESD standard :
  - . IEC 801-2 15kV (air discharge)  
8kV (contact discharge)
  - . IEC 801-4 40A 5 / 50ns (repetitive 2.5 kHz)
- VDE 0875 4kV 5 / 30ns (repetitive 10 Hz)
- MIL STD 883C - Method 3015-6  
V<sub>P</sub> = 25kV C = 100pF R = 1500Ω  
3 positive strikes and 3 negative strikes (F = 1 Hz)
- Human body test :  
V<sub>P</sub> = 4kV C = 150pF R = 150Ω



**FUNCTIONAL DIAGRAM**



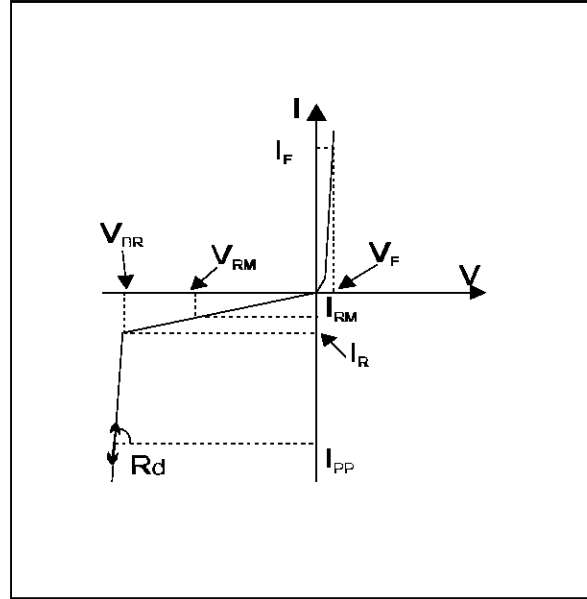
**ABSOLUTE MAXIMUM RATINGS** (0°C ≤ T<sub>amb</sub> ≤ 70°C)

Symbol	Parameter	Value	Unit
V <sub>PP</sub>	Maximum electrostatic discharge MIL STD 883C - METHOD 3015-6	25	kV
T <sub>stg</sub> T <sub>j</sub>	Storage temperature range Maximum junction temperature	- 55 to + 150 125	°C °C

# ESDA6V1U1

## ELECTRICAL CHARACTERISTICS (T<sub>amb</sub> = 25°C)

Symbol	Parameter
V <sub>RM</sub>	Stand-off voltage
V <sub>BR</sub>	Breakdown voltage
V <sub>F</sub>	Forward voltage drop
C	Capacitance
R <sub>d</sub>	Dynamic impedance
I <sub>RM</sub>	Leakage current
I <sub>PP</sub>	Peak pulse current



Type	I <sub>RM</sub> @ V <sub>RM</sub>		V <sub>BR</sub> @ I <sub>R</sub>			V <sub>F</sub> @ I <sub>F</sub>		R <sub>d</sub>	C 1	C 2	αT
	max.		note 1			max.		typ.	typ.	typ.	max.
	note 1		min.	max.		note 1		note 2	note 3	note 4	note 5
	μA	V	V	V	mA	V	mA	Ω	pF	pF	10 <sup>-4</sup> /°C
ESDA6V1U1	2	5	6.1	7.2	1	1.5	200	0.5	100	50	6

**Note 1 :** Between any I/O pin and Ground

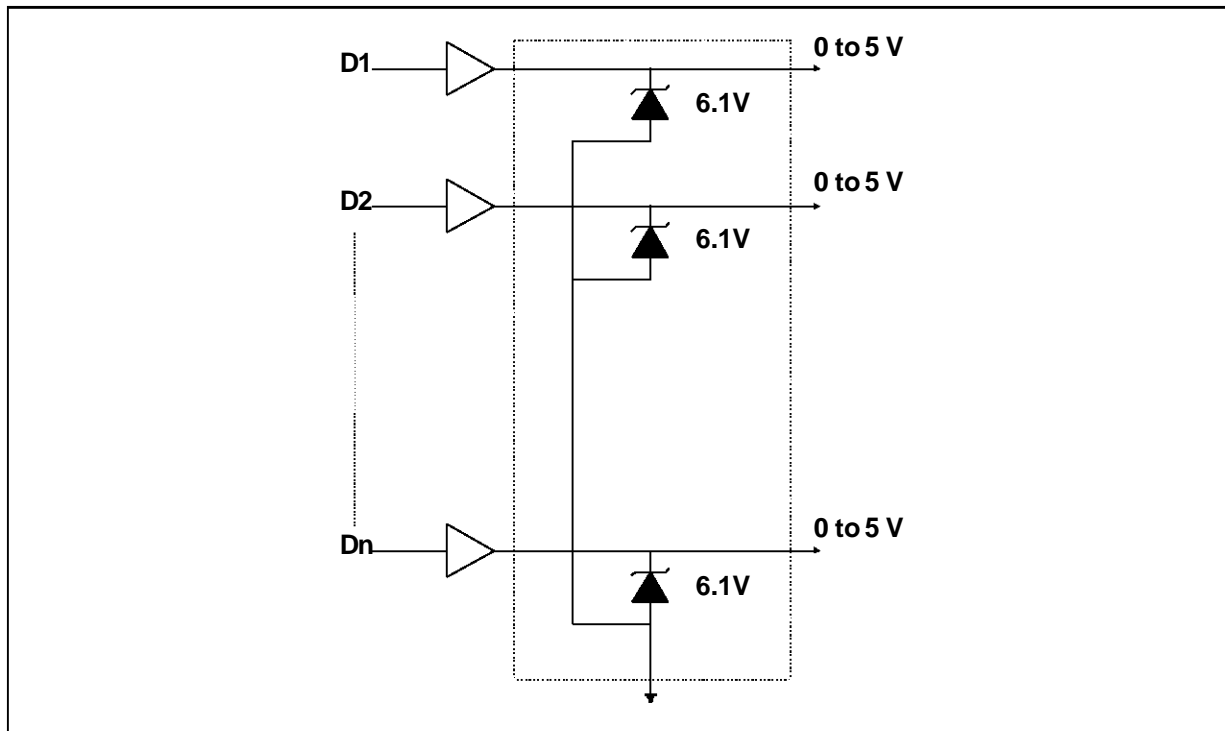
**Note 2 :** I<sub>PP</sub> = 25 A, t<sub>p</sub> = 2.5μs

