



Application Specific Discretes
A.S.D.™

ESDA17/19-5SC6

TRANSIL™ ARRAY FOR ESD PROTECTION

APPLICATIONS

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

- Computers
- Printers and other peripherals
- Communications systems
- Cellular phone handsets and accessories
- Other telephone sets
- Consumer Electronics (Set top boxes, DVD players, TV sets)

DESCRIPTION

The ESDA17/19-5SC6 is a monolithic array designed to protect up to 5 lines against ESD transients.

The device is ideal for applications where board space saving is required.

FEATURES

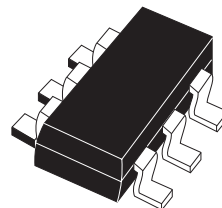
- 5 Unidirectional transil™ functions
- Minimum breakdown voltage range $V_{BRmin} = 17V$ or $19V$
- Peak pulse power (8/20 μs); 150W
- Tiny leakage current at stand-off voltage: < 100nA

BENEFITS

- High ESD protection level
- High integration
- Suitable for high density boards

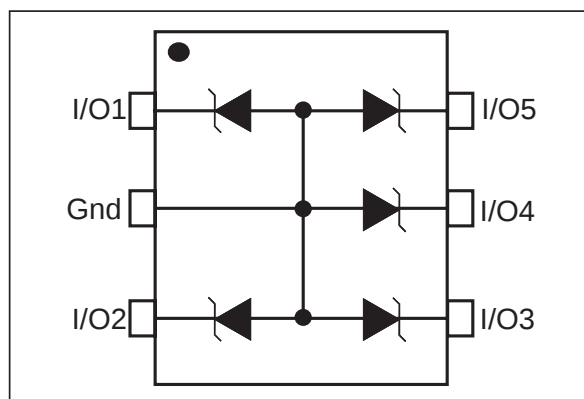
COMPLIES WITH THE FOLLOWING STANDARDS:

- IEC61000-4-2: 15 kV (air discharge)
8 kV (contact discharge)
- MIL STD 883E-Method 3015-7: class3
25kV (human body model)



SOT23-6L
ESDAxx-5SC6

FUNCTIONAL DIAGRAM SOT23-6L



ESDA17/19-5SC6

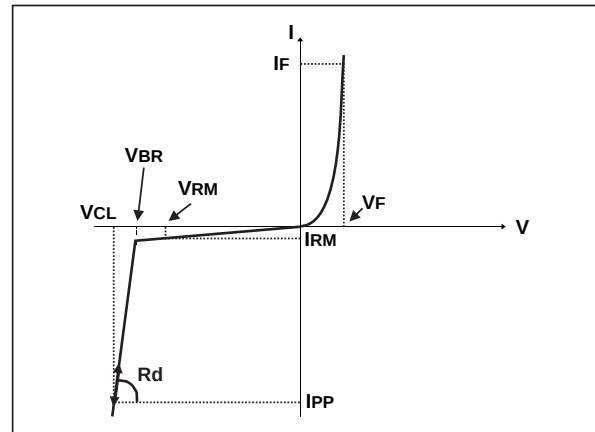
ABSOLUTE MAXIMUM RATINGS ($T_{amb} = 25^{\circ}\text{C}$)

Symbol	Test conditions		Value	Unit
V_{PP}	ESD discharge - IEC61000-4-2 air discharge IEC61000-4-2 contact discharge		± 15 ± 8	kV
P_{PP}	Peak pulse power dissipation (8/20 μs) Note 1	$T_j \text{ initial} = T_{amb}$	150	W
T_j	Junction temperature		125	$^{\circ}\text{C}$
T_{stg}	Storage temperature range		-55 to +150	$^{\circ}\text{C}$
T_L	Maximum lead temperature for soldering during 10s at 5mm for case		260	$^{\circ}\text{C}$
T_{op}	Operating temperature range		-40 to +125	$^{\circ}\text{C}$

Note 1: For a surge greater than the maximum values, the diode will fail in short-circuit.

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

Symbol	Parameter
V_{RM}	Stand-off voltage
V_{BR}	Breakdown voltage
V_{CL}	Clamping voltage
I_{RM}	Leakage current @ V_{RM}
I_{PP}	Peak pulse current
αT	Voltage temperature coefficient
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.	
						note 1	note 2	0V bias		
	V	V	mA	nA	V	Ω	10 ⁻⁴ /°C	pF	V	mA
ESDA17-5SC6	17	19	1	75	14	1	10	33	1.2	10
ESDA19-5SC6	19	21	1	100	15	1	8.5	33	1.2	10

Note 1: Square pulse, $I_{pp} = 15\text{A}$, $t_p = 2.5\mu\text{s}$.

Note 2: $\Delta V_{BR} = \alpha T * (T_{amb} - 25^{\circ}\text{C}) * V_{BR}(25^{\circ}\text{C})$

Fig. 1: Relative variation of peak pulse power versus initial junction temperature.

