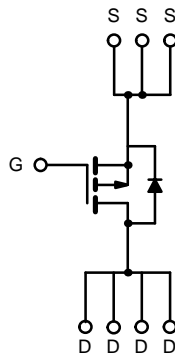
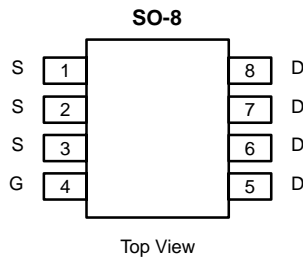




P-Channel 2.5-V (G-S) MOSFET

PRODUCT SUMMARY

| V _{DS} (V) | R _{DS(ON)} (Ω) | I _D (A) |
|---------------------|-----------------------------------|--------------------|
| -20 | 0.014 @ V _{GS} = -4.5 V | ± 10 |
| | 0.0200 @ V _{GS} = -2.5 V | ± 8.8 |



ABSOLUTE MAXIMUM RATINGS (T_A = 25°C UNLESS OTHERWISE NOTED)

| PARAMETER | SYMBOL | LIMIT | UNIT |
|--|-----------------------------------|-----------------------|-------|
| Drain-Source Voltage | V _{DS} | -20 | V |
| Gate-Source Voltage | V _{GS} | ± 12 | |
| Continuous Drain Current (T _J = 150°C) ^A | I _D | T _A = 25°C | ± 10 |
| | | T _A = 70°C | ± 8.3 |
| Pulsed Drain Current | I _{DM} | ± 50 | A |
| Continuous Source Current (Diode Conduction) ^A | I _S | -2.1 | |
| Maximum Power Dissipation ^A | P _D | T _A = 25°C | 2.5 |
| | | T _A = 70°C | 1.6 |
| 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} | 50 | °C/W |

Notes

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

Updates to this data sheet may be obtained via facsimile by calling Siliconix FaxBack, 1-408-970-5600. Please request FaxBack document #70707.



