# SSC8132GN1

## N-Channel Enhancement Mode MOSFET with ESD protection

### ➢ Features

| VDS | VGS | RDSON Typ. | ID | ESD |
|---|---|---|---|---|
| 35V | ±10V | 320mR@10V | 2A | 1K |
| | | 350mR@4V5 | | |
| | | 430mR@2V5 | | |

### ➢ Description

This device is a N-Channel enhancement mode MOSFET which is produced with high cell density and DMOS trench technology. This device particularly suits low voltage applications, especially for battery powered circuits, the tiny and thin outline saves PCB consumption.

### ➢ Applications

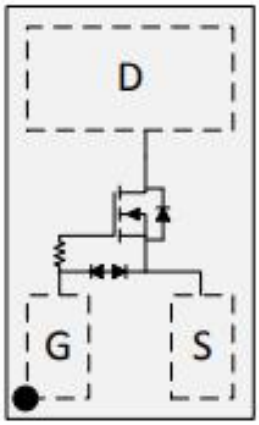
- Replace Digital Transistor
- Battery Operated Systems
- Power Supply Converter Circuits
- Load/Power Switching cell Phones

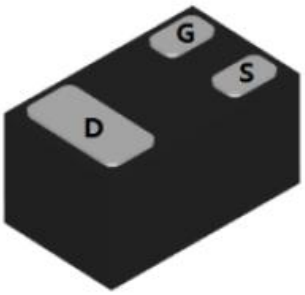
### ➢ Ordering Information

| Device | Package | Shipping |
|---|---|---|
| SSC8132GN1 | DFN1006 | 10K/Reel |

### ➢ Pin configuration

Top view




Bottom View


Marking

## ➢ Absolute Maximum Ratings($T_A$=25℃ unless otherwise noted)

| Symbol | Parameter | Ratings | Unit |
|---|---|---|---|
| $V_{DSS}$ | Drain-to-Source Voltage | 35 | V |
| $V_{GSS}$ | Gate-to-Source Voltage | ±10 | V |
| $I_D$ | Continuous Drain Current [a] | 2 | A |
| $I_{DM}$ | Pulsed Drain Current [b] | 6 | A |
| $P_D$ | Power Dissipation [c] | 2 | W |
| $T_J$ | Operation junction temperature | -55 to 150 | ℃ |
| $T_{STG}$ | Storage temperature range | -55 to 150 | ℃ |

## ➢ Thermal Resistance Ratings($T_A$=25℃ unless otherwise noted)

| Symbol | Parameter | Maximum | Unit |
|---|---|---|---|
| $R_{\theta JA}$ | Junction-to-Ambient Thermal Resistance [a] | 60 | ℃/W |

Note:

a. The value of $R_{\theta JA}$ is measured with the device mounted on 1 $in^2$ FR-4 board with 2oz.copper,in a still air environment with $T_A$=25℃.The value in any given application depends on the user is specific board design. The current rating is based on the t≤ 10s thermal resistance rating.

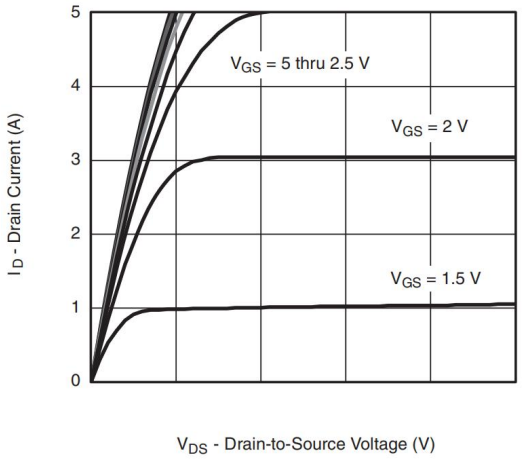
b. Repetitive rating, pulse width limited by junction temperature.

c. The power dissipation $P_D$ is based on $T_{J(MAX)}$=150°C, using junction-to-case thermal resistance, and is more useful in setting the upper dissipation limit for cases where additional heat sinking is used.

