

### Description

The SXTVSHC3N4V5B protects sensitive semiconductor components from damage or upset due to electrostatic discharge (ESD) and other voltage induced transient events. They feature large cross-sectional area junctions for conducting high transient currents, offer desirable electrical characteristics for board level protection, such as fast response time, low operating voltage. It gives designer the flexibility to protect one bi-directional line in applications where arrays are not practical.

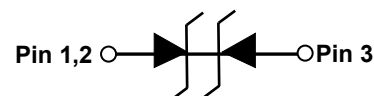
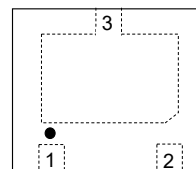
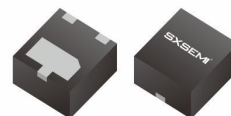
### Feature

- 2800W Peak pulse power per line ( $t_p = 8/20\mu s$ )
- DFN2020-3L package
- Response time is typically  $< 1\text{ ns}$
- Protect one I/O or power line
- Low clamping Voltage
- RoHS compliant
- Transient protection for data lines to IEC 61000-4-2(ESD)
- $\pm 30\text{KV}$ (air),  $\pm 30\text{KV}$ (contact); IEC 61000-4-4 (EFT) 40A (5/50ns)

### Applications

- Cell phone handsets and accessories
- Personal digital assistants (PDA's)
- Notebooks, desktops, and servers
- Portable instrumentation
- Cordless phones
- Digital cameras
- Peripherals
- MP3 players

### DFN2020-3L

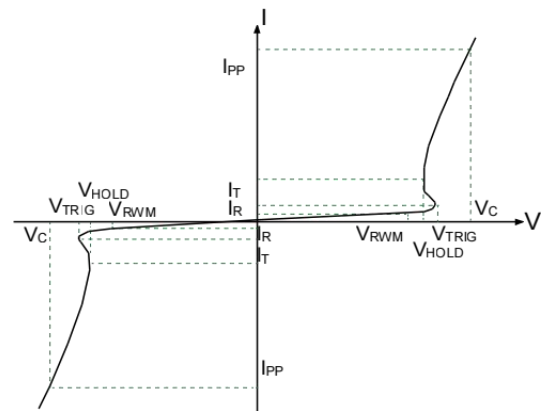


### Mechanical Characteristics

- Lead finish: 100% matte Sn(Tin)
- Mounting position: Any
- Qualified max reflow temperature:  $260^\circ\text{C}$

### Electronics Parameter

| Symbol    | Parameter                           |
|-----------|-------------------------------------|
| $V_{RWM}$ | Peak Reverse Working Voltage        |
| $I_R$     | Reverse Leakage Current @ $V_{RWM}$ |
| $V_{BR}$  | Breakdown Voltage @ $I_R$           |
| $I_T$     | Test Current                        |
| $I_{PP}$  | Maximum Reverse Peak Pulse Current  |
| $V_C$     | Clamping Voltage @ $I_{PP}$         |
| $P_{PP}$  | Peak Pulse Power                    |
| $C_J$     | Junction Capacitance                |



