

## Product Summary

| $V_{(BR)DSS}$ | $R_{DS(on)TYP}$ | $I_D$ |
|---------------|-----------------|-------|
| -30V          | 40mΩ@-10V       | -5.1A |
|               | 60mΩ@-4.5V      |       |

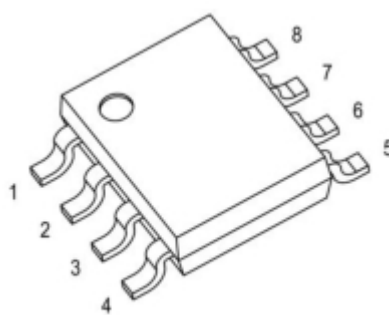
## Feature

- TrenchFET Power MOSFET
- Excellent  $R_{DS(on)}$  and Low Gate Charge

## Applications

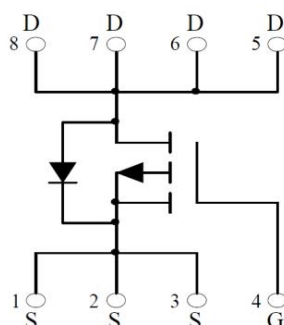
- Load Switch for Portable Devices
- Battery Switch

## Package

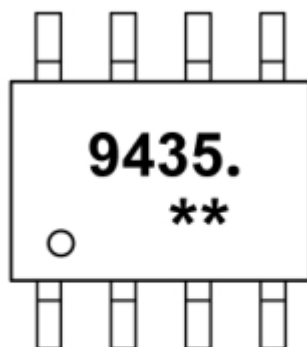


**SOP-8**

## Circuit diagram



## Marking



9435. = Device code  
 \*\* = Date Code

## Absolute maximum ratings

( $T_a=25^{\circ}\text{C}$  unless otherwise noted)

