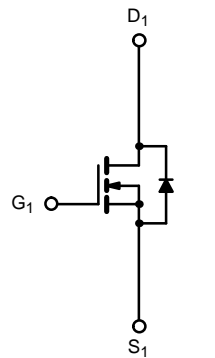
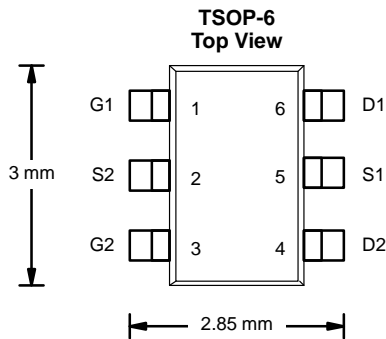




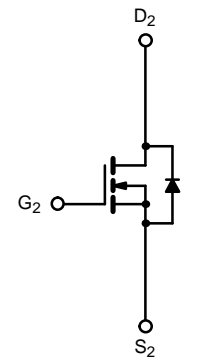
Dual N-Channel 30-V (D-S) MOSFET

TrenchFET[®]
Power MOSFETs

| PRODUCT SUMMARY | | |
|---------------------|---------------------------------|--------------------|
| V _{DS} (V) | r _{DS(on)} (Ω) | I _D (A) |
| 30 | 0.105 @ V _{GS} = 10 V | ±2.5 |
| | 0.175 @ V _{GS} = 4.5 V | ±2.0 |



N-Channel MOSFET



N-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, b} | I _D | T _A = 25 °C | ±2.5 |
| | | T _A = 70 °C | ±2.0 |
| Pulsed Drain Current (10 μs Pulse Width) | I _{DM} | ±8 | A |
| Continuous Source Current (Diode Conduction) ^{a, b} | I _S | 1.05 | |
| Maximum Power Dissipation ^{a, b} | P _D | T _A = 25 °C | 1.15 |
| | | T _A = 70 °C | 0.73 |
| Operating Junction and Storage Temperature Range | T _J , T _{stg} | -55 to 150 | °C |

| THERMAL RESISTANCE RATINGS | | | | | |
|--|-------------------|--------------|---------|------|------|
| Parameter | Symbol | Typical | Maximum | Unit | |
| Maximum Junction-to-Ambient ^a | R _{thJA} | t ≤ 5 sec | 93 | 110 | °C/W |
| | | Steady State | 130 | 150 | |
| Maximum Junction-to-Lead | R _{thJL} | 75 | 90 | | |

Notes

- a. Surface Mounted on FR4 Board.
- b. t ≤ 5 sec.

