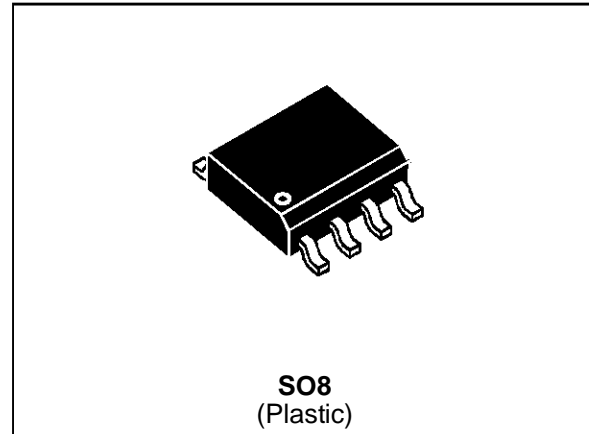


**FEATURES**

- ARRAY OF 12 SURGE-RATED DIODES
- VERY LOW CAPACITANCE
- SUITABLE FOR HIGH-SPEED TRANSMISSION

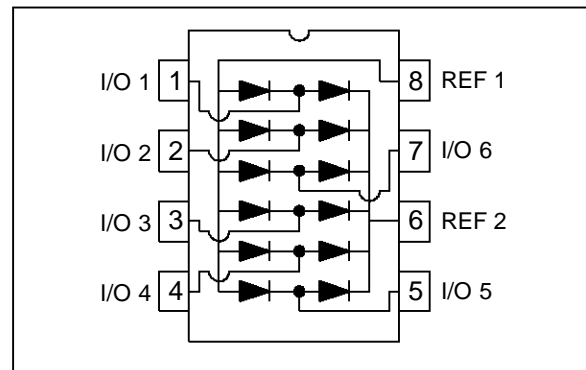


**DESCRIPTION**

Array of diodes configured to clamp six signals to a fixed reference so as to prevent damage caused by overvoltages. The reference can be either the supply rails or a Transil<sup>TM</sup> clamping device.

The diode array can be used for protecting 2 twisted-pair cables, e.g. a 10-BASE-T driver and receiver. If necessary, the diodes can be put in parallel in order to increase surge capability.

**FUNCTIONAL DIAGRAM**



**ABSOLUTE MAXIMUM RATINGS** ( $0^{\circ}\text{C} \leq T_{\text{amb}} \leq 70^{\circ}\text{C}$ )

Symbol	Parameter		Value	Unit
V <sub>RRM</sub>	Repetitive peak reverse voltage (for one single diode)		18	V
I <sub>PP</sub>	Repetitive peak forward current *	8/20 μs	12	A
P <sub>tot</sub>	Power dissipation	T <sub>amb</sub> = 25°C	0.73	W
T <sub>stg</sub>	Storage temperature range		- 55 to + 150	°C
T <sub>j</sub>	Maximum junction temperature		150	°C

(\* The surge is repeated after the device returns to thermal equilibrium)

**THERMAL RESISTANCES**

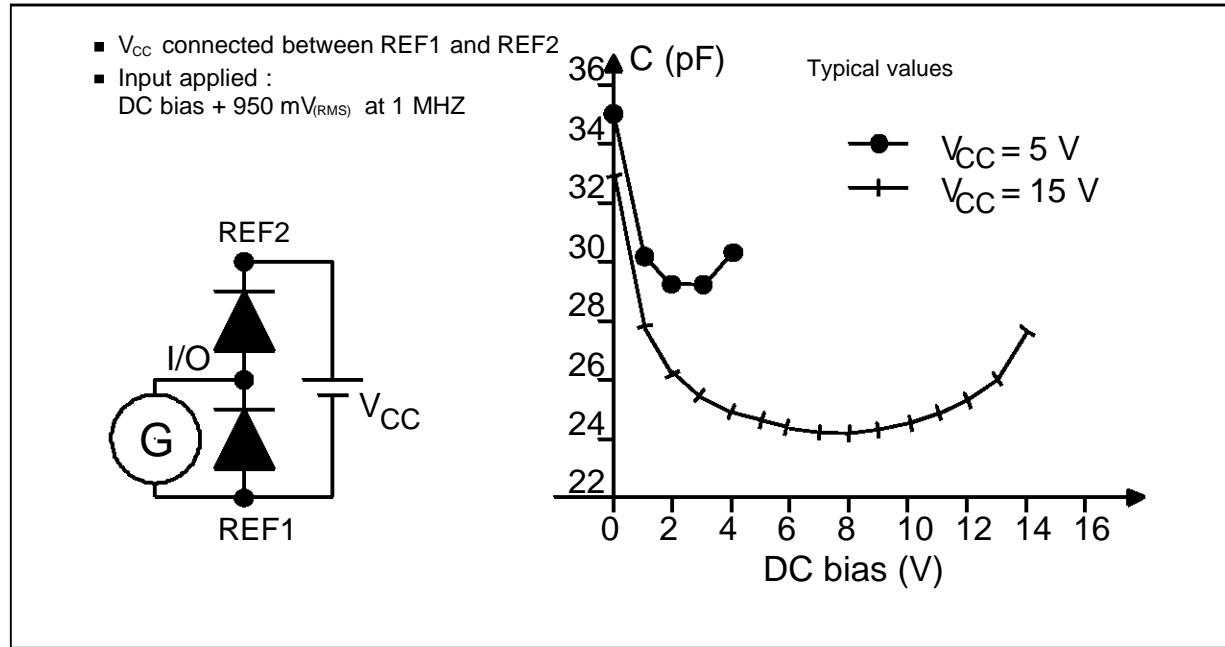
Symbol	Parameter	Value	Unit
R <sub>th(j-a)</sub>	Junction to ambient	170	°C/W
R <sub>th(j-l)</sub>	Junction to leads	60	°C/W

