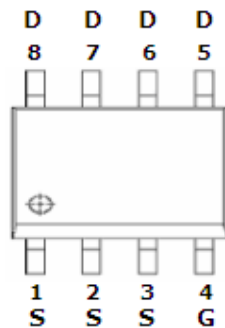


DESCRIPTION

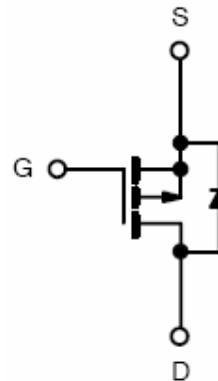
STP9235 is the P-Channel logic enhancement mode power field effect transistors are produced using high cell density, DMOS trench technology. This high density process is especially tailored to minimize on-state resistance. These devices are particularly suited for low voltage application, notebook computer power management and other battery powered circuits where high-side switching.

**PIN CONFIGURATION
SOP-8**

FEATURE

- -25V/-7.5A, $R_{DS(ON)} = 45m\Omega$
@ $V_{GS} = -10V$
- -25V/-6.0A, $R_{DS(ON)} = 55m\Omega$
@ $V_{GS} = -6.0V$
- -25V/-5.4A, $R_{DS(ON)} = 65m\Omega$
@ $V_{GS} = -4.5V$
- Super high density cell design for extremely low $R_{DS(ON)}$
- Exceptional on-resistance and maximum DC current capability
- SOP-8 package design

**PART MARKING
SOP-8**


S : Subcontractor Y : Year Code
A : Process Code





STP9235 

P Channel Enhancement Mode MOSFET

- 7.5A

ABSOLUTE MAXIMUM RATINGS (Ta = 25°C Unless otherwise noted)

| Parameter | Symbol | Typical | Unit |
|--|--------|-----------------|------|
| Drain-Source Voltage | VDSS | -25 | V |
| Gate-Source Voltage | VGSS | ±20 | V |
| Continuous Drain Current (TJ=150°C) | ID | TA=25°C -8.0 | A |
| | | TA=70°C -6.0 | |
| Pulsed Drain Current | IDM | -30 | A |
| Continuous Source Current (Diode Conduction) | IS | -2.3 | A |
| Power Dissipation | PD | TA=25°C 2.8 | W |
| | | TA=70°C 1.6 | |
| Operation Junction Temperature | TJ | -55/150 | °C |
| Storage Temperature Range | TSTG | -55/150 | °C |
| Thermal Resistance-Junction to Ambient | RθJA | 70 | °C/W |

