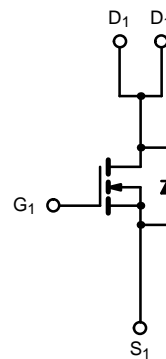
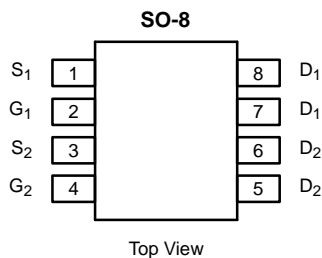


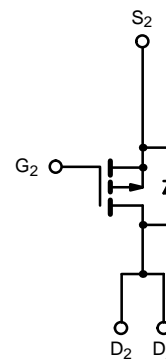
N- and P-Channel 2.5-V (G-S) MOSFET

PRODUCT SUMMARY			
	V_{DS} (V)	$r_{DS(on)}$ (Ω)	I_D (A)
N-Channel	20	0.025 @ $V_{GS} = 4.5$ V	± 7.1
		0.035 @ $V_{GS} = 2.5$ V	± 6.0
P-Channel	-20	0.033 @ $V_{GS} = -4.5$ V	± 6.2
		0.050 @ $V_{GS} = -2.5$ V	± 5.0

TrenchFET[®]
Power MOSFETs
2.5-V Rated



N-Channel MOSFET



P-Channel MOSFET

ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ UNLESS OTHERWISE NOTED)				
Parameter	Symbol	N-Channel	P-Channel	Unit
Drain-Source Voltage	V_{DS}	20	-20	V
Gate-Source Voltage	V_{GS}	± 12	± 12	
Continuous Drain Current ($T_J = 150^\circ\text{C}$) ^a	I_D	$T_A = 25^\circ\text{C}$	± 7.1	A
		$T_A = 70^\circ\text{C}$	± 5.7	
Pulsed Drain Current	I_{DM}	± 40	± 40	A
Continuous Source Current (Diode Conduction) ^a	I_S	1.7	-1.7	
Maximum Power Dissipation ^a	P_D	$T_A = 25^\circ\text{C}$	2.0	W
		$T_A = 70^\circ\text{C}$	1.3	
Operating Junction and Storage Temperature Range	T_J, T_{stg}	-55 to 150		$^\circ\text{C}$

THERMAL RESISTANCE RATINGS			
Parameter	Symbol	N- or P-Channel	Unit
Maximum Junction-to-Ambient ^a	R_{thJA}	62.5	$^\circ\text{C}/\text{W}$

Notes

a. Surface Mounted on FR4 Board, $t \leq 10$ sec.