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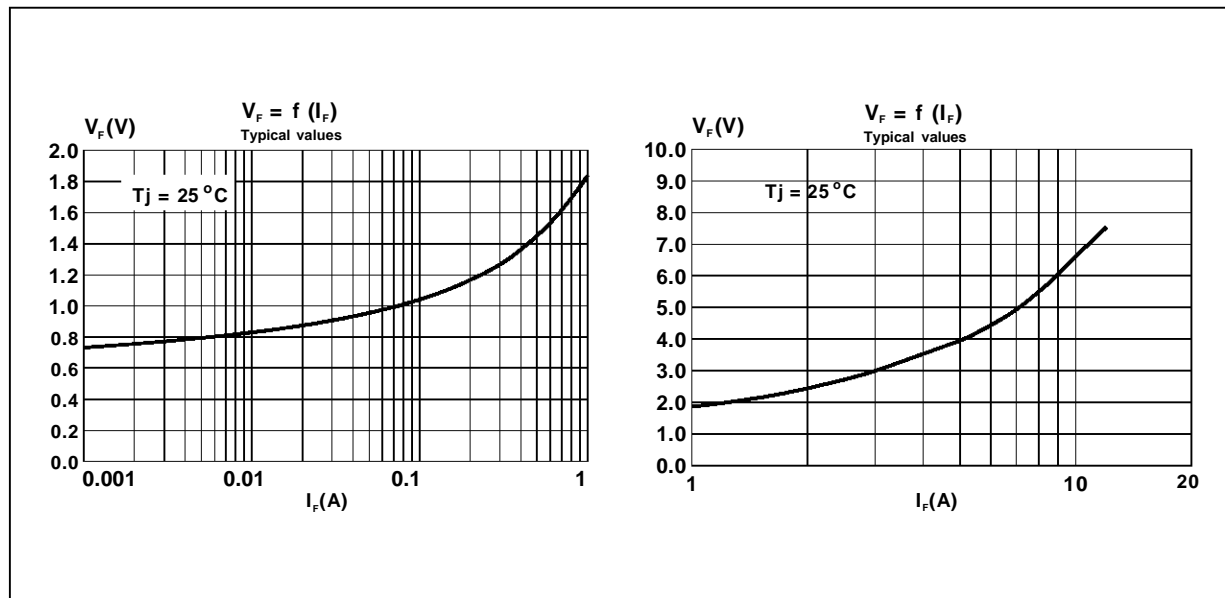
## ELECTRICAL CHARACTERISTICS ( $T_{amb} = 25^{\circ}\text{C}$ )

Symbol	Parameter	Max.	Unit
$V_{FP}$	Peak voltage $I_{PP} = 12\text{A}, 8/20\ \mu\text{s}$	9	V
$V_F$	Formard voltage $I_F = 50\ \text{mA}$	1.2	V
$I_R$	Reverse leakage current $V_R = 15\text{V}$	2	$\mu\text{A}$

