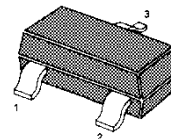
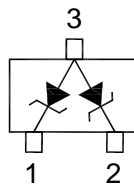


# ESD...CA Series

## ESD Protection Diodes

### Features

- Low clamping voltage
- Low leakage



1. Cathode 2. Cathode 3. Anode  
SOT-23 Plastic Package

### Absolute Maximum Ratings ( $T_a = 25^\circ\text{C}$ )

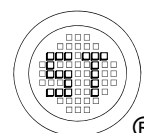
Parameter	Symbol	Value	Unit
Peak Pulse Power ( $t_p = 8/20 \mu\text{s}$ )	$P_{PK}$	300	W
Peak Pulse Current ( $t_p = 8/20 \mu\text{s}$ )	$I_{PP}$	See table 1	A
ESD contact discharge (IEC61000-4-2)	Air Contact $V_{ESD}$	$\pm 15$ $\pm 8$	KV
Operating Junction Temperature	$T_j$	150	$^\circ\text{C}$
Storage Temperature Range	$T_{stg}$	- 55 to + 150	$^\circ\text{C}$

### Characteristics at $T_a = 25^\circ\text{C}$ (table 1)

Type	Marking Code	Reverse Stand-off Voltage	Reverse Current	Breakdown Voltage		Clamping Voltage <sup>1)</sup>				Peak Pulse Current	Capacitance <sup>2)</sup>
		$V_{RWM}$	$I_R$ at $V_{RWM}$	$V_{BR}$	at $I_T$	$V_C$	at $I_{PP}$	$V_C$	at $I_{PP}$	$I_{PP}$	$C_j$
		Max. (V)	Max. ( $\mu\text{A}$ )	Min. (V)	(mA)	Max. (V)	(A)	Max. (V)	(A)	Max. (A)	Max. (pF)
ESD3V3CA	03C	3.3	125	4.5	1	7	1	9	5	18	600
ESD4V0CA	04C	4	125	5	1	8.5	1	10.5	5	17	600
ESD5V0CA	05C	5	100	6	1	9.8	1	12.5	5	17	400
ESD8V0CA	08C	8	10	8.5	1	13.4	1	15	5	15	350
ESD12CA	12C	12	1	13.3	1	19	1	28	5	12	150
ESD15CA	15C	15	1	16.7	1	24	1	35	5	10	100
ESD24CA	24C	24	1	26.7	1	43	1	60	5	5	63
ESD36CA	36C	36	1	39	1	60	1	71	3.5	3.5	65

<sup>1)</sup>  $t_p = 8/20 \mu\text{s}$ .

<sup>2)</sup> Measured at 1 MHz and applied reverse voltage of 0 V.



