

### Features

- ◆ 75W peak pulse power(8/20 $\mu$ s)
- ◆ Ultra low leakage: nA level
- ◆ Operating voltage: 12V
- ◆ Low clamping voltage
- ◆ Complies with following standards:
  - IEC 61000-4-2 (ESD) immunity test  
Air discharge:  $\pm 30$ kV  
Contact discharge:  $\pm 30$ kV
  - IEC61000-4-4 (EFT) 40A (5/50ns)
  - IEC61000-4-5 (Lightning) 3A (8/20 $\mu$ s)
- ◆ RoHS Compliant

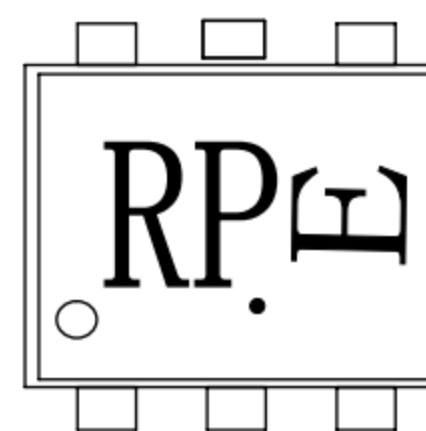
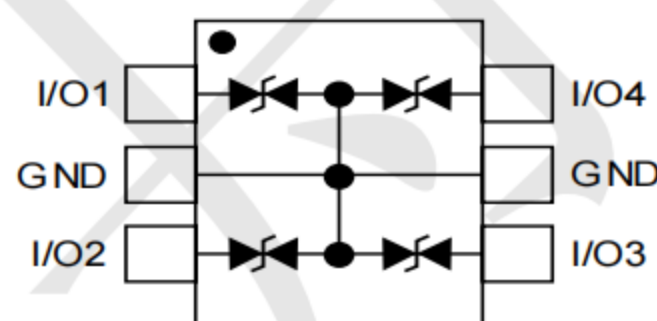
### Mechanical Characteristics

- ◆ Package: SOT-563
- ◆ Lead Finish: Matte Tin
- ◆ Case Material: "Green" Molding Compound.
- ◆ UL Flammability Classification Rating 94V-0
- ◆ Moisture Sensitivity: Level 3 per J STD 020
- ◆ Shipping Qty :4000pcs/7Inch Tape & Reel

### Applications

- ◆ GSM Handsets and Accessories
- ◆ Other Telephone Sets
- ◆ Computers / Printers / SetTop Boxes

