

## Features

- Ultra low leakage: nA level
- Ultra low operating voltage: 5V
- Ultra low clamping voltage
- Complies with following standards:
  - IEC 61000-4-2 (ESD) immunity test  
Air discharge:  $\pm 25\text{kV}$   
Contact discharge:  $\pm 15\text{kV}$
  - IEC61000-4-5 (Lightning) 9A (8/20  $\mu\text{s}$ )
  - IEC61000-4-4 (EFT) 40A (5/50ns)
- RoHS Compliant

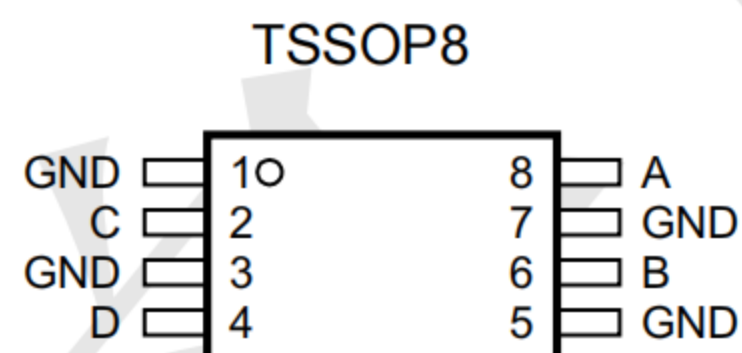
## Mechanical Characteristics

- Package: TSSOP-8
- Lead Finish: NiPdAu
- Case Material: “Green” Molding Compound.
- UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 3 per J-STD-020
- Terminal Connections: See Diagram Below

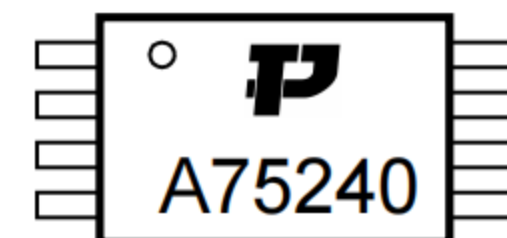
## Applications

- USB full-speed host, HUB, or peripheral
- Ports

## Dimensions and Pin Configuration



## Marking



| PINS       | TYPE         | DESCRIPTION                         |
|------------|--------------|-------------------------------------|
| 8          | Analog input | Transient suppressor input - Line 1 |
| 6          | Analog input | Transient suppressor input - Line 2 |
| 2          | Analog input | Transient suppressor input - Line 3 |
| 4          | Analog input | Transient suppressor input - Line 4 |
| 1, 3, 5, 7 | Power        | Local device ground                 |

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

| TECH PUBLIC Parameter           | Symbol | Value       | Unit |
|---------------------------------|--------|-------------|------|
| Peak Pulse Power (8/20μs)       | Ppk    | 100         | W    |
| Peak Pulse Current (8/20μs)     | Ipp    | 9           | A    |
| ESD per IEC 61000-4-2 (Air)     | VESD   | ±25         | kV   |
| ESD per IEC 61000-4-2 (Contact) |        | ±15         |      |
| Operating Temperature Range     | TJ     | -55 to +125 | °C   |
| Storage Temperature Range       | Tstg   | -55 to +150 | °C   |

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

| Parameter                 | Symbol | Min | Typ | Max | Unit | Test Condition                                    |
|---------------------------|--------|-----|-----|-----|------|---|
| Reverse Working Voltage   | VRWM   |     |     | 5   | V    |   |
| Reverse Breakdown Voltage | Vbr    | 6   | 7   | 9   | V    | IT=1mA  |
| Reverse Leakage Current   | IR     |     |     | 0.2 | uA   | VRWM = 5V   |
| Clamping Voltage          | VC     |     |     | 14  | V    | I <sub>PP</sub> =9A,(8X20us pulse),any i/o to GND |
| Junction Capacitance      | CJ     |     |     | 70  | pF   | VR = 0V, f = 1MHz, any I/O to GND                 |
| Junction Capacitance      | CJ     |     | 35  |     | pF   | VR = 0V, f = 1MHz, between I/O pins               |