**Note 3 :** Capacitance value between any I/O pin and Ground at 0V bias

**Note 4 :** Capacitance value between any I/O pin and Ground at V<sub>RM</sub>

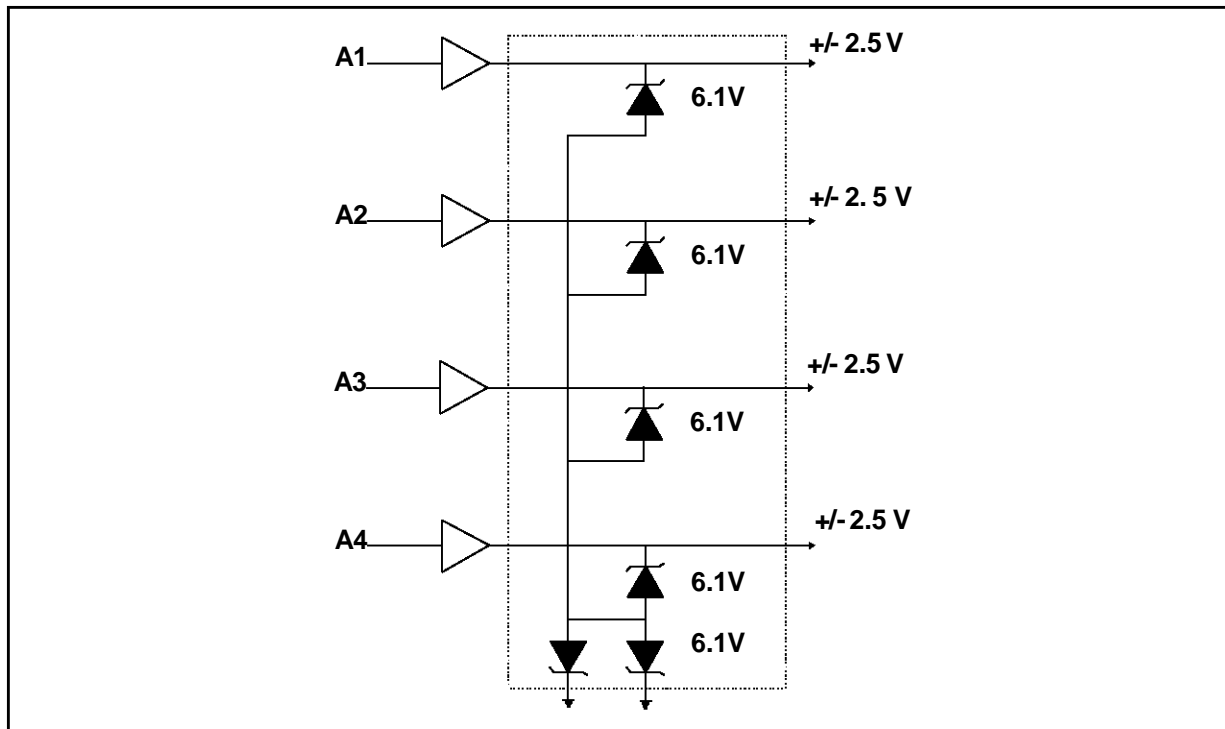
**Note 5 :** ΔV<sub>BR</sub> = αT \* [T<sub>amb</sub>-25] \* V<sub>BR</sub>(25°C)

**APPLICATION EXAMPLE :** Protection of logic-level signals.



**APPLICATION EXAMPLE :** Protection of symmetrical signals.

**Note :** Capacitance value between any I/O pin and Ground is divided by 2.



# ESDA6V1U1

## 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)					
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)					

**Packaging** : Products are supplied in antistatic tubes.

**MARKING** : Logo, Date Code, E6V1U1

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