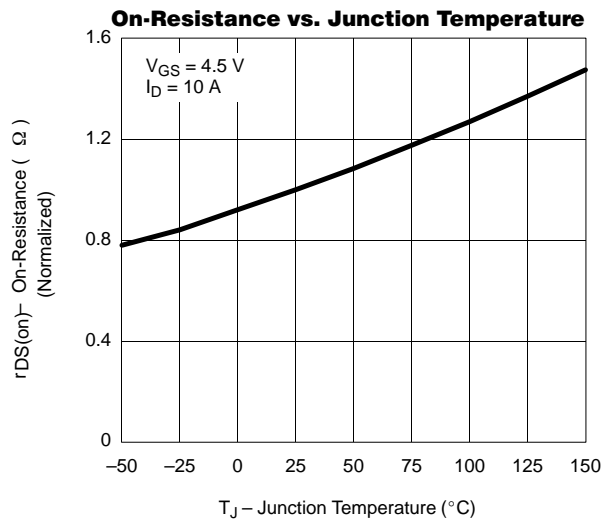
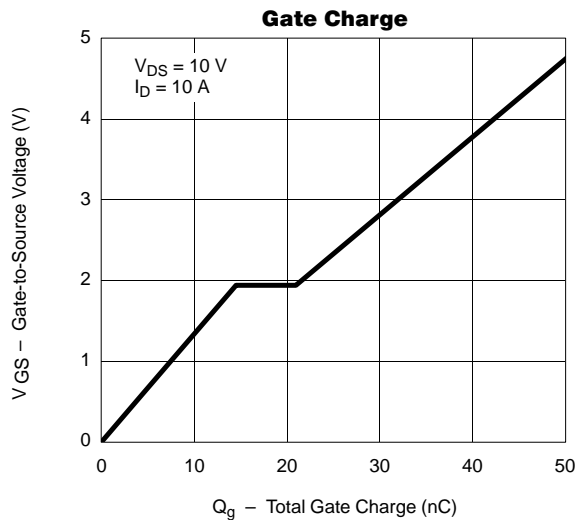
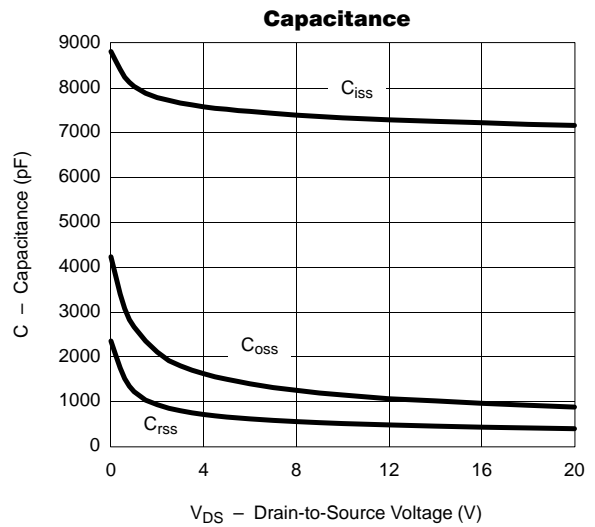
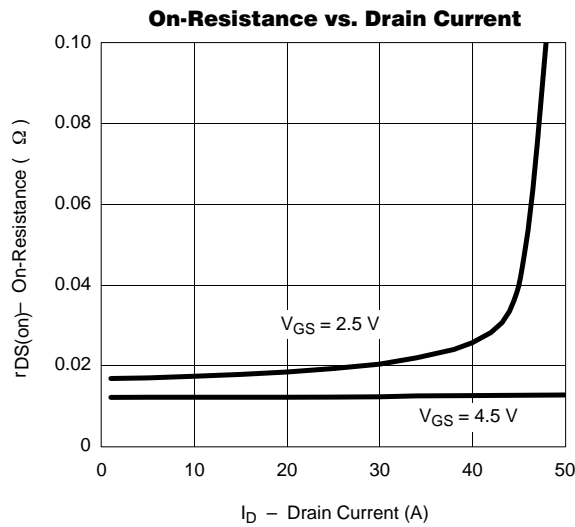
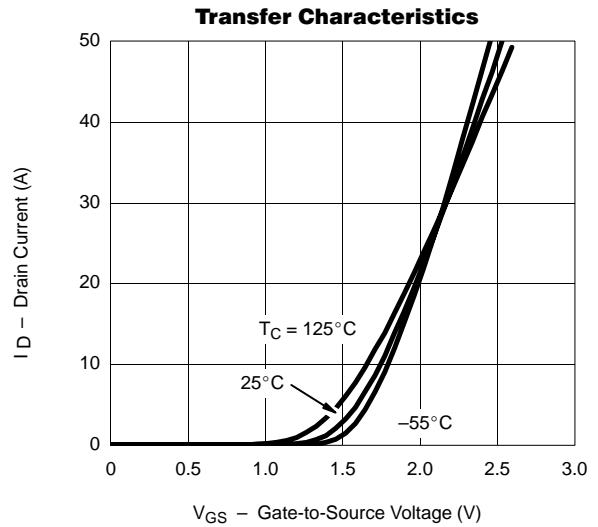
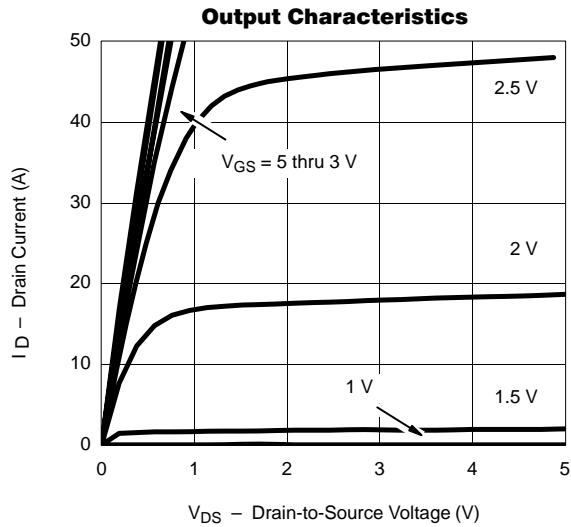
| SPECIFICATIONS (T _J = 25°C UNLESS OTHERWISE NOTED) | | | | | | |
|---|---------------------|--|------|------------------|--------|------|
| PARAMETER | SYMBOL | TEST CONDITION | MIN | TYP ^A | MAX | UNIT |
| STATIC | | | | | | |
| Gate Threshold Voltage | V _{GS(th)} | V _{DS} = V _{GS} , I _D = -250 μA | -0.6 | | | V |
| Gate-Body Leakage | I _{GSS} | V _{DS} = 0 V, V _{GS} = ±12 V | | | ±100 | nA |
| Zero Gate Voltage Drain Current | I _{DSS} | V _{DS} = -20 V, V _{GS} = 0 V | | | -1 | μA |
| | | V _{DS} = -20 V, V _{GS} = 0 V, T _J = 70°C | | | -5 | |
| On-State Drain Current ^B | I _{D(on)} | V _{DS} ≤ -5 V, V _{GS} = -4.5 V | -20 | | | A |
| Drain-Source On-State Resistance ^B | r _{DS(on)} | V _{GS} = -4.5 V, I _D = -10 A | | 0.012 | 0.014 | Ω |
| | | V _{GS} = -2.5 V, I _D = -8.8 A | | 0.017 | 0.0200 | |
| Forward Transconductance ^B | g _{fs} | V _{DS} = -10 V, I _D = -10 A | | 40 | | S |
| Diode Forward Voltage ^B | V _{SD} | I _S = -2.1 A, V _{GS} = 0 V | | | -1.2 | V |
| DYNAMICA | | | | | | |
| Total Gate Charge | Q _g | V _{DS} = -10 V, V _{GS} = -4.5 V, I _D = -10 A | | 48 | 70 | nC |
| Gate-Source Charge | Q _{gs} | | | 15 | | |
| Gate-Drain Charge | Q _{gd} | | | 7 | | |
| Turn-On Delay Time | t _{d(on)} | V _{DD} = -10 V, R _L = 10 Ω I _D ≅ -1 A, V _{GEN} = -4.5 V, R _G = 6 Ω | | 40 | 60 | ns |
| Rise Time | t _r | | | 40 | 60 | |
| Turn-Off Delay Time | t _{d(off)} | | | 190 | 280 | |
| Fall Time | t _f | | | 95 | 140 | |
| Source-Drain Reverse Recovery Time | t _{rr} | I _F = -2.1 A, di/dt = 100 A/μs | | 45 | 80 | |

Notes

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



TYPICAL CHARACTERISTICS (25°C UNLESS OTHERWISE NOTED)





TYPICAL CHARACTERISTICS (25°C UNLESS OTHERWISE NOTED)