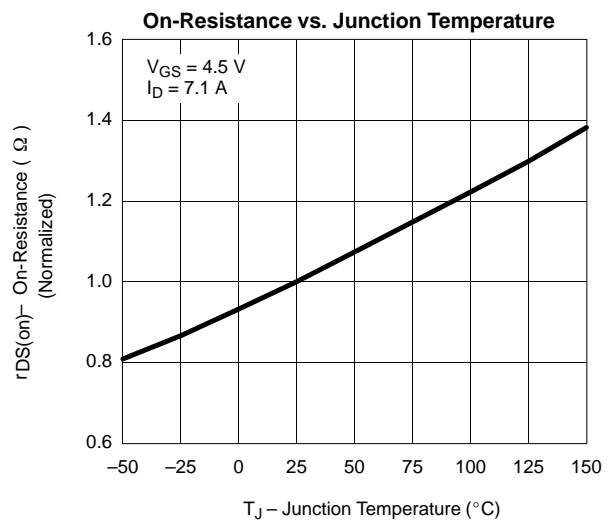
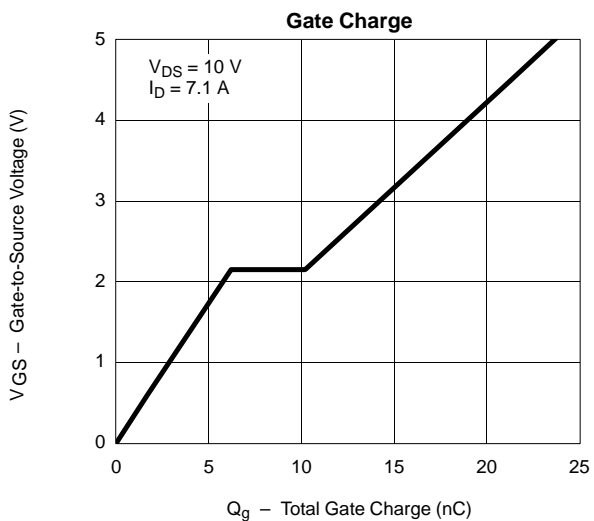
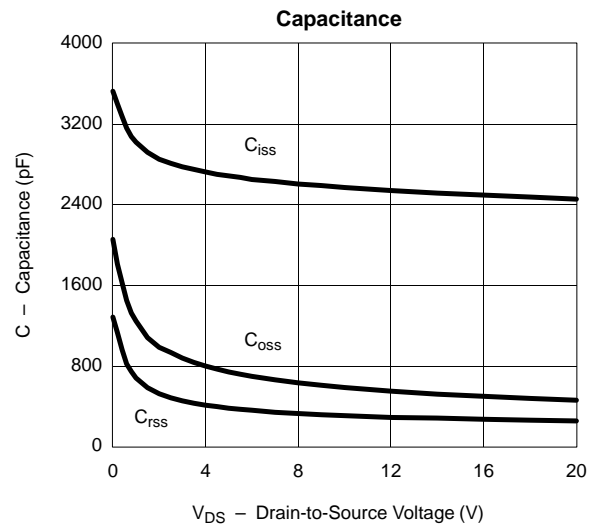
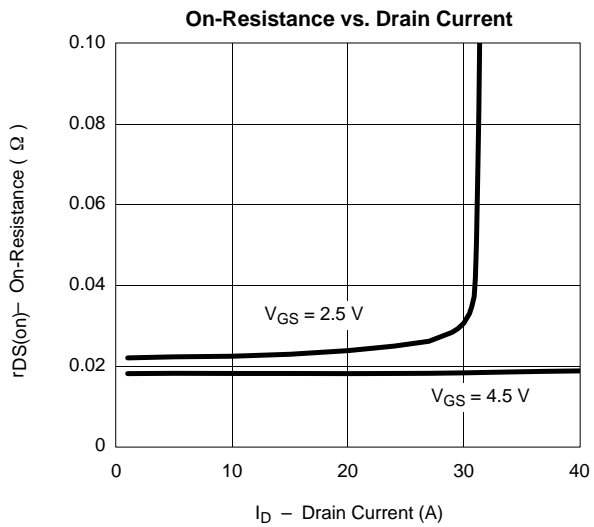
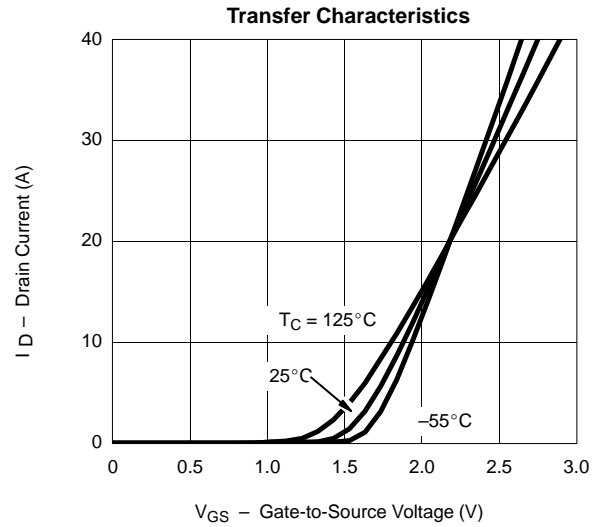
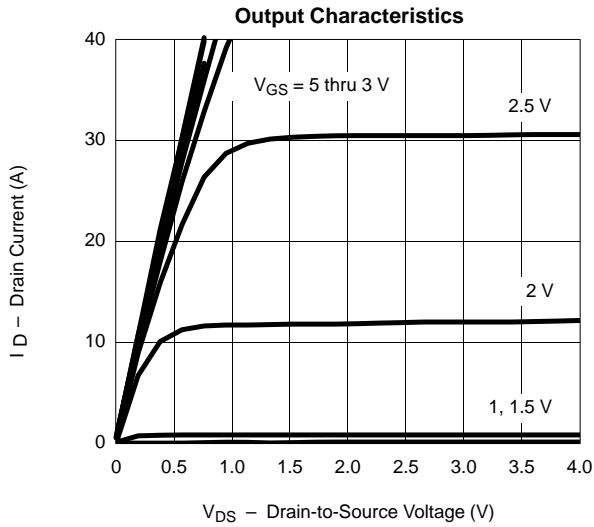
SPECIFICATIONS (T_J = 25 °C UNLESS OTHERWISE NOTED)							
Parameter	Symbol	Test Condition	Min	Typ ^a	Max	Unit	
Static							
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = 250 μA	N-Ch	0.6			V
		V _{DS} = V _{GS} , I _D = -250 μA	P-Ch	-0.6			
Gate-Body Leakage	I _{GSS}	V _{DS} = 0 V, V _{GS} = ± 12 V	N-Ch		± 100	nA	
			P-Ch		± 100		
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = 20 V, V _{GS} = 0 V	N-Ch		1	μA	
			P-Ch		-1		
			V _{DS} = 20 V, V _{GS} = 0 V, T _J = 55 °C	N-Ch			5
				P-Ch			-5
On-State Drain Current ^b	I _{D(on)}	V _{DS} ≥ 5 V, V _{GS} = 4.5 V	N-Ch	20		A	
		V _{DS} ≤ -5 V, V _{GS} = -4.5 V	P-Ch	-20			
Drain-Source On-State Resistance ^b	r _{DS(on)}	V _{GS} = 4.5 V, I _D = 7.1 A	N-Ch		0.019	Ω	
			P-Ch		0.027		
