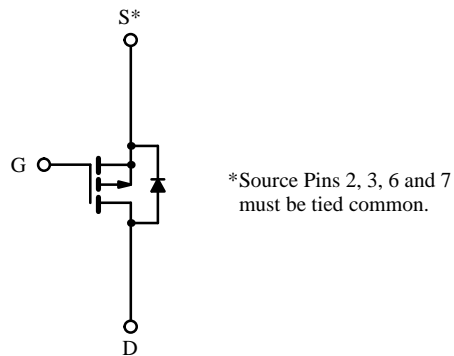
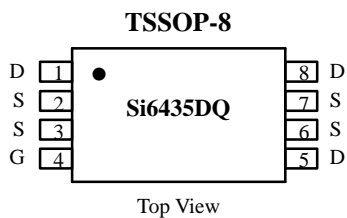


P-Channel Enhancement-Mode MOSFET

Product Summary

| V _{DS} (V) | r _{DS(on)} (Ω) | I _D (A) |
|---------------------|----------------------------------|--------------------|
| -30 | 0.040 @ V _{GS} = -10 V | ± 4.5 |
| | 0.070 @ V _{GS} = -4.5 V | ± 3.4 |



P-Channel MOSFET

Absolute Maximum Ratings (T_A = 25° C Unless Otherwise Noted)

| Parameter | Symbol | Limit | Unit |
|---|-----------------------------------|------------------------|-------|
| Drain-Source Voltage | V _{DS} | -30 | V |
| Gate-Source Voltage | V _{GS} | ± 20 | |
| Continuous Drain Current (T _J = 150° C) ^a | I _D | T _A = 25° C | ± 4.5 |
| | | T _A = 70° C | ± 3.6 |
| Pulsed Drain Current | I _{DM} | ± 30 | A |
| Continuous Source Current (Diode Conduction) ^a | I _S | -1.25 | |
| Maximum Power Dissipation ^a | P _D | T _A = 25° C | 1.5 |
| | | T _A = 70° C | 1.0 |
| Operating Junction and Storage Temperature Range | T _J , T _{stg} | -55 to 150 | °C |

Thermal Resistance Ratings

| Parameter | Symbol | Limit | Unit |
|--|-------------------|-------|------|
| Maximum Junction-to-Ambient ^a | R _{thJA} | 83 | °C/W |

Notes

a. Surface Mounted on FR4 Board, t ≤ 10 sec.

Subsequent updates to this data sheet may be obtained via facsimile by calling Siliconix FaxBack, 1-408-970-5600. Please request FaxBack document #1815. A SPICE Model data sheet is available for this product (FaxBack document #5139).