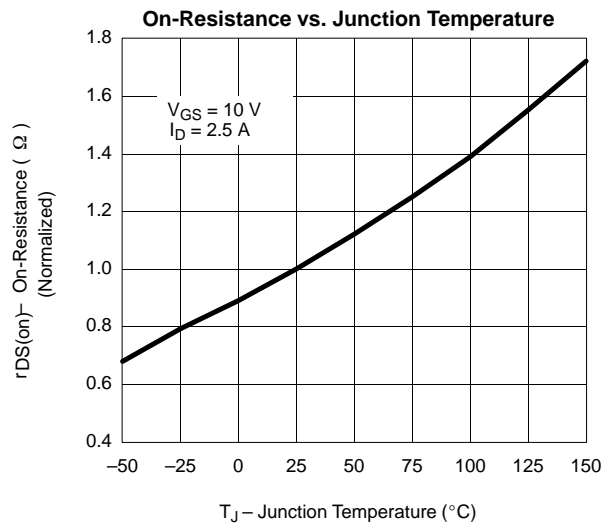
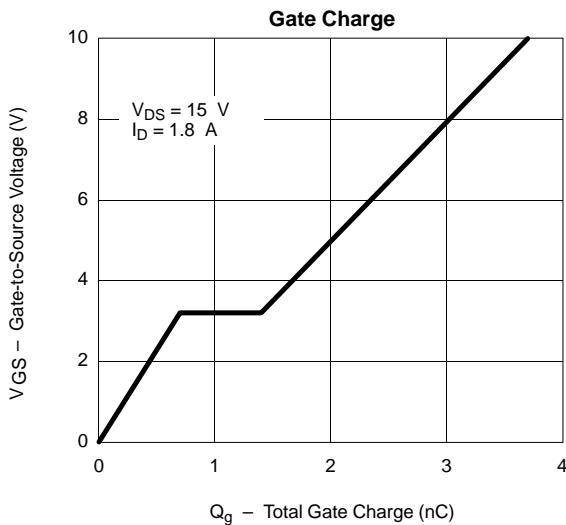
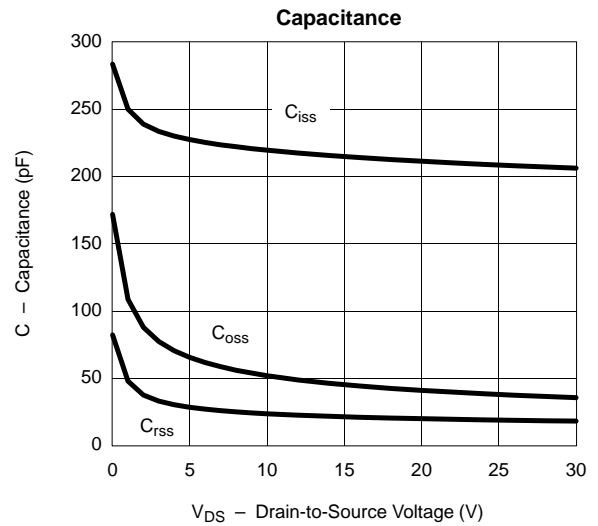
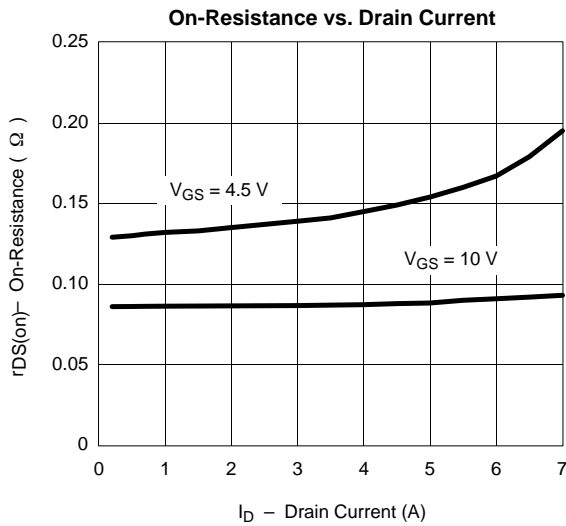
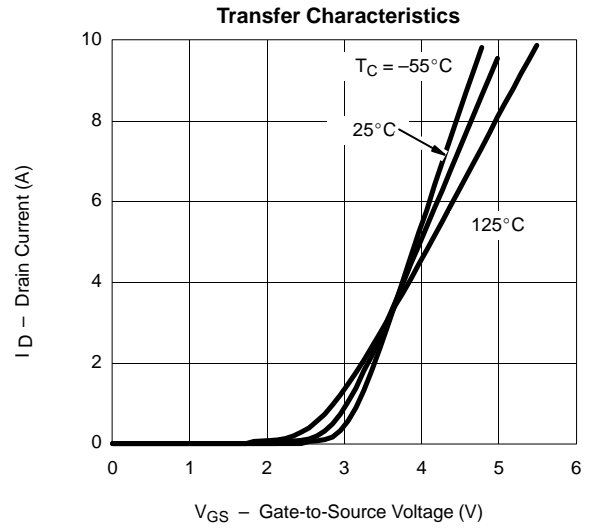
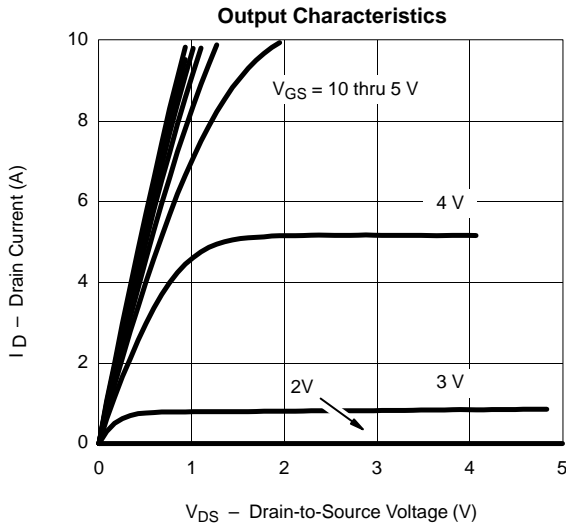


