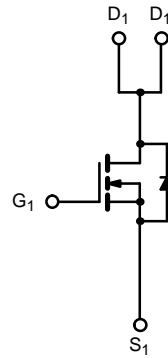
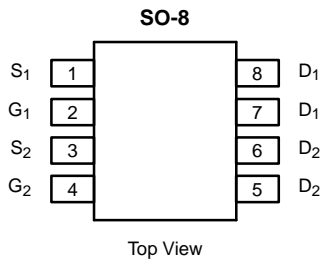




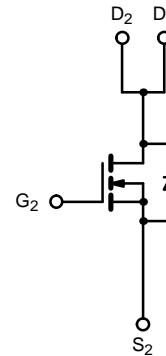
Dual N-Channel 60-V (D-S), 175°C MOSFET

| PRODUCT SUMMARY | | |
|-----------------|---------------------------|-----------|
| V_{DS} (V) | $r_{DS(on)}$ (Ω) | I_D (A) |
| 60 | 0.080 @ $V_{GS} = 10$ V | ± 3.7 |
| | 0.100 @ $V_{GS} = 4.5$ V | ± 3.4 |

175°C Rated
Maximum Junction Temperature
TrenchFET®
Power MOSFETs



N-Channel MOSFET



N-Channel MOSFET

| ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ UNLESS OTHERWISE NOTED) | | | | |
|---|--------------------------|----------------|------------|------------------|
| Parameter | | Symbol | Limit | Unit |
| Drain-Source Voltage | | V_{DS} | 60 | V |
| Gate-Source Voltage | | V_{GS} | ± 20 | |
| Continuous Drain Current ($T_J = 175^\circ\text{C}$) ^a | $T_A = 25^\circ\text{C}$ | I_D | ± 3.7 | A |
| | $T_A = 70^\circ\text{C}$ | | ± 3.2 | |
| Pulsed Drain Current | | I_{DM} | 25 | |
| Continuous Source Current (Diode Conduction) ^a | | I_S | 2 | |
| Maximum Power Dissipation ^a | $T_A = 25^\circ\text{C}$ | P_D | 2.4 | W |
| | $T_A = 70^\circ\text{C}$ | | 1.7 | |
| Operating Junction and Storage Temperature Range | | T_J, T_{stg} | -55 to 175 | $^\circ\text{C}$ |

| THERMAL RESISTANCE RATINGS | | | | | |
|----------------------------------|-----------------|------------|-----|------|--------------------|
| Parameter | | Symbol | Typ | Max | Unit |
| Junction-to-Ambient ^a | $t \leq 10$ sec | R_{thJA} | | 62.5 | $^\circ\text{C/W}$ |
| | Steady State | | 93 | | |

Notes

a. Surface Mounted on 1" x 1" FR4 Board

For SPICE model information via the Worldwide Web: <http://www.vishay.com/www/product/spice.htm>