## Electrical Characteristics Curves

Fig 1. Pulse Waveform

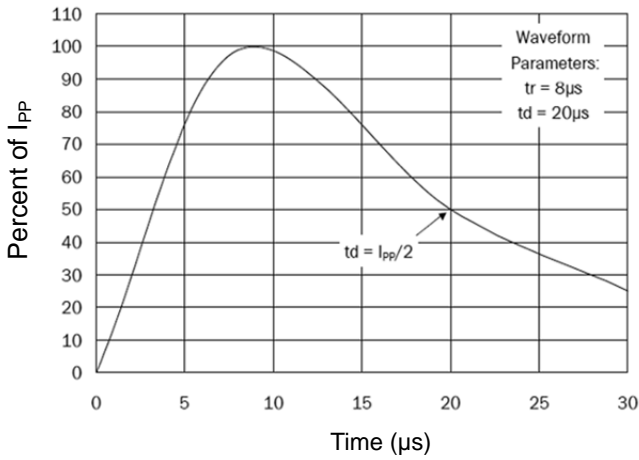


Fig 2. Power Derating Curve

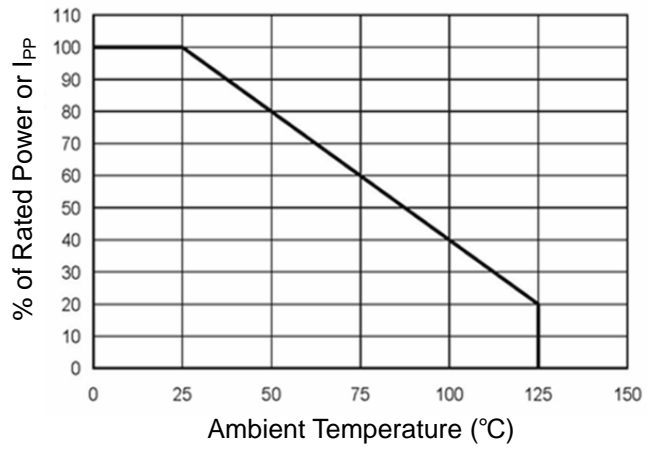


Fig 3. Clamping Voltage Curve

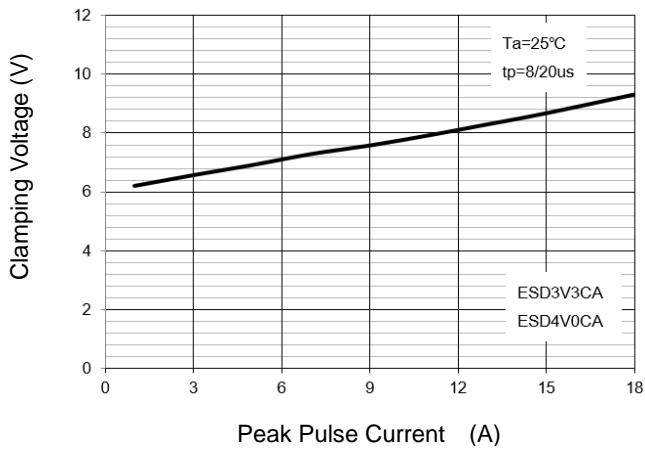


Fig 4. Junction Capacitance

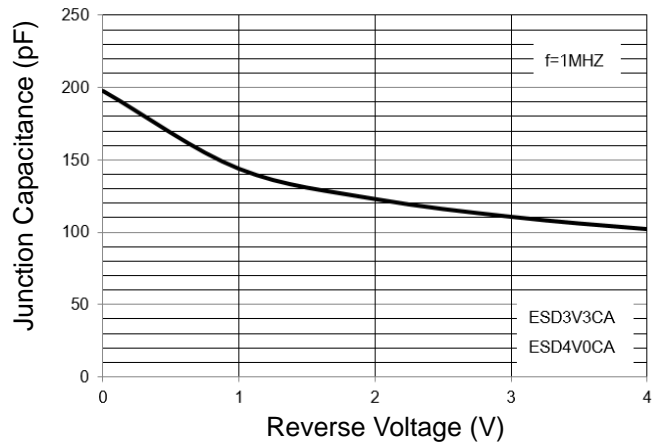


Fig. 5 TLP Curve

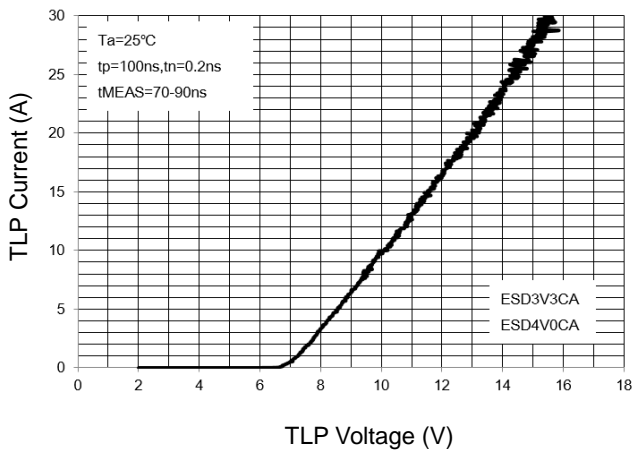
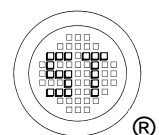
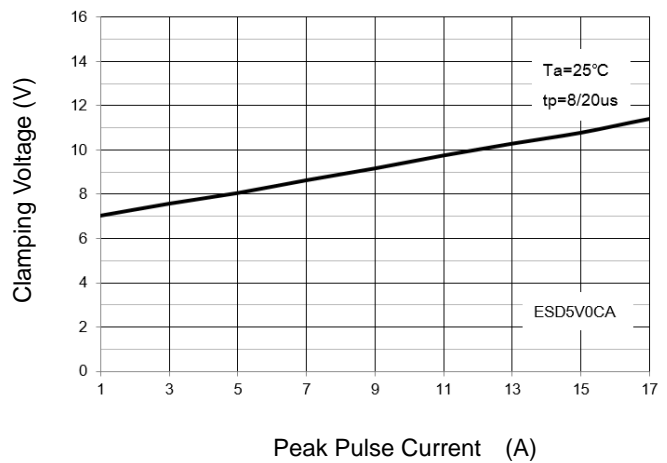