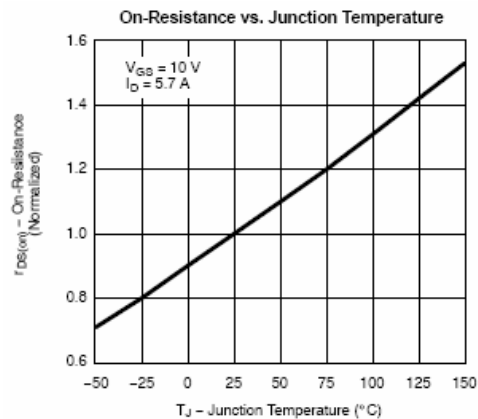
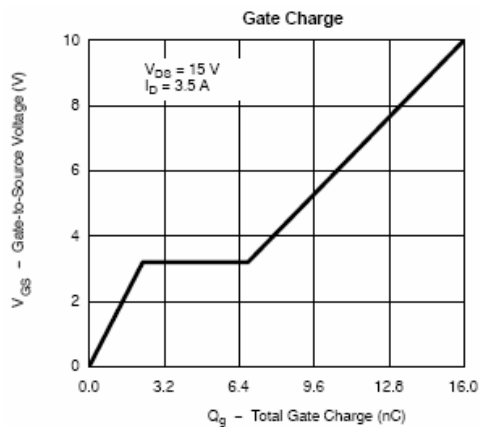
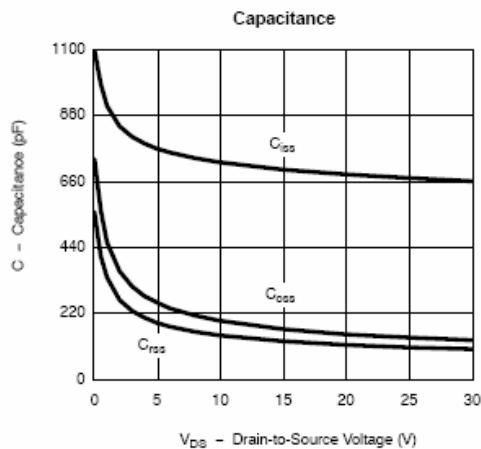
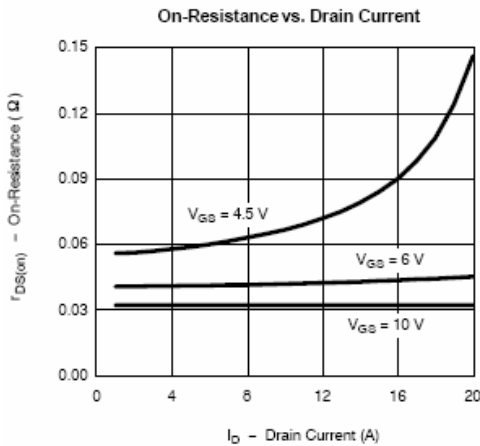
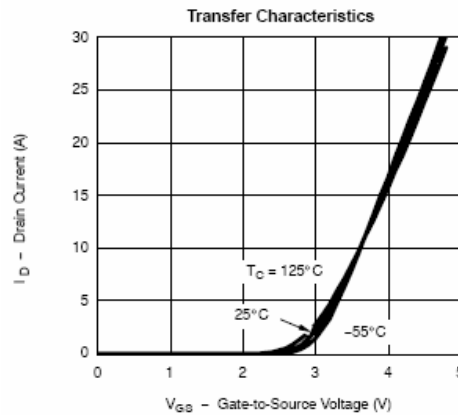
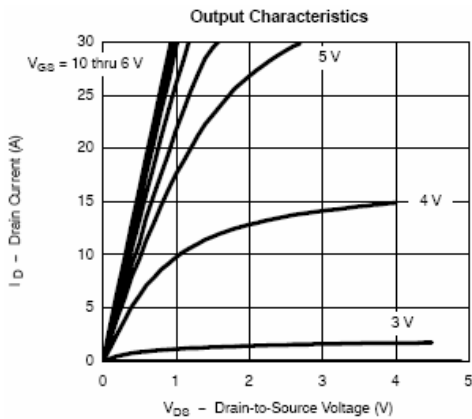
STANSON TECHNOLOGY
 120 Bentley Square, Mountain View, Ca 94040 USA
 www.stansontech.com

