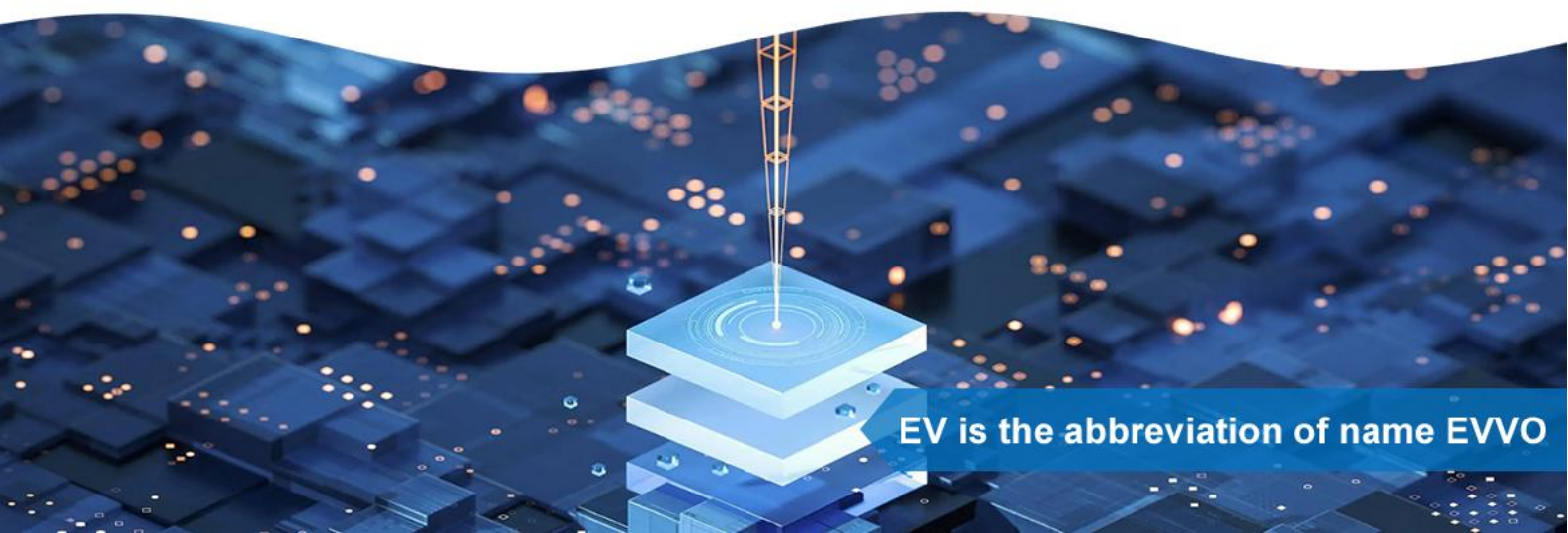
EVVOSEMI®
THINK CHANGE DO

ESD TVS MOS LDO Diode Sensor DC-DC

# Product Specification

| | |
|---|---|
| Domestic Part Number | IP4220CZ6 |
| Overseas Part Number | IP4220CZ6 |
| Equivalent Part Number | IP4220CZ6 |

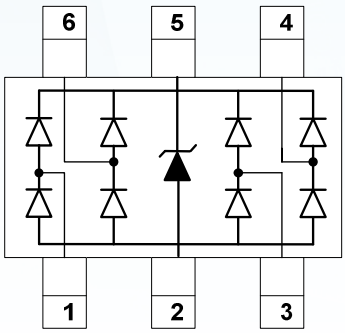


## Low Capactiance 4-Line TVS Array

## Features

- Ultra low capacitance: 0.3 pF typical (I/O to I/O)
- Ultra low leakage: nA level
- Low operating voltage: 5V
- Low clamping voltage
- Up to 4 data lines and one power line protects
- Complies with following standards:
  - – IEC 61000-4-2 (ESD) immunity test
    Air discharge: ±25kV
    Contact discharge: ±20kV
  - – IEC61000-4-4 (EFT) 40A (5/50ns)
- – IEC61000-4-5 (Lightning): 4.7A (8 /20μs )

