DALC112S1

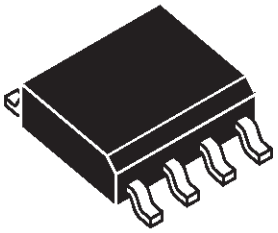
Application Specific Discretes
A.S.D.™

LOW CAPACITANCE DIODE ARRAY FOR ESD PROTECTION

MAIN APPLICATIONS

Where ESD protection for high speed datalines is required :

- LAN / WAN equipment
- Computer I/O
- Graphic video port
- Set top box I/O



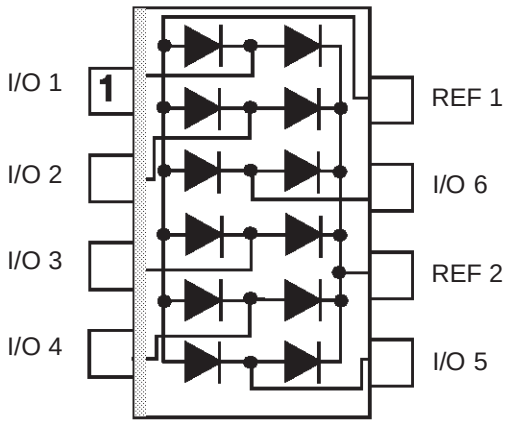
SO8

DESCRIPTION

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

Its very low capacitance allows to protect fast signals with no distortion. It is particularly suited for the protection of graphic video ports.

FUNCTIONAL DIAGRAM



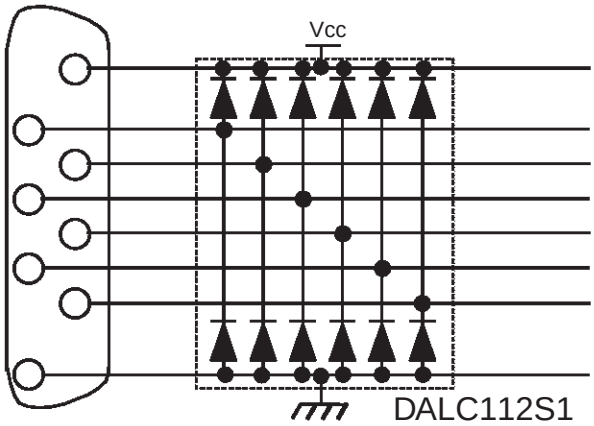
FEATURES

- ARRAY OF 12 DIODES FOR ESD PROTECTION.
- PEAK REVERSE VOLTAGE V_{RRM}= 18V PER DIODE.
- VERY LOW CAPACITANCE PER DIODE : C < 5pF.
- VERY LOW LEAKAGE CURRENT : I_R < 2 µA.

COMPLIES WITH THE FOLLOWING STANDARDS :

IEC 1000-4-2 level 3	8 kV (air discharge) 6 kV (contact discharge)

TYPICAL APPLICATION



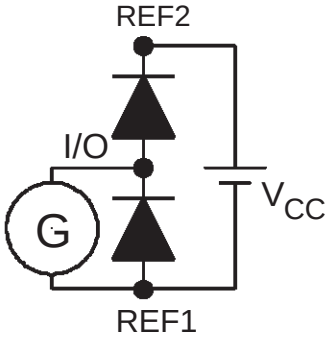
ABSOLUTE MAXIMUM RATINGS (T_{amb} = 25°C).

Symbol	Parameter	Value	Unit
V_{RRM}	Peak reverse voltage per diode	18	V
T_{stg} T_j	Storage temperature range Maximum junction temperature	-55 to + 150 150	°C °C

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

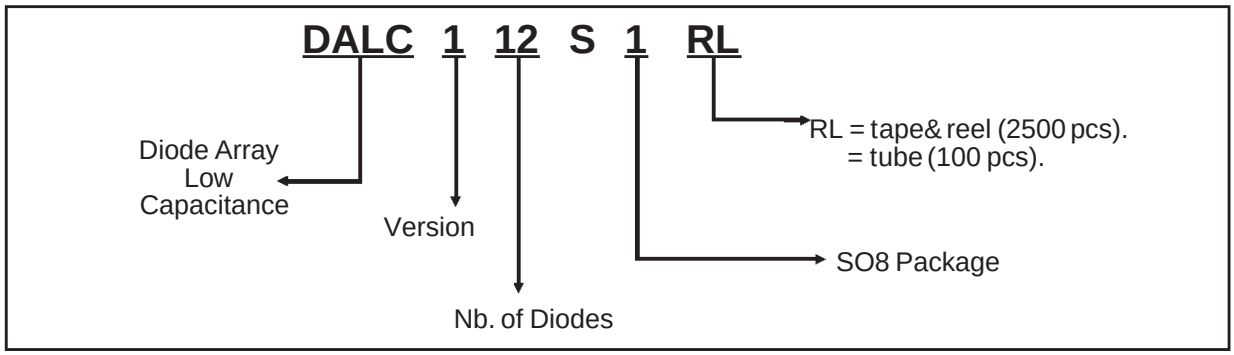
Symbol	Parameter		Typ.	Max.	Unit
V_F	Forward voltage	I_F = 50 mA		1.3	V
I_R	Reverse leakage current per diode	V_R = 15 V		2	µA
C	Input capacitance between Line and GND V_{cc} = 5 V, V_{RMS} = 30 mV, F = 1 MHz (see figure 1 below)		7		pF

Fig 1 : Input capacitance measurement



- +Vcc connected between REF1 and REF2
- Input applied :
  Vcc = 5V, VRMS = 30 mV, F = 1 MHz

ORDER CODE

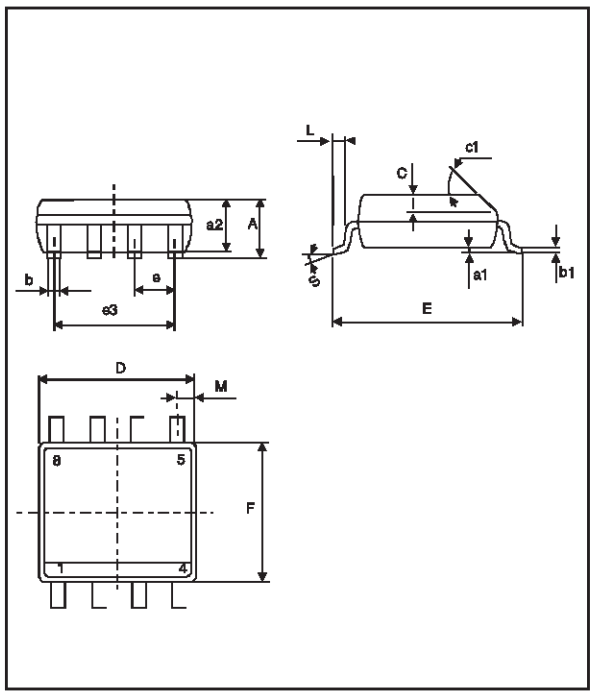


MARKING

Type	Marking	Order Code	Packaging (Base Qty)
DALC112S1	DALC12	DALC112S1 DALC112S1RL	tube (100) tape & reel (2500)

PACKAGE MECHANICAL DATA

SO8 (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)					

PACKAGING : Preferred packaging is tape and reel.

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