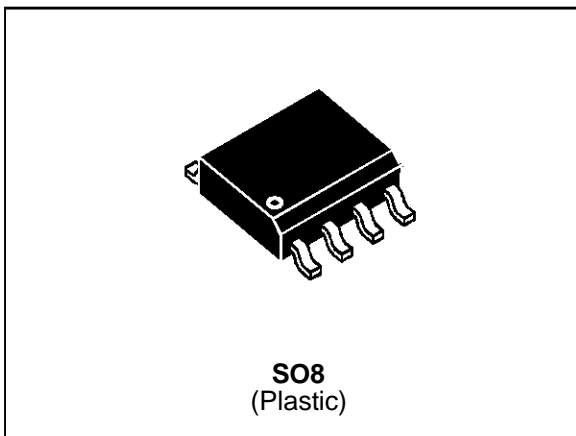


FEATURES

- ARRAY OF EIGHT DIODES
- IDEAL FOR CLAMPING SIGNALS TO SUPPLY RAILS
- SUITABLE FOR ISDN PROTECTION APPLICATIONS

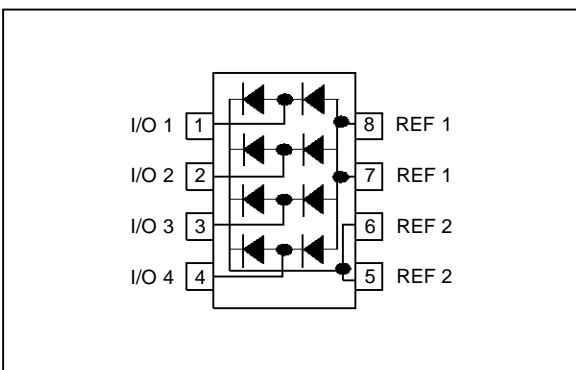


DESCRIPTION

Array of diodes configured to clamp four signals to a fixed reference so as to prevent damage caused by overvoltages. The reference can be either the supply rails or a TransilTM clamping device.

The diode array can be used for protecting the low-voltage side of an ISDN S interface. Other applications include microcontroller input port protection and signal conditioning.

FUNCTIONAL DIAGRAM



ABSOLUTE MAXIMUM RATINGS (0°C ≤ T_{amb} ≤ 70°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 _{tot}	Power dissipation	T _{amb} = 25°C	0.73	W
T _{stg}	Storage temperature range		- 55 to + 150	°C
T _j	Maximum junction temperature		150	°C

(* The surge is repeated after the device returns to its initial conditions)

THERMAL RESISTANCES

Symbol	Parameter	Value	Unit
R _{th(j-a)}	Junction to ambient	170	°C/W
R _{th(j-l)}	Junction to leads	60	°C/W

DA108S1

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

Symbol	Parameter		Max.	Unit
V _{FP}	Peak voltage	I _{PP} = 12A, 8/20 μs	9	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