Fig 6. Clamping Voltage Curve



## Electrical Characteristics Curves

Fig 7. Junction Capacitance

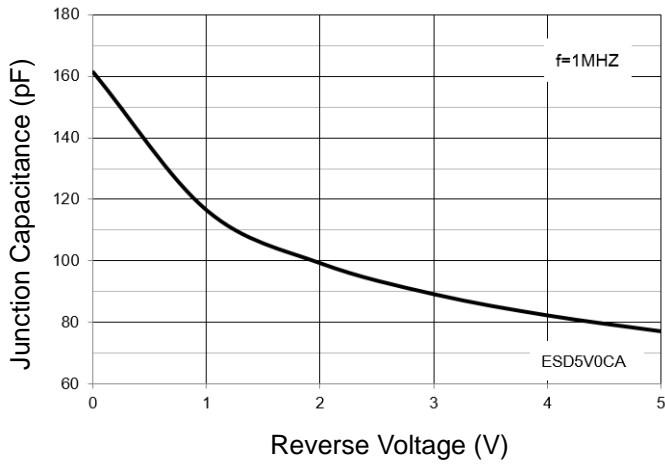


Fig. 8 TLP Curve

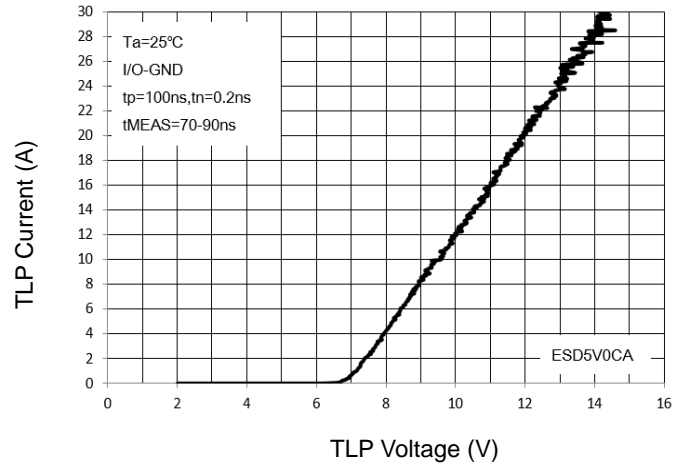


Fig 9. Clamping Voltage Curve