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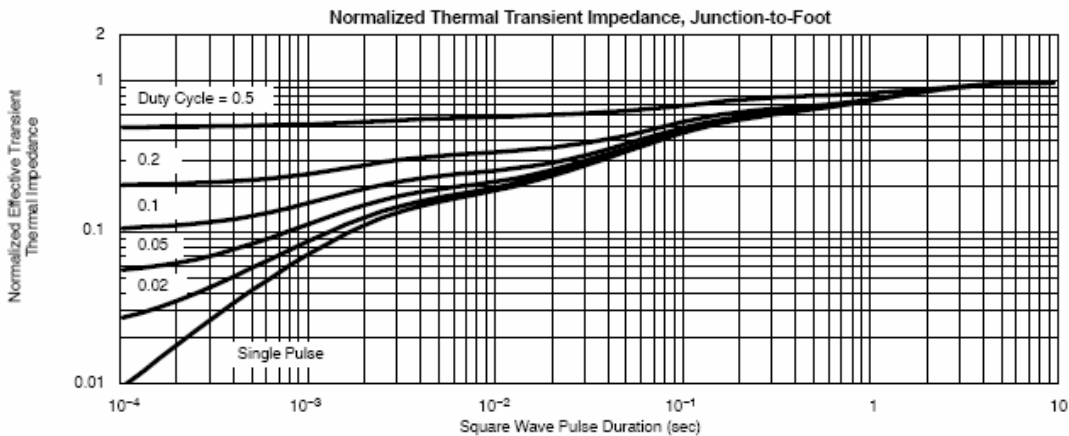
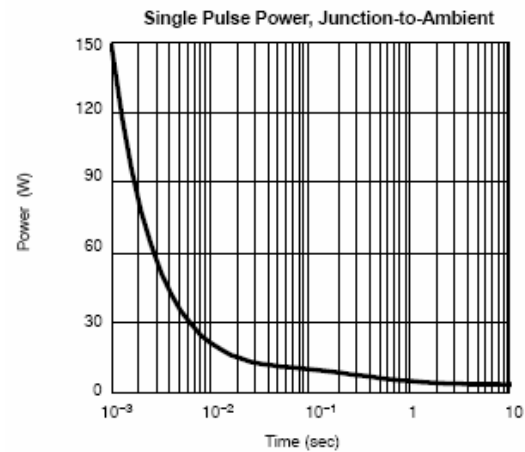
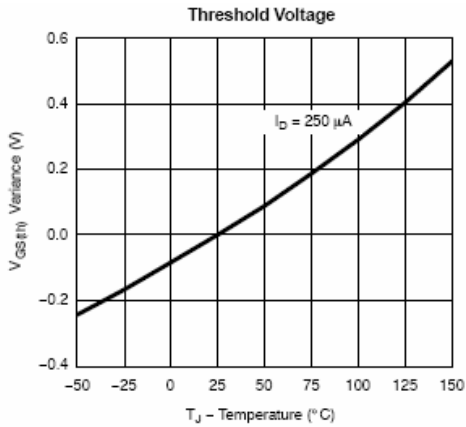
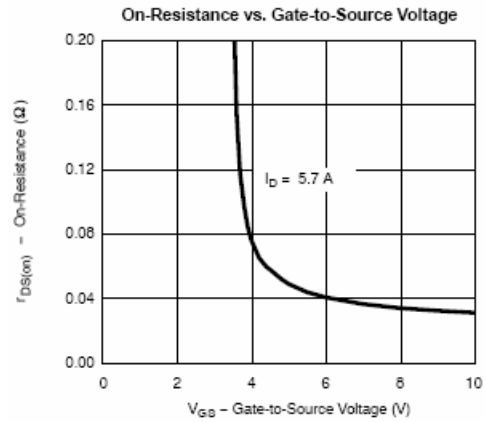
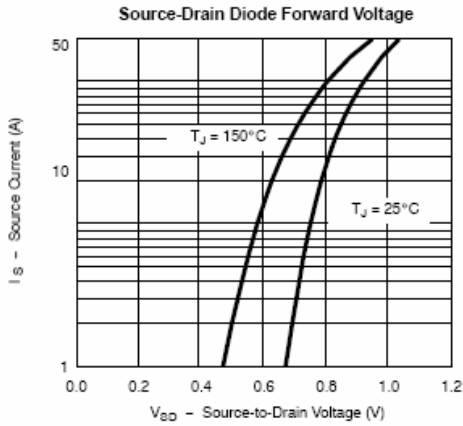
ELECTRICAL CHARACTERISTICS (Ta = 25°C Unless otherwise noted)

