

**Low Capacitance Quad Array for ESD Protection**

**General Description**

ESDA6V1F4T353 is a monolithic suppressor designed to protect components connected to data and transmission lines against ESD. The device clamp the voltage just above the logic level supply for positive transients, and to a diode drop below ground for negative transients.

**Features**

- 4 Unidirectional Transil functions
- Breakdown voltage:
  - VBR = 6.1 V min. and 25 V min.
  - Low leakage current: < 1 mA
  - Very small PCB area < 4.2 mm<sup>2</sup> typically
  - High ESD protection level: up to 25 kV
  - High integration
  - Pb-Free Package is Available
  - S- Prefix for Automotive and Other Applications Requiring Unique Site and Control Change Requirements; AEC-Q101 Qualified and PPAP Capable.

**Complies with the following standards IEC61000-4-2**

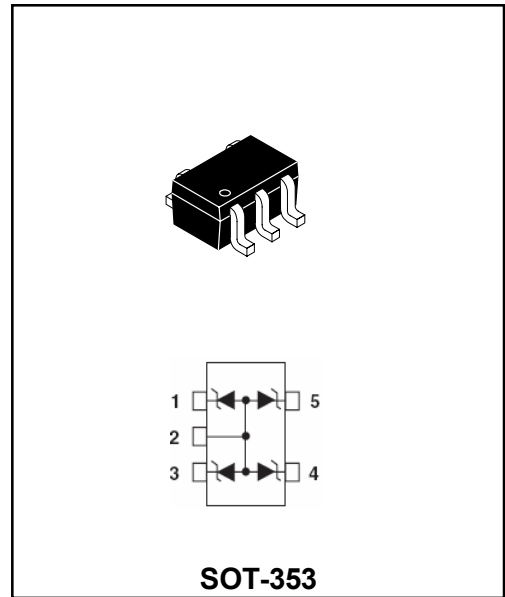
- Level 4 16 kV (air discharge)
- 9 kV(contact discharge)

**MIL STD 883E - Method 3015-7 Class 3**

25 kV HBM (Human Body Model)

**Applications**

- Computers
- Printers
- Communication systems
- Cellular phones handsets and accessories
- Wireline and wireless telephone sets
- Set top boxes



<b>Marking Code</b>	
ESDA6V1F4T353	WE

**Limiting Values(TA = 25 °C, unless otherwise specified)**

Symbol	Parameter	Conditions	value	Unit
P <sub>PPM</sub>	Peak Pulse Power	t <sub>P</sub> =8/20μs	150	W
T <sub>L</sub>	Maximum lead temperature for soldering during 10s	-	260	°C
T <sub>J</sub>	Junction Temperature	-	-40 to+125	°C
T <sub>stg</sub>	Storage Temperature Range	-	-40 to+125	°C

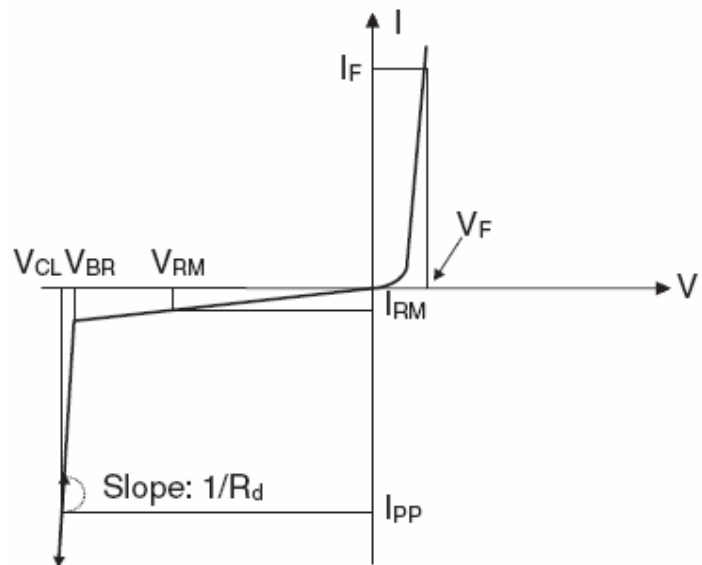
**Electrical Characteristics(TA = 25 °C unless otherwise specified)**

Part Numbers	V <sub>BR</sub>		I <sub>R</sub>	V <sub>RM</sub>	I <sub>RM</sub>	V <sub>F</sub>	I <sub>F</sub>	R <sub>d</sub>	αT	C
	Min.	Max.				Max.		Typ. <sup>(1)</sup>	Max. <sup>(2)</sup>	Typ. 0v bias
	v	v				v		Ω	10 <sup>-4</sup> /°C	pF
ESDA6V1F4T353	6.1	7.2	1	5	1	1.25	200	0.61	6	90

1. Square pulse I<sub>PP</sub>=15A, t<sub>p</sub>=2.5μs 2. V<sub>BR</sub>=aT\*(T<sub>amb</sub>-25°C)\*V<sub>BR</sub>(25°C)