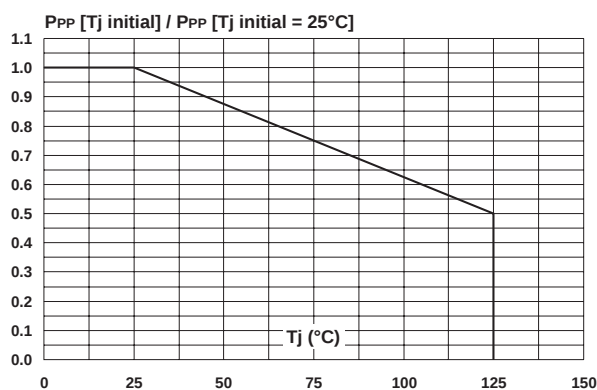


Fig. 2: Peak pulse power versus exponential pulse duration.

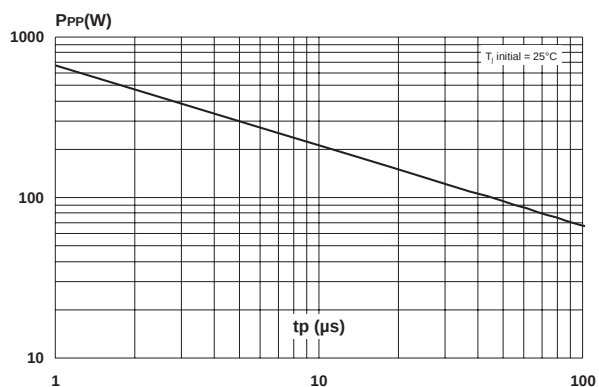


Fig. 3: Clamping voltage versus peak pulse current (typical values, rectangular waveform).

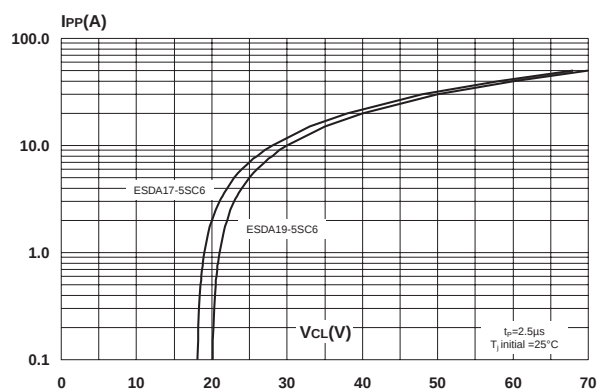


Fig. 4: Forward voltage drop versus peak forward current (typical values).

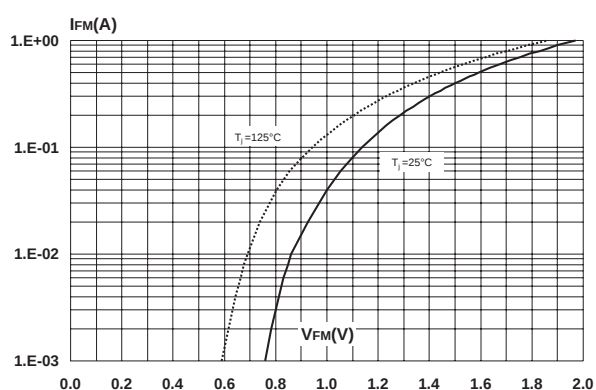


Fig. 5: Junction capacitance versus reverse voltage applied (typical values).

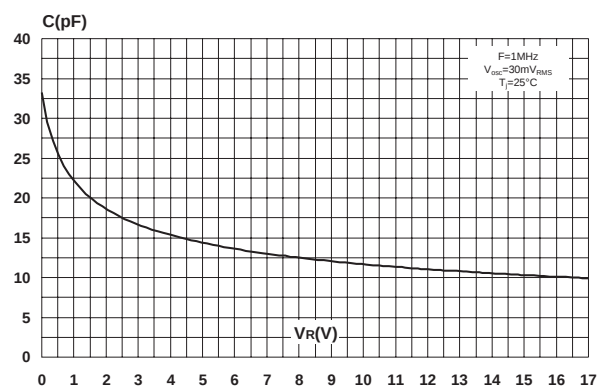
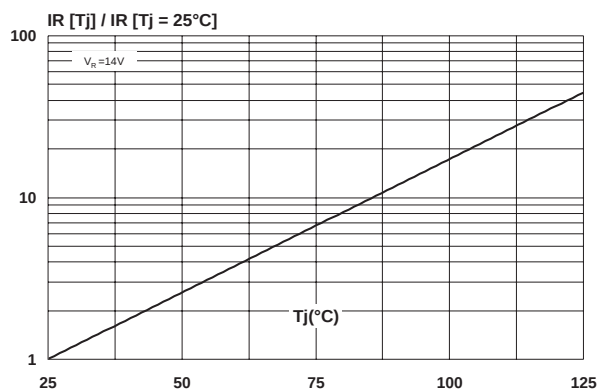
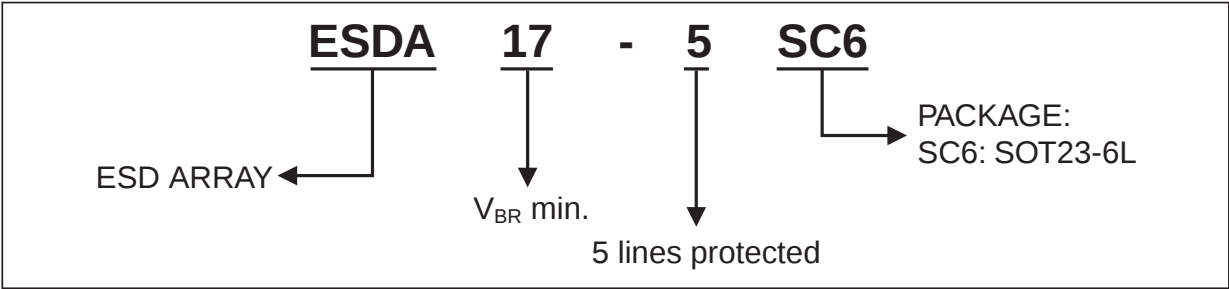