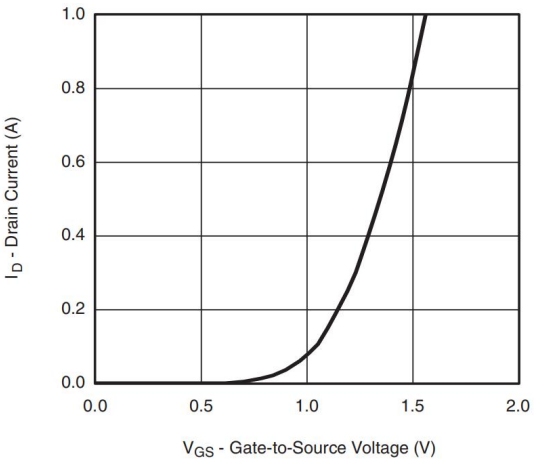
➢ **Electronics Characteristics**($T_A$=25℃ unless otherwise noted)

| Symbol | Parameter | Test Conditions | Min | Typ. | Max | Unit |
|---|---|---|---|---|---|---|
| $V_{(BR)DSS}$ | Drain-Source Breakdown Voltage | VGS=0V , ID=250uA | 35 | | | V |
| $V_{GS\ (th)}$ | Gate Threshold Voltage | VDS=VGS , ID=250uA | 0.5 | 0.7 | 1 | V |
| $R_{DS(on)}$ | Drain-Source On-Resistance | VGS=4.5V , ID=0.5A | | 320 | 550 | mR |
| | | VGS=2.5V , ID=0.3A | | 350 | 750 | |
| | | VGS=1.8V , ID=0.1A | | 430 | 950 | |
| $I_{DSS}$ | Zero Gate Voltage Drain Current | VDS=24V , VGS=0V | | | 1 | uA |
| $I_{GSS}$ | Gate-Source leak current | VGS=±10V , VDS=0V | | | ±10 | uA |
| $G_{FS}$ | Transconductance | VDS=5V , ID=2A | | 2 | | S |
| $V_{SD}$ | Forward Voltage | VGS=0V , IS=0.5A | | 0.8 | 1.3 | V |
| Ciss | Input Capacitance | VDS=15V , VGS=0V, f=1MHz | | 44 | | pF |
| Coss | Output Capacitance | | | 11 | | |
| Crss | Reverse Capacitance | | | 6 | | |
| $T_{D(ON)}$ | Turn-on delay time | VGS=4.5V, VDS=15V, RL=2.3R RG=3R | | 13 | | ns |
| Tr | Rise time | | | 6.2 | | |
| $T_{D(OFF)}$ | Turn-off delay time | | | 2.8 | | |
| Tf | Fall time | | | 5.6 | | |
| $Q_g$ | Total Gate charge | VGS=4.5V, VDS=10V ID=2A | | 0.8 | | nC |
| $Q_{gs}$ | Gate Source charge | | | 0.1 | | |
| $Q_{gd}$ | Gate Drain charge | | | 0.2 | | |

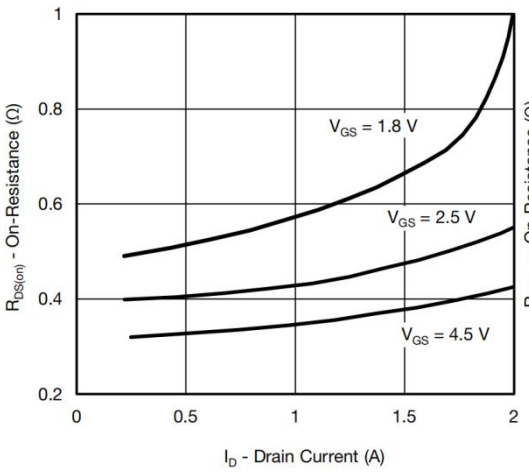
## ➢ Typical Characteristics($T_A$=25℃ unless otherwise noted)



