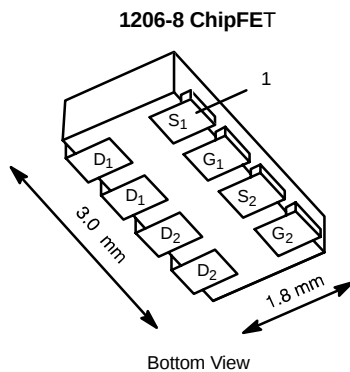




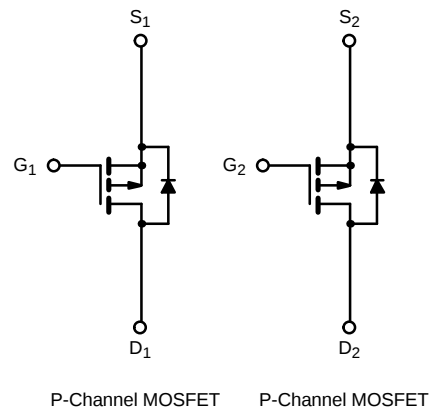
Dual P-Channel 12-V (D-S) MOSFET

PRODUCT SUMMARY

V_{DS} (V)	$r_{DS(on)}$ (Ω)	I_D (A)
-12	0.086 @ $V_{GS} = -4.5$ V	-4.1
	0.127 @ $V_{GS} = -2.5$ V	-3.4
	0.164 @ $V_{GS} = -1.8$ V	-3.0

TrenchFET[®]
Power MOSFETs
1.8-V Rated

Marking Code
DD XX
Lot Traceability
and Date Code
Part # Code



P-Channel MOSFET

P-Channel MOSFET

ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ UNLESS OTHERWISE NOTED)

Parameter		Symbol	5 secs	Steady State	Unit
Drain-Source Voltage		V _{DS}	−12		V
Gate-Source Voltage		V _{GS}	± 8		
Continuous Drain Current (T _J = 150°C) ^a	T _A = 25°C	I _D	−4.1	−3.1	A
	T _A = 85°C		−3.0	−2.2	
Pulsed Drain Current		I _{DM}	−10		
Continuous Source Current (Diode Conduction) ^a		I _S	−1.8	−0.9	
Maximum Power Dissipation ^a	T _A = 25°C	P _D	2.1	1.1	W
	T _A = 85°C		1.1	0.6	
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	$t \leq 5$ sec	R_{thJA}	50	60	$^\circ\text{C/W}$
	Steady State		90	110	
Maximum Junction-to-Foot (Drain)	Steady State	R_{thJF}	30	40	

Notes

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

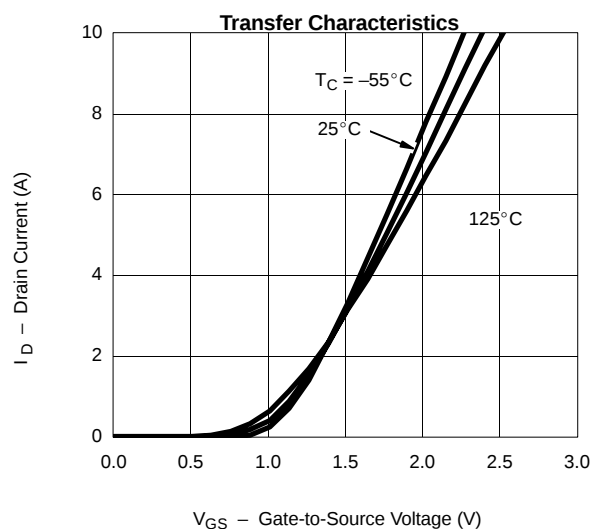
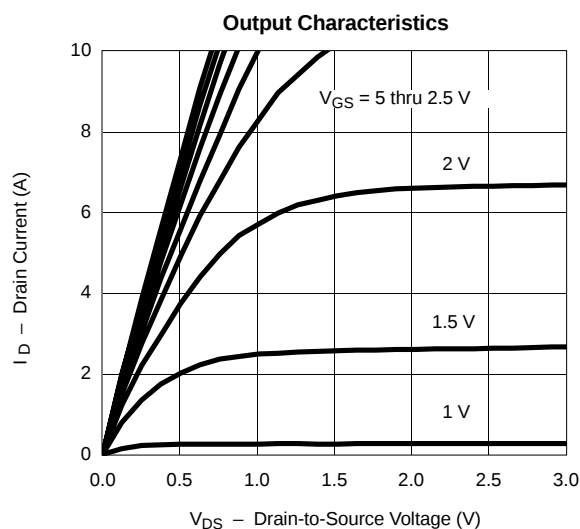
SPECIFICATIONS ($T_J = 25^\circ\text{C}$ UNLESS OTHERWISE NOTED)