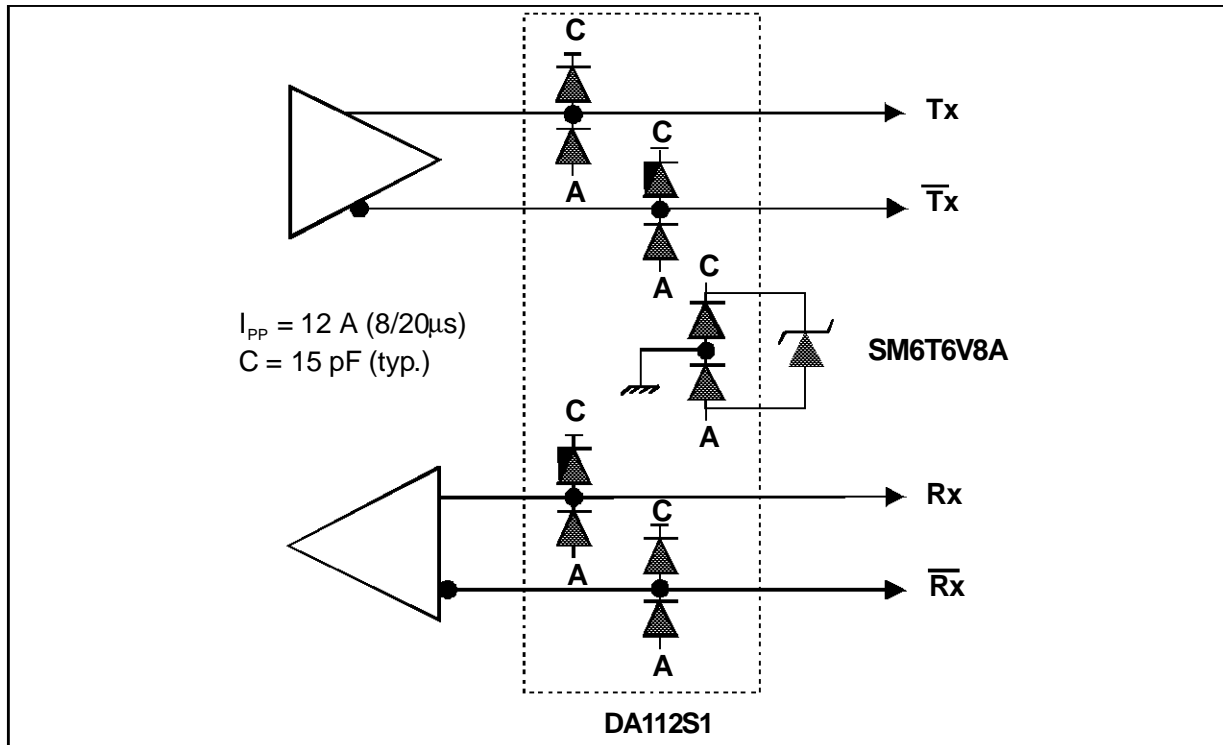
**Fig.1** : Input capacitance



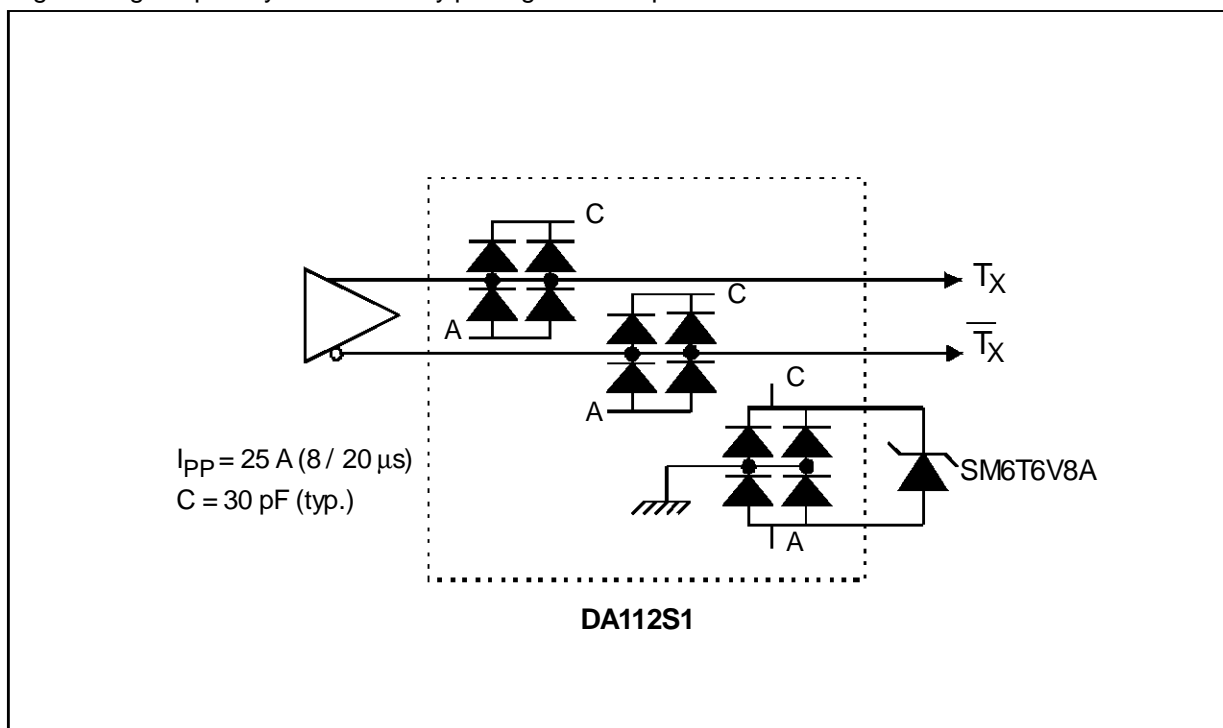
**Fig.2** : Typical peak forward voltage characteristics (8/20 $\mu\text{s}$  pulse)