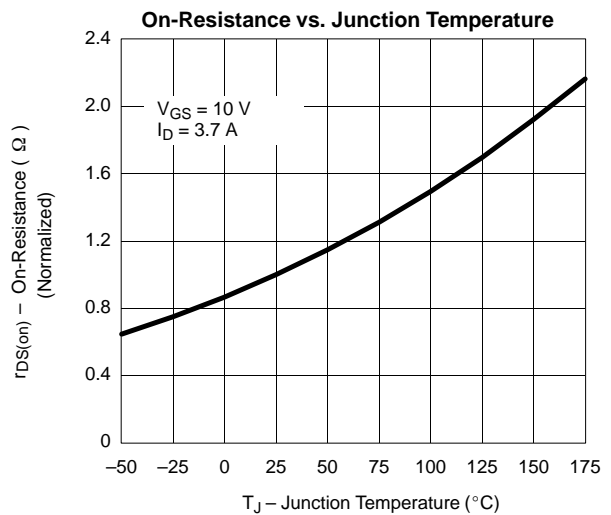
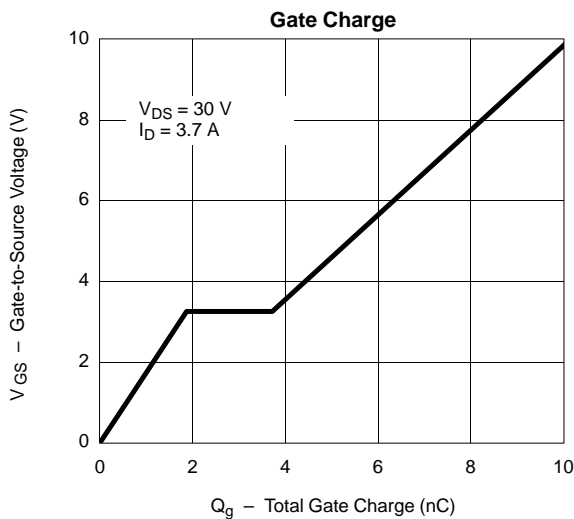
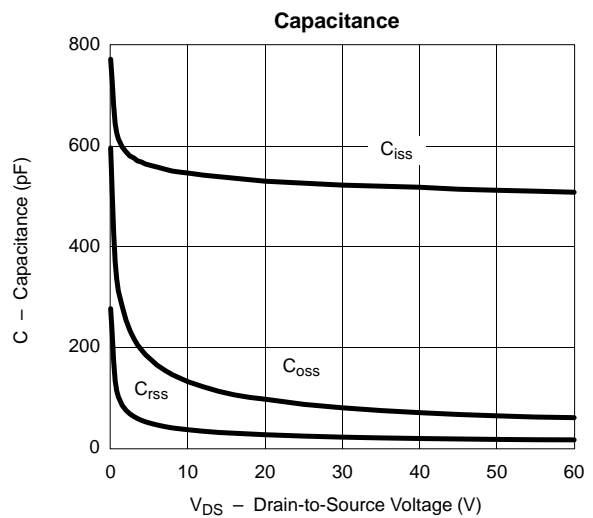
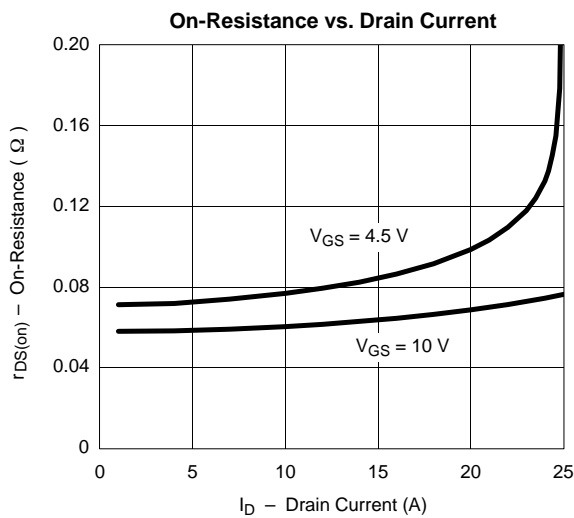
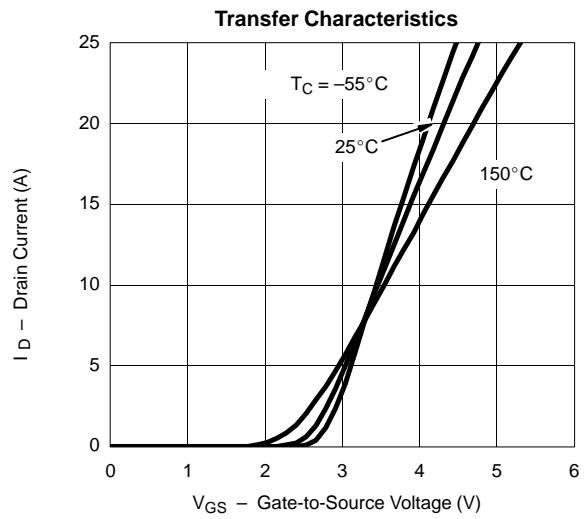
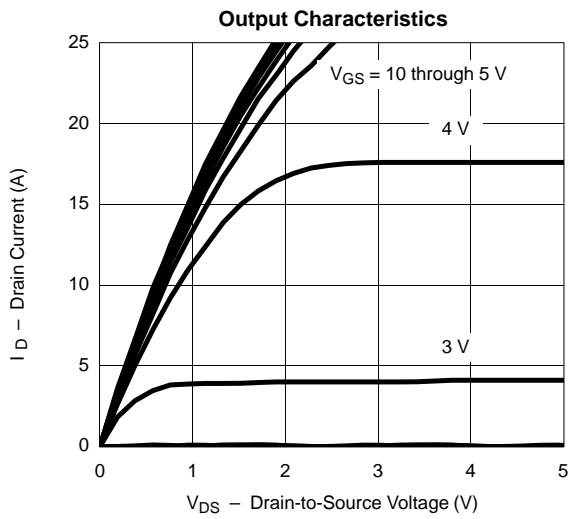
| SPECIFICATIONS (T_J = 25 °C UNLESS OTHERWISE NOTED) | | | | | | |
|--|---------------------|--|-----|-------|-------|------|
| Parameter | Symbol | Test Condition | Min | Typ | Max | Unit |
| Static | | | | | | |
| Gate Threshold Voltage | V _{GS(th)} | V _{DS} = V _{GS} , I _D = 250 μA | 1.0 | | | V |
| Gate-Body Leakage | I _{GSS} | V _{DS} = 0 V, V _{GS} = ±20 V | | | ±100 | nA |
| Zero Gate Voltage Drain Current | I _{DSS} | V _{DS} = 60 V, V _{GS} = 0 V | | | 1 | μA |
| | | V _{DS} = 60 V, V _{GS} = 0 V, T _J = 55 °C | | | 10 | |
| On-State Drain Current ^a | I _{D(on)} | V _{DS} ≥ 5 V, V _{GS} = 10 V | 20 | | | A |
| Drain-Source On-State Resistance ^a | r _{DS(on)} | V _{GS} = 10 V, I _D = 3.7 A | | 0.06 | 0.080 | Ω |