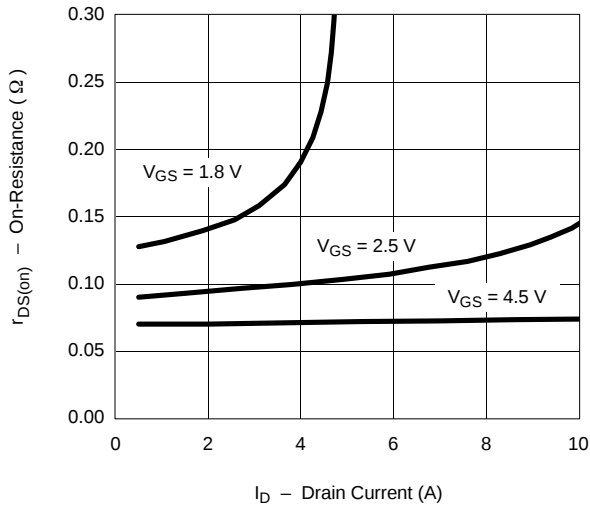
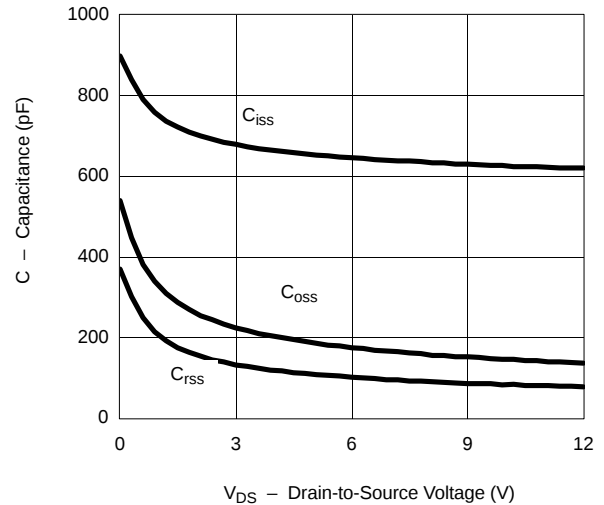
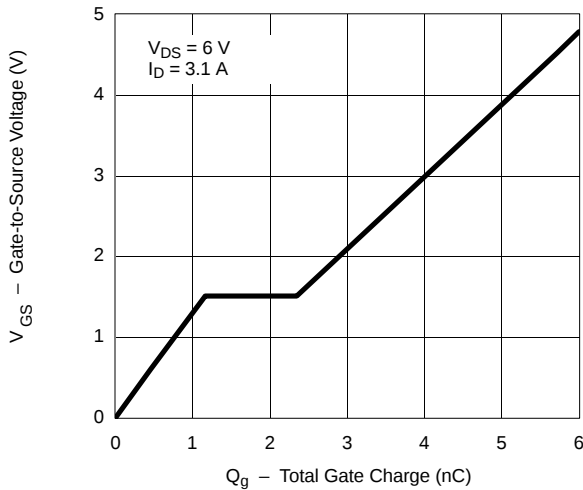
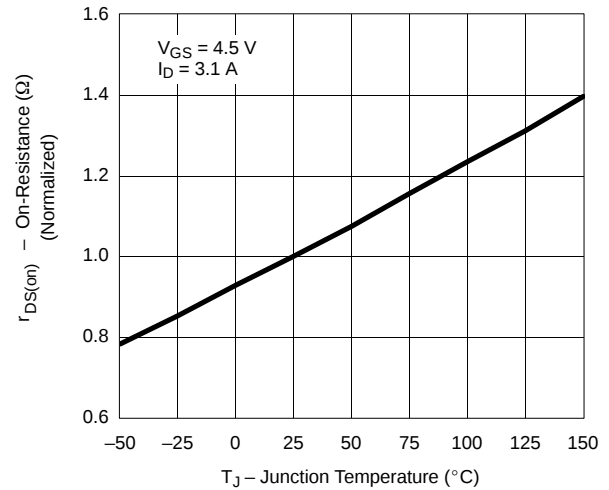
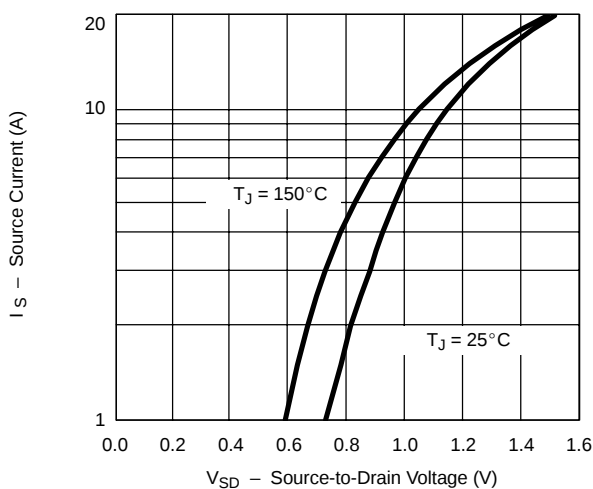
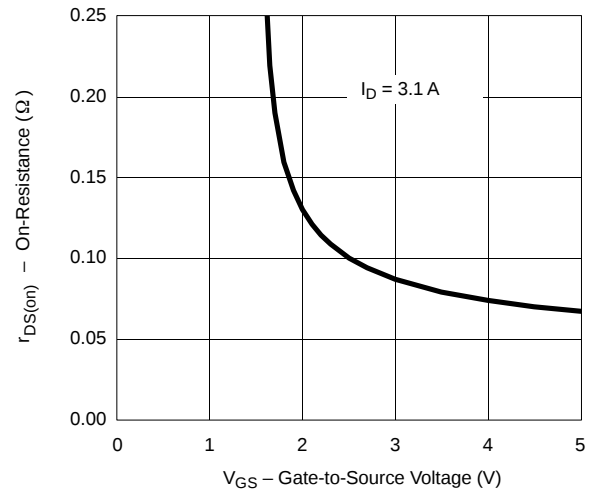
Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Static						
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = -1\text{ mA}$	-0.45			V
Gate-Body Leakage	I_{GSS}	$V_{DS} = 0\text{ V}, V_{GS} = \pm 8\text{ V}$			± 100	nA
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = -9.6\text{ V}, V_{GS} = 0\text{ V}$			-1	μA
		$V_{DS} = -9.6\text{ V}, V_{GS} = 0\text{ V}, T_J = 85^\circ\text{C}$			-5	
On-State Drain Current ^a	$I_{D(on)}$	$V_{DS} \leq -5\text{ V}, V_{GS} = -4.5\text{ V}$	-10			A
Drain-Source On-State Resistance ^a	$r_{DS(on)}$	$V_{GS} = -4.5\text{ V}, I_D = -3.1\text{ A}$		0.070	0.086	Ω
		$V_{GS} = -2.5\text{ V}, I_D = -2.5\text{ A}$		0.100	0.127	