**Typical characteristics ( $T_A=25\text{ C}$ , unless otherwise noted)**

Fig1. 8/20 $\mu\text{s}$  Pulse Waveform

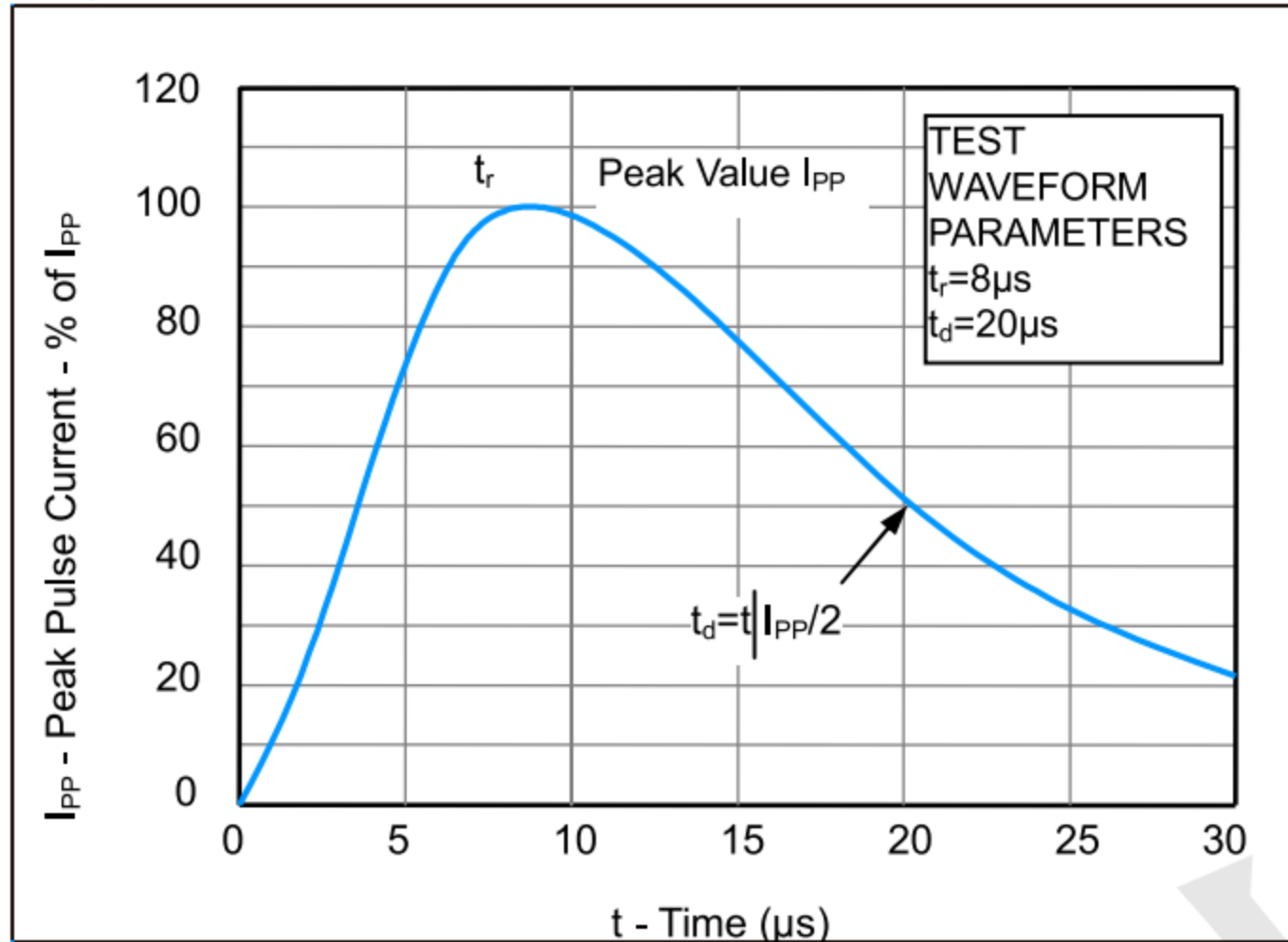


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

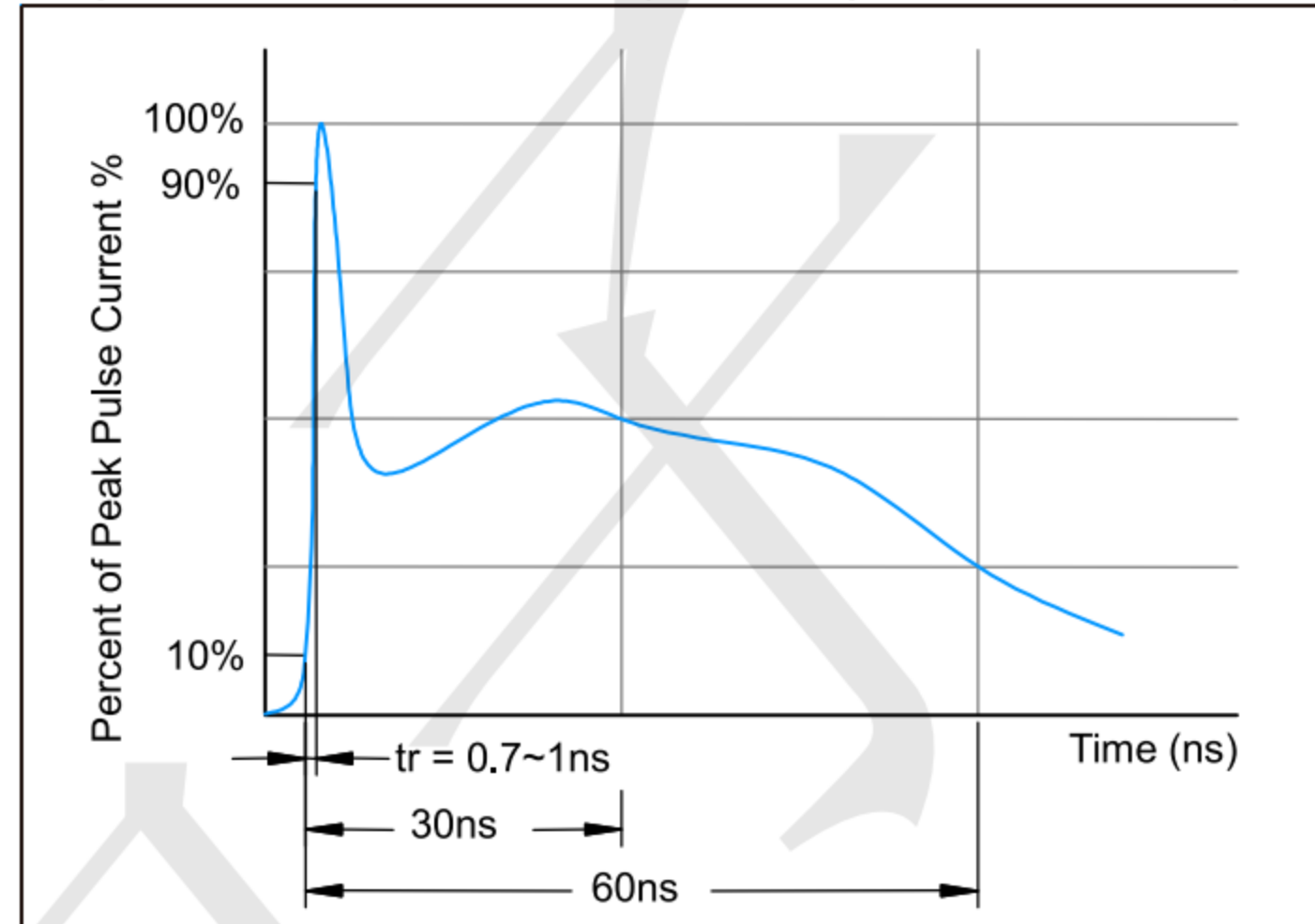
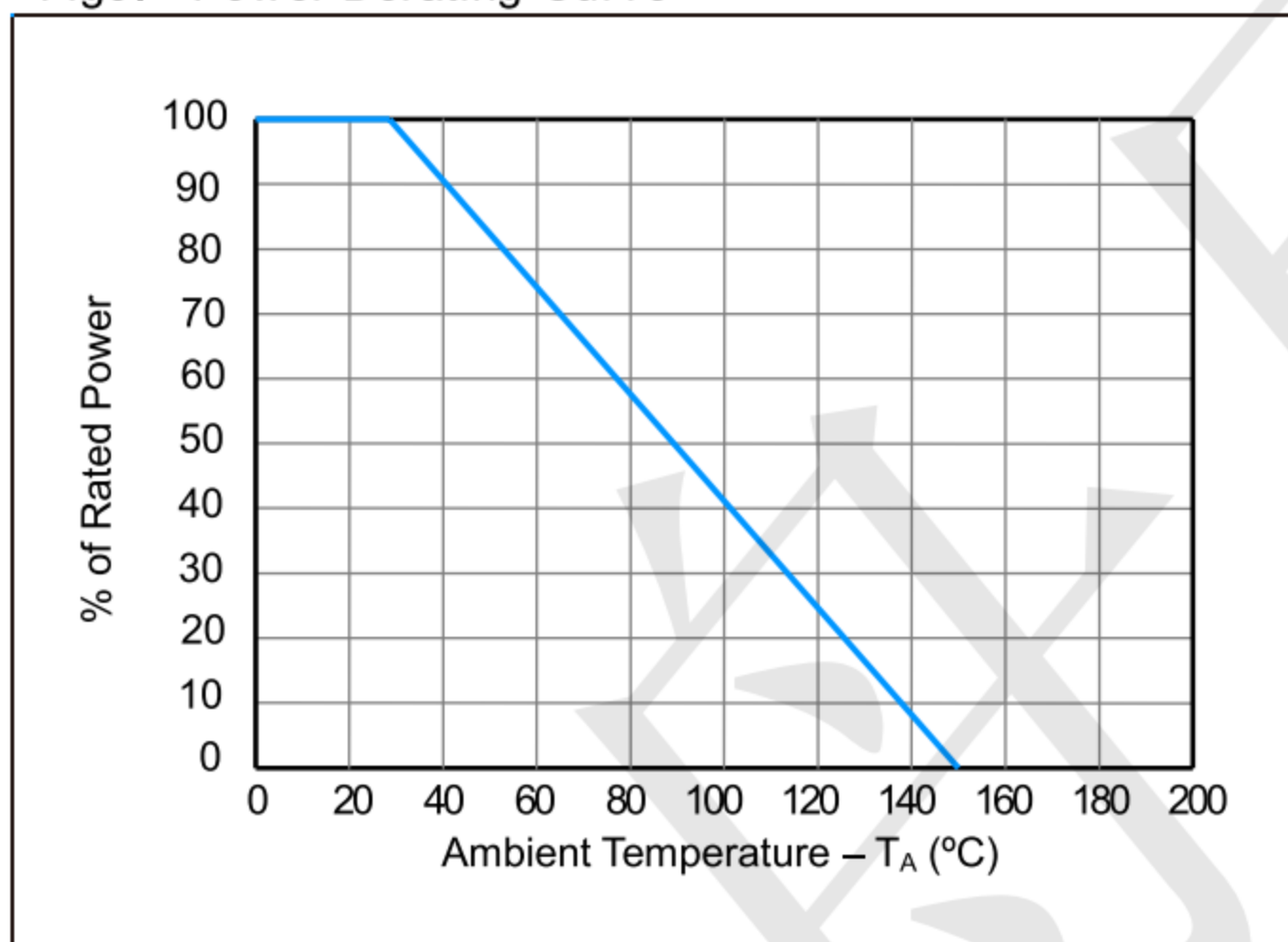