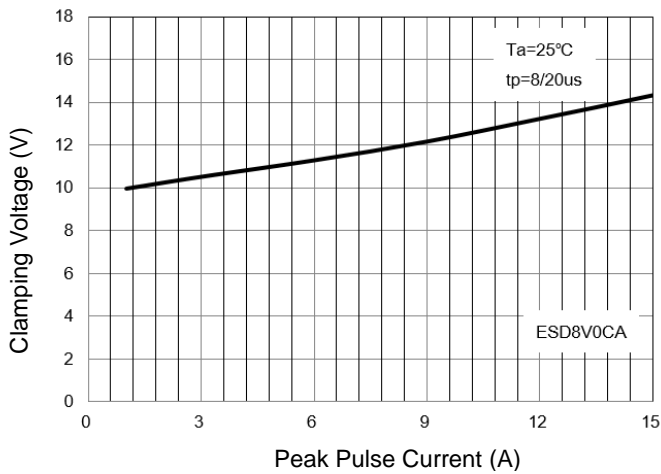


Fig 10. Junction Capacitance

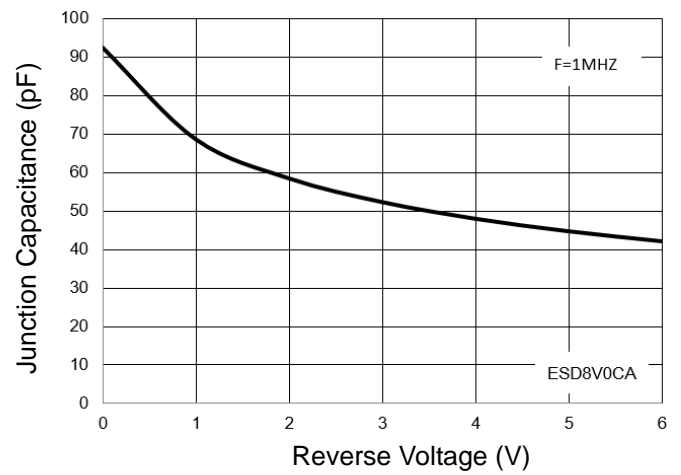


Fig. 11 TLP Curve

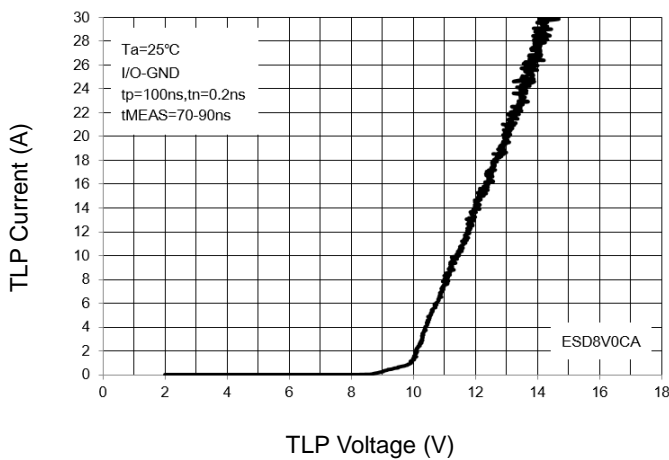
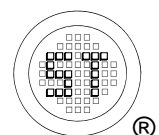
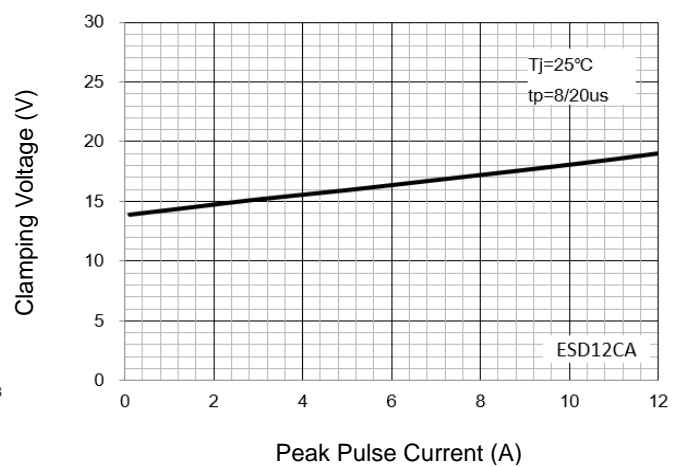