		$V_{GS} = -1.8\text{ V}, I_D = -1.0\text{ A}$		0.131	0.164	
Forward Transconductance ^a	g_{fs}	$V_{DS} = -5\text{ V}, I_D = -3.1\text{ A}$		8		S
Diode Forward Voltage ^a	V_{SD}	$I_S = -0.9\text{ A}, V_{GS} = 0\text{ V}$		-0.8	-1.2	V
Dynamic^b						
Total Gate Charge	Q_g	$V_{DS} = -6\text{ V}, V_{GS} = -4.5\text{ V}, I_D = -3.1\text{ A}$		5.7	9	nC
Gate-Source Charge	Q_{gs}			1.2		
Gate-Drain Charge	Q_{gd}			1.2		
Turn-On Delay Time	$t_{d(on)}$	$V_{DD} = -6\text{ V}, R_L = 6\text{ }\Omega$ $I_D \cong -1\text{ A}, V_{GEN} = -4.5\text{ V}, R_G = 6\text{ }\Omega$		10	15	ns
Rise Time	t_r			20	30	
Turn-Off Delay Time	$t_{d(off)}$			31	45	
Fall Time	t_f			26	40	
Source-Drain Reverse Recovery Time	t_{rr}	$I_F = -0.9\text{ A}, di/dt = 100\text{ A}/\mu\text{s}$		40	60	

Notes

a. Pulse test; pulse width $\leq 300\text{ }\mu\text{s}$, 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)****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)