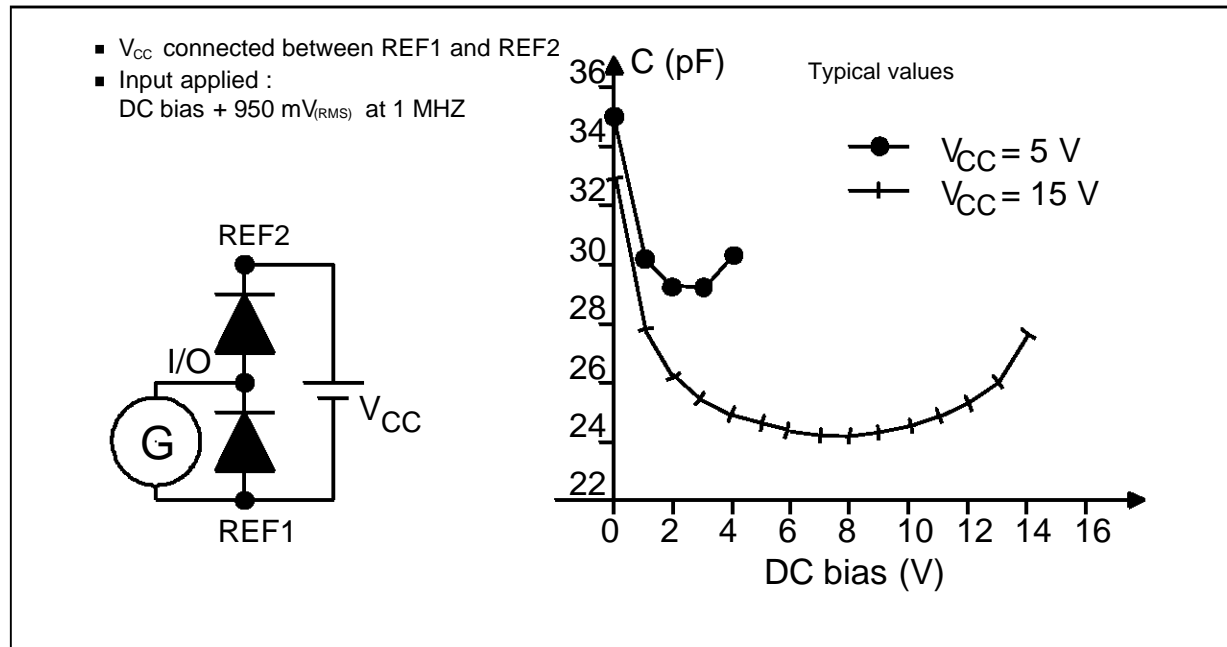
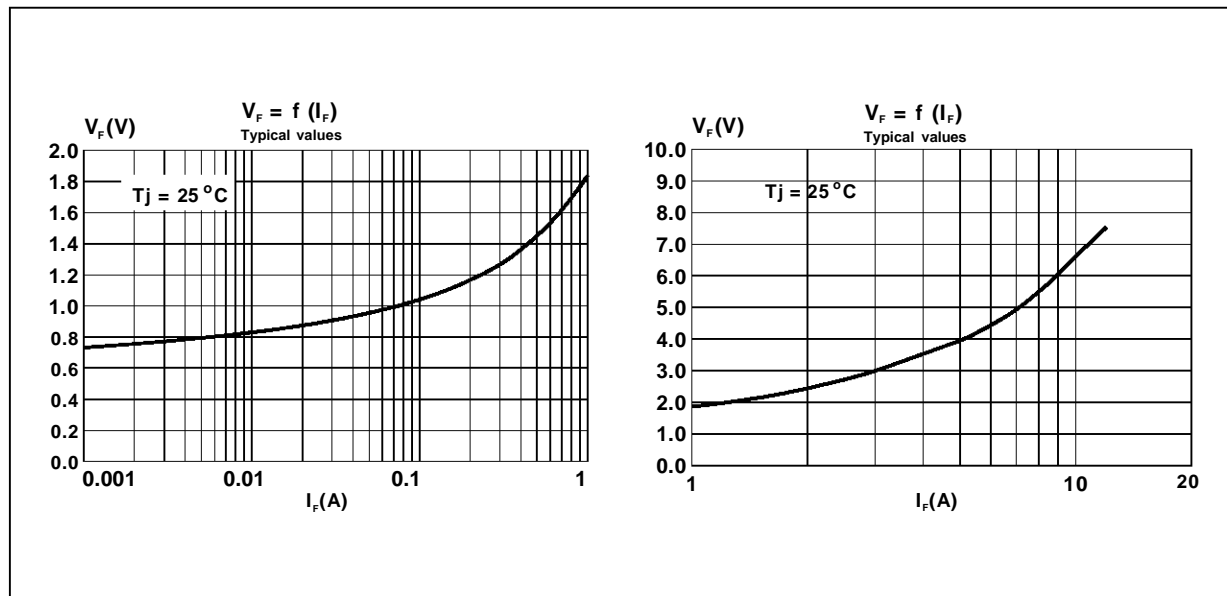
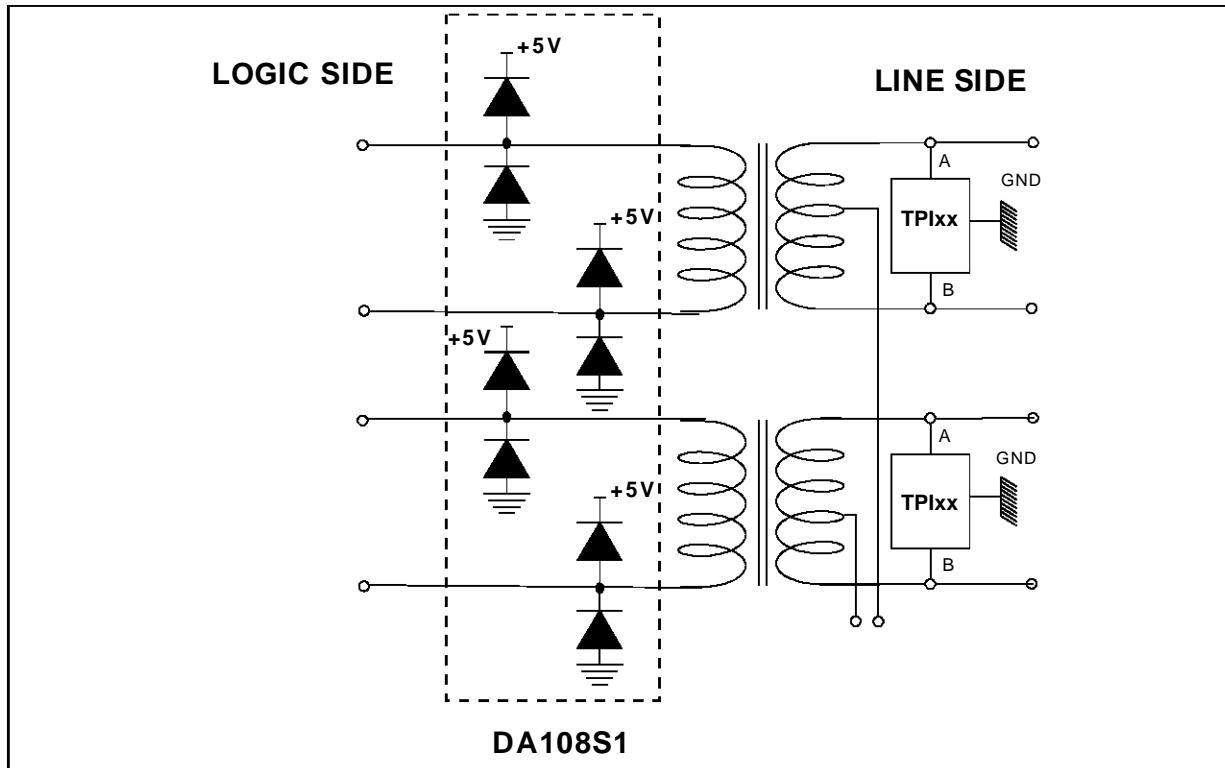