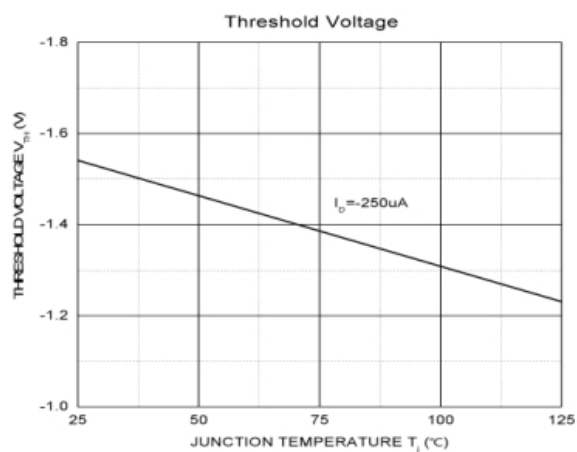
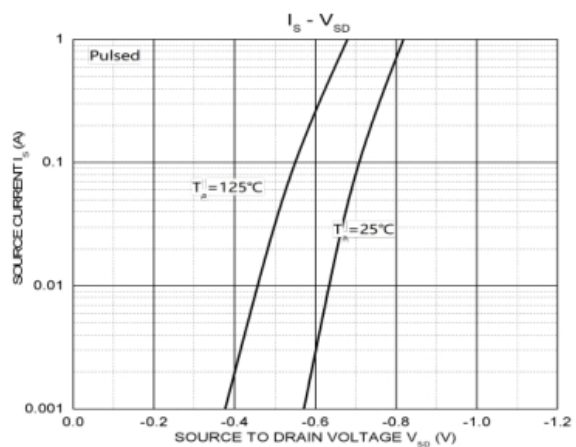
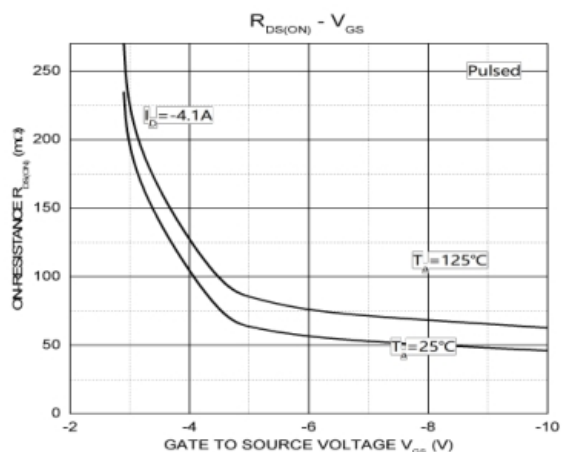
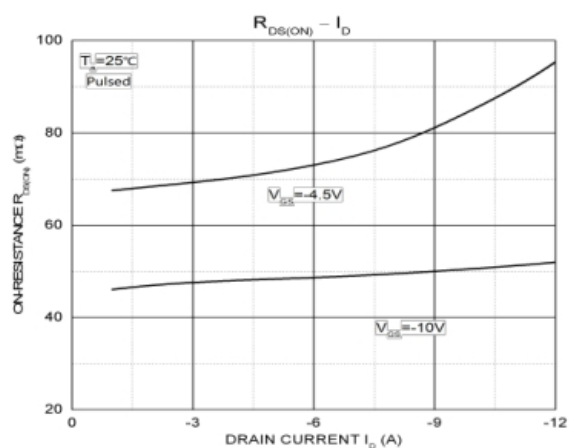
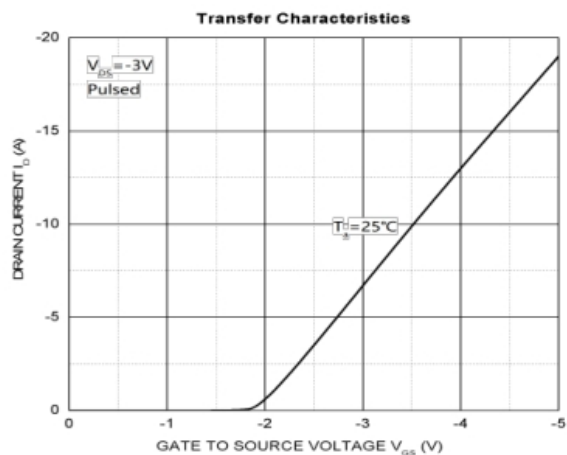
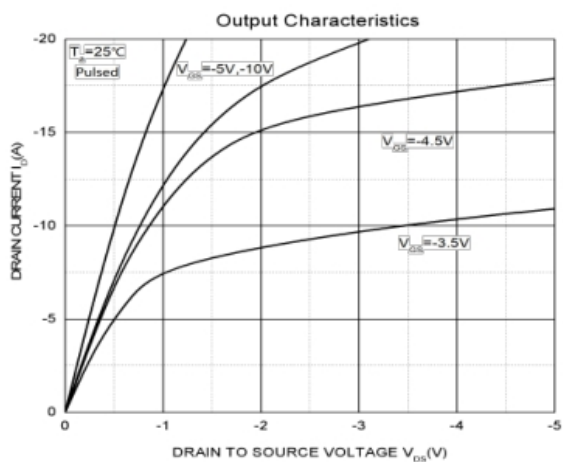
| Parameter                                   | Symbol          | Value     | Unit                        |
|---|-----------------|-----------|-----------------------------|
| Drain-Source Voltage                        | $V_{DS}$        | -30       | V                           |
| Gate-Source Voltage                         | $V_{GS}$        | $\pm 20$  | V                           |
| Continuous Drain Current                    | $I_D$           | -5.1      | A                           |
| Plused Drain Current                        | $I_{DM}$        | -20       | A                           |
| Power Dissipation                           | $P_D$           | 2.5       | W                           |
| Thermal Resistance from Junction to Ambient | $R_{\theta JA}$ | 50        | $^{\circ}\text{C}/\text{W}$ |
| Junction Temperature                        | $T_J$           | 150       | $^{\circ}\text{C}$          |
| Storage Temperature                         | $T_{STG}$       | -55~ +150 | $^{\circ}\text{C}$          |