			V _{GS} = 2.5 V, I _D = 6.0 A	N-Ch			0.025
				P-Ch			0.040
Forward Transconductance ^b	g _{fs}	V _{DS} = 10 V, I _D = 7.1 A	N-Ch		27	S	
			P-Ch		20		
Diode Forward Voltage ^b	V _{SD}	I _S = 1.7 A, V _{GS} = 0 V	N-Ch		1.2	V	
		I _S = -1.7 A, V _{GS} = 0 V	P-Ch		-1.2		
Dynamic^a							
Total Gate Charge	Q _g	N-Channel V _{DS} = 10 V, V _{GS} = 4.5 V, I _D = 7.1 A P-Channel V _{DS} = -10 V, V _{GS} = -4.5 V, I _D = -6.2 A	N-Ch		25	50	nC
Gate-Source Charge	Q _{gs}		N-Ch		6.5		
			P-Ch		7		
Gate-Drain Charge	Q _{gd}		N-Ch		4		
			P-Ch		3.5		
Turn-On Delay Time	t _{d(on)}	N-Channel V _{DD} = 10 V, R _L = 10 Ω I _D ≅ 1 A, V _{GEN} = 4.5 V, R _G = 6 Ω P-Channel V _{DD} = -10 V, R _L = 10 Ω I _D ≅ -1 A, V _{GEN} = -4.5 V, R _G = 6 Ω	N-Ch		40	60	ns
Rise Time	t _r		N-Ch		40	60	
			P-Ch		32	50	
Turn-Off Delay Time	t _{d(off)}		N-Ch		90	150	
			P-Ch		95	150	
Fall Time	t _f		N-Ch		40	60	
			P-Ch		45	70	
Source-Drain Reverse Recovery Time	t _{rr}	I _F = 1.7 A, di/dt = 100 A/μs	N-Ch		40	80	
		I _F = -1.7 A, di/dt = 100 A/μs	P-Ch		40	80	