Fig.2 : Typical peak forward voltage characteristics (8/20μs pulse)



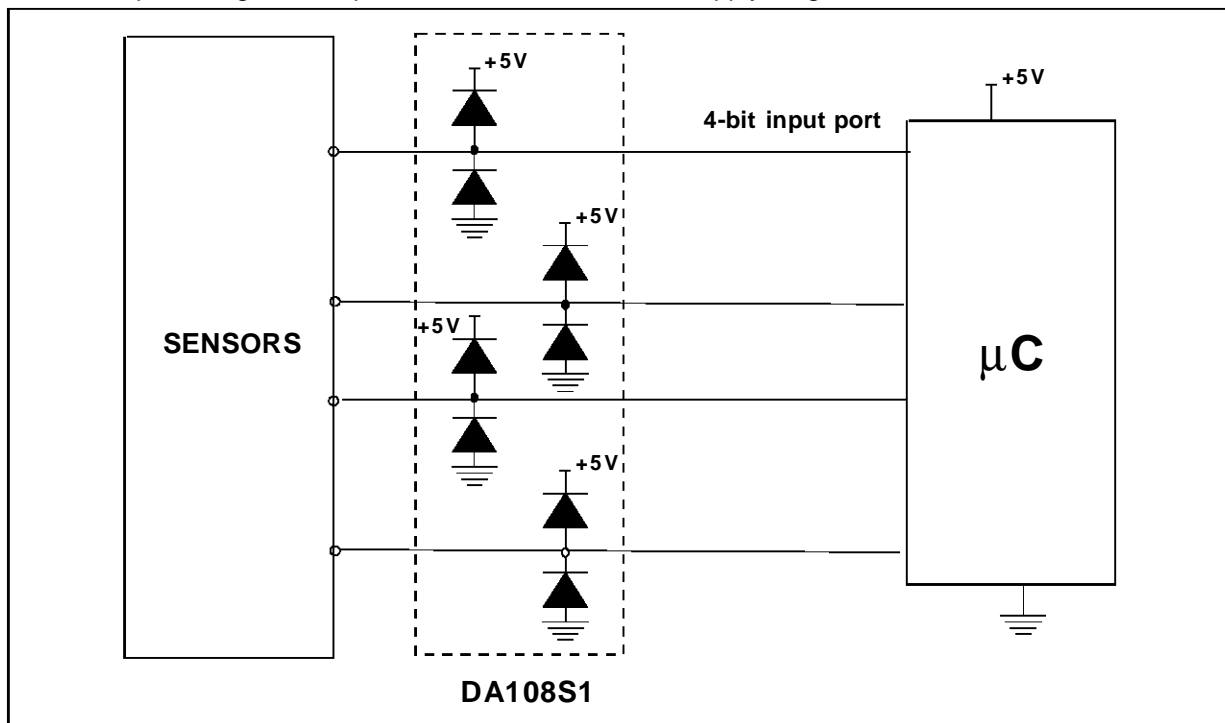
APPLICATION 1 : ISDN Interface Protection