Fig 12. Clamping Voltage Curve



# ESD...CA Series

## Electrical Characteristics Curves

Fig 13. Junction Capacitance

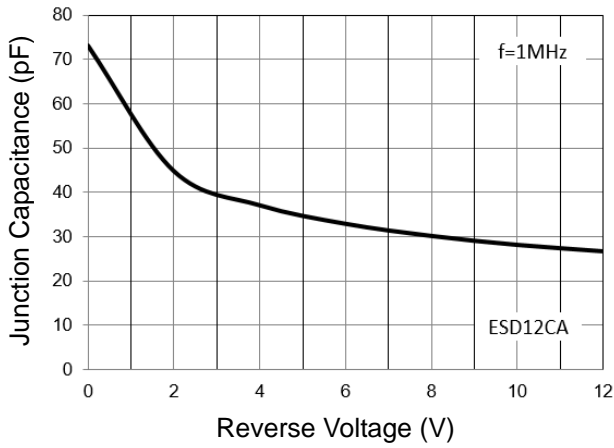


Fig. 14 TLP Curve

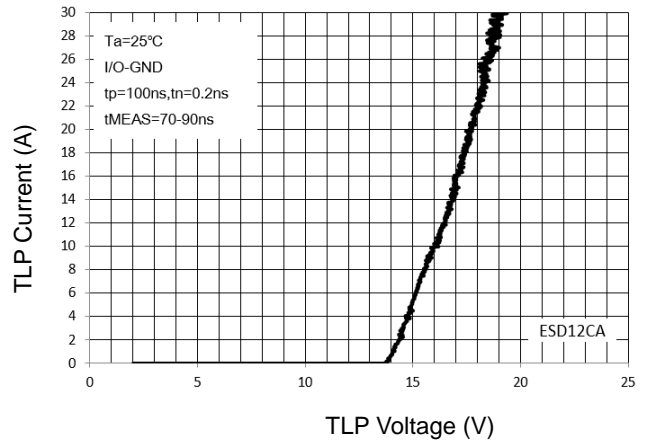


Fig 15. Clamping Voltage Curve

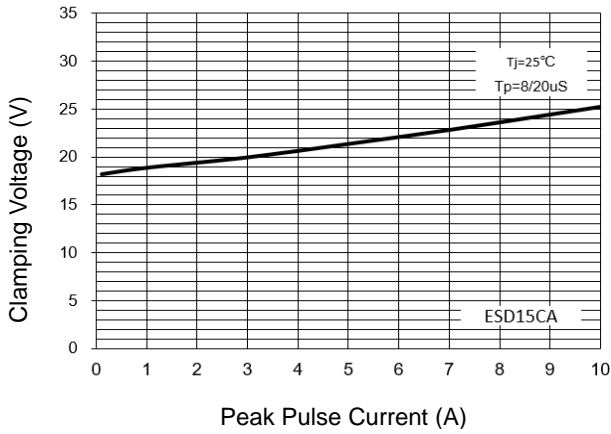


Fig 16. Junction Capacitance

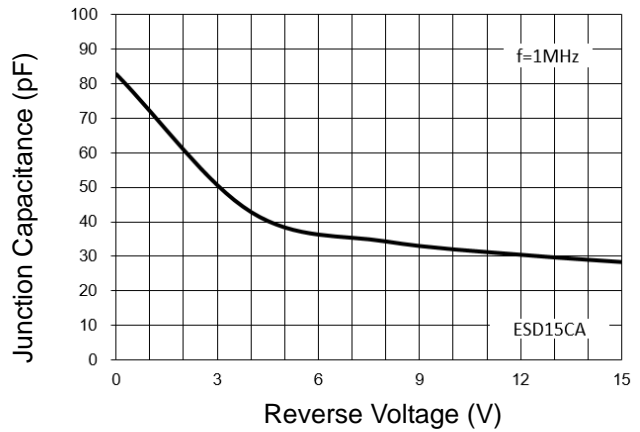


Fig. 17 TLP Curve

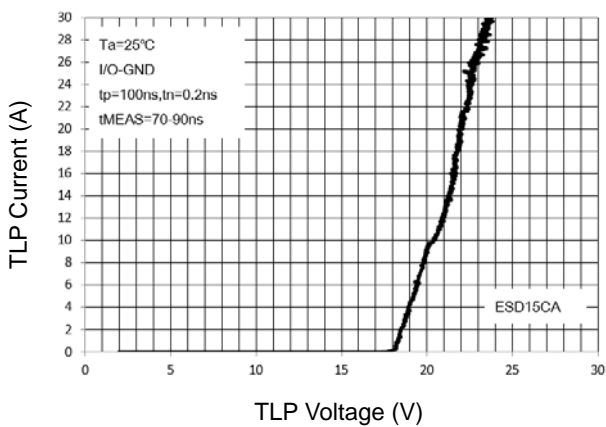
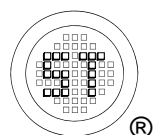
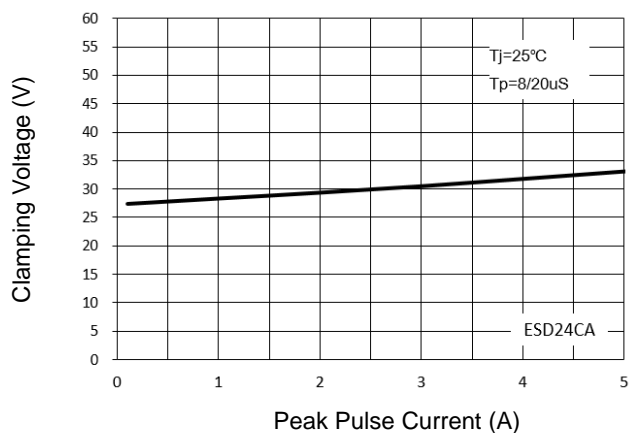