Notes

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

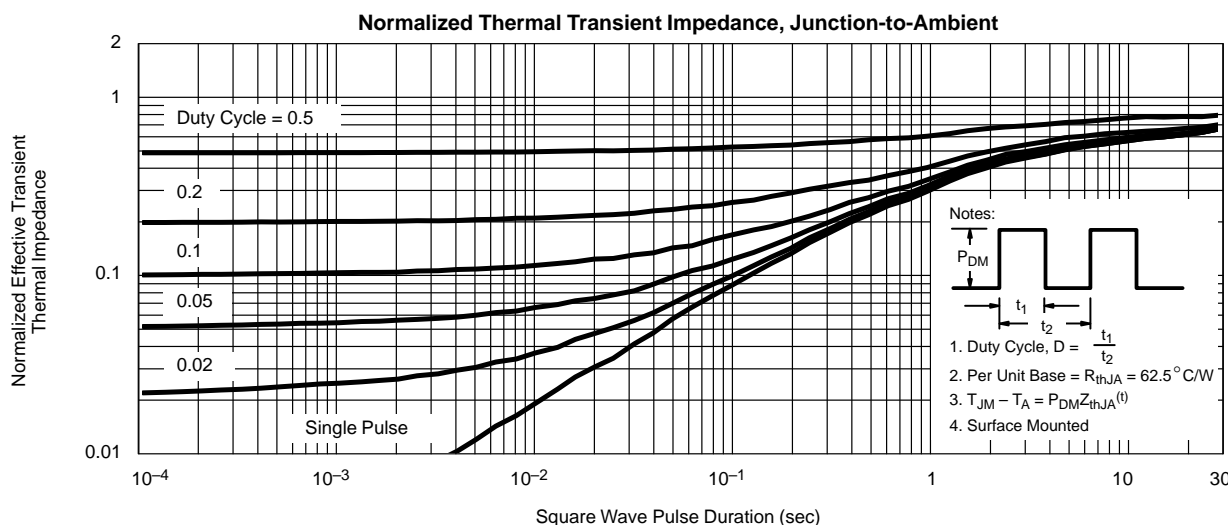
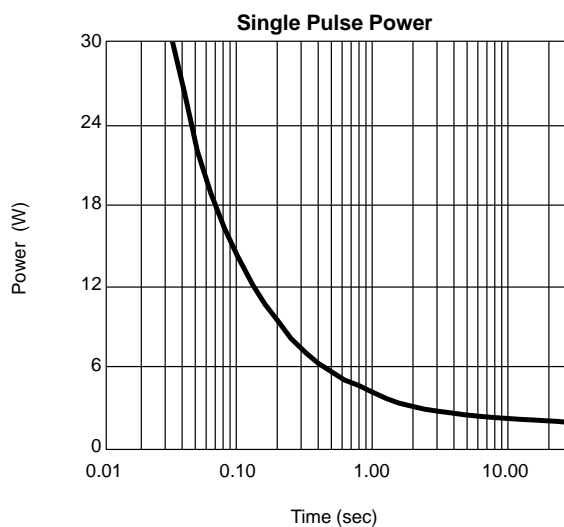
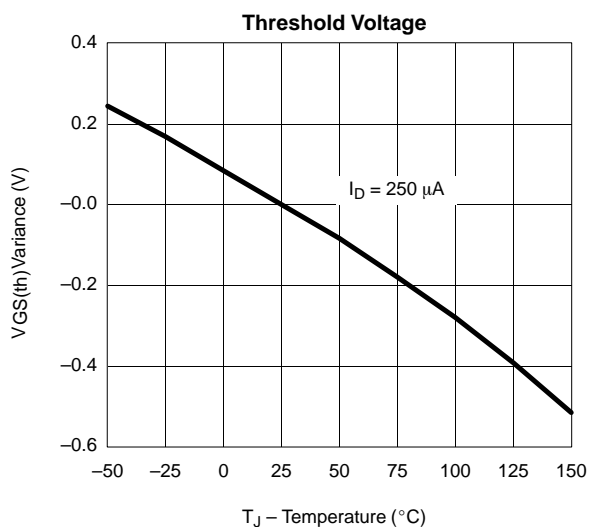
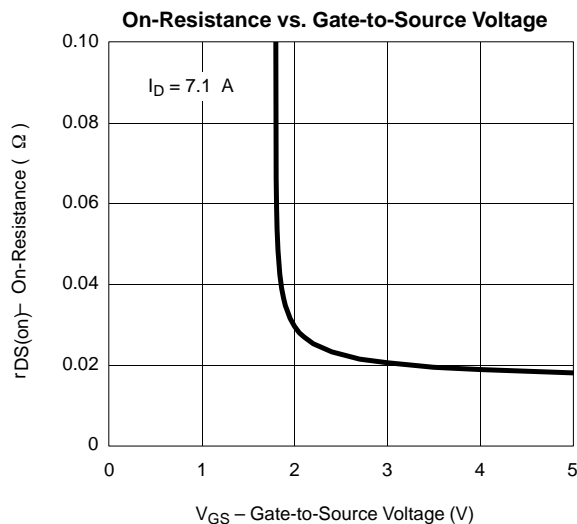
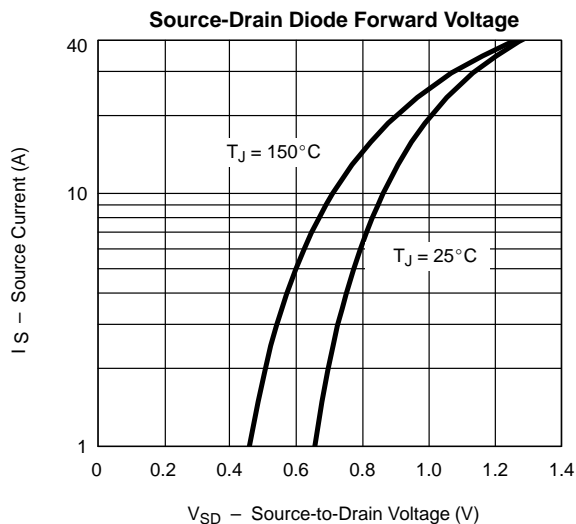