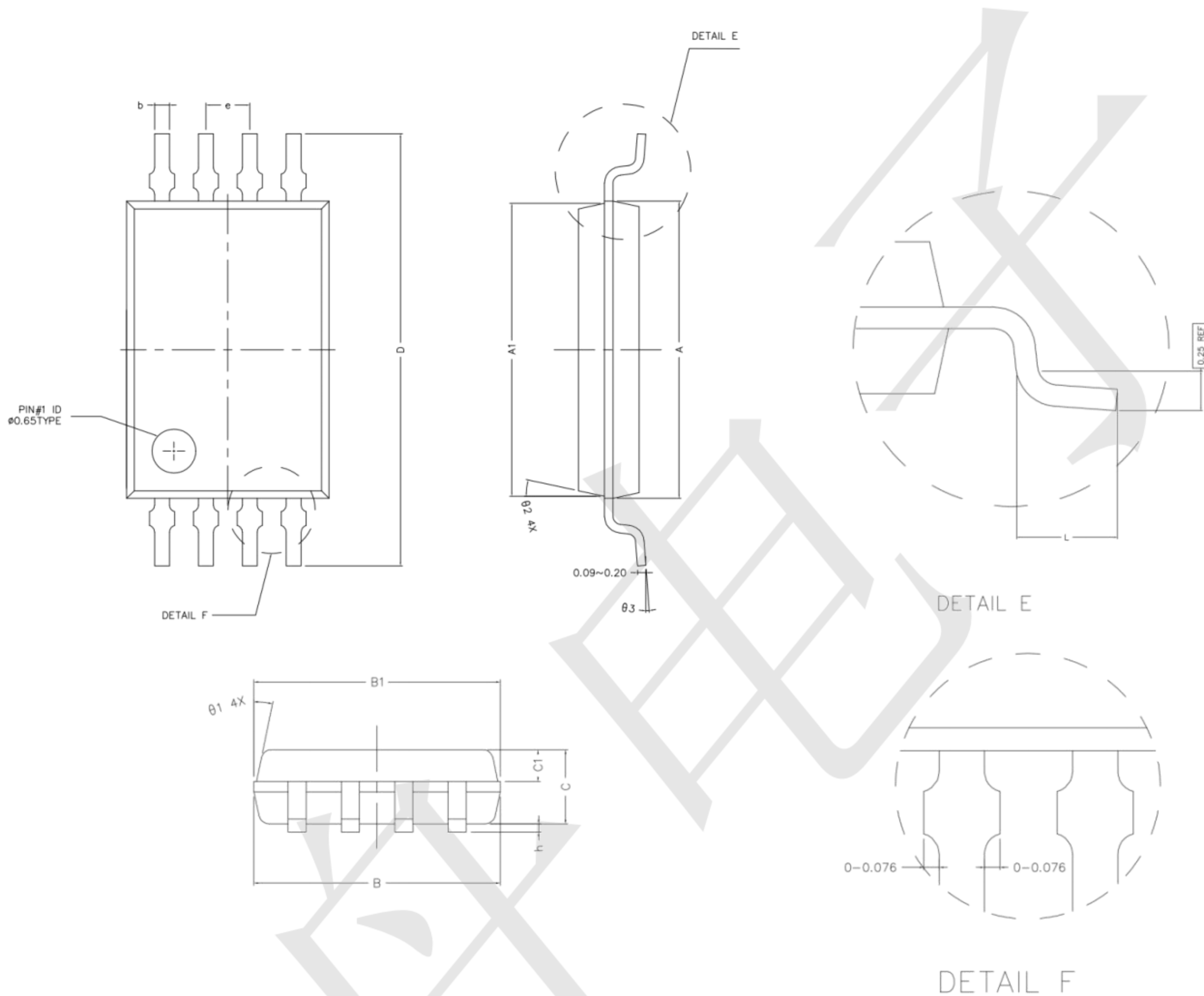


Fig3. Power Derating Curve



**Outline Drawing - TSSOP8**



| COMMON DIMENSIONS<br>(UNITS OF MEASURE IS mm) |           |        |       |
|---|-----------|--------|-------|
|   | MIN       | NORMAL | MAX   |
| A   | 4.300     | 4.400  | 4.500 |
| A1  | 4.240     | 4.340  | 4.440 |
| B   | 2.900     | 3.000  | 3.100 |
| B1  | 2.840     | 2.940  | 3.040 |
| C   | 0.850     | 0.900  | 0.950 |
| C1  | 0.337     | 0.387  | 0.437 |
| D   | 6.250     | 6.400  | 6.550 |
| L   | 0.450     | 0.600  | 0.750 |
| b   | 0.170     | 0.220  | 0.300 |
| h   | 0.050     | 0.100  | 0.150 |
| e   | 0.650TYPE |        |       |
| $\theta_1$                                    | 12° TYPE  |        |       |
| $\theta_2$                                    | 12° TYPE  |        |       |
| $\theta_3$                                    | 0° ~ 7°   |        |       |

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