



SSC8L34PN6

N-Channel Enhanced MOSFET

➤ Features

| VDS | VGS | RDSON Typ. | ID |
|-----|------|------------|------|
| 30V | ±20V | 1.85mΩ@10V | 100A |
| | | 3.2mΩ@4V5 | |

➤ Description

This device is N-Channel enhancement MOSFET. Uses SGT technology and design to provide excellent RDSON with low gate charge. This device is suitable for use in DC-DC conversion, power switch and charging circuit.

100% UIS + ΔVds + Rg Tested!

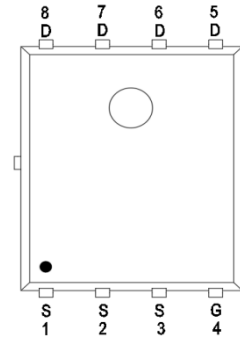
➤ Applications

- Load Switch
- Portable Devices
- DCDC conversion
- Power supplies
- Motor Drive Control
- Synchronous rectification

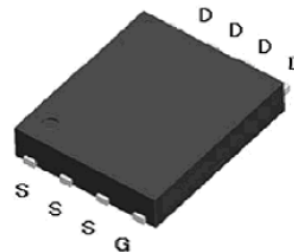
➤ Ordering Information

| Device | Package | Shipping |
|------------|------------|-----------|
| SSC8L34PN6 | PDFN5X6-8L | 5000/Reel |

➤ Pin configuration



Top View



PDFN5X6-8L



Marking

(XX: product year / YY: product week)



➤ **Absolute Maximum Ratings**($T_A=25^{\circ}\text{C}$ unless otherwise noted)

| Symbol | Parameter | Ratings | Unit | |
|-----------|---|---------------------------|--------------------|---|
| V_{DSS} | Drain-to-Source Voltage | 30 | V | |
| V_{GSS} | Gate-to-Source Voltage | ± 20 | V | |
| I_D | Continuous Drain Current ^d | $T_C=25^{\circ}\text{C}$ | 100 | A |
| | | $T_C=100^{\circ}\text{C}$ | 65 | |
| I_{DSM} | Continuous Drain Current ^a | $T_A=25^{\circ}\text{C}$ | 38 | A |
| | | $T_A=70^{\circ}\text{C}$ | 26 | |
| I_{DM} | Pulsed Drain Current ^b | 400 | A | |
| P_D | Power Dissipation ^c | $T_C=25^{\circ}\text{C}$ | 56 | W |
| | | $T_C=100^{\circ}\text{C}$ | 22 | |
| P_{DSM} | Power Dissipation ^a | $T_A=25^{\circ}\text{C}$ | 6.2 | W |
| | | $T_A=70^{\circ}\text{C}$ | 4 | |
| I_{AS} | Avalanche Current ^b L=0.5mH Single Pulse | 30 | A | |
| E_{AS} | Avalanche Energy ^b L=0.5mH Single Pulse | 225 | mJ | |
| T_J | Operation junction temperature | -55~150 | $^{\circ}\text{C}$ | |
| T_{STG} | Storage temperature range | -55~150 | | |

➤ **Thermal Resistance Ratings**($T_A=25^{\circ}\text{C}$ unless otherwise noted)

| Symbol | Parameter | Ratings | Unit |
|-----------------|---|---------|-----------------------------|
| $R_{\theta JA}$ | Junction-to-Ambient Thermal Resistance ^a | 20 | $^{\circ}\text{C}/\text{W}$ |
| $R_{\theta JC}$ | Junction-to-Case Thermal Resistance | 2.2 | |

Note:

- The value of $R_{\theta JA}$ is measured with the device mounted on 1 in² FR-4 board with 2oz.copper, in a still air environment with $T_A=25^{\circ}\text{C}$.The value in any given application depends on the user is specific board design. The power dissipation is based on the $t \leq 10\text{s}$ thermal resistance rating.
- Repetitive rating, pulse width limited by junction temperature.
- The power dissipation P_D is based on $T_{J(\text{MAX})}=150^{\circ}\text{C}$, using junction-to-case thermal resistance, and is more useful in setting the upper dissipation limit for cases where additional heat sinking is used.
- The maximum current rating is package limited.