### Electrical characteristics per line@25°C ( unless otherwise specified)

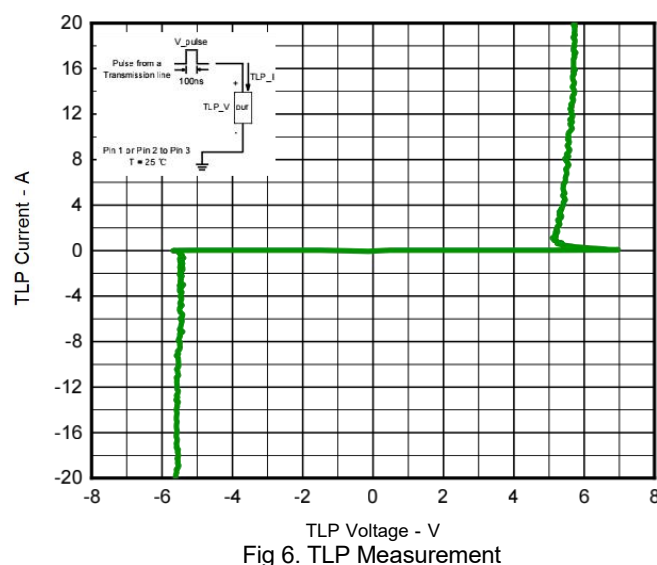
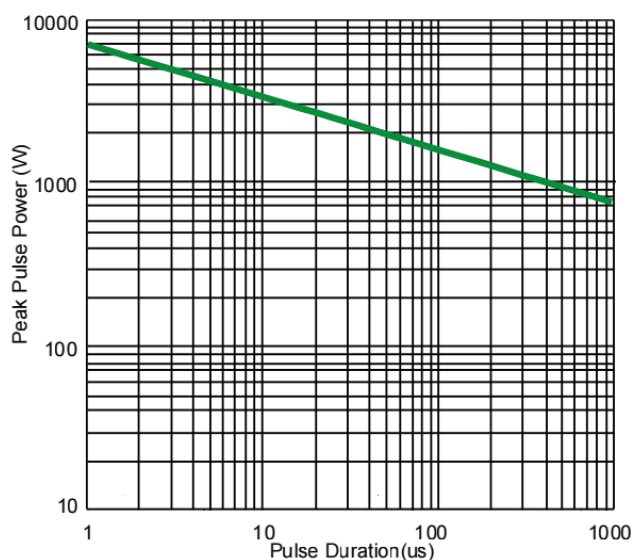
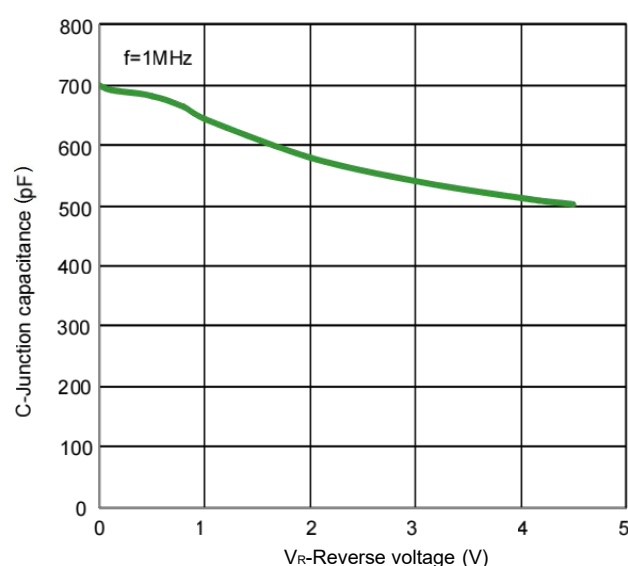
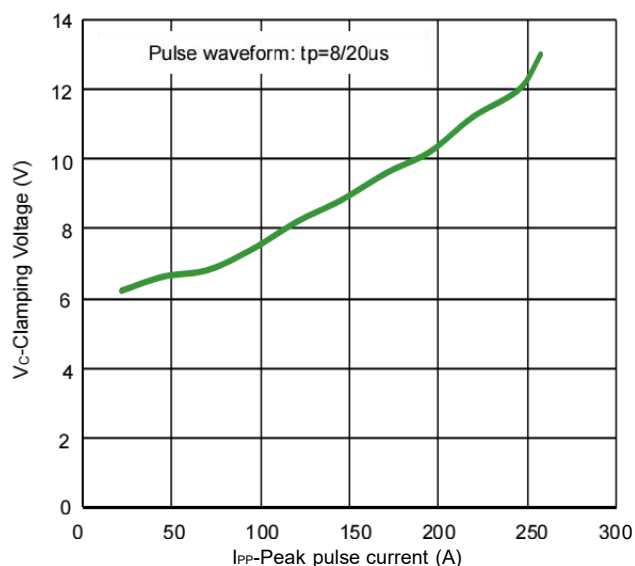
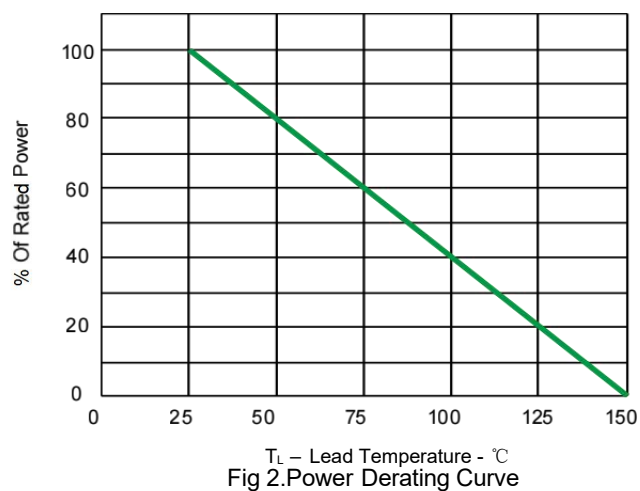
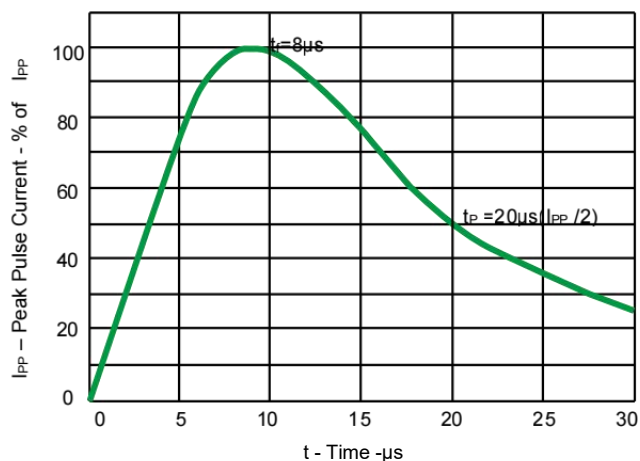
| Parameter                    | Symbol    | Conditions                                     | Min. | Typ. | Max. | Units         |
|------------------------------|-----------|------------------------------------------------|------|------|------|---------------|
| Peak Reverse Working Voltage | $V_{RWM}$ |                                                |      |      | 4.5  | V             |
| Breakdown Voltage            | $V_{BR}$  | $I_T = 1\text{mA}$                             | 4.6  | 5.2  | 6.1  | V             |
| Reverse Leakage Current      | $I_R$     | $V_{RWM} = 4.5\text{V}$                        |      |      | 1    | $\mu\text{A}$ |
| Clamping Voltage             | $V_C$     | $I_{PP} = 20\text{A}$ $t_P = 8/20\mu\text{s}$  |      | 6    | 8    | V             |
| Clamping Voltage             | $V_C$     | $I_{PP} = 120\text{A}$ $t_P = 8/20\mu\text{s}$ |      | 8    | 10   | V             |
| Clamping Voltage             | $V_C$     | $I_{PP} = 240\text{A}$ $t_P = 8/20\mu\text{s}$ |      | 12   | 14   | V             |
| Junction Capacitance         | $C_J$     | $V_R = 0\text{V}$ $f = 1\text{MHz}$            | 500  | 700  | 900  | pF            |