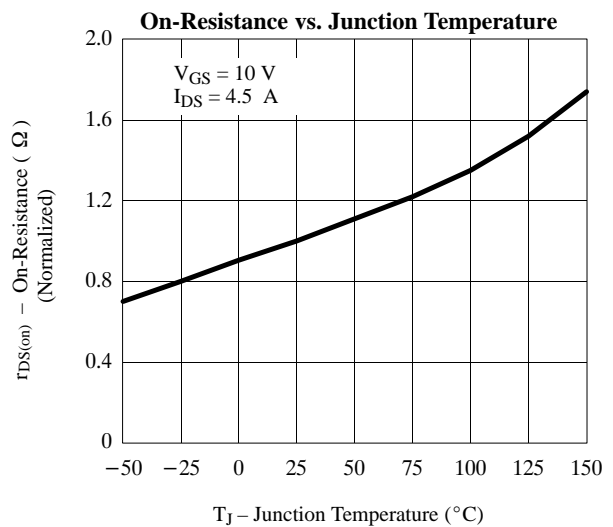
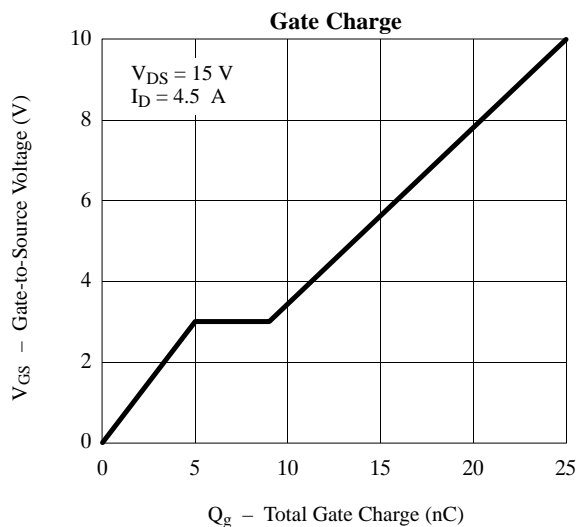
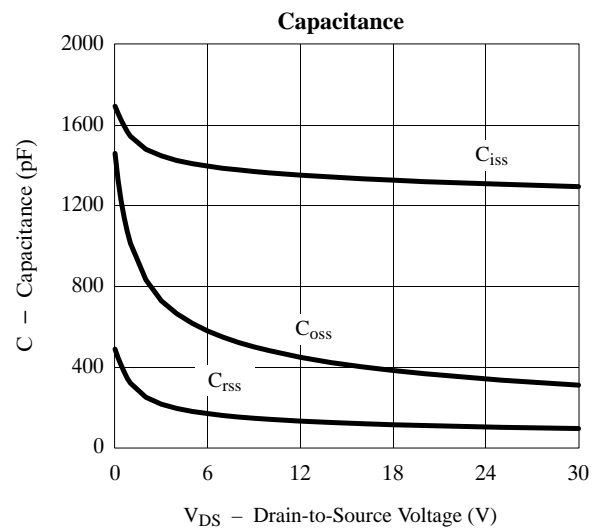
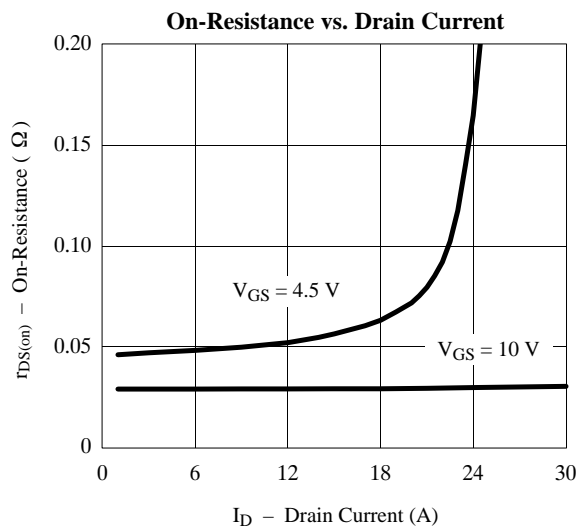
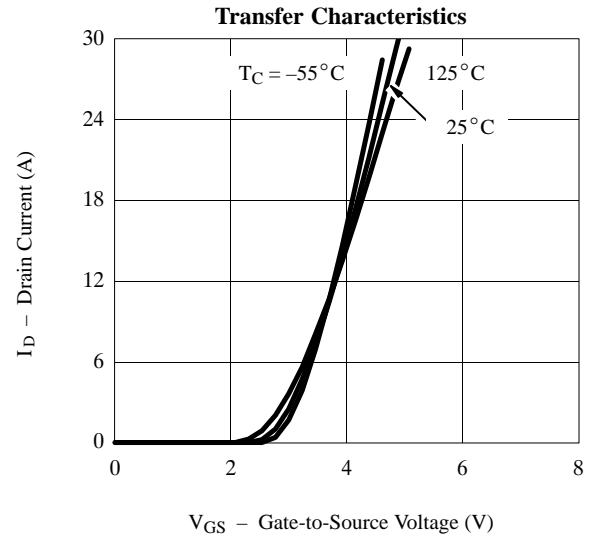
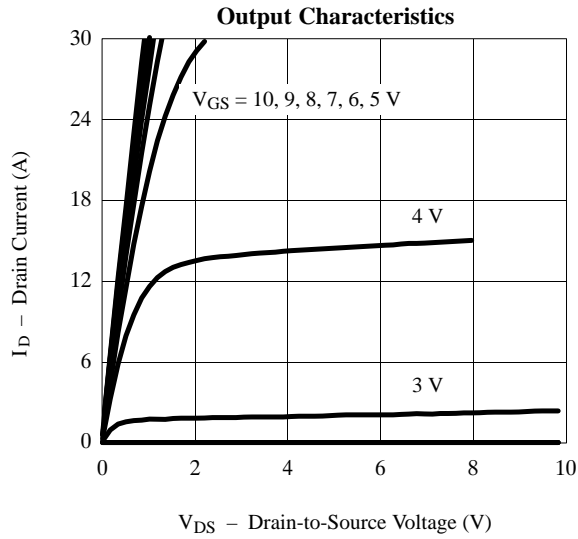
Specifications ($T_J = 25^\circ\text{C}$ Unless Otherwise Noted)