Fig 18. Clamping Voltage Curve



# ESD...CA Series

## Electrical Characteristics Curves

Fig 19. Junction Capacitance

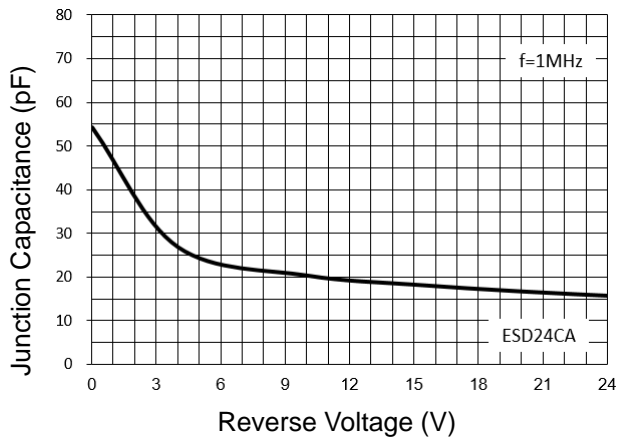


Fig 20 TLP Curve

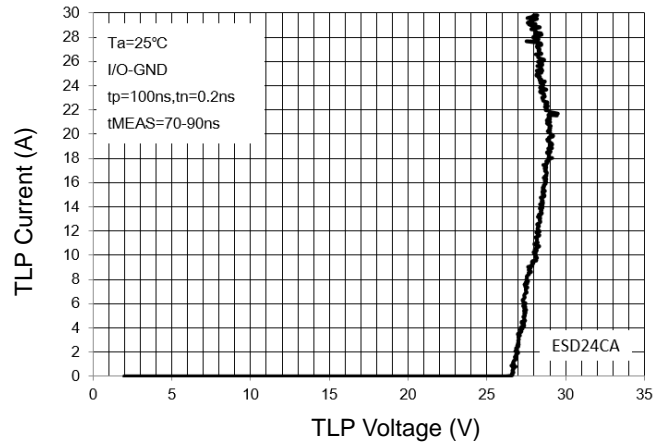


Fig 21. Clamping Voltage Curve

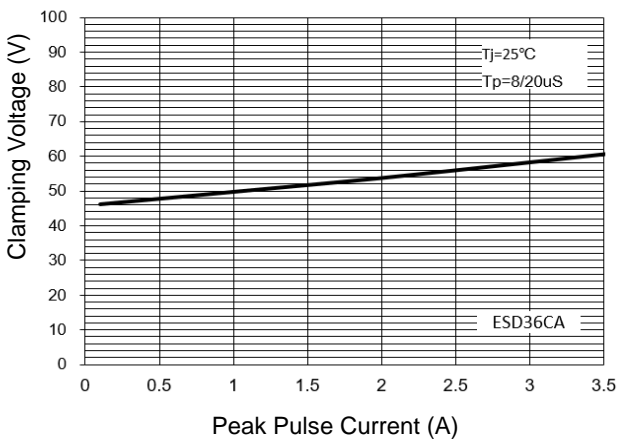


Fig 22. Junction Capacitance

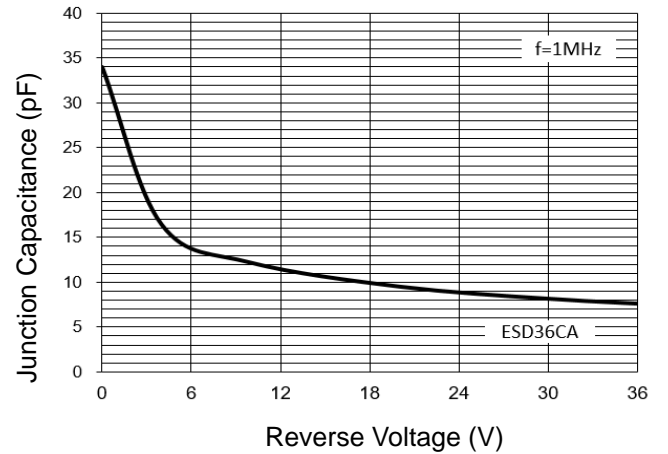
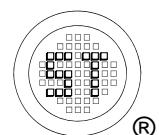
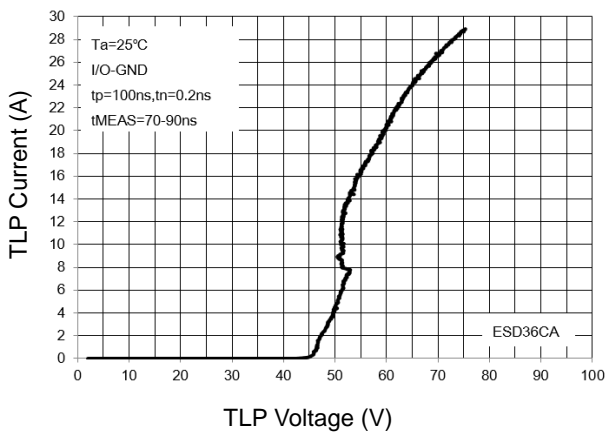


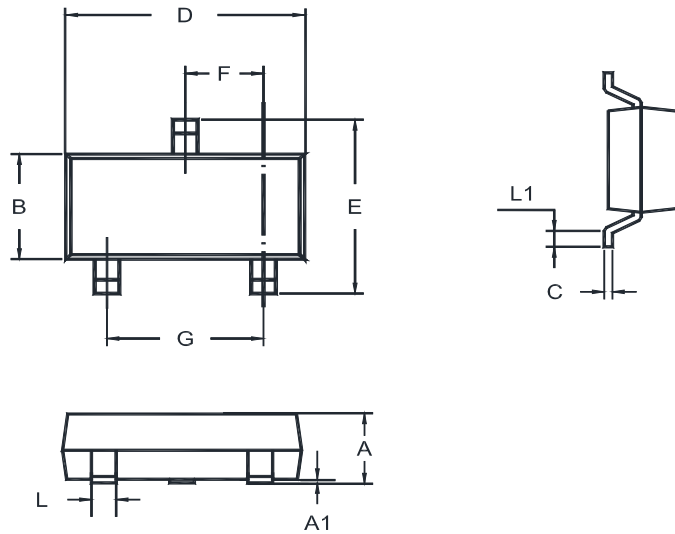
Fig 23 TLP Curve



# ESD...CA Series

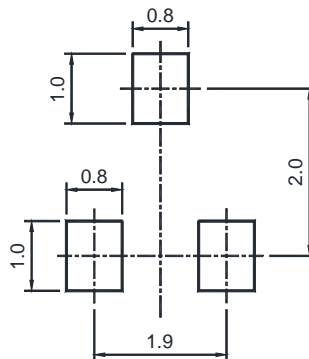
## Package Outline (Dimensions in mm)

SOT-23



Unit	A	A1	B	C	D	E	F	G	L	L1
mm	1.20	0.100	1.40	0.19	3.04	2.6	1.02	2.04	0.51	0.2
	0.89	0.013	1.20	0.08	2.80	2.2	0.89	1.78	0.37	MIN

## Recommended Soldering Footprint



## Packing information

Package	Tape Width (mm)	Pitch		Reel Size		Per Reel Packing Quantity
		mm	inch	mm	inch	
SOT-23	8	4 ± 0.1	0.157 ± 0.004	178	7	3,000

## Marking information

" \*\*\* " = Part No. (See Table 1 of Marking Code)

" YM " = Date Code Marking

" Y " = Year

" M " = Month

Font type: Arial