## Electrical characteristics

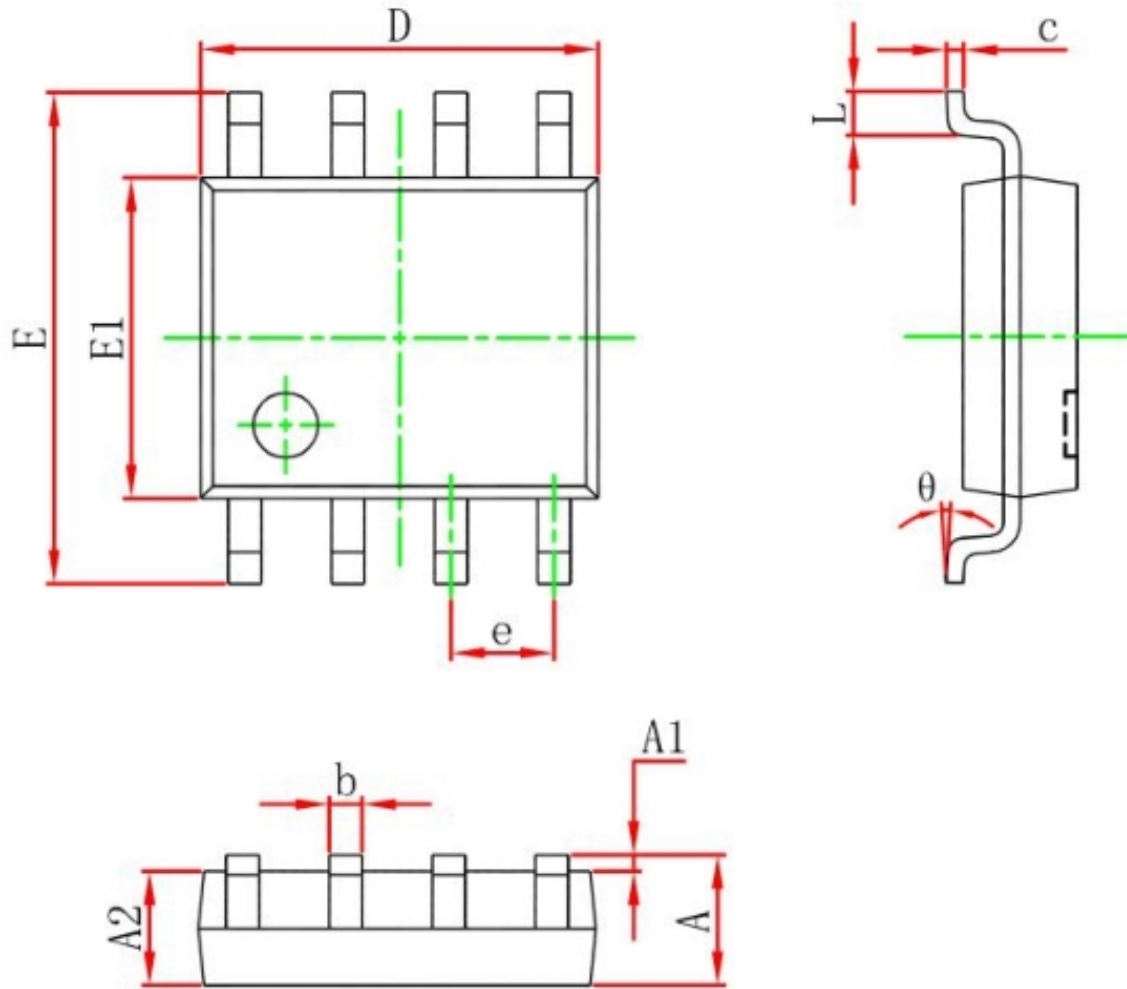
(T<sub>A</sub>=25°C, unless otherwise noted)