Notes : Measured from pin 1 and pin 2 to pin 3.

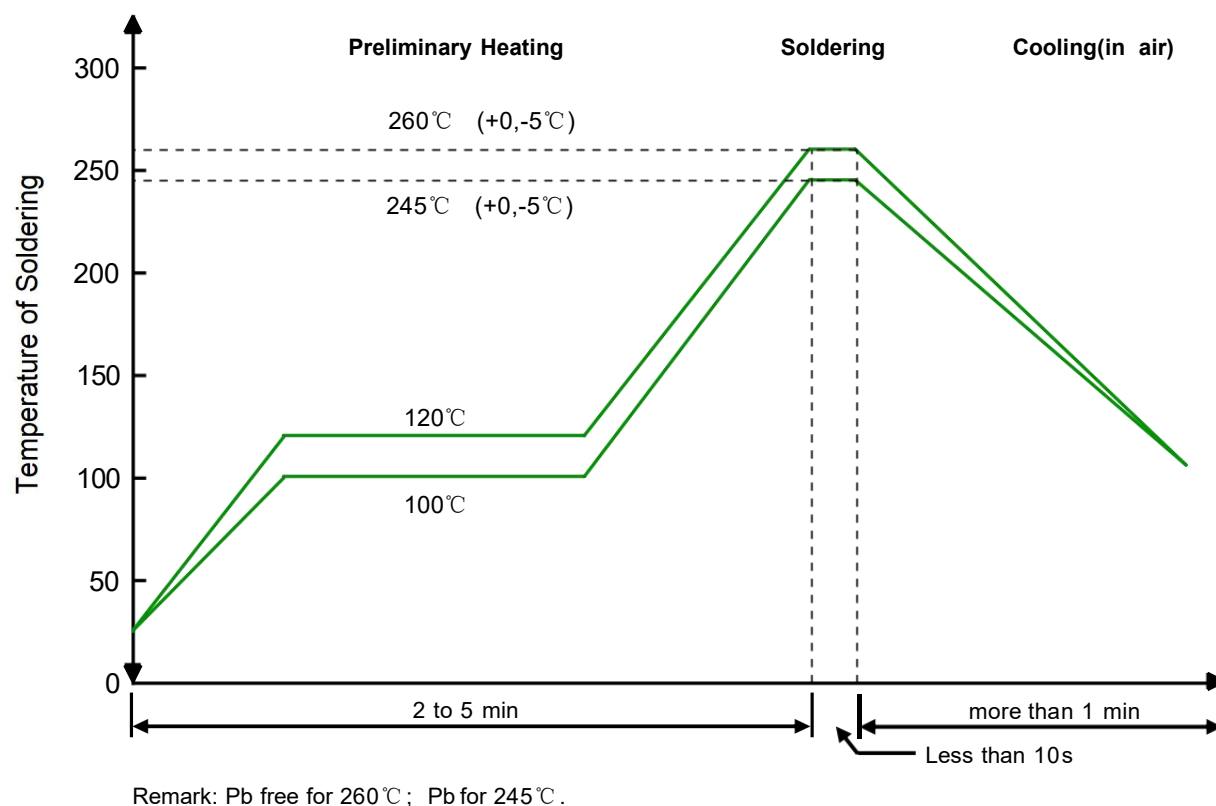
### Absolute maximum rating@25°C

| Rating                                         | Symbol    | Value        | Units |
|------------------------------------------------|-----------|--------------|-------|
| Peak Pulse Power ( $t_P = 8/20\mu\text{s}$ )   | $P_{PP}$  | 2800         | W     |
| Peak Pulse Current ( $t_P = 8/20\mu\text{s}$ ) | $I_{PP}$  | 240          | A     |
| Lead Soldering Temperature                     | $T_L$     | 260 (10 sec) | °C    |
| Operating Temperature                          | $T_J$     | -55 to 150   | °C    |
| Storage Temperature                            | $T_{STG}$ | -55 to 150   | °C    |

## Typical Characteristics



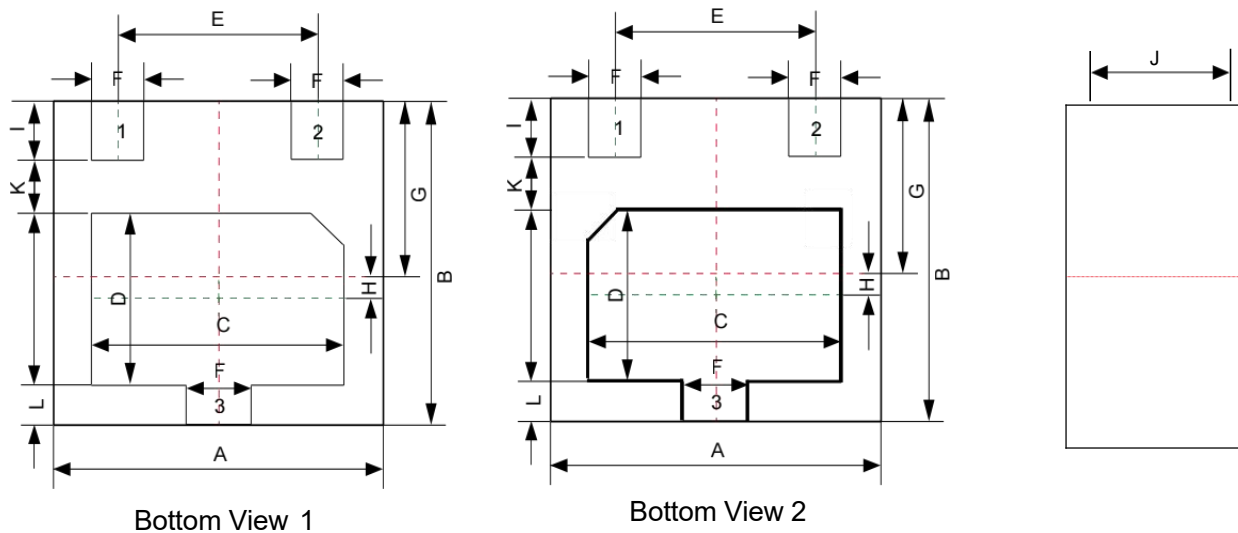
### Solder Reflow Recommendation



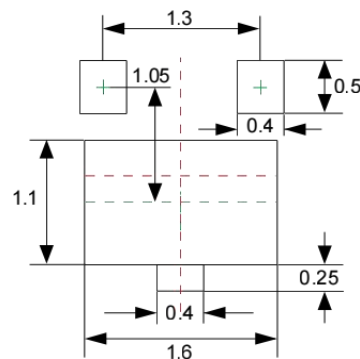
### Ordering information

| Device | Package              | Reel | Shipping           |
|--------|----------------------|------|--------------------|
| TAPING | DFN2020-3L (Pb-Free) | 7"   | 3000 / Tape & Reel |

### Product dimension (DFN2020-3L)



| Dim | Millimeters |      |
|-----|-------------|------|
|     | MIN         | MAX  |
| A   | 1.90        | 2.10 |
| B   | 1.90        | 2.10 |
| C   | 1.40        | 1.60 |
| D   | 0.90        | 1.15 |
| E   | 1.30BSC     |      |
| F   | 0.25        | 0.40 |
| G   | 0.90        | 1.10 |
| H   | 0.20        | 0.30 |
| I   | 0.32        | 0.48 |
| J   | 0.50        | 0.65 |
| K   | 0.20        | 0.45 |
| L   | 0.15        | 0.30 |



Recommended Soldering Pad

Unit:mm