Fig. 6: Relative variation of leakage current versus junction temperature (typical values).



ESDA17/19-5SC6

ORDER CODE

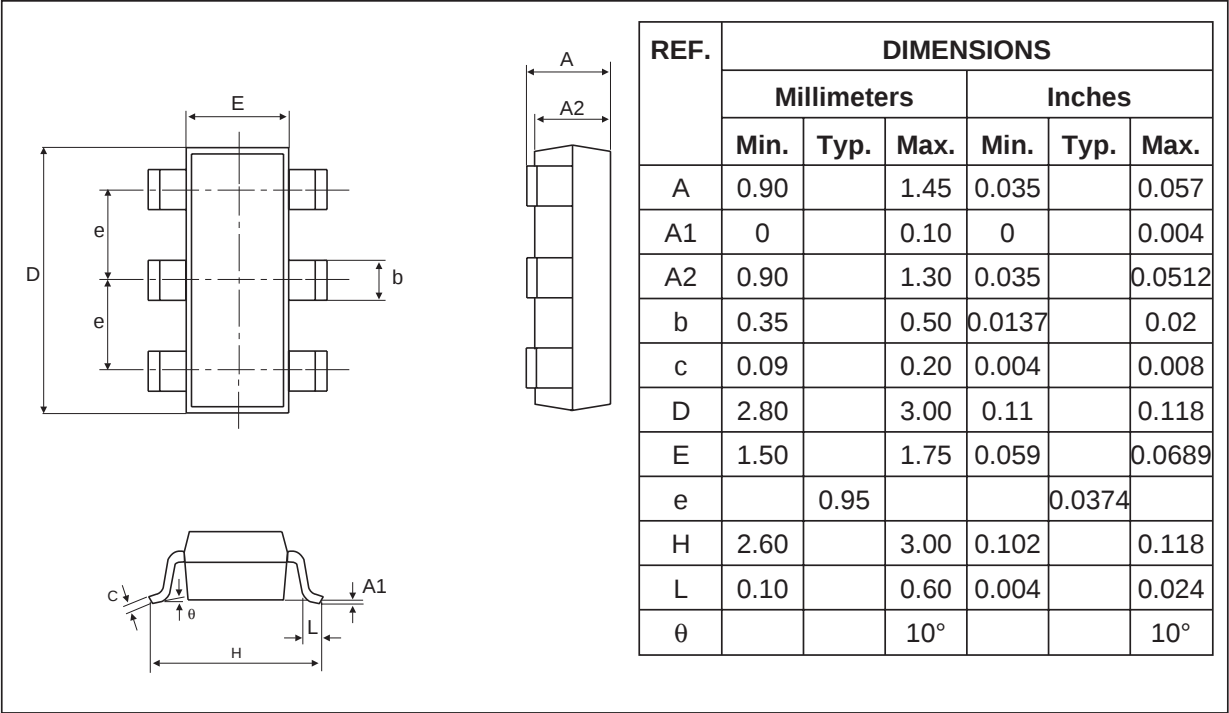


OTHER INFORMATION

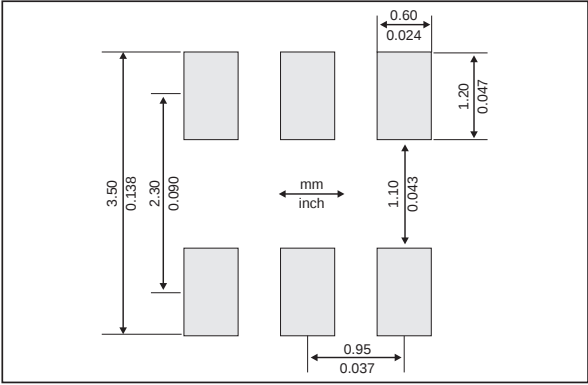
Type	Marking	Package	Weight	Base Qty	Delivery mode
ESDA17-5SC6	175	SOT23-6L	16.7mg	3000	Tape & Reel
ESDA19-5SC6	195	SOT23-6L	16.7mg	3000	Tape & Reel

- Epoxy meets UL94, V0

PACKAGE MECHANICAL DATA
SOT23-6L



FOOTPRINT



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