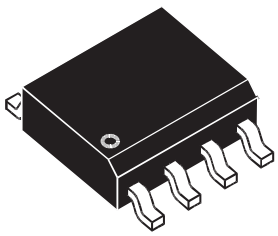
DA108S1
DA112S1

Application Specific Discretes
A.S.D.™

DIODE ARRAY



SO-8

APPLICATION

Protection of logic side of ISDN S-interface.

Protection of I/O lines of microcontroller.

Signal conditioning.

FEATURES

- ARRAY OF 8 OR 12 DIODES
- LOW INPUT CAPACITANCE
- SUITABLE FOR DIGITAL LINE PROTECTION

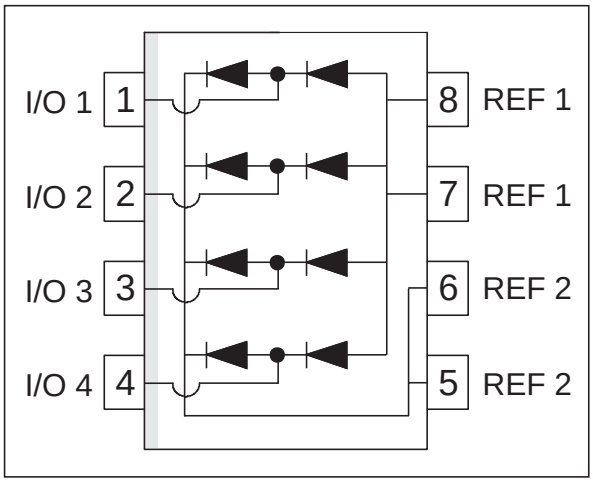
DESCRIPTION

ARRAY of 8 or 12 diodes configured by cells of 2 diodes, each cell being used to protect signal line from transient overvoltages by clamping action.

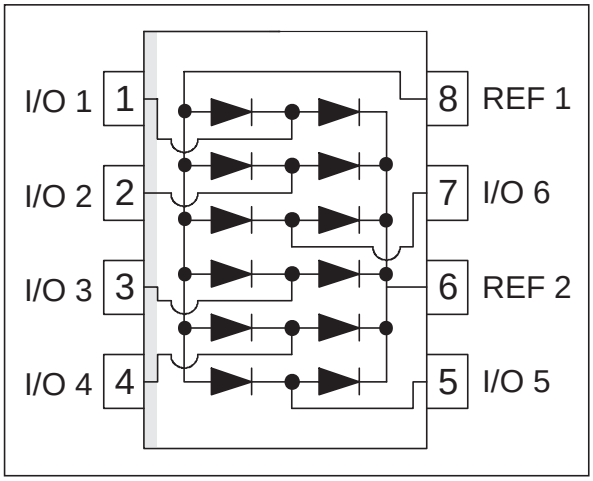
COMPLIES WITH FOLLOWING STANDARDS :

IEC1000-4-22 level 4: 15kV (air discharge)
8kV (contact discharge)

FUNCTIONAL DIAGRAM : DA108S1



FUNCTIONAL DIAGRAM : DA112S1



ABSOLUTE MAXIMUM RATINGS (T_{amb} = 25°C)

Symbol	Parameter		Value	Unit
V_{RRM}	Repetitive peak reverse voltage (for one single diode)		18	V
I_{PP}	Repetitive peak forward current *	8/20 µs	12	A
P	Power dissipation		0.73	W
Tstg Tj	Storage temperature range Maximum operating junction temperature		- 55 to + 150 150	°C
T_L	Maximum lead temperature for soldering during 10s.		260	°C

* The surge is repeated after the device returns to ambient temperature

THERMAL RESISTANCES

Symbol	Parameter	Value	Unit
$R_{th\ (j-a)}$	Junction to ambient	170	°C/W

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

Symbol	Parameter			Max.	Unit
V_{FP}	Peak forward voltage	I_{PP} = 12A, 8/20 µs	DA108S1 DA112S1	9 12	V
V_F	Forward voltage	I_F = 50 mA		1.2	V
I_R	Reverse leakage current	V_R = 15V		2	µA