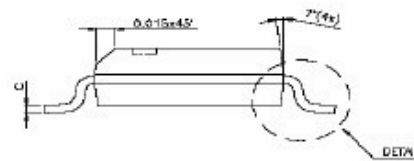
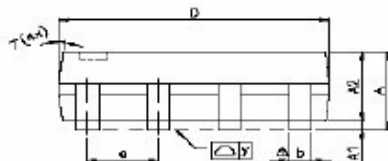
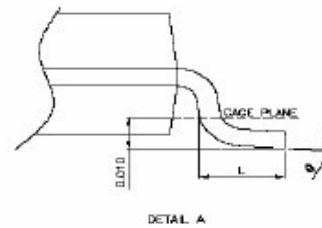
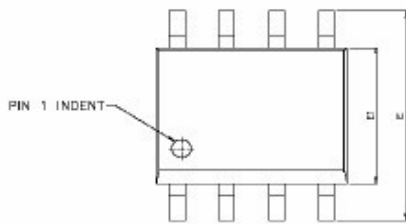
| Parameter | Symbol | Condition | Min | Typ | Max | Unit |
|---------------------------------|---------------|---|------|------|-----------|------|
| Static | | | | | | |
| Drain-Source Breakdown Voltage | $V_{(BR)DSS}$ | $V_{GS}=0V, I_D=-250\mu A$ | -25 | | | V |
| Gate Threshold Voltage | $V_{GS(th)}$ | $V_{DS}=V_{GS}, I_D=-250\mu A$ | -1.0 | | -3.0 | V |
| Gate Leakage Current | I_{GSS} | $V_{DS}=0V, V_{GS}=\pm 20V$ | | | ± 100 | nA |
| Zero Gate Voltage Drain Current | I_{DSS} | $V_{DS}=-18V, V_{GS}=0V$ | | | -1 | uA |
| | | $V_{DS}=-18V, V_{GS}=0V$ $T_J=85^\circ C$ | | | -5 | |
| On-State Drain Current | $I_{D(on)}$ | $V_{DS}=-5V, V_{GS}=-4.5V$ | -10 | | | A |
| Drain-source On-Resistance | $R_{DS(on)}$ | $V_{GS}=-10V, I_D=-7.5A$ | | 35 | 45 | mΩ |
| | | $V_{GS}=-6.0V, I_D=-6.0A$ | | 45 | 55 | |
| | | $V_{GS}=-4.5V, I_D=-5.4A$ | | 55 | 65 | |
| Forward Transconductance | g_{fs} | $V_{DS}=-15V, I_D=-5.7V$ | | 13 | | S |
| Diode Forward Voltage | V_{SD} | $I_S=-2.3A, V_{GS}=0V$ | | -0.8 | -1.2 | V |
| Dynamic | | | | | | |
| Total Gate Charge | Q_g | $V_{DS}=-15V, V_{GS}=-10V$ $I_D=-3.5A$ | | 16 | 24 | nC |
| Gate-Source Charge | Q_{gs} | | | 2.3 | | |
| Gate-Drain Charge | Q_{gd} | | | 4.5 | | |
| Input Capacitance | C_{iss} | $V_{DS}=-15V, V_{GS}=0V$ $f=1MHz$ | | 680 | | pF |
| Output Capacitance | C_{oss} | | | 120 | | |
| Reverse Transfer Capacitance | C_{rss} | | | 75 | | |
| Turn-On Time | $t_{d(on)}$ | $V_{DD}=-15V, R_L=15\Omega$ $I_D=-1A, V_{GEN}=-10V$ $R_G=6\Omega$ | | 14 | 25 | nS |
| | t_r | | | 15 | 26 | |
| Turn-Off Time | $t_{d(off)}$ | | | 42 | 70 | |
| | t_f | | | 30 | 50 | |


TYPICAL CHARACTERISTICS



TYPICAL CHARACTERISTICS



PACKAGE OUTLINE SOP-8P


| SYMBOLS | DIMENSIONS IN MILLIMETERS | | | DIMENSIONS IN INCHES | | |
|---|---------------------------|------|-------|----------------------|-------|--------|
| | MIN | NOM | MAX | MIN | NOM | MAX |
| A | 1.47 | 1.60 | 1.73 | 0.058 | 0.063 | 0.068 |
| A1 | 0.10 | — | 0.25 | 0.004 | — | 0.010 |
| A2 | — | 1.45 | — | — | 0.057 | — |
| b | 0.33 | 0.41 | 0.51 | 0.013 | 0.016 | 0.020 |
| C | 0.19 | 0.20 | 0.25 | 0.0075 | 0.008 | 0.0098 |
| D | 4.80 | 4.85 | 4.95 | 0.189 | 0.191 | 0.195 |
| E | 5.80 | 6.00 | 6.20 | 0.228 | 0.236 | 0.244 |
| E1 | 3.80 | 3.90 | 4.00 | 0.150 | 0.154 | 0.157 |
| e | — | 1.27 | — | — | 0.050 | — |
| L | 0.38 | 0.71 | 1.27 | 0.015 | 0.028 | 0.050 |
|  y | — | — | 0.076 | — | — | 0.003 |
| ϕ | 0° | — | 8° | 0° | — | 8° |