| Parameter | Symbol | Test Condition | Min | Typ | Max | Unit |
|---|--------------|--|------|-------|-----------|---------------|
| Static | | | | | | |
| Gate Threshold Voltage | $V_{GS(th)}$ | $V_{DS} = V_{GS}, I_D = -250 \mu\text{A}$ | -1.0 | | | V |
| Gate-Body Leakage | I_{GSS} | $V_{DS} = 0 \text{ V}, V_{GS} = \pm 20 \text{ V}$ | | | ± 100 | nA |
| Zero Gate Voltage Drain Current | I_{DSS} | $V_{DS} = -30 \text{ V}, V_{GS} = 0 \text{ V}$ | | | -1 | μA |
| | | $V_{DS} = -30 \text{ V}, V_{GS} = 0 \text{ V}, T_J = 70^\circ\text{C}$ | | | -25 | |
| On-State Drain Current ^a | $I_{D(on)}$ | $V_{DS} = -5 \text{ V}, V_{GS} = -10 \text{ V}$ | -30 | | | A |
| | | $V_{DS} = -5 \text{ V}, V_{GS} = -4.5 \text{ V}$ | -7 | | | |
| Drain-Source On-State Resistance ^a | $r_{DS(on)}$ | $V_{GS} = -10 \text{ V}, I_D = -4.5 \text{ A}$ | | 0.029 | 0.040 | Ω |
| | | $V_{GS} = -4.5 \text{ V}, I_D = -3.4 \text{ A}$ | | 0.047 | 0.070 | |
| Forward Transconductance ^a | g_{fs} | $V_{DS} = -15 \text{ V}, I_D = -4.5 \text{ A}$ | | 9.3 | | S |
| Diode Forward Voltage ^a | V_{SD} | $I_S = -1.25 \text{ A}, V_{GS} = 0 \text{ V}$ | | -0.8 | -1.2 | V |
| Dynamic^b | | | | | | |
| Total Gate Charge | Q_g | $V_{DS} = -15 \text{ V}, V_{GS} = -10 \text{ V}, I_D = -4.5 \text{ A}$ | | 25 | 35 | nC |
| Gate-Source Charge | Q_{gs} | | | 5.0 | | |
| Gate-Drain Charge | Q_{gd} | | | 4.0 | | |
| Turn-On Delay Time | $t_{d(on)}$ | $V_{DD} = -15 \text{ V}, R_L = 15 \Omega$ $I_D \cong -1 \text{ A}, V_{GEN} = -10 \text{ V}, R_G = 6 \Omega$ | | 12 | 20 | ns |
| Rise Time | t_r | | | 13 | 20 | |
| Turn-Off Delay Time | $t_{d(off)}$ | | | 40 | 55 | |
| Fall Time | t_f | | | 16 | 25 | |
| Source-Drain Reverse Recovery Time | t_{rr} | $I_F = -1.25 \text{ A}, di/dt = 100 \text{ A}/\mu\text{s}$ | | 50 | 80 | |

Notes

- a. Pulse test; pulse width $\leq 300 \mu\text{s}$, duty cycle $\leq 2\%$.
 b. Guaranteed by design, not subject to production testing.

Typical Characteristics (25°C Unless Noted)



Typical Characteristics (25°C Unless Noted)