### Dimensions and Pin Configuration



SOT563

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

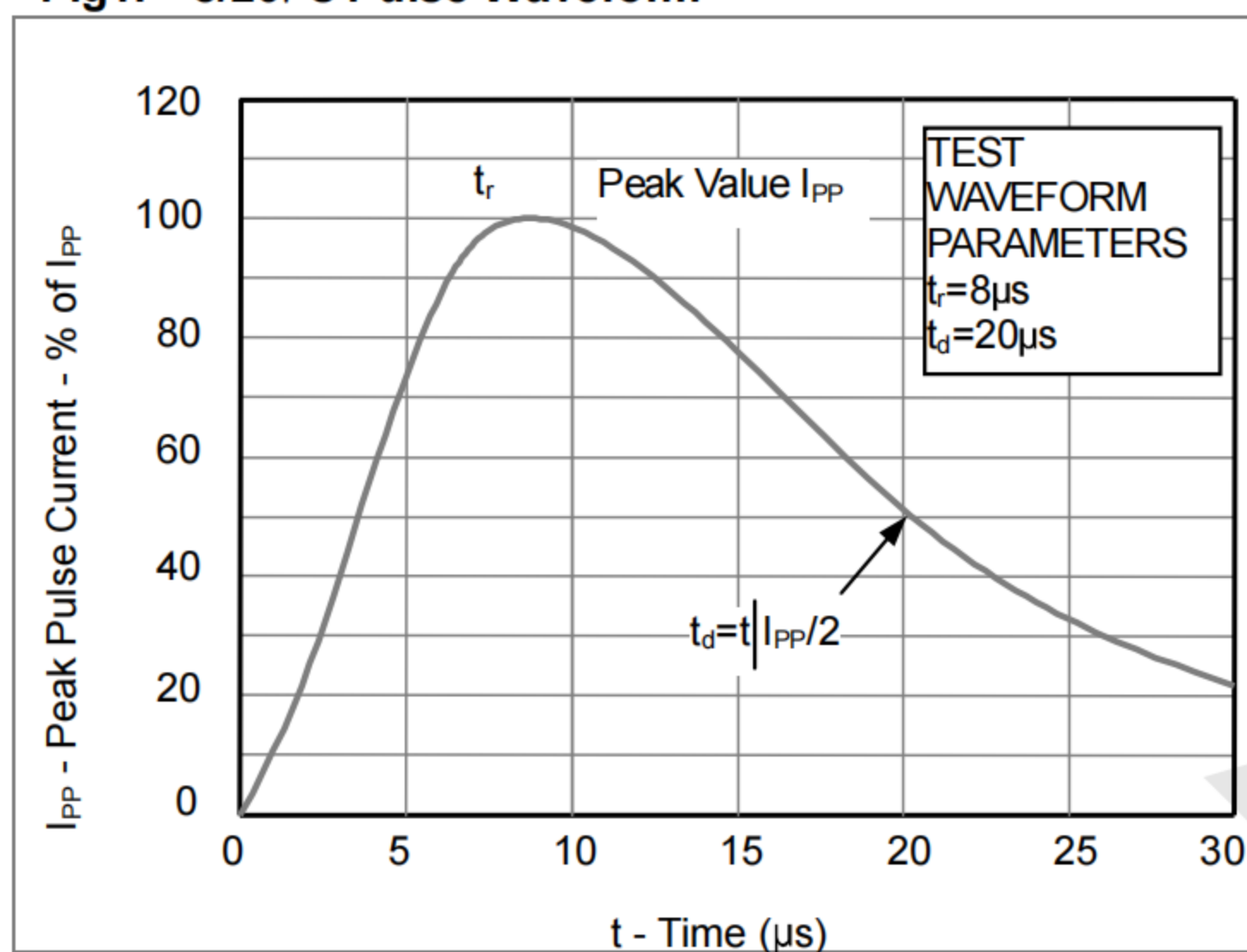
| Parameter                                                      | Symbol | Value        | Unit |
|----------------------------------------------------------------|--------|--------------|------|
| Peak Pulse Power (8/20μs)                                      | Ppk    | 75           | W    |
| Peak Pulse Current (8/20μs)                                    | IPP    | 3            | A    |
| ESD per IEC 61000-4-2 (Air)<br>ESD per IEC 61000-4-2 (Contact) | VESD   | ± 30<br>± 30 | kV   |
| Operating Temperature Range                                    | TJ     | -55 to +125  | °C   |
| Storage Temperature Range                                      | Tstg   | -55 to +150  | °C   |

