



Application Specific Discretes
A.S.D.™

ESDA6V1-5SC6 TRANSIL™ ARRAY FOR ESD PROTECTION

APPLICATIONS

Where transient overvoltage protection in ESD sensitive equipment is required, such as :

- Computers
- Printers
- Communication systems
- Cellular phone handsets and accessories
- Other telephone sets
- Set top boxes

DESCRIPTION

The ESDA6V1-5SC6 is a 5-bit wide monolithic suppressor which is designed to protect against ESD components connected to data and transmission lines.

FEATURES

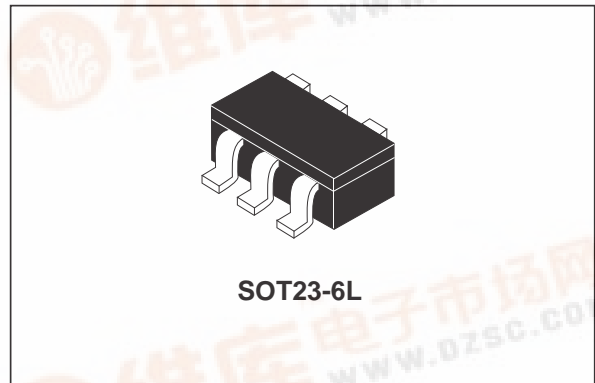
- 5 UNIDIRECTIONAL TRANSIL™ FUNCTIONS
- BREAKDOWN VOLTAGE: VBR = 6.1V min
- LOW LEAKAGE CURRENT: $I_R \max < 1 \mu A$

BENEFITS

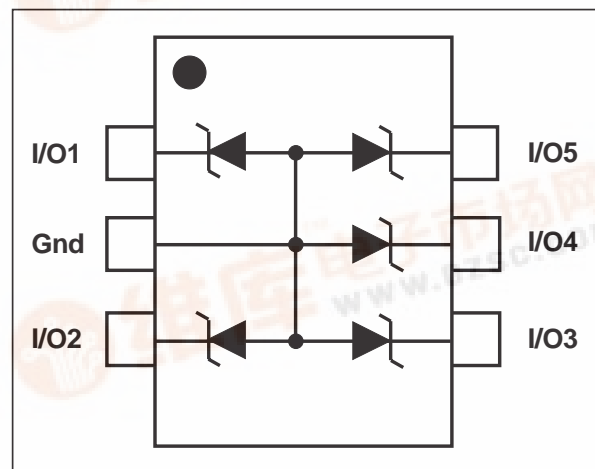
- High integration
- Suitable for high density boards

COMPLIES WITH THE FOLLOWING STANDARDS:

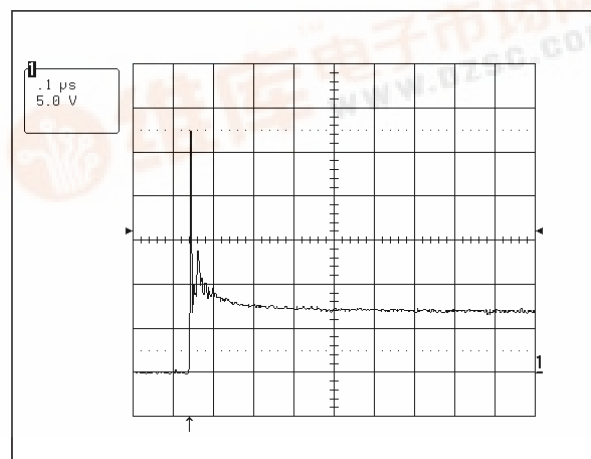
		Test kV	Max current
IEC 61000-4-2 level 4	Air	15	-
	Contact	8	30 A
MIL STD 883C-Method 3015.7 class3 (human body model)	Contact	> 4	> 2.67 A



FUNCTIONAL DIAGRAM



ESD response to IEC61000-4-2 (air discharge 16kV, positive surge)



