



## SSCT18V11L2

### High Power TVS Diode

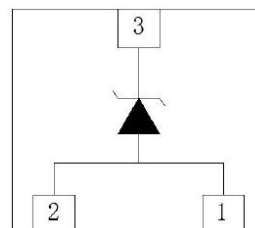
#### ● Description

The SSCT18V11L2 is a high power TVS, utilizing leading monolithic silicon technology to provide fast response time and low ESD clamping voltage, making this device an ideal solution for protecting voltage sensitive lines. The SSCT18V11L2 complies with the IEC 610002 (ESD) standard with  $\pm 30\text{kV}$  air and  $\pm 30\text{kV}$  contact discharge. It is assembled into a 3pin DFN2020-3 package. The leads are finished with NiPdAu. Each device will protect one line. The combination of small size, and high surge capability makes them ideal for use in applications such as cellular phones, LCD displays, USB, and multimedia card interfaces.

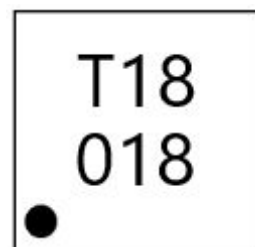
#### ● Feature

- ◇ 6400W peak pulse power (TP = 8/20 $\mu\text{s}$ )
- ◇ DFN2020-3Package
- ◇ Working voltage: 18V
- ◇ Low clamping voltage
- ◇ Low capacitance
- ◇ RoHS compliant transient protection for high speed data lines to IEC61000-4-2(ESD) $\pm 30\text{kV}$ (air), $\pm 30\text{kV}$ (contact)

#### ● PIN configuration



Top view



Marking

#### ● Applications

- ◇ DVI & HDMI Port Protection
- ◇ Serial and Parallel Ports
- ◇ Projection TV
- ◇ Notebooks, Desktops, Server
- ◇ USB 1.1/2.0/3.0/3.1/OTG

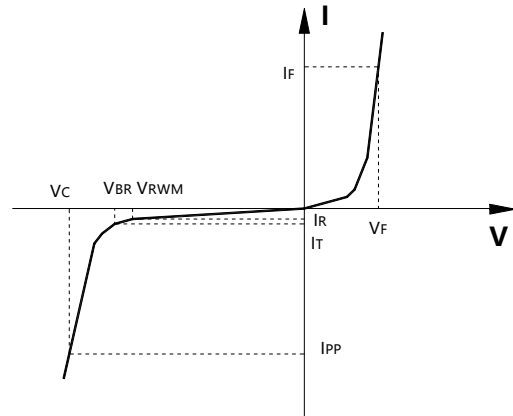
#### ● Mechanical data

- ◇ Lead finish: 100% matte Sn(Tin)
- ◇ Mounting position: Any
- ◇ Qualified max reflow temperature: 260°C
- ◇ Device meets MSL 1 requirements
- ◇ Pure tin plating: 7 ~ 17  $\mu\text{m}$



## ● Electronic Parameter

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



## ● Absolute maximum rating @TA=25°C

| Symbol    | Parameter                         | Value    | Units |
|-----------|-----------------------------------|----------|-------|
| $P_{PP}$  | Peak Pulse Power (8/20 $\mu$ S)   | 6400     | W     |
| $I_{PP}$  | Peak Pulse Current (8/20 $\mu$ S) | 150      | A     |
| $T_{STG}$ | Storage Temperature               | -55/+150 | °C    |
| $T_J$     | Operating Temperature             | -55/+125 | °C    |

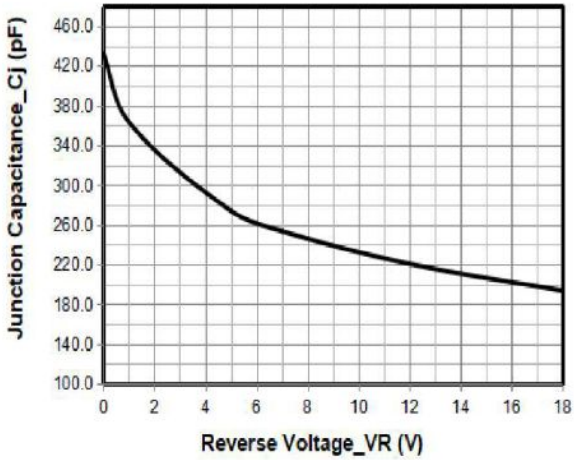
## ● Electrical Characteristics @TA=25°C

