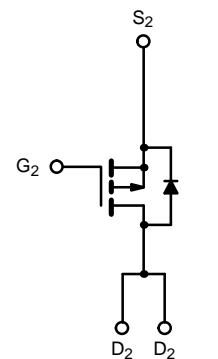
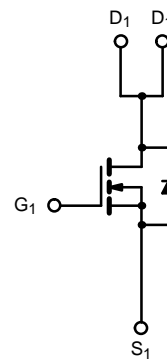
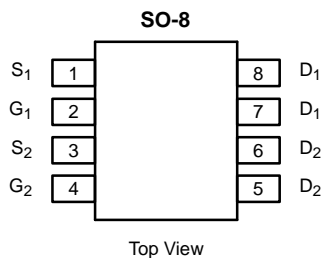




N- and P-Channel 2.5-V (G-S) MOSFET

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



ABSOLUTE MAXIMUM RATINGS (T _A = 25 °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 °C) ^a	I _D	T _A = 25 °C	±7.1	A
		T _A = 70 °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 °C	2.0	W
		T _A = 70 °C	1.3	
Operating Junction and Storage Temperature Range	T _J , T _{stg}	-55 to 150		°C

THERMAL RESISTANCE RATINGS			
Parameter	Symbol	N- or P-Channel	Unit
Maximum Junction-to-Ambient ^a	R _{thJA}	62.5	°C/W

Notes
a. Surface Mounted on FR4 Board, t ≤ 10 sec.



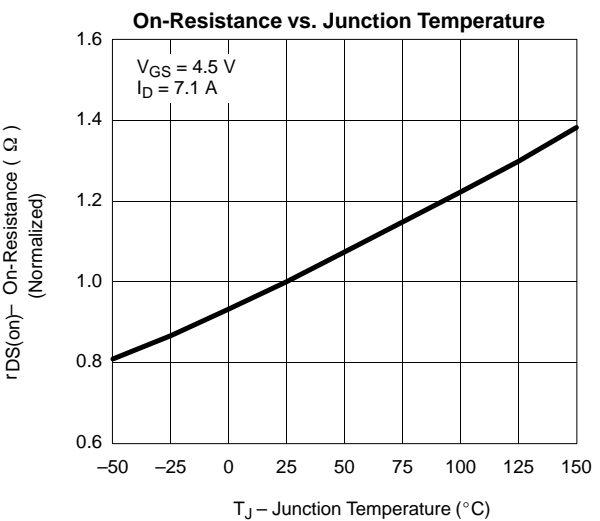