ESDA6V1-5SC6

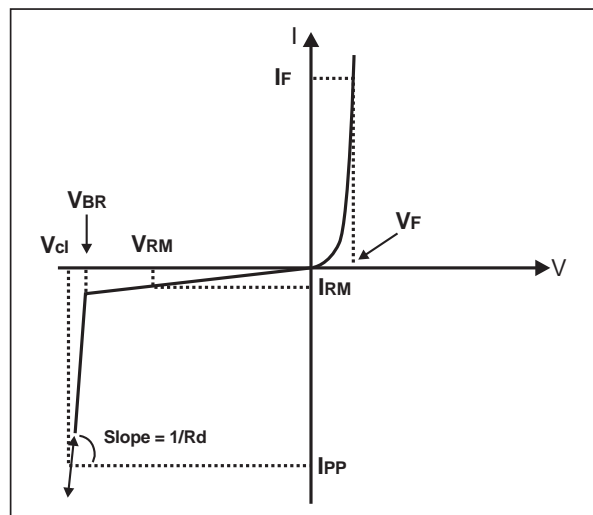
ABSOLUTE MAXIMUM RATINGS (T_{amb} = 25°C)

Symbol	Test conditions	Value	Unit
V _{PP}	ESD discharge - MIL STD 883E - Method 3015-7 IEC 61000-4-2 air discharge IEC 61000-4-2 contact discharge	25 20 15	kV
P _{PP}	Peak pulse power (8/20μs)	100	W
T _j	Junction temperature	150	°C
T _{stg}	Storage temperature range	-55 to +150	°C
T _L	Lead solder temperature (10 seconds duration)	260	°C
T _{op}	Operating temperature range (note 1)	-40 to +125	°C

Note 1: The evolution of the operating parameters versus temperature is given by curves and αT parameter.

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

Symbol	Parameter
V _{RM}	Stand-off voltage
V _{BR}	Breakdown voltage
V _{CL}	Clamping voltage
I _{RM}	Leakage current
I _{PP}	Peak pulse current
αT	Voltage temperature
C	Capacitance
R _d	Dynamic impedance
V _F	Forward voltage drop



Type	V _{BR} @ I _r			I _{RM} @ V _{RM}		R _d	αT	C	V _F @ I _F	
	min.	max.		max.		typ.	max.	typ.	max	
	V	V	mA	μA	V	mΩ	10 ⁻⁴ /°C	pF	V	mA
ESDA6V1-5SC6	6.1	7.2	1	1	3	590	6	50	1.25	200

Note 2 : Square pulse, I_{pp} = 15A, t_p = 2.5μs.

Note 3: $\Delta V_{BR} = \alpha T * (T_{amb} - 25^\circ C) * V_{BR} (25^\circ C)$

Fig. 1: Peak power dissipation versus initial junction temperature.

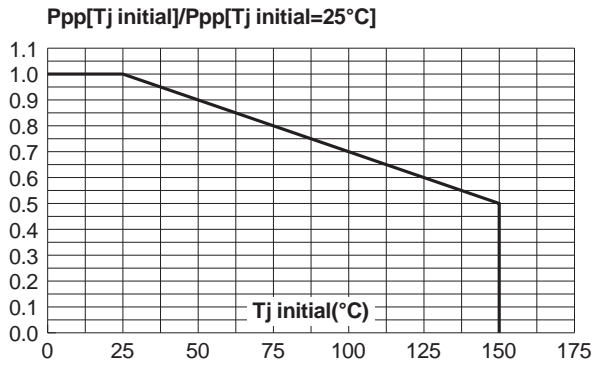


Fig. 2: Peak pulse power versus exponential pulse duration (Tj initial = 25°C).

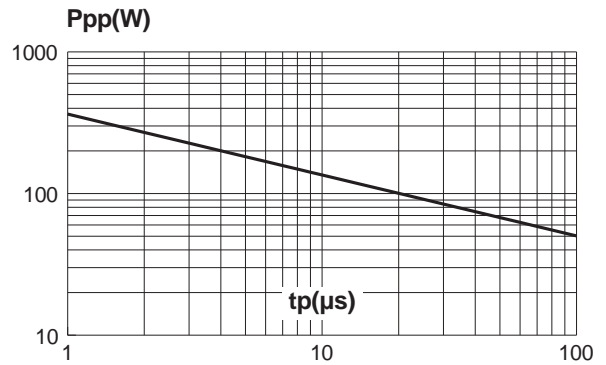


Fig. 3: Clamping voltage versus peak pulse current (Tj initial = 25°C) Rectangular waveform tp = 2.5µs.

