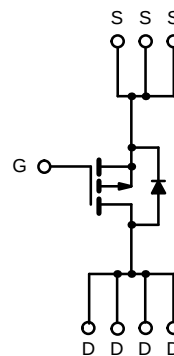
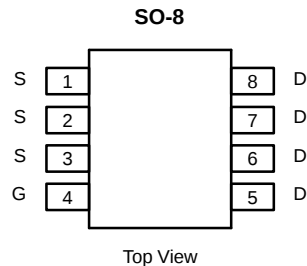




P-Channel 30-V (D-S) MOSFET

PRODUCT SUMMARY		
V_{DS} (V)	$r_{DS(on)}$ (Ω)	I_D (A)
-30	0.0105 @ $V_{GS} = -10$ V	-13.3
	0.0125 @ $V_{GS} = -4.5$ V	-12.2
	0.0195 @ $V_{GS} = -2.5$ V	-9.8

TrenchFET®
Power MOSFETs

P-Channel MOSFET

ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ UNLESS OTHERWISE NOTED)				
Parameter		Symbol	10 secs	Steady State
Drain-Source Voltage		V_{DS}	-30	
Gate-Source Voltage		V_{GS}	± 12	
Continuous Drain Current ($T_J = 150^\circ\text{C}$) ^a	$T_A = 25^\circ\text{C}$	I_D	-13.3	-9.4
	$T_A = 70^\circ\text{C}$		-10.7	-7.5
Pulsed Drain Current		I_{DM}	-50	
continuous Source Current (Diode Conduction) ^a		I_S	-2.5	-1.3
Maximum Power Dissipation ^a	$T_A = 25^\circ\text{C}$	P_D	3.0	1.5
	$T_A = 70^\circ\text{C}$		1.9	0.9
Operating Junction and Storage Temperature Range		T_J, T_{stg}	-55 to 150	

THERMAL RESISTANCE RATINGS				
Parameter		Symbol	Typical	Maximum
Maximum Junction-to-Ambient ^a	$t \leq 10$ sec	R_{thJA}	32	42
	Steady State		68	85
Maximum Junction-to-Foot (Drain)	Steady State	R_{thJF}	15	18

Notes

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

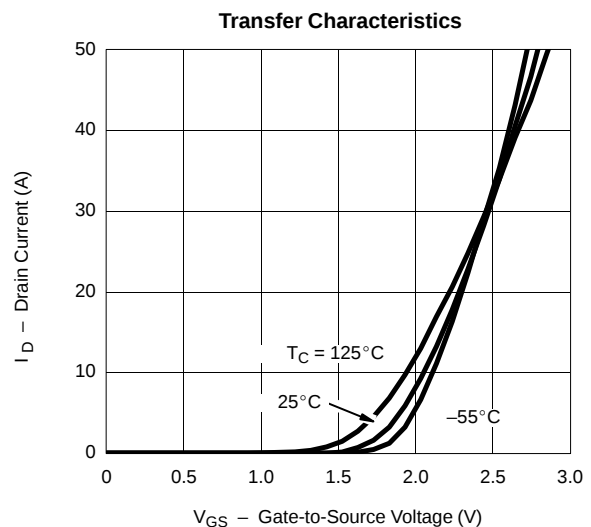
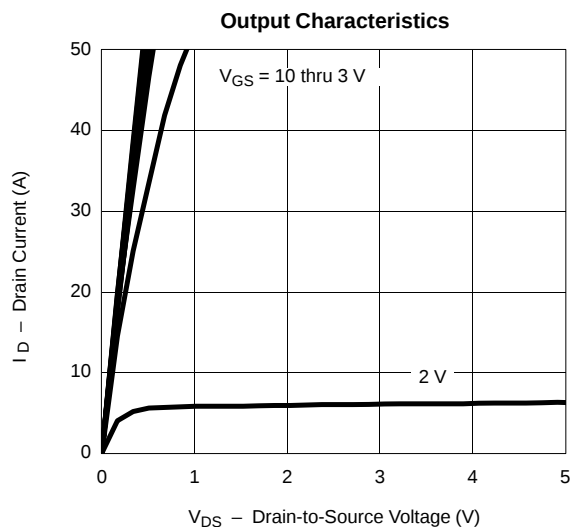
SPECIFICATIONS (T_J = 25 °C UNLESS OTHERWISE NOTED)