**Electrical Parameter**

Symbol	Parameter
V <sub>RM</sub>	Stand-off voltage
V <sub>BR</sub>	Breakdown voltage
V <sub>CL</sub>	Clamping voltage
I <sub>RM</sub>	Leakage current
I <sub>PP</sub>	Peak pulse current
I <sub>R</sub>	Reverse current
I <sub>F</sub>	Forward current
αT	Voltage temperature coefficient
V <sub>F</sub>	Forward voltage drop
C	Capacitance
R <sub>d</sub>	Dynamic



Typical Characteristics

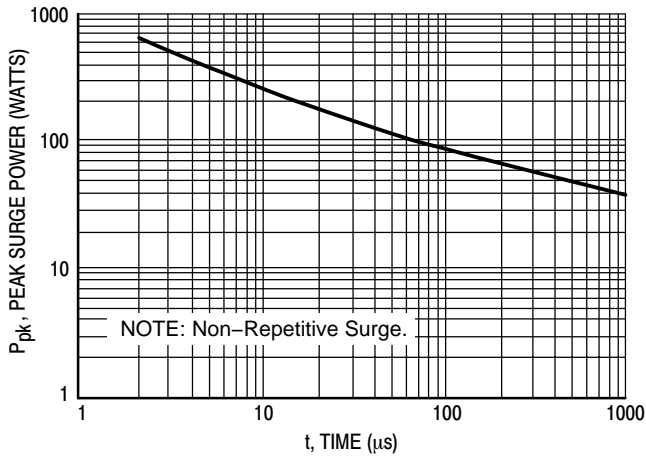


Figure 1. Pulse Width

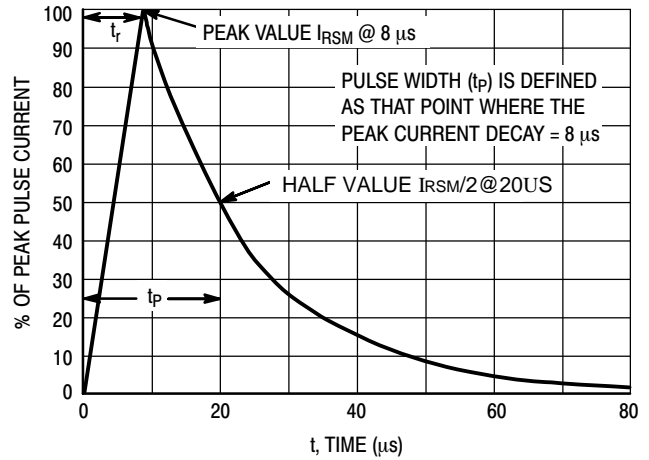


Figure 2. 8 x 20  $\mu$ s Pulse Waveform

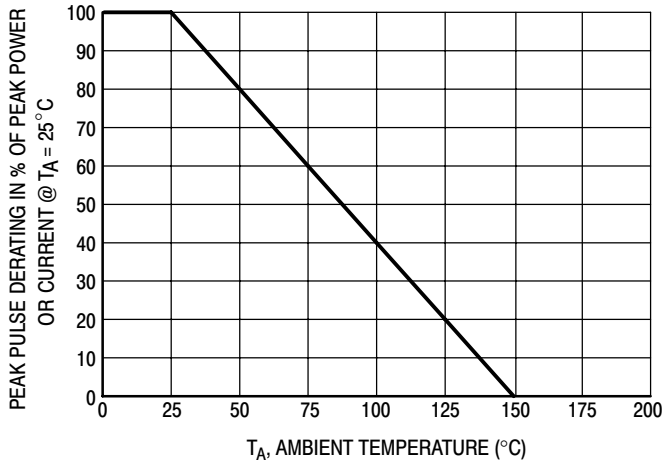


Figure 3. Pulse Derating Curve

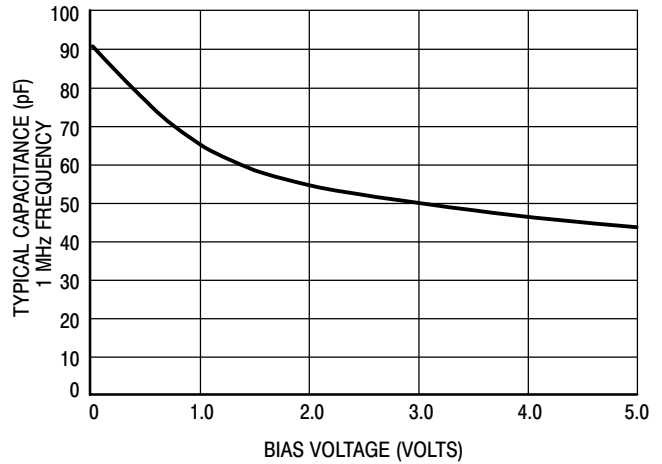


Figure 4. Capacitance

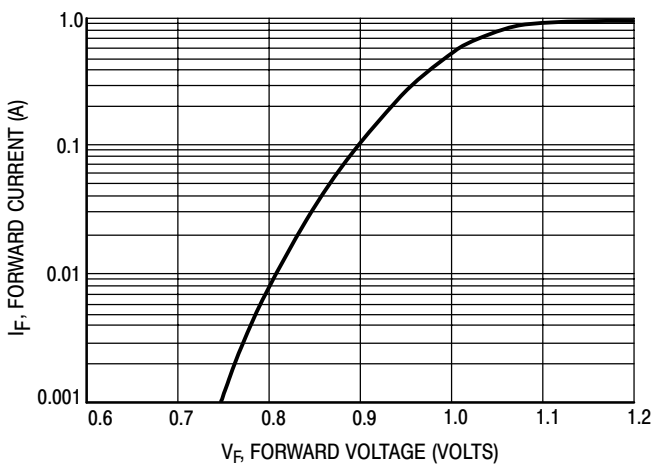


Figure 5. Forward Voltage