**APPLICATION 1 : 10-BASE-T Interface Protection**  
 Low capacitance achieved by putting diodes in series

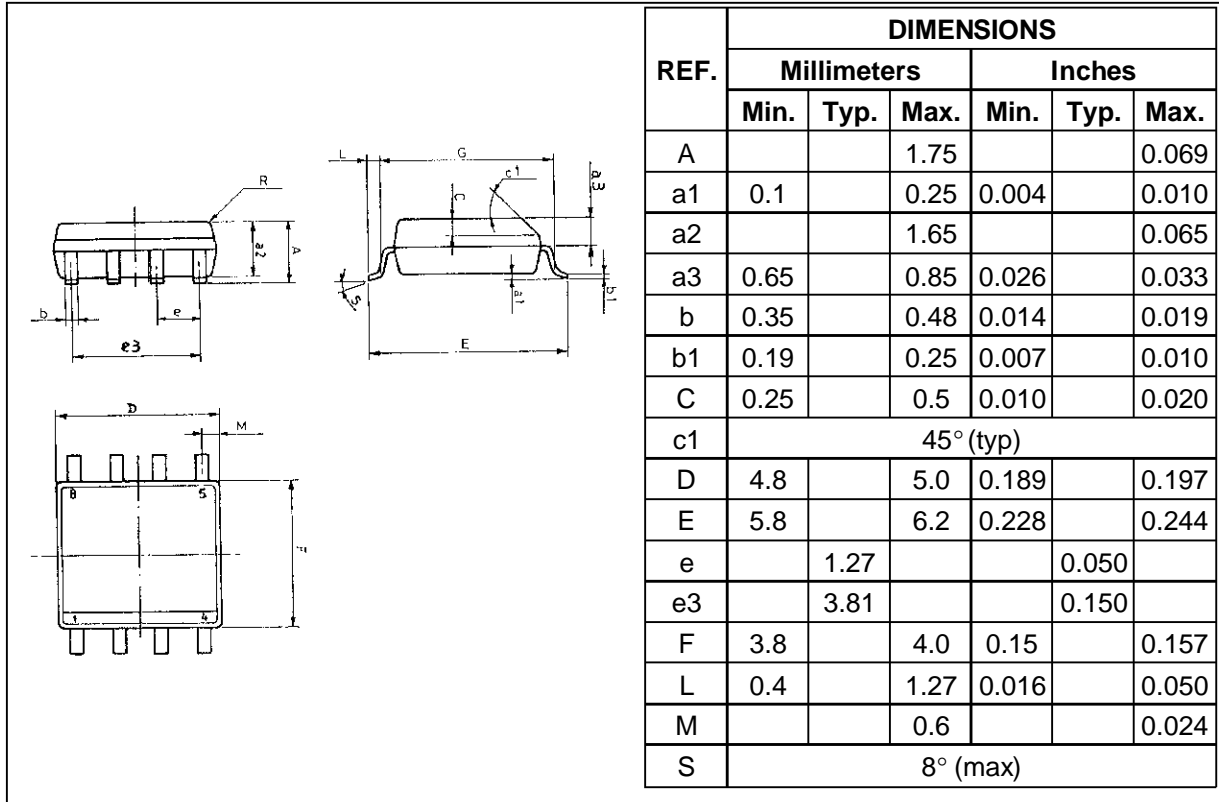


**APPLICATION 2 : Differential driver protection**  
 Higher surge capability is achieved by putting diodes in parallel.



# DA112S1

## PACKAGE MECHANICAL DATA SO8 (plastic)



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

**MARKING :** Logo, Data Code, DA112S

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