Fig.1 : Input capacitance

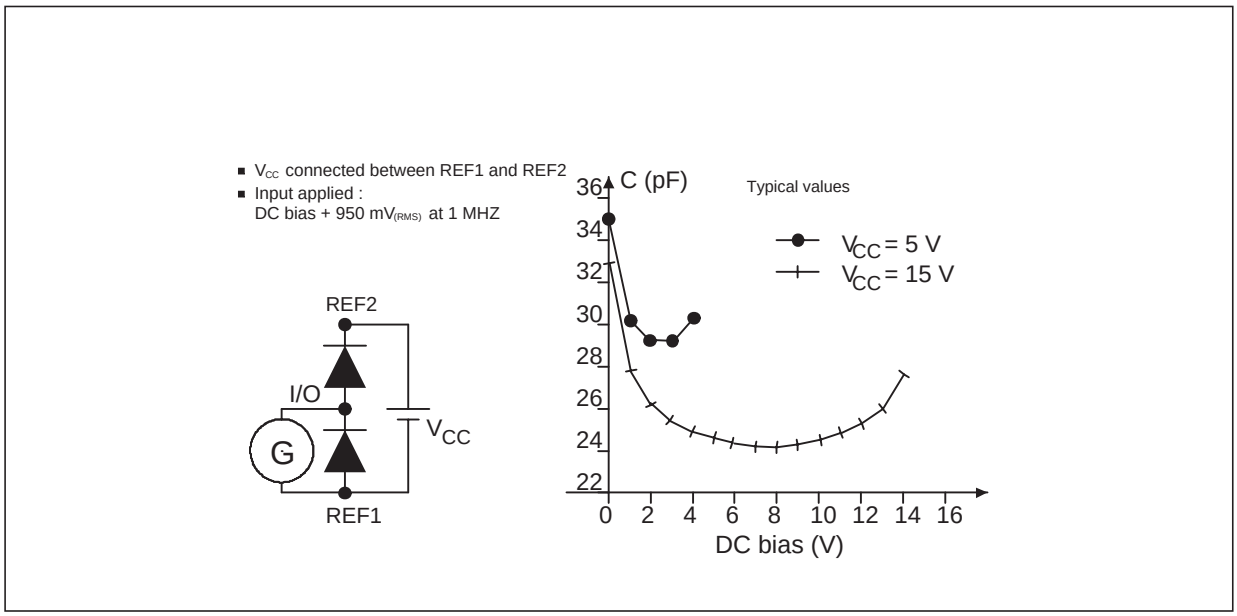
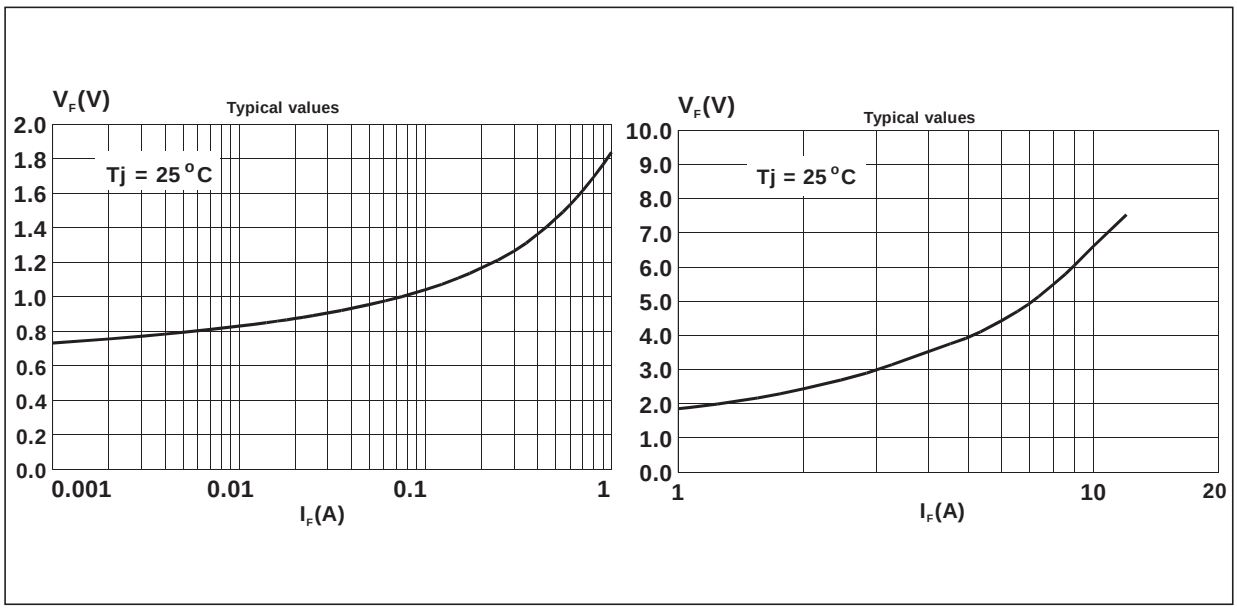
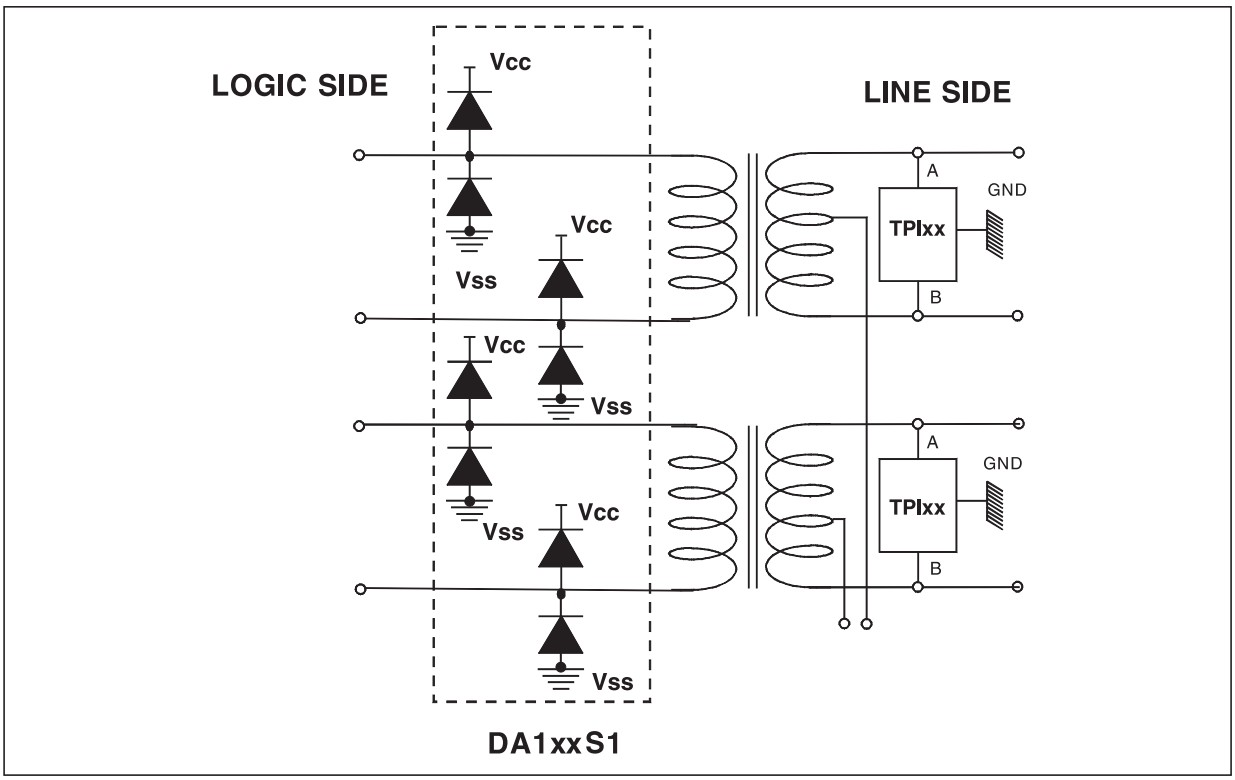