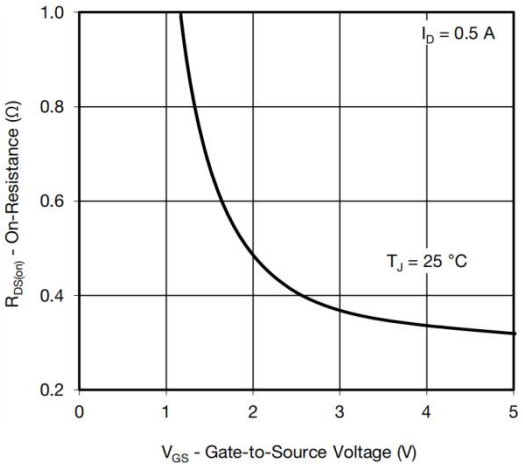

**Output Characteristics**



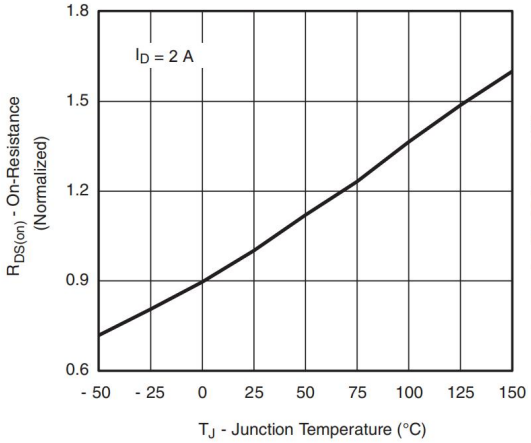

**Transfer Characteristics**



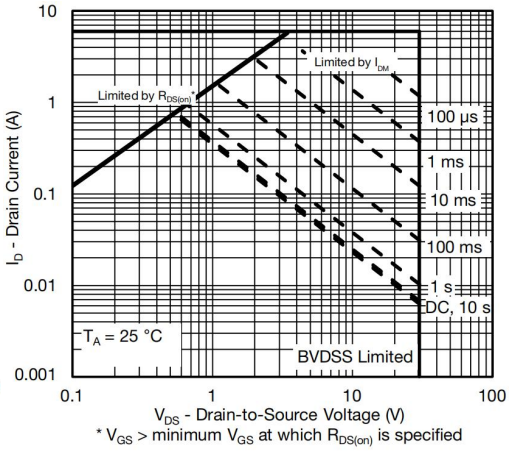

**On-Resistance vs. Drain Current**




**On-Resistance vs. Gate-to-Source Voltage**



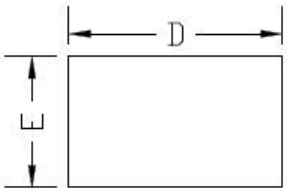

**On-Resistance vs. Junction Temperature**



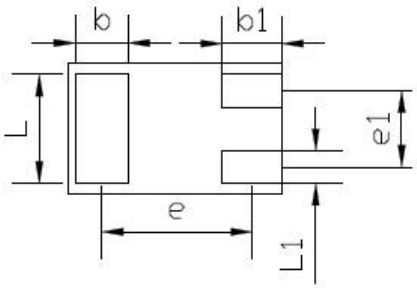

**Safe Operating Area, Junction-to-Ambient**

## ➢ Package Information

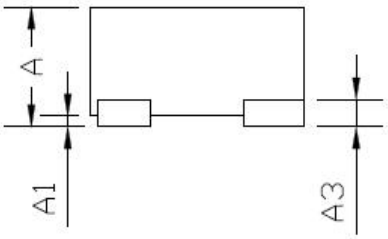
DFN1006-3L




TOP VIEW



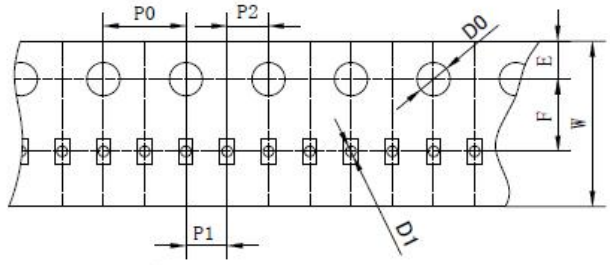

BOTTOM VIEW

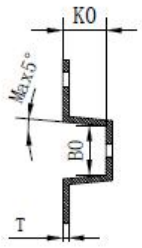


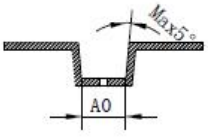

SIDE VIEW

| COMMON DIMENSION (MM) | | | |
|---|---|---|---|
| PKG | DFN1006 | | |
| REF. | MIN. | NOM. | MAX |
| A | >0.4 | – | 0.50 |
| A1 | 0.00 | – | 0.05 |
| A3 | 0.125REF. | | |