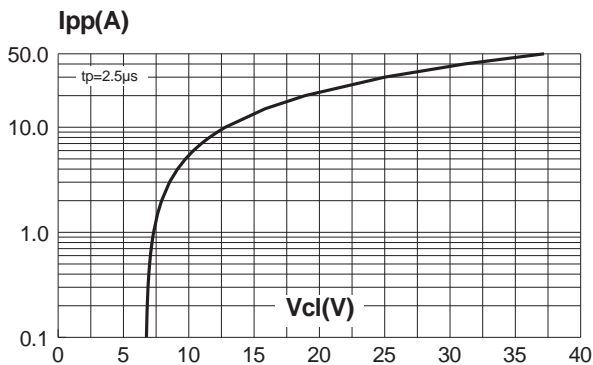


Fig. 4: Capacitance versus reverse applied voltage (typical values).

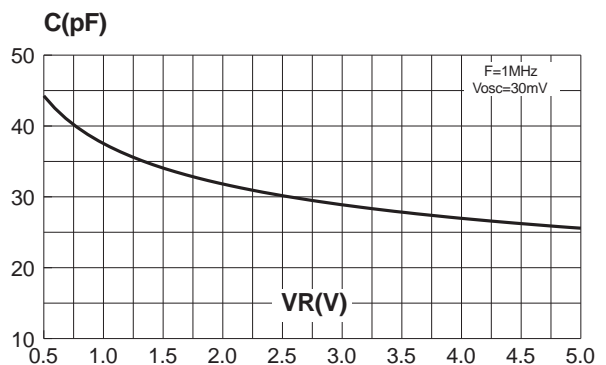


Fig. 5: Relative variation of leakage current versus junction temperature (typical values).

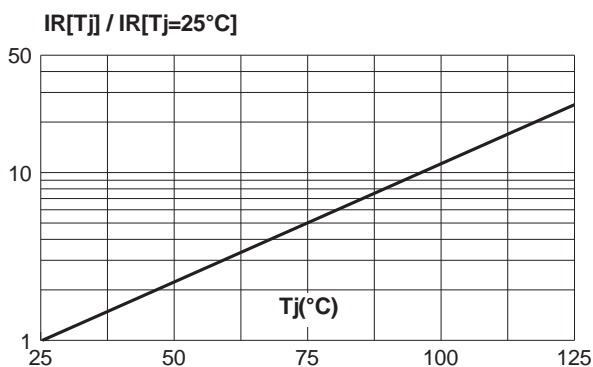
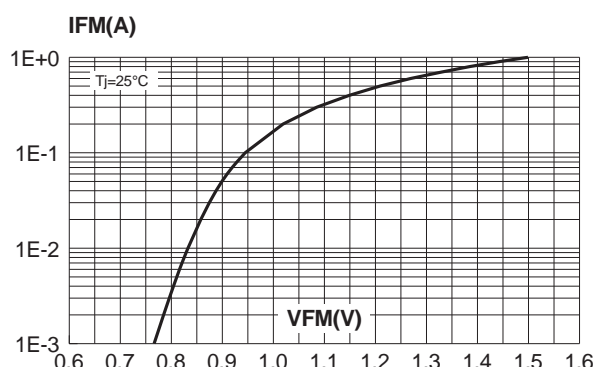
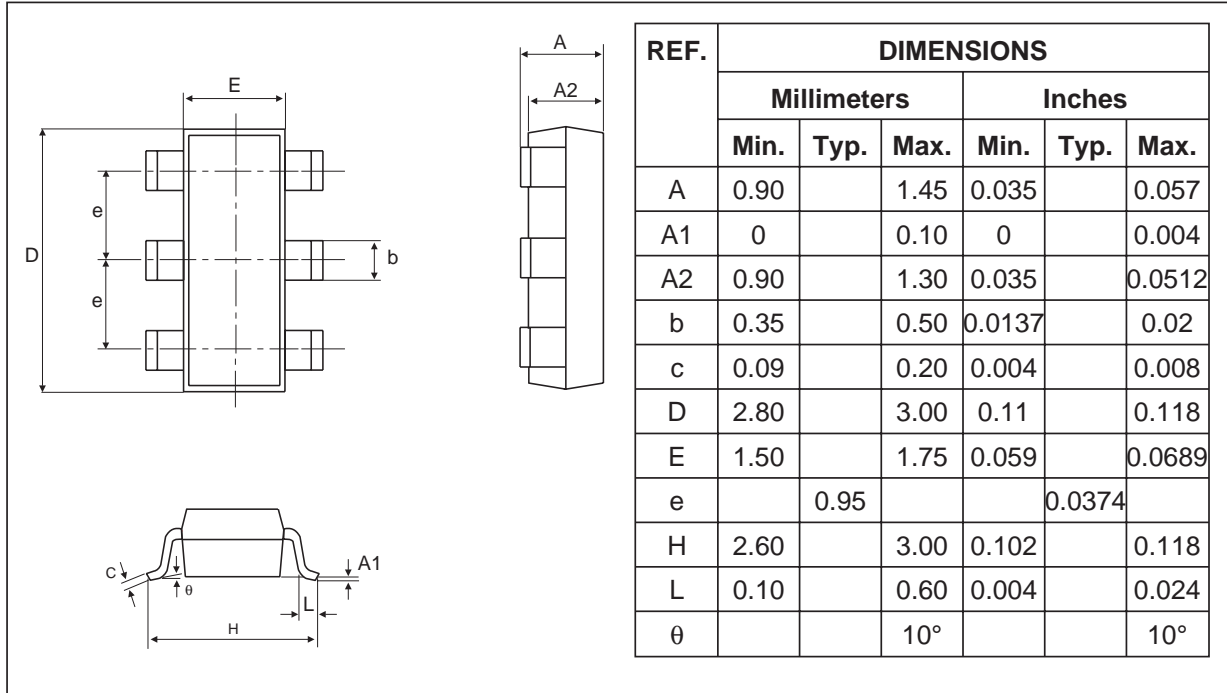