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

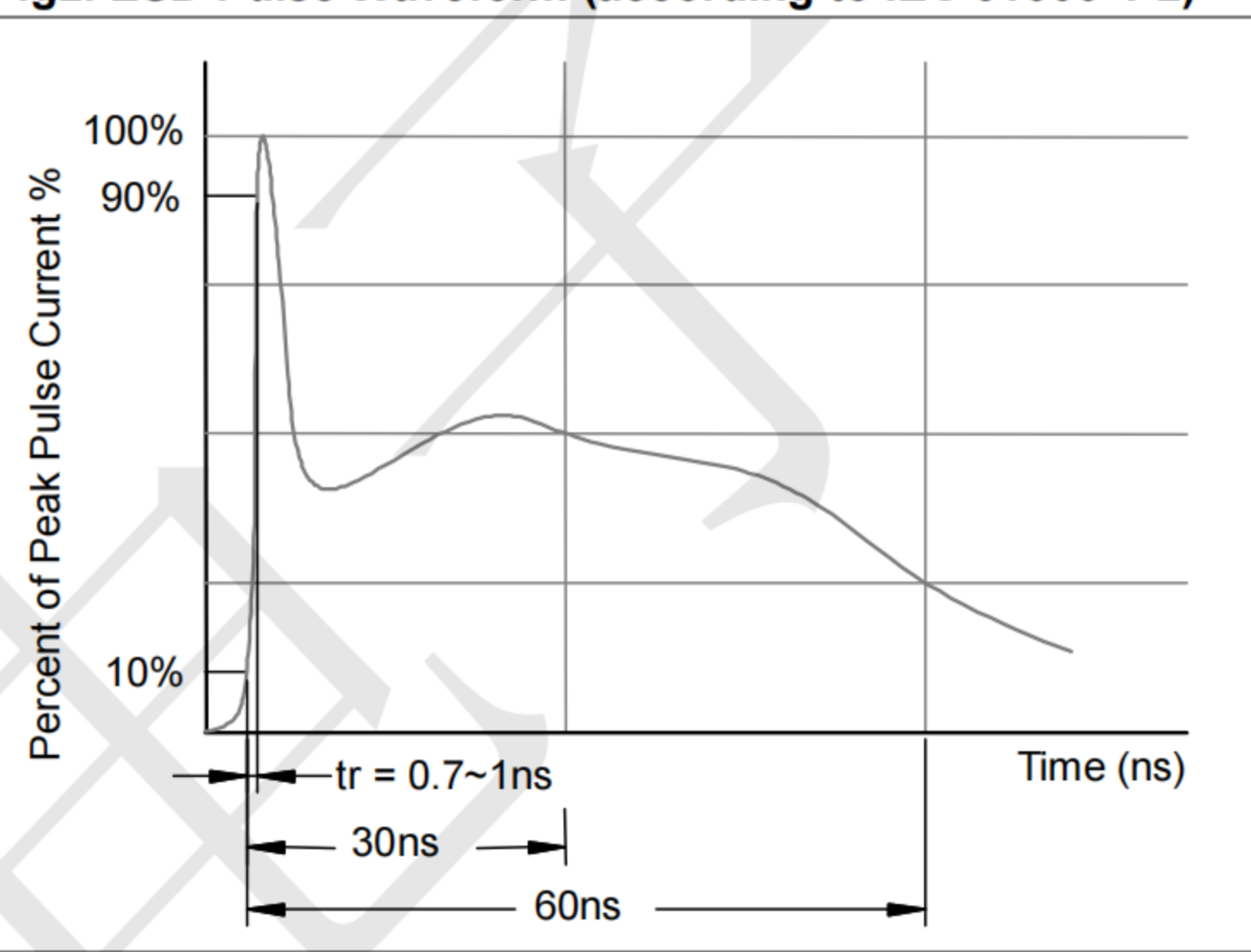
| Parameter               | Symbol | Min  | Typ | Max | Unit | Test Condition                |
|-------------------------|--------|------|-----|-----|------|-------------------------------|
| Reverse Working Voltage | VRWM   |      |     | 12  | V    |                               |
| Breakdown Voltage       | VBR    | 14.2 |     | 18  | V    | IT = 1mA                      |
| Reverse Leakage Current | IR     |      |     | 0.1 | μA   | VRWM = 12V                    |
| Forward Voltage         | VF     |      | 0.8 | 1.2 | V    | IF = 10mA                     |
| Clamping Voltage        | VC     |      |     | 25  | V    | IPP = 3A (8 x 20μs pulse)     |
| Junction Capacitance    | CJ     |      |     | 30  | pF   | VR=0, f=1MHz, Pin line to GND |