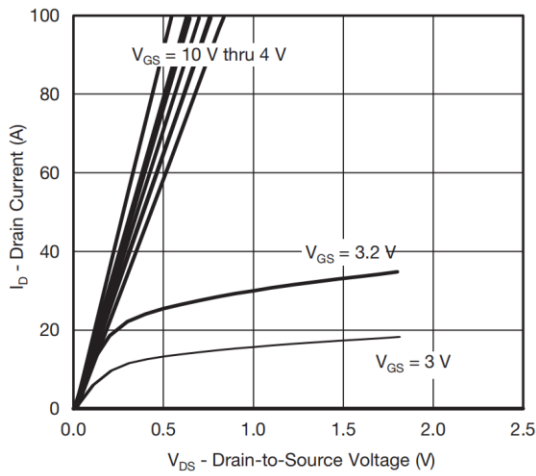


➤ **Electronics Characteristics**($T_A=25^{\circ}\text{C}$ unless otherwise noted)

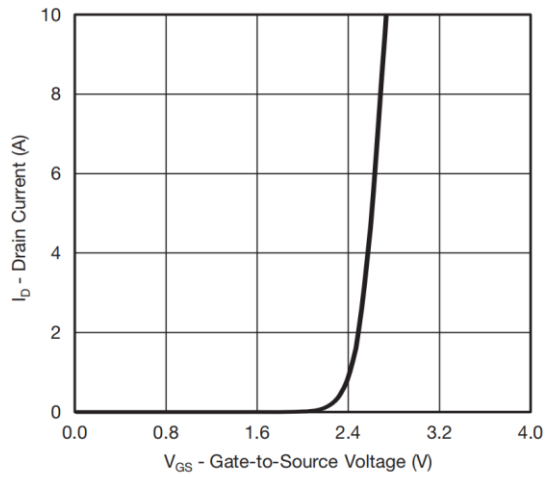
| Symbol | Parameter | Test Conditions | Min | Typ. | Max | Unit |
|---------------|---------------------------------|--|-----|------|-----------|------------|
| $V_{(BR)DSS}$ | Drain-Source Breakdown Voltage | $V_{GS}=0V, I_D=250\mu A$ | 30 | | | V |
| $V_{GS(th)}$ | Gate Threshold Voltage | $V_{DS}=V_{GS}, I_D=250\mu A$ | 1.0 | 1.7 | 2.2 | V |
| $R_{DS(on)}$ | Drain-Source On-Resistance | $V_{GS}=10V, I_D=30A$ | | 1.85 | 2.6 | m Ω |
| | | $V_{GS}=4.5V, I_D=20A$ | | 3.2 | 4 | |
| I_{DSS} | Zero Gate Voltage Drain Current | $V_{DS}=30V, V_{GS}=0V$ | | | 1 | μA |
| I_{GSS} | Gate-Source leak current | $V_{GS}=\pm 20V, V_{DS}=0V$ | | | ± 100 | nA |
| G_{FS} | Transconductance | $V_{DS}=5V, I_D=20A$ | | 90 | | S |
| V_{SD} | Forward Voltage | $V_{GS}=0V, I_S=20A$ | | 0.8 | 1.3 | V |
| R_g | Gate Resistance | $V_{DS}=0V, f=1MHz$ | | 2.5 | | Ω |
| C_{iss} | Input Capacitance | $V_{DS}=15V, V_{GS}=0V, f=1MHz$ | | 2570 | | pF |
| C_{oss} | Output Capacitance | | | 1450 | | |
| C_{rss} | Reverse Capacitance | | | 115 | | |
| $T_{D(ON)}$ | Turn-on delay time | $V_{GS}=10V, R_L=1\Omega$ $V_{DS}=20V, R_G=3\Omega$ | | 10 | | ns |
| T_r | Rise time | | | 63 | | |
| $T_{D(OFF)}$ | Turn-off delay time | | | 45 | | |
| T_f | Fall time | | | 28 | | |
| Q_G | Total Gate Charge | $V_{GS}=10V, V_{DS}=15V$ $I_D=20A$ | | 39 | | nC |
| Q_{GS} | Gate Source Charge | | | 11 | | |
| Q_{GD} | Gate Drain Charge | | | 3.4 | | |
| T_{rr} | Diode Recovery Time | $I_F=20A, di/dt=100A/\mu s$ | | 42 | | ns |
| Q_{rr} | Diode Recovery Charge | $I_F=20A, di/dt=100A/\mu s$ | | 25 | | nC |