| Parameter                          | Symbol              | Test Condition  | Min. | Typ. | Max. | Unit |
|------------------------------------|---------------------|---|------|------|------|------|
| Static Characteristics             |                     |   |      |      |      |      |
| Drain-source breakdown voltage     | BV<br>(BR)DSS       | V <sub>GS</sub> = 0V, I <sub>D</sub> = -250μA   | -30  |      |      | V    |
| Zero gate voltage drain current    | I <sub>DSS</sub>    | V <sub>DS</sub> = -24V, V <sub>GS</sub> = 0V  |      |      | -1   | uA   |
| Gate-body leakage current          | I <sub>GSS</sub>    | V <sub>GS</sub> = ±20V, V <sub>DS</sub> = 0V  |      |      | ±100 | uA   |
| Gate threshold voltage             | V <sub>GS(th)</sub> | V <sub>DS</sub> =V <sub>GS</sub> , I <sub>D</sub> = -250μA                                    | -1   | -1.5 | -2   | V    |
| Drain-source on-resistance         | R <sub>DS(on)</sub> | V <sub>GS</sub> = -10V, I <sub>D</sub> = -5.1A  |      | 40   | 55   | mΩ   |
|                                    |                     | V <sub>GS</sub> = -4.5V, I <sub>D</sub> = -4.2A   |      | 60   | 90   |      |
| Forward Transconductance           | g <sub>FS</sub>     | V <sub>DS</sub> = -15V, I <sub>D</sub> = -5.1A  | 4    | 7    |      | S    |
| Dynamic Characteristics            |                     |   |      |      |      |      |
| Input capacitance                  | C <sub>iss</sub>    | V <sub>DS</sub> = -15V, V <sub>GS</sub> =0V,<br>f=1MHz  |      | 980  |      | pF   |
| Output capacitance                 | C <sub>oss</sub>    |   |      | 390  |      |      |
| Reverse transfer capacitance       | C <sub>rss</sub>    |   |      | 135  |      |      |
| Switching Characteristics          |                     |   |      |      |      |      |
| Turn-on Delay Time                 | T <sub>d(on)</sub>  | V <sub>DD</sub> = -15V, I <sub>D</sub> = -1A,<br>V <sub>GS</sub> = -10V, R <sub>GEN</sub> =6Ω |      | 14   |      | nS   |
| Turn-on Rise Time                  | T <sub>r</sub>      |   |      | 12   |      |      |
| Turn-Off Delay Time                | T <sub>d(off)</sub> |   |      | 56   |      |      |
| Turn-Off Fall Time                 | t <sub>f</sub>      |   |      | 20   |      |      |
| Total gate charge                  | Q <sub>g</sub>      | V <sub>DS</sub> = -15V, V <sub>GS</sub> = -5.1V,<br>I <sub>D</sub> = -10A                     |      | 11   |      | pF   |
| Gate-source charge                 | Q <sub>gs</sub>     |   |      | 2    |      |      |
| Gate-drain charge                  | Q <sub>gd</sub>     |   |      | 2.8  |      |      |
| Source-Drain Diode Characteristics |                     |   |      |      |      |      |
| Diode Forward Voltage              | V <sub>DS</sub>     | I <sub>S</sub> = -5.1A, V <sub>GS</sub> = 0V  |      |      | -1.2 | V    |

## Typical Characteristics



## SOP-8 Package Information



| Symbol   | Dimensions In Millimeters |      |
|----------|---------------------------|------|
|          | Min.                      | Max. |
| A        | 1.35                      | 1.75 |
| A1       | 0.10                      | 0.25 |
| A2       | 1.35                      | 1.55 |
| b        | 0.33                      | 0.51 |
| c        | 0.17                      | 0.25 |
| D        | 4.80                      | 5.00 |
| e        | 1.27 REF.                 |      |
| E        | 5.80                      | 6.20 |
| E1       | 3.80                      | 4.00 |
| L        | 0.40                      | 1.27 |
| $\theta$ | 0°                        | 8°   |