| Parameter                    | Symbol    | Conditions   | Min. | Typ. | Max. | Units         |
|------------------------------|-----------|--|------|------|------|---------------|
| Peak Reverse Working Voltage | $V_{RWM}$ | Any I/O to Ground  |      |      | 18   | V             |
| Breakdown Voltage            | $V_{BR}$  | $I_T = 1\text{mA}$<br>Any I/O to Ground                          | 20   |      |      | V             |
| Reverse Leakage Current      | $I_R$     | $V_{RWM} = 18\text{V}$ , $T = 25^\circ\text{C}$                  |      |      | 0.5  | $\mu\text{A}$ |
| Clamping Voltage             | $V_C$     | $I_{PP} = 20\text{A}$ , $t_P = 8/20\mu\text{s}$                  |      |      | 25   | V             |
| Clamping Voltage             | $V_C$     | $I_{PP} = 150\text{A}$ , $t_P = 8/20\mu\text{s}$                 |      |      | 43   | V             |
| Junction Capacitance         | $C_J$     | $V_R = 0\text{V}$ , $f = 1\text{MHz}$ ,<br>any I/O pin to Ground |      | 900  |      | pF            |

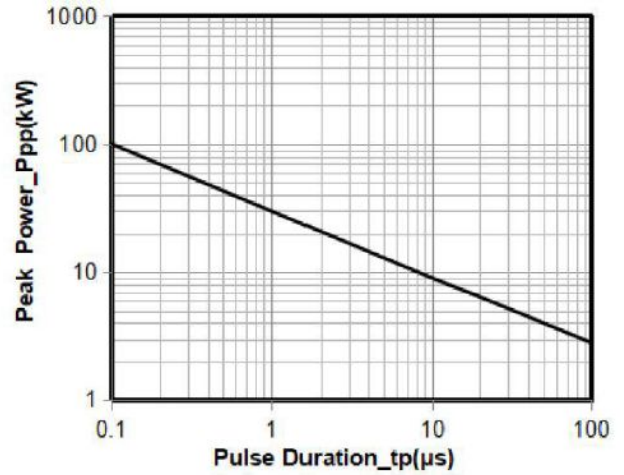


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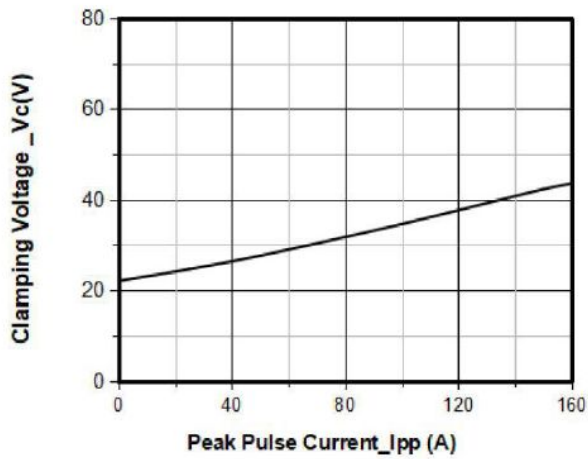
## ● Typical Performance Characteristics



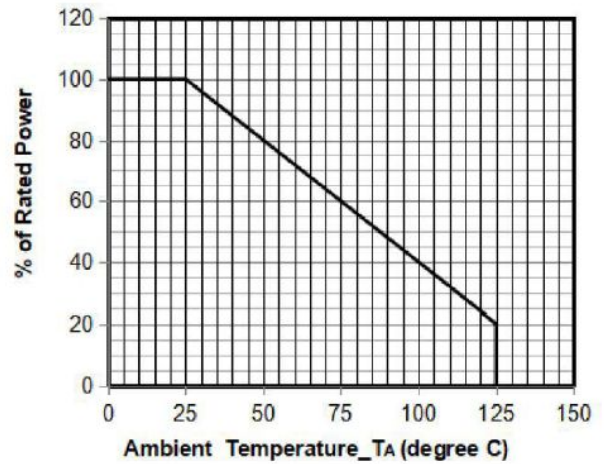
Novction Capacitance vs. Reverse Voltage