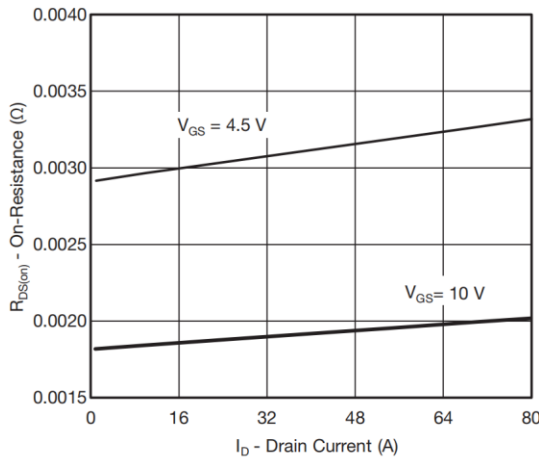
➤ **Typical Characteristics** ($T_A=25^\circ\text{C}$ unless otherwise noted)



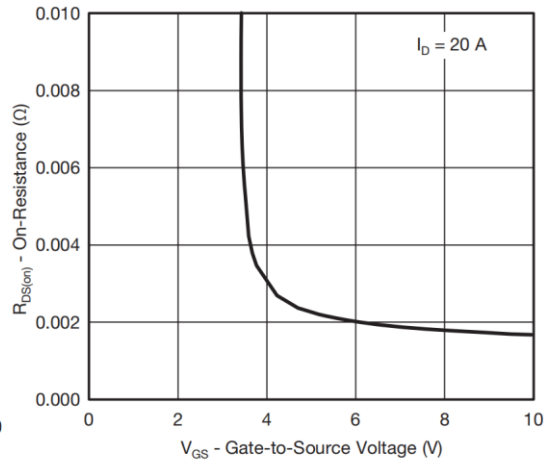
Output Characteristics



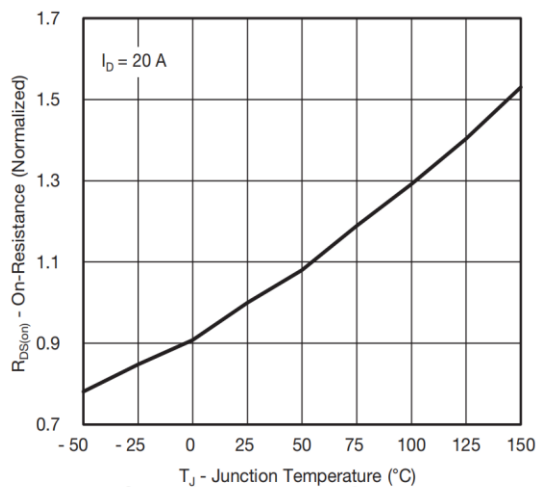
Transfer Characteristics



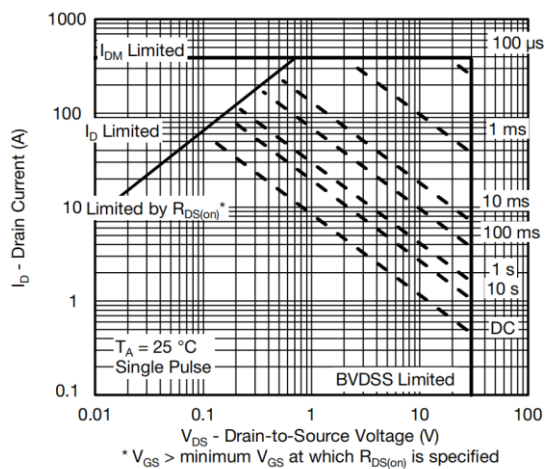
On-Resistance vs. Drain Current



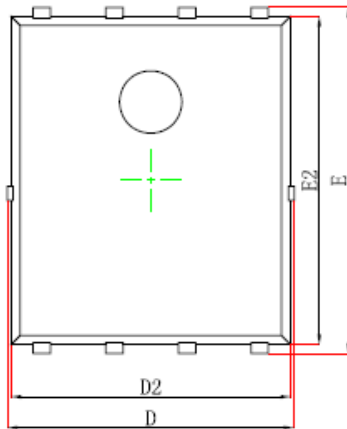
On-Resistance vs. Gate-to-Source Voltage



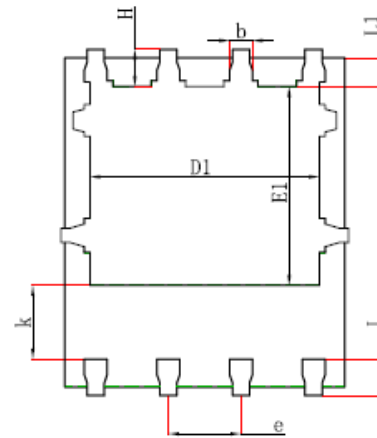
On-Resistance vs. Junction Temperature



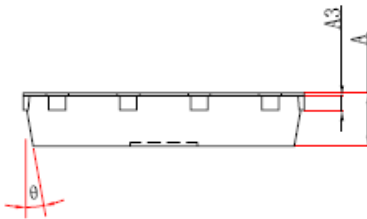
Safe Operating Area

➤ Package Information


Top View
[顶视图]



Bottom View
[背视图]