ROHS Compliant




## Applications

- USB 2.0 and USB 3.0 Ports
- USB OTG
- Digital video interface(DVI)
- Monitor and Flat Panel Displays
- PCI Express and Serial SATA Ports
- Gigabit Ethernet
- IEEE 1394 firewire ports
- Consumer products (STB, DVD, DSC, DVC…)

## Mechanical Characteristics

- Package: SOT23-6
- Lead Finish: Matte Tin
- Case Material: “Green” Molding Compound.
- UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 3 per J-STD-020

**Absolute Maximum Ratings** (Tamb=25°C unless otherwise specified)

| Parameter | Symbol | Value | Unit |
|---|---|---|---|
| Peak Pulse Power (tp=8 /20μs)(Vcc-GND) | Ppp | 300 | W |
| Peak Pulse Current (tp=8 /20μs) | IPP | 4.7 | A |
| ESD per IEC 61000−4−2 (Air)<br>ESD per IEC 61000−4−2 (Contact) | VESD | ±25<br>±20 | kV |
| Operating Temperature Range | TJ | −55 to +125 | °C |
| Storage Temperature Range | Tstg | −55 to +150 | °C |

## Low Capactiance 4-Line TVS Array

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

| Parameter | Symbol | Min | Typ | Max | Unit | Test Condition |
|---|---|---|---|---|---|---|
| Reverse Working Voltage | $V_{RWM}$ | | | 5 | V | Any I/O pin to ground |
| Breakdown Voltage | $V_{BR}$ | 6 | | | V | $I_T$ = 1mA, any I/O pin to ground |
| Reverse Leakage Current | $I_R$ | | | 0.08 | μA | $V_{RWM}$ = 5V, any I/O pin to ground |
| Clamping Voltage | $V_C$ | | | 11 | V | $I_{PP}$ = 3A (8 x 20μs pulse) any I/O pin to ground |
| Clamping Voltage | $V_C$ | | | 15 | pF | $I_{PP}$ = 4.7A (8 x 20μs pulse) any I/O pin to ground |
| Junction Capacitance | $C_J$ | | | 18 | pF | $I_{PP}$ = 17A (8 x 20μs pulse) VCC to ground |
| Junction Capacitance | $C_J$ | | 0.3 | 0.4 | pF | VR = 0V, f = 1MHz, between I/O pins |
| Junction Capacitance | $C_J$ | | | 0.8 | pF | VR = 0V, f = 1MHz, any I/O pin to ground |