| SPECIFICATIONS (T _J = 25 °C UNLESS OTHERWISE NOTED) | | | | | | |
|--|---------------------|--|-----|--------|-------|------|
| Parameter | Symbol | Test Condition | Min | Typ | Max | Unit |
| Static | | | | | | |
| Gate Threshold Voltage | V _{GS(th)} | V _{DS} = V _{GS} , I _D = 250 μA | 1.0 | | | 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} = 24 V, V _{GS} = 0 V | | | 1 | μA |
| | | V _{DS} = 24 V, V _{GS} = 0 V, T _J = 55 °C | | | 5 | |
| On-State Drain Current ^a | I _{D(on)} | V _{DS} ≥ 5 V, V _{GS} = 10 V | 5 | | | A |
| Drain-Source On-State Resistance ^a | r _{DS(on)} | V _{GS} = 10 V, I _D = 2.5 A | | 0.0085 | 0.105 | Ω |
| | | V _{GS} = 4.5 V, I _D = 2.0 A | | 0.140 | 0.175 | |
| Forward Transconductance ^a | g _{fs} | V _{DS} = 10 V, I _D = 2.5 A | | 4.3 | | S |
| Diode Forward Voltage ^a | V _{SD} | I _S = 1.05 A, V _{GS} = 0 V | | 0.81 | 1.1 | V |
| Dynamic^b | | | | | | |
| Total Gate Charge | Q _g | V _{DS} = 15 V, V _{GS} = 5.0 V, I _D = 1.8 A | | 2.1 | 3.2 | nC |
| Gate-Source Charge | Q _{gs} | | | 0.7 | | |
| Gate-Drain Charge | Q _{gd} | | | 0.7 | | |
| Turn-On Delay Time | t _{d(on)} | V _{DD} = 15 V, R _L = 15 Ω I _D ≅ 1 A, V _{GEN} = 10 V, R _G = 6 Ω | | 7 | 11 | ns |
| Rise Time | t _r | | | 9 | 14 | |
| Turn-Off Delay Time | t _{d(off)} | | | 13 | 20 | |
| Fall Time | t _f | | | 5 | 8 | |
| Source-Drain Reverse Recovery Time | t _{rr} | I _F = 1.05 A, di/dt = 100 A/μs | | 35 | 60 | |