**Typical Performance Characteristics (T = 25°C unless otherwise Specified)**

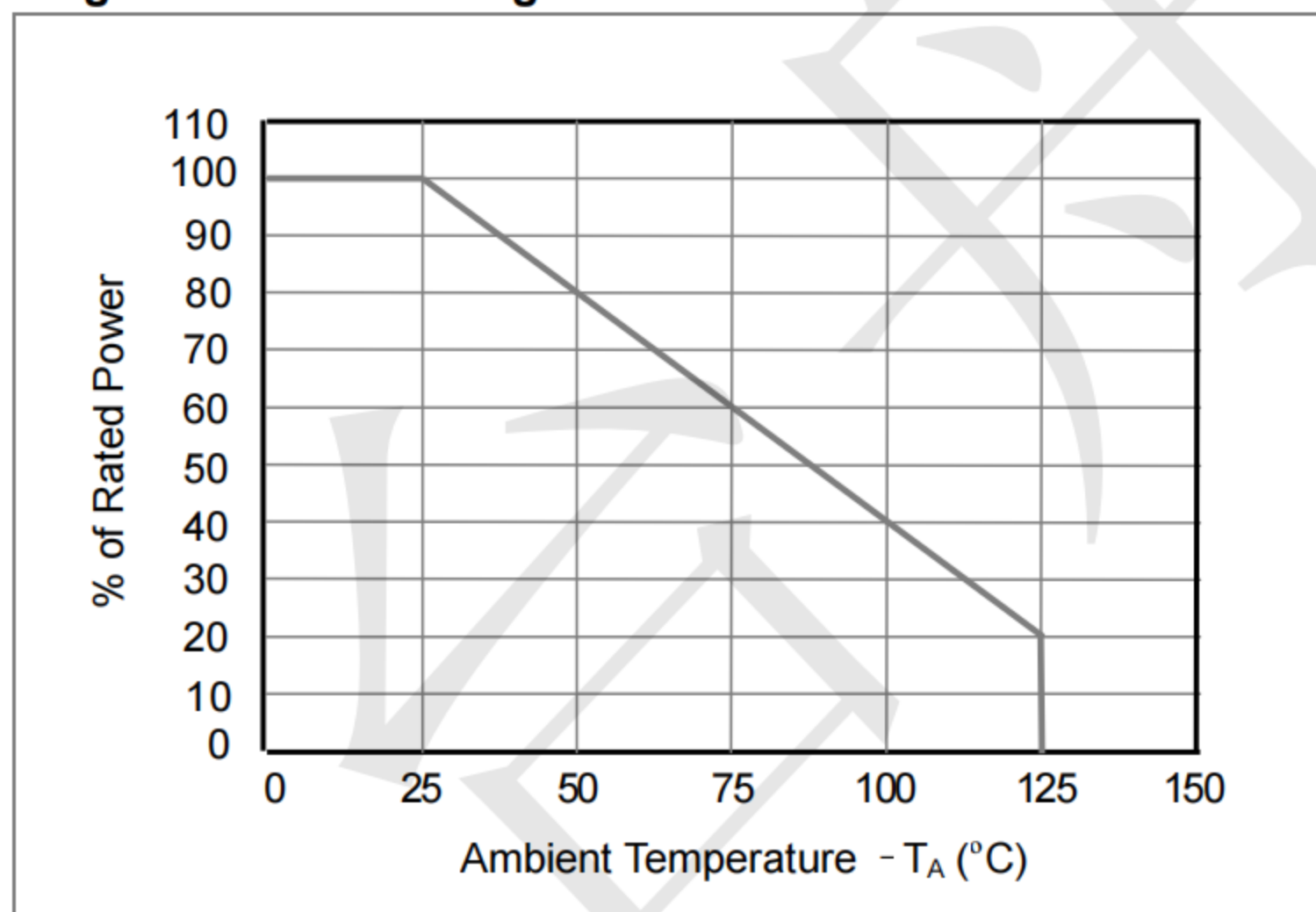
**Fig1. 8/20μs Pulse Waveform**



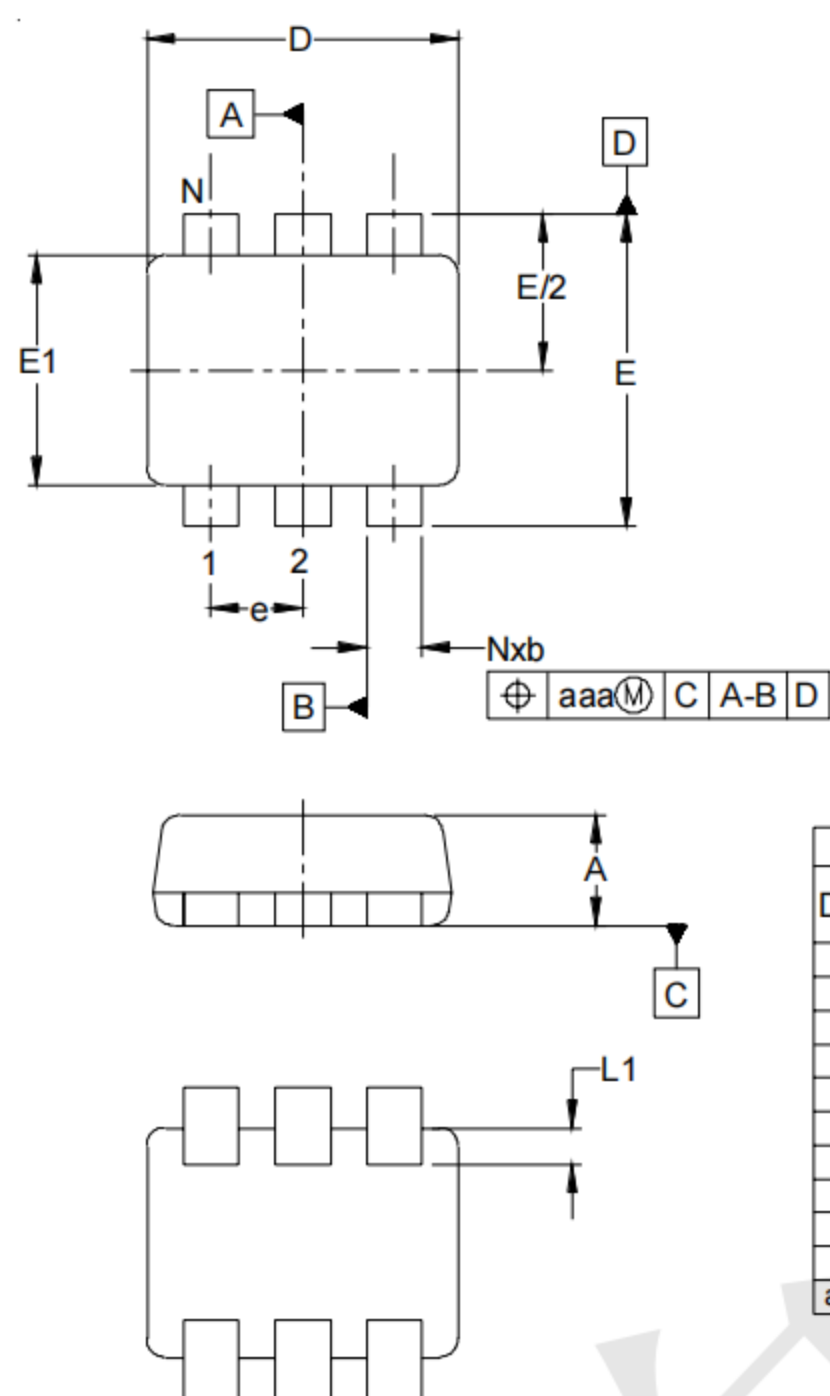
**Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)**