| D | 0.95 | 1.00 | 1.05 |
| E | 0.55 | 0.60 | 0.65 |
| b | 0.20 | 0.25 | 0.30 |
| b1 | 0.20 | 0.30 | 0.40 |
| L | 0.45 | 0.50 | 0.55 |
| L1 | 0.10 | 0.15 | 0.20 |
| e | 0.675 | | |
| e1 | 0.35 | | |

Tape Data



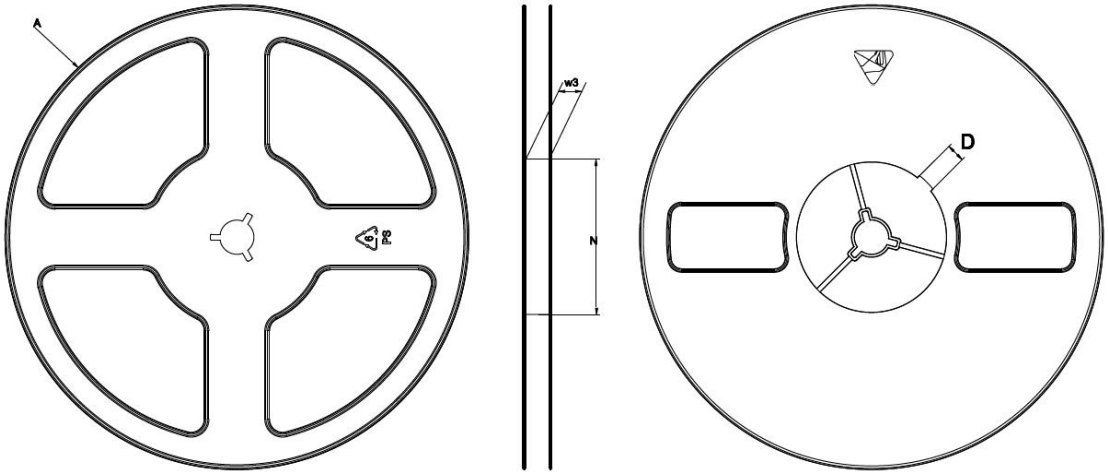



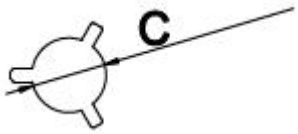




NOTE:
1. 材料：黑色防静电材料；
2. 10个链孔的累积公差不能超过±0.2
3. 尺寸符合EIA-481-E的要求。

| SYMBOL | A0 | B0 | K0 | P0 | P1 | P2 |
|---|---|---|---|---|---|---|
| SPEC | 0.69±0.05 | 1.15±0.05 | 0.60±0.05 | 4.00±0.10 | 2.00±0.05 | 2.00±0.05 |
| SYMBOL | T | E | F | D0 | D1 | W |
| SPEC | 0.18±0.03 | 1.75±0.10 | 3.50±0.05 | 1.55±0.05 | 0.50±0.05 | 8.00 $^{+0.3}_{-0.1}$ |

Reel Data




材质说明：该产品用料为 PS

| TYPE | A | N | C | D | w3 |
|---|---|---|---|---|---|
| 8MM | Ø178 +1 -1 | Ø60 +1 -1 | Ø13,3 +0,3 -0,3 | 7,5±0,5 | 9±0.3 |

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