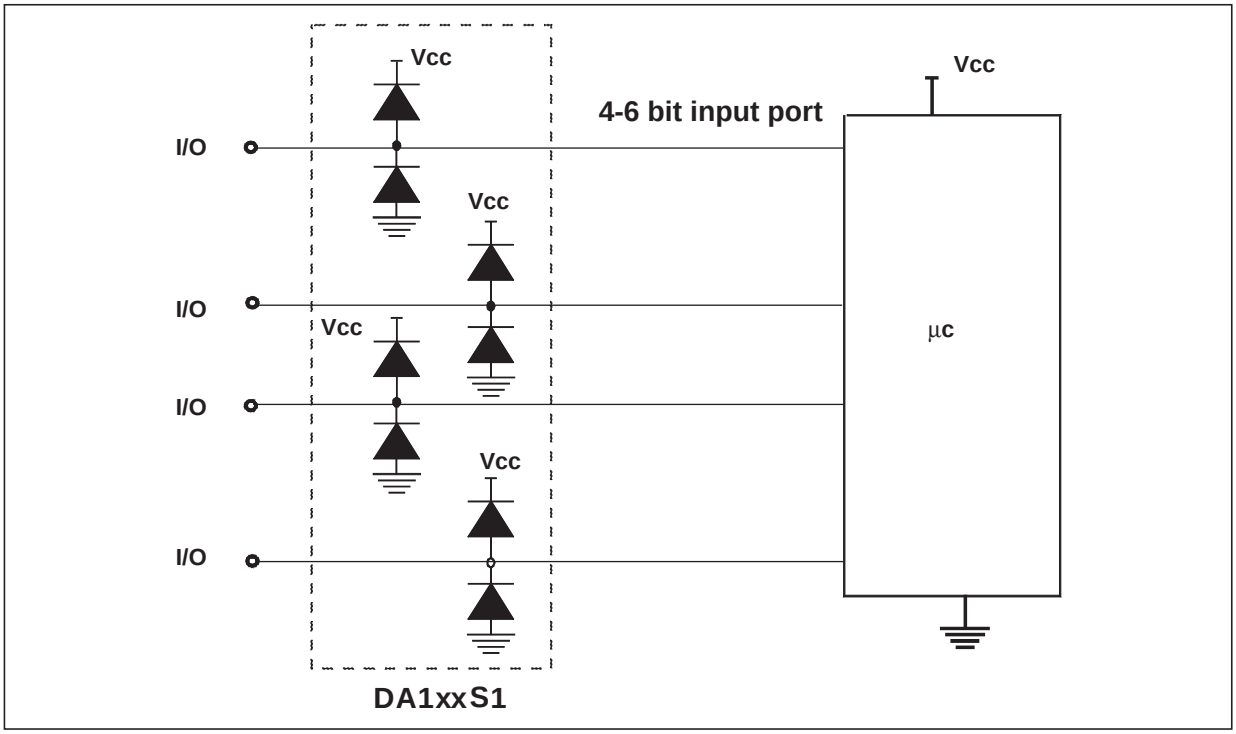
Fig.2 : Typical peak forward voltage characteristics (8/20µs pulse)