| | | V _{GS} = 4.5 V, I _D = 3.4 A | | 0.075 | 0.100 | |
| Forward Transconductance ^a | g _{fs} | V _{DS} = 15 V, I _D = 3.7 A | | 11 | | S |
| Diode Forward Voltage ^a | V _{SD} | I _S = 2.0 A, V _{GS} = 0 V | | | 1.2 | V |
| Dynamic^b | | | | | | |
| Total Gate Charge | Q _g | V _{DS} = 30 V, V _{GS} = 10 V, I _D = 3.7 A | | 11 | 20 | nC |
| Gate-Source Charge | Q _{gs} | | | 2 | | |
| Gate-Drain Charge | Q _{gd} | | | 2 | | |
| Turn-On Delay Time | t _{d(on)} | V _{DD} = 30 V, R _L = 30 Ω I _D ≅ 1 A, V _{GEN} = 10 V, R _G = 6 Ω | | 9 | 20 | ns |
| Rise Time | t _r | | | 10 | 20 | |
| Turn-Off Delay Time | t _{d(off)} | | | 21 | 40 | |
| Fall Time | t _f | | | 8 | 20 | |
| Source-Drain Reverse Recovery Time | t _{rr} | I _F = 2.0 A, di/dt = 100 A/μs | | 45 | 80 | |

Notes

- a. Pulse test; pulse width ≤ 300 μs, duty cycle ≤ 2%.
- b. Guaranteed by design, not subject to production testing.



TYPICAL CHARACTERISTICS (25°C UNLESS NOTED)



TYPICAL CHARACTERISTICS (25°C UNLESS NOTED)