## Low Capactiance 4-Line TVS Array

## Typical Characteristics

**Fig1. 8/20μs Pulse Waveform**

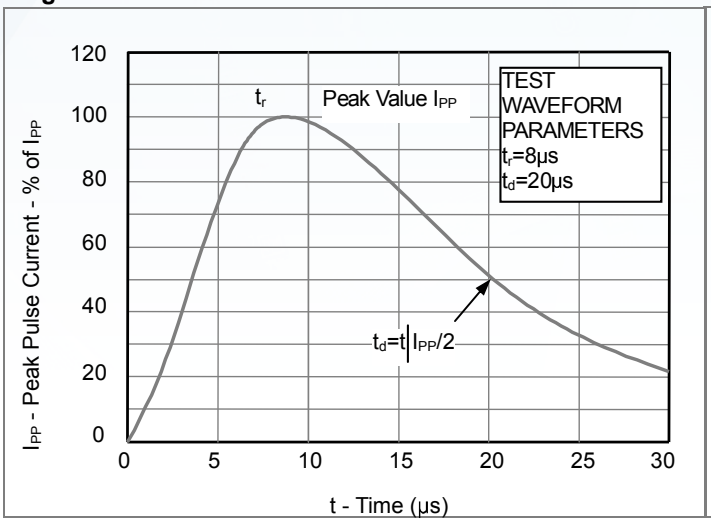



**Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)**

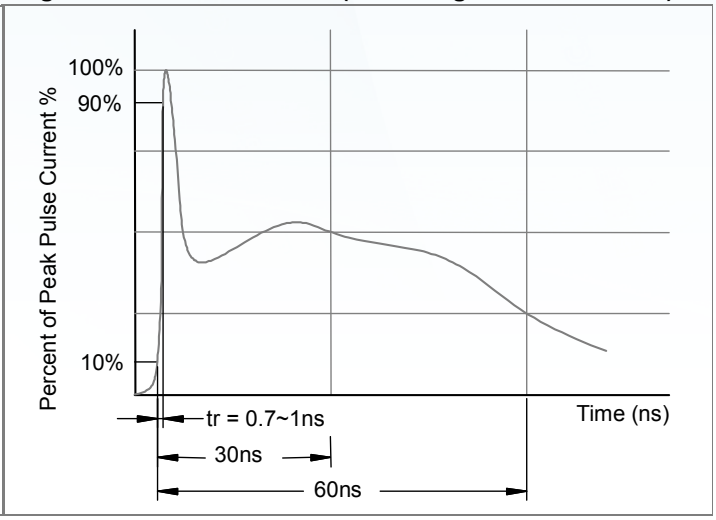
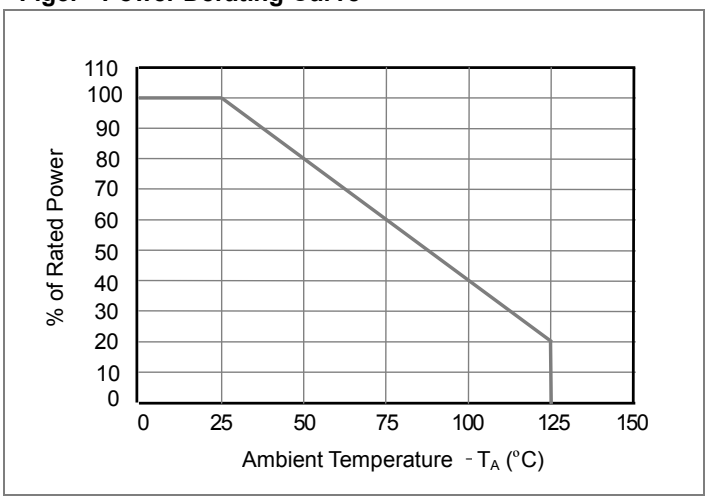
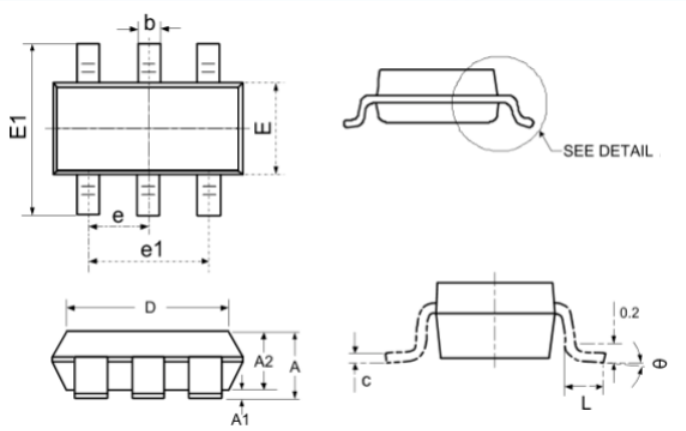



**Fig3. Power Derating Curve**



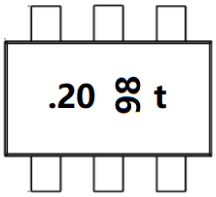
**Low Capactiance 4-Line TVS Array**

## Outline Drawing – SOT23-6




| Symbol | Dimensions (mm) | |
|---|---|---|
| | Min | Max |
| A | 1.050 | 1.250 |
| A1 | 0.000 | 0.100 |
| A2 | 1.050 | 1.150 |
| D | 2.820 | 3.020 |
| E | 1.500 | 1.700 |
| E1 | 2.650 | 2.950 |
| b | 0.300 | 0.500 |
| e | 0.950 (BSC) | |
| e1 | 1.800 | 2.000 |
| L | 0.300 | 0.600 |
| θ | 0° | 8° |

## Marking




## Ordering information

| Order code | Package | Base qty | Delivery mode |
|---|---|---|---|
| IP4220CZ6 | SOT23-6 | 3000 | Tape and reel |

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