APPLICATION 1 : ISDN Interface Protection
Residual lightning surges at transformer secondary are suppressed by DA108S1

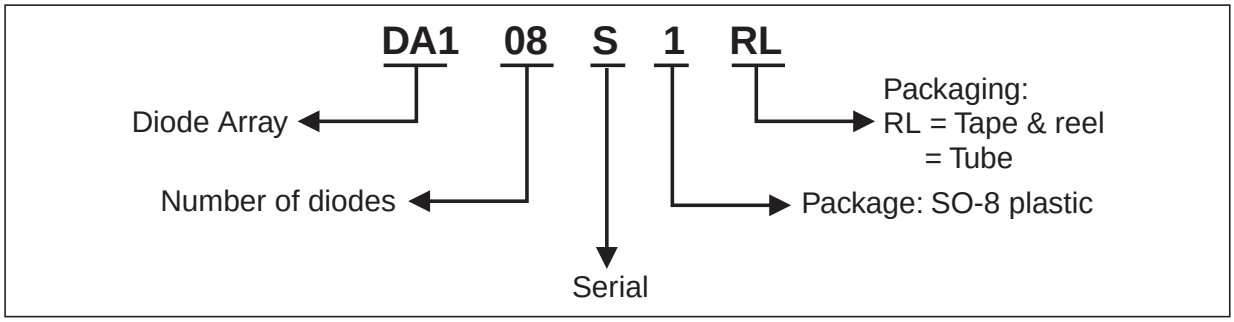


APPLICATION 2 : Microcontroller I/O port protection



IMPORTANT : DA108S1 must imperatively be connected to the reference voltages by REF1 and REF2.

ORDER CODE



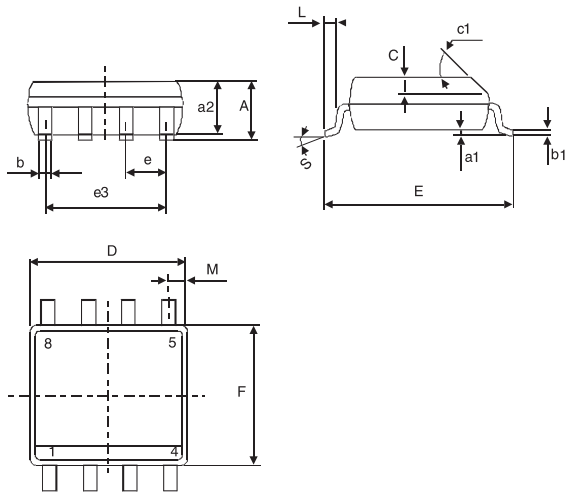
MARKING : Logo, Data Code,

DA108S1	DA108S
DA112S1	DA112S

Packaging : Preference packaging is tape and reel.

PACKAGE MECHANICAL DATA

SO-8 (Plastic)



REF.	DIMENSIONS					
	Millimetres			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
b	0.35		0.48	0.014		0.019
b1	0.19		0.25	0.007		0.010
C		0.50			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)					

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