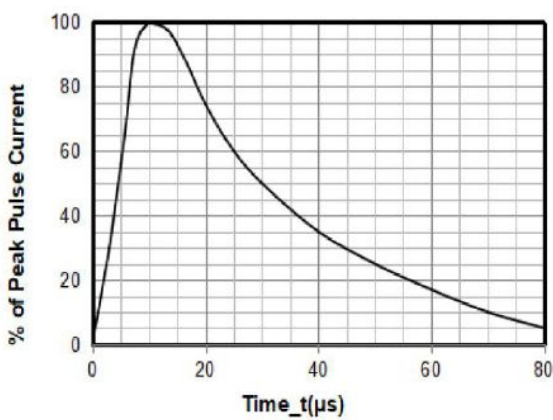
Peak Pulse Power vs. Pulse Time



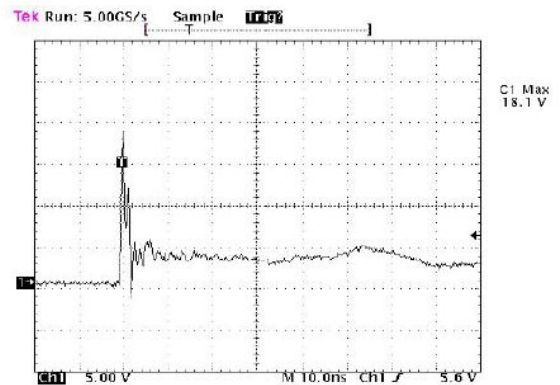
Clamping Voltage vs. Peak Pulse Current



Power Derating Curve



8 X 20μs Pulse Waveform



Note: Data is taken with a 10x attenuator

ESD Clamping Voltage

8 kV Contact per IEC61000-4-2



# SSCT18V11L2

- **Package Information**

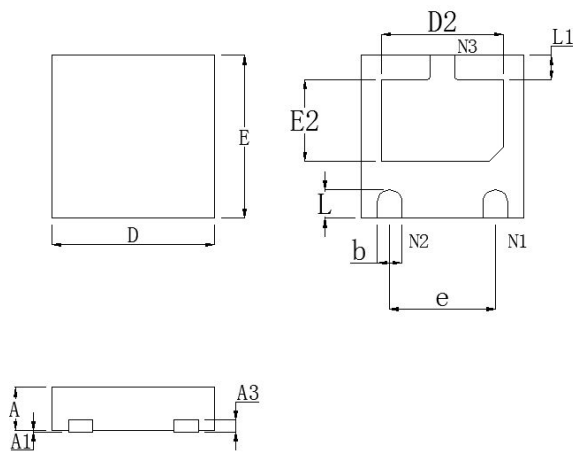
## Ordering Information

| Device      | Package   | Qty per Reel | Reel Size |
|-------------|-----------|--------------|-----------|
| SSCT18V11L2 | DFN2020-3 | 3000         | 7 Inch    |

## Mechanical Data

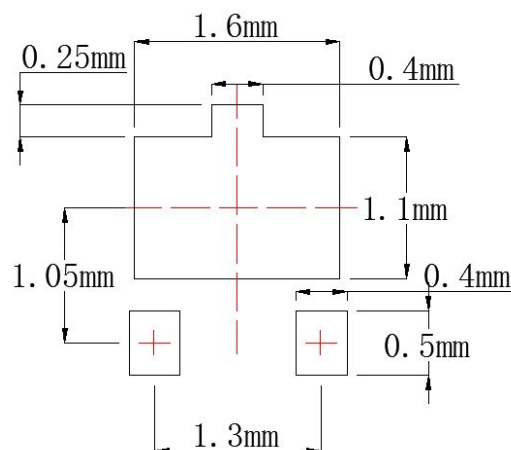
Case: DFN2020-3

Case Material: Molded Plastic. UL Flammability



| DIM | Millimeters |      |      |
|-----|-------------|------|------|
|     | Min         | Nom  | Max  |
| A   | 0.55        | 0.60 | 0.65 |
| A1  | 0.00        | 0.02 | 0.05 |
| A3  | 0.10REF     |      |      |
| D   | 1.90        | --   | 2.10 |
| E   | 1.90        | --   | 2.10 |
| b   | 0.25        | --   | 0.35 |
| L   | 0.35        | --   | 0.45 |
| L1  | 0.20        | --   | 0.30 |
| D2  | 1.40        | --   | 1.60 |
| E2  | 0.95        | --   | 1.15 |
| e   | 1.20        | --   | 1.40 |

## Recommended Pad outline





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