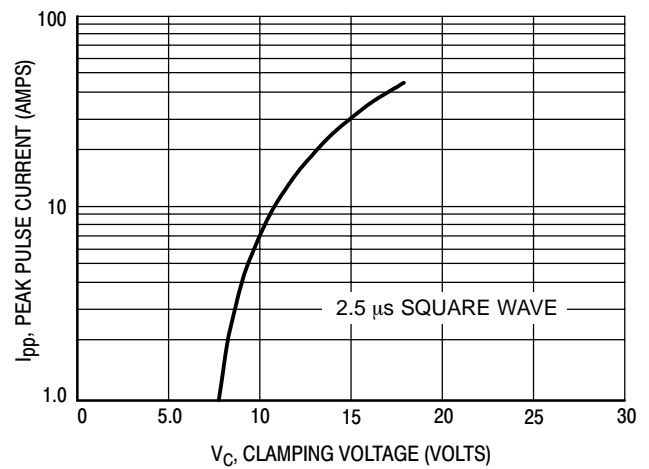


Figure 6. Clamping Voltage versus Peak Pulse Current (Reverse Direction)

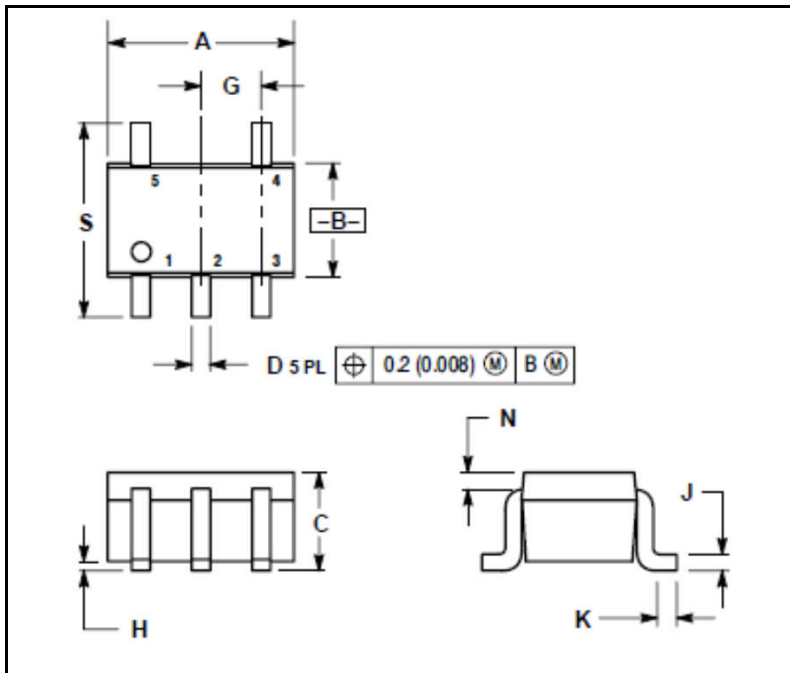
**Ordering information**

Package	Packing Description	Packing Quantity
SOT-353(SC-88A)	Tape/Reel,7"reel	3000PCS/Reel 120000PCS/Carton

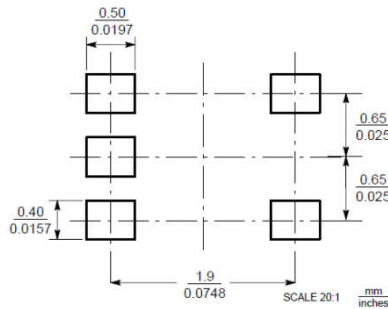
**Package Dimensions**

**SOT-353(SC-88A)**

Dim.	Millimeter(mm)		mil	
	Min.	Max.	Min.	Max.
A	1.80	2.20	0.071	0.087
B	1.15	1.35	0.045	0.053
C	0.80	1.10	0.031	0.043
D	0.10	0.30	0.004	0.012
G	0.65 BSC		0.026 BSC	
H	-	0.10	-	0.004
J	0.10	0.25	0.004	0.010
K	0.10	0.30	0.004	0.012
N	0.20 REF		0.008 REF	
S	2.00	2.20	0.079	0.087



**The recommended mounting pad size**



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