**Fig3. Power Derating Curve**

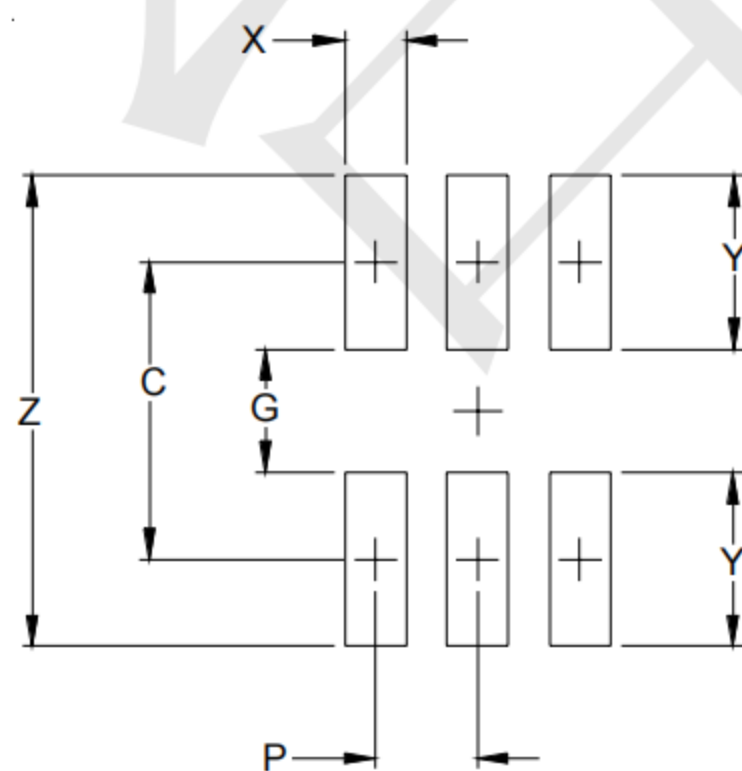


## Outline Drawing - SOT-563



| DIM | INCHES   |      |      | MILLIMETERS |      |      |
|-----|----------|------|------|-------------|------|------|
|     | MIN      | NOM  | MAX  | MIN         | NOM  | MAX  |
| A   | .019     | -    | .024 | 0.50        | -    | 0.60 |
| b   | .005     | -    | .012 | 0.15        | -    | 0.30 |
| c   | .003     | -    | .007 | 0.10        | -    | 0.18 |
| D   | .059     | .063 | .067 | 1.50        | 1.60 | 1.70 |
| E   | .061     | .063 | .067 | 1.55        | 1.60 | 1.70 |
| E1  | .043     | .047 | .049 | 1.10        | 1.20 | 1.25 |
| e   | .020 BSC |      |      | 0.50 BSC    |      |      |
| L   | .003     | .008 | .012 | 0.10        | 0.20 | 0.30 |
| L1  | .003     | .006 | .008 | 0.10        | 0.15 | 0.20 |
| N   | 6        |      |      | 6           |      |      |
| aaa | .004     |      |      | 0.10        |      |      |

## Land Pattern - SOT-563



| DIM | INCHES |     | MILLIMETERS |     |
|-----|--------|-----|-------------|-----|
|     | MIN    | MAX | MIN         | MAX |
| C   | (.057) |     | (1.45)      |     |
| P   | .020   |     | 0.50        |     |
| G   | .024   |     | 0.60        |     |
| X   | .012   |     | 0.30        |     |
| Y   | .033   |     | 0.85        |     |
| Z   | .090   |     | 2.30        |     |