Fig. 6: Peak forward voltage drop versus peak forward current (typical values).

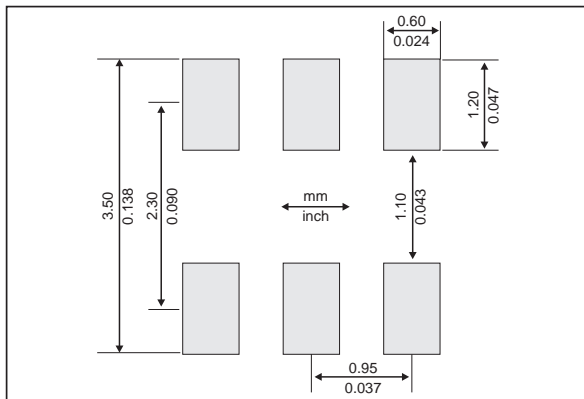


ESDA6V1-5SC6

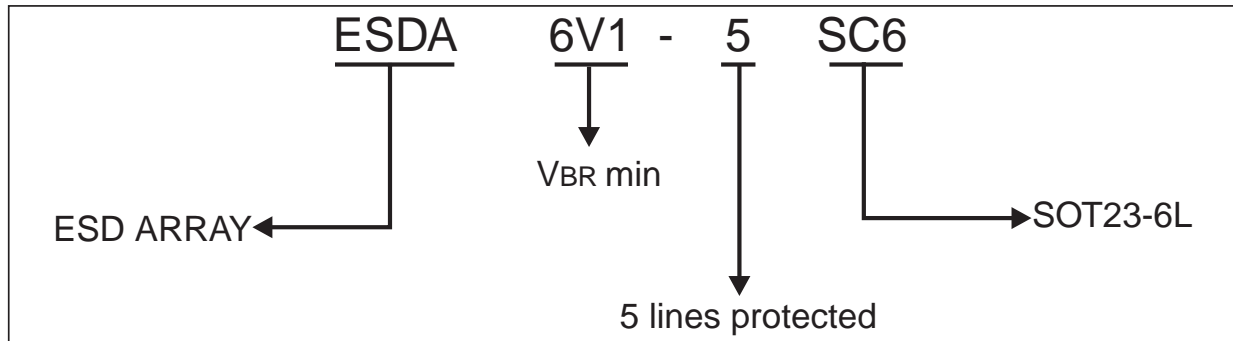
PACKAGE MECHANICAL DATA SOT23-6L



FOOT PRINT



ORDER CODE



MARKING

Type	Marking	Package	Weight	Base Qty	Delivery mode
ESDA6V1-5SC6	EC62	SOT23-6L	16.7 mg	3000	Tape & Reel

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