Notes

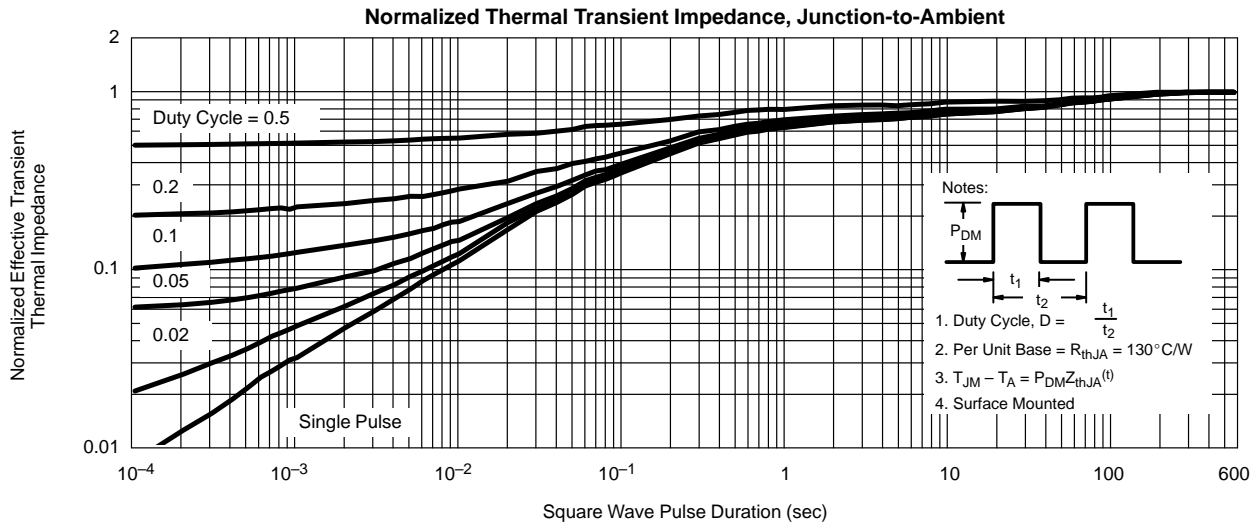
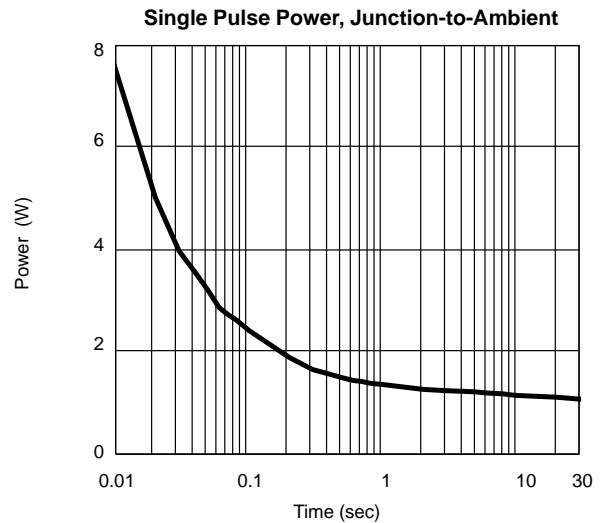
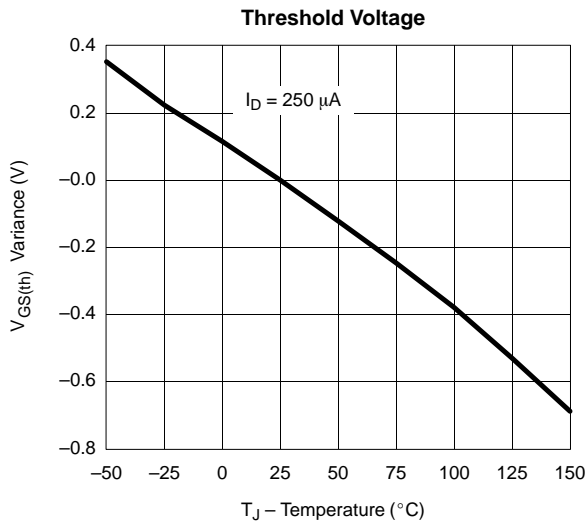
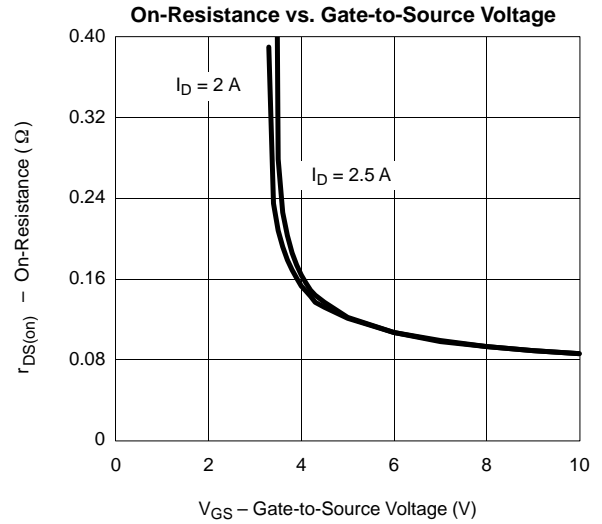
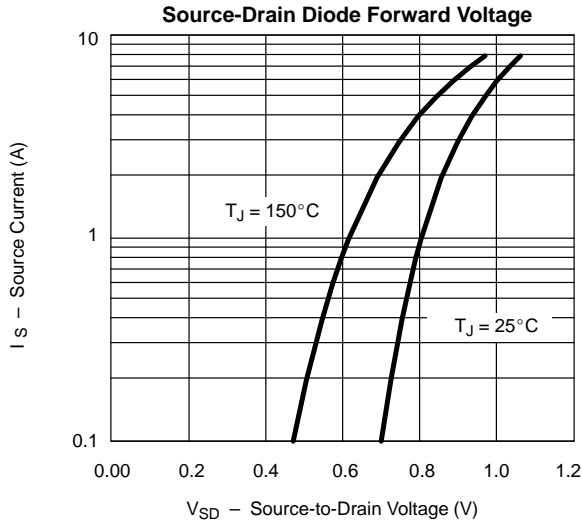
- a. Pulse test; pulse width ≤ 300 μs, duty cycle ≤ 2%.
 b. Guaranteed by design, not subject to production testing.