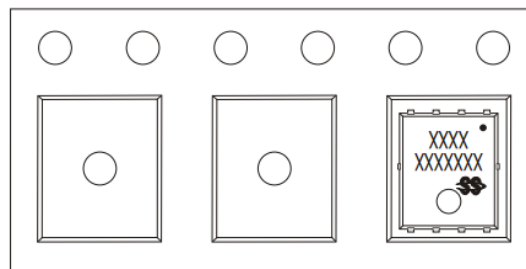
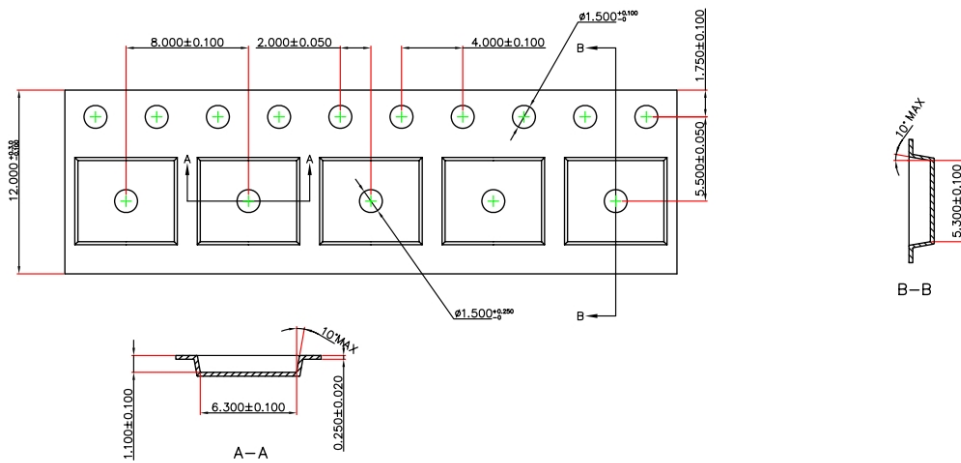
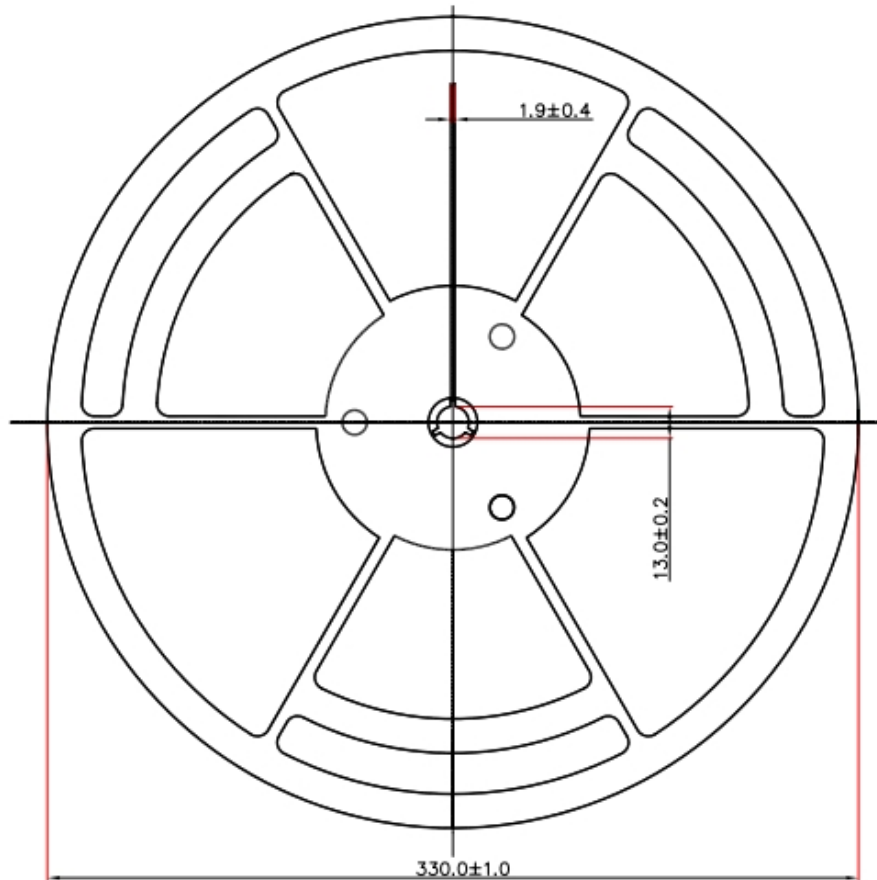
Side View
[侧视图]

Package: PDNF5X6-8L

| Symbol | Dimensions In Millimeters | | Dimensions In Inches | |
|--------|---------------------------|-------|----------------------|-------|
| | Min. | Max. | Min. | Max. |
| A | 0.900 | 1.000 | 0.035 | 0.039 |
| A3 | 0.254REF | | 0.010REF | |
| D | 4.944 | 5.096 | 0.195 | 0.201 |
| E | 5.974 | 6.126 | 0.235 | 0.241 |
| D1 | 3.910 | 4.110 | 0.154 | 0.162 |
| E1 | 3.375 | 3.575 | 0.133 | 0.141 |
| D2 | 4.824 | 4.976 | 0.190 | 0.196 |
| E2 | 5.674 | 5.826 | 0.223 | 0.229 |
| k | 1.190 | 1.390 | 0.047 | 0.055 |
| b | 0.350 | 0.450 | 0.014 | 0.018 |
| e | 1.270TYP | | 0.050TYP | |
| L | 0.559 | 0.711 | 0.022 | 0.028 |
| L1 | 0.424 | 0.576 | 0.017 | 0.023 |
| H | 0.574 | 0.726 | 0.023 | 0.029 |
| θ | 10° | 12° | 10° | 12° |



➤ Tape and Reel





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