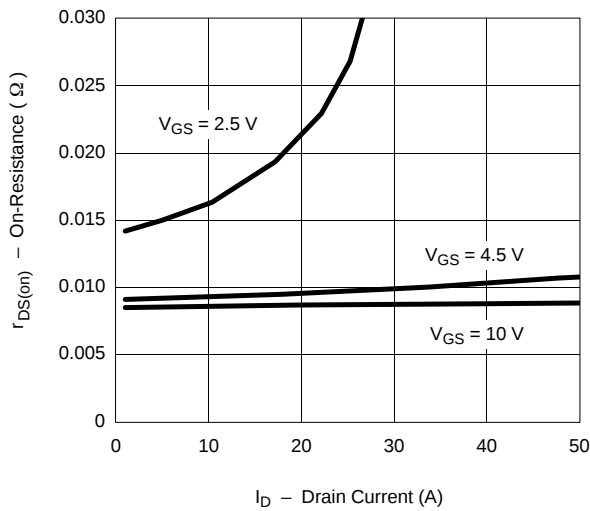
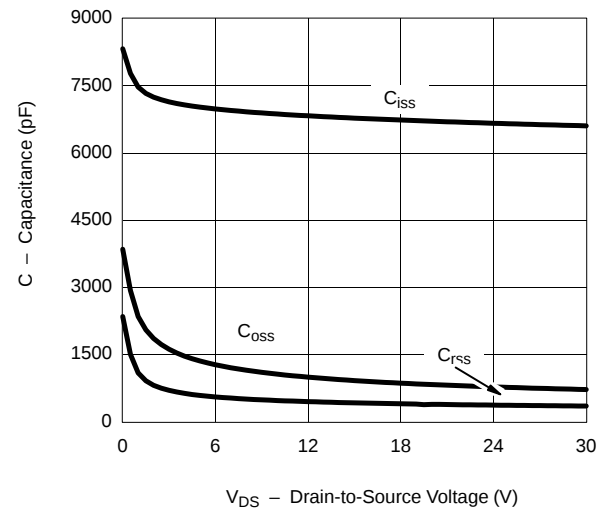
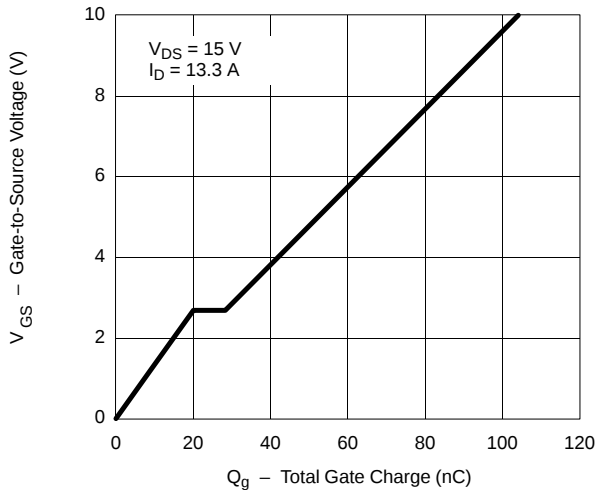
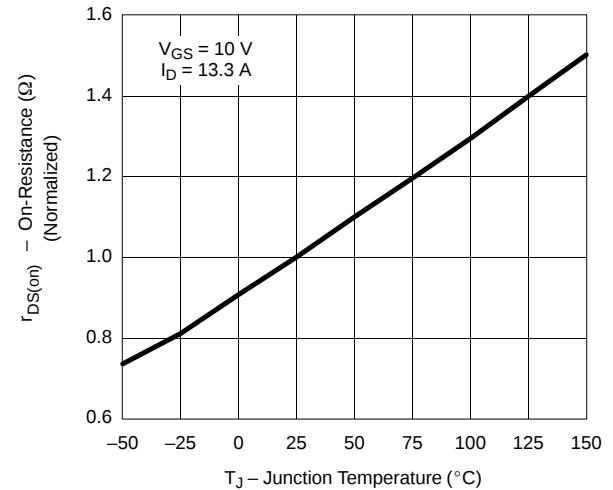
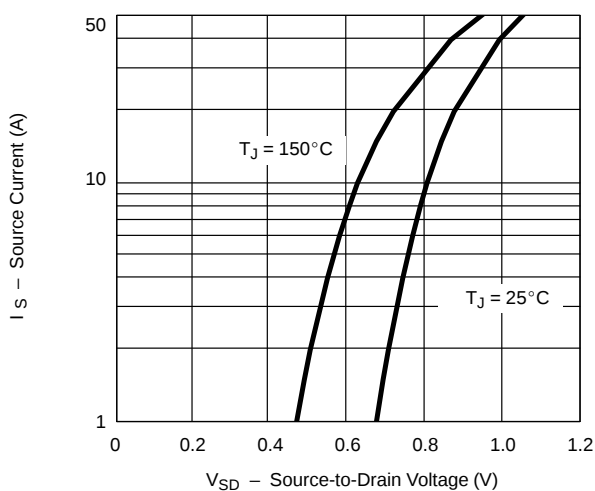
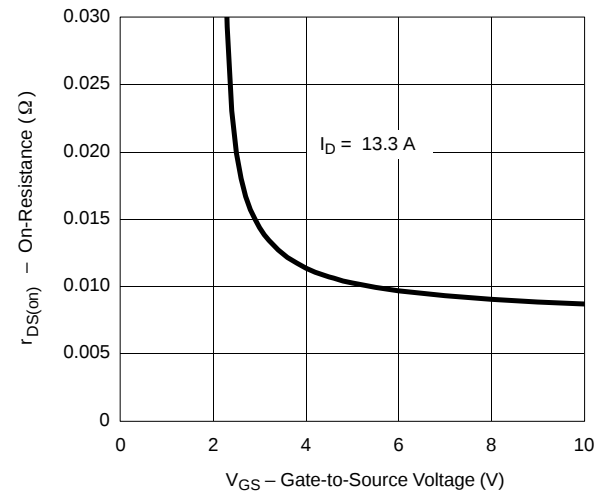
Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Static						
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = -250 μA	-0.60			V
Gate-Body Leakage	I _{GSS}	V _{DS} = 0 V, V _{GS} = ±12 V			±100	nA
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = -24 V, V _{GS} = 0 V			-1	μA
		V _{DS} = -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	-50			A
Drain-Source On-State Resistance ^a	r _{DS(on)}	V _{GS} = -10 V, I _D = -13.3 A		0.0086	0.0105	Ω
		V _{GS} = -4.5 V, I _D = -12.2 A		0.0105	0.0125	
		V _{GS} = -2.5 V, I _D = -9.8 A		0.0165	0.0195	
Forward Transconductance ^a	g _{fs}	V _{DS} = -15 V, I _D = -13.3 A		40		S
Diode Forward Voltage ^a	V _{SD}	I _S = -2.5 A, V _{GS} = 0 V		-0.8	-1.2	V
Dynamic^b						
Total Gate Charge	Q _g	V _{DS} = -15 V, V _{GS} = -4.5 V, I _D = -13.3 A		47	70	nC
Gate-Source Charge	Q _{gs}			20		
Gate-Drain Charge	Q _{gd}			8.3		
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		16	25	ns
Rise Time	t _r			12	20	
Turn-Off Delay Time	t _{d(off)}			220	330	
Fall Time	t _f			70	110	
Source-Drain Reverse Recovery Time	t _{rr}	I _F = -2.5 A, di/dt = 100 A/μs		50	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)****On-Resistance vs. Drain Current****Capacitance****Gate Charge****On-Resistance vs. Junction Temperature****Source-Drain Diode Forward Voltage****On-Resistance vs. Gate-to-Source Voltage**

TYPICAL CHARACTERISTICS (25 °C UNLESS NOTED)