TYPICAL CHARACTERISTICS (25°C UNLESS NOTED)



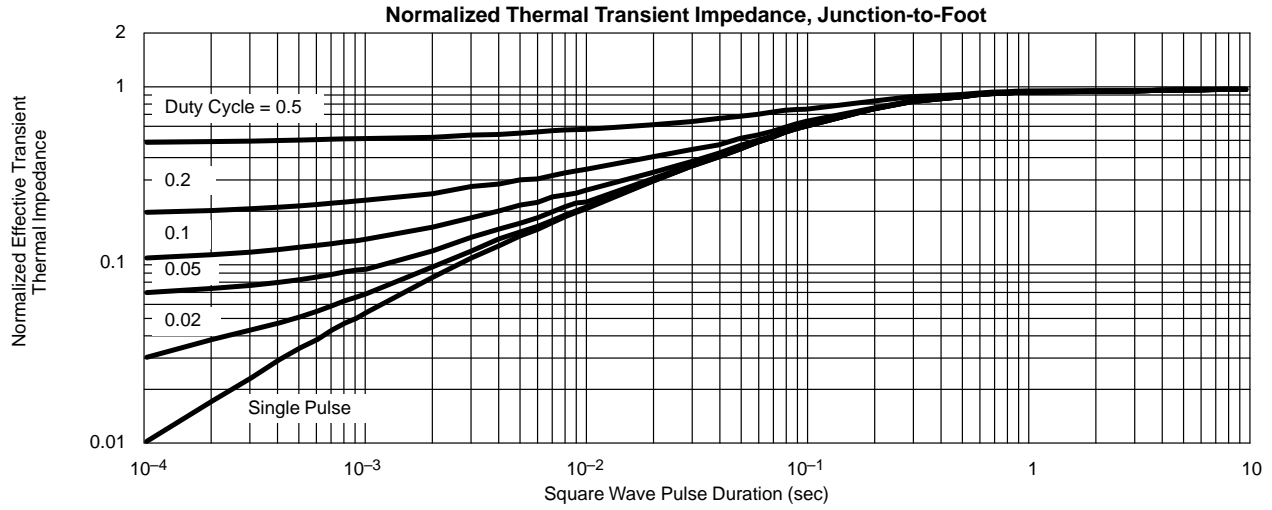


TYPICAL CHARACTERISTICS (25°C UNLESS NOTED)





TYPICAL CHARACTERISTICS (25°C UNLESS NOTED)





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