TYPICAL CHARACTERISTICS (25°C UNLESS NOTED) N-CHANNEL



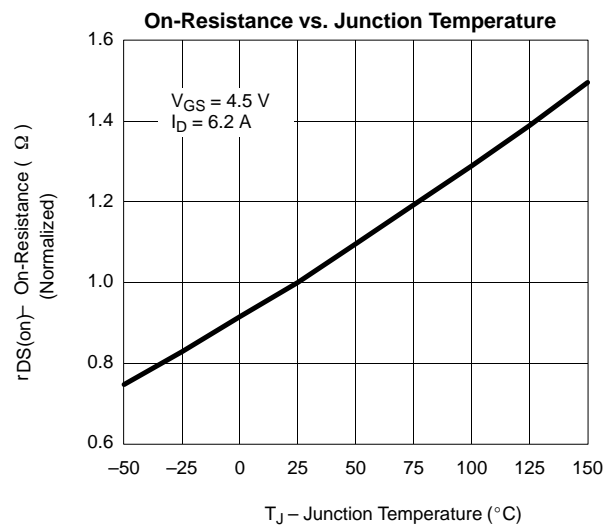
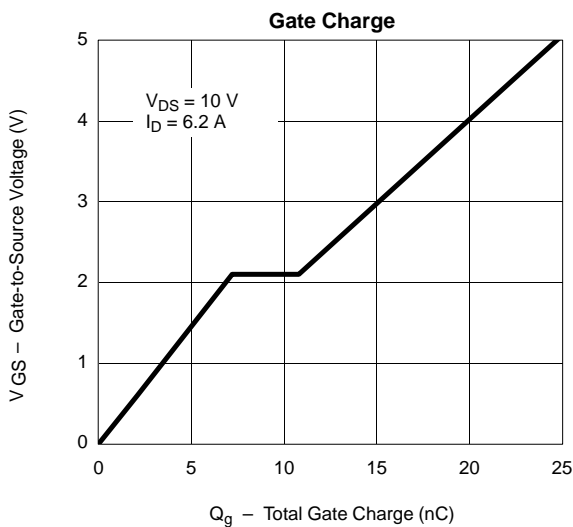
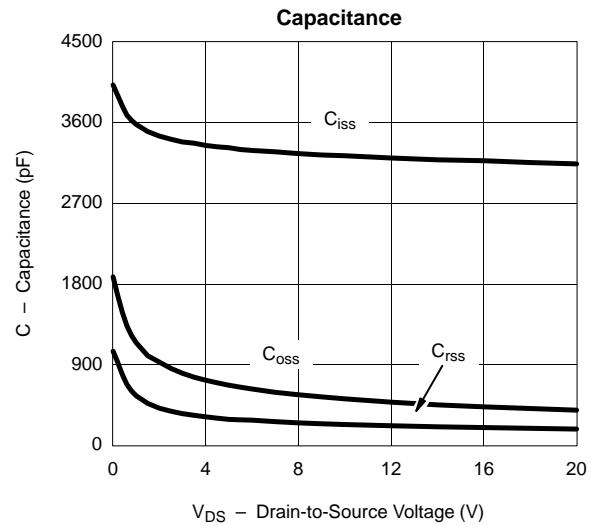
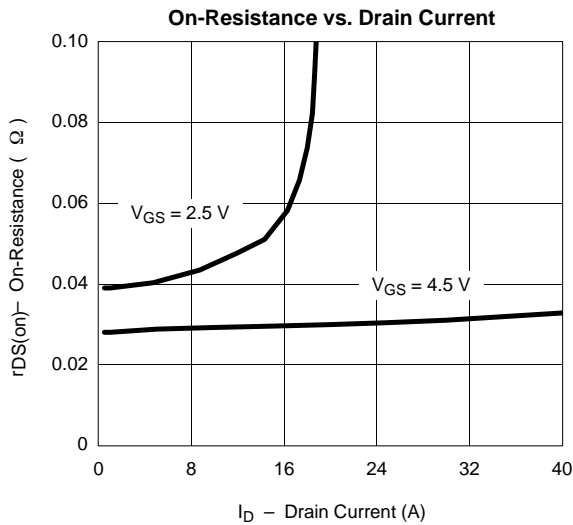
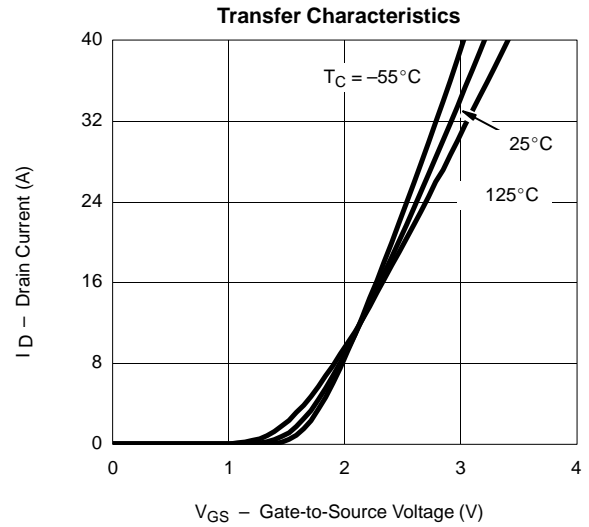
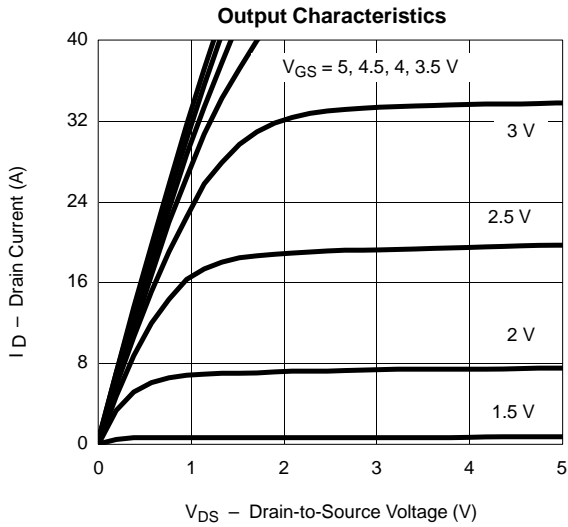
TYPICAL CHARACTERISTICS (25°C UNLESS NOTED)

N-CHANNEL





TYPICAL CHARACTERISTICS (25°C UNLESS NOTED) P-CHANNEL



TYPICAL CHARACTERISTICS (25°C UNLESS NOTED)

P-CHANNEL