Residual lightning surges at transformer secondary are suppressed by DA108S1



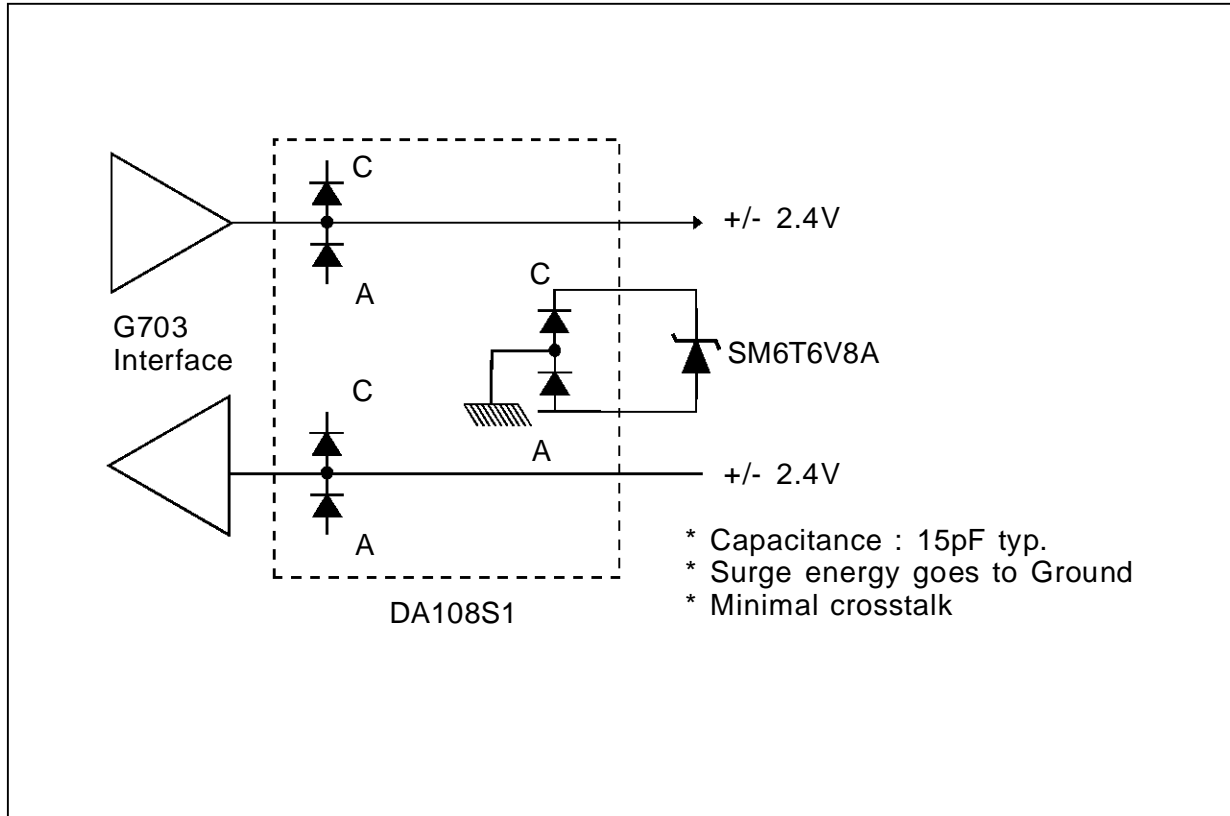
APPLICATION 2 : Microcontroller Input Signal Conditioning

Sensor output voltage is clamped to within microcontroller supply range



DA108S1

APPLICATION 3 : High-speed transmission protection



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 supplied in antistatic tubes.

MARKING : Logo, Data Code, DA108S

Information furnished is believed to be accurate and reliable. However, SGS-THOMSON Microelectronics assumes no responsibility for the consequences of use of such information nor for any infringement of patents or other rights of third parties which may result from its use. No license is granted by implication or otherwise under any patent or patent rights of SGS-THOMSON Microelectronics. Specifications mentioned in this publication are subject to change without notice. This publication supersedes and replaces all information previously supplied. SGS-THOMSON Microelectronics products are not authorized for use as critical components in life support devices or systems without express written approval of SGS-THOMSON Microelectronics.

© 1995 SGS-THOMSON Microelectronics - Printed in Italy - All rights reserved.

SGS-THOMSON Microelectronics GROUP OF COMPANIES

Australia - Brazil - France - Germany - Hong Kong - Italy - Japan - Korea - Malaysia - Malta - Morocco - The Netherlands
 Singapore - Spain - Sweden - Switzerland - Taiwan - Thailand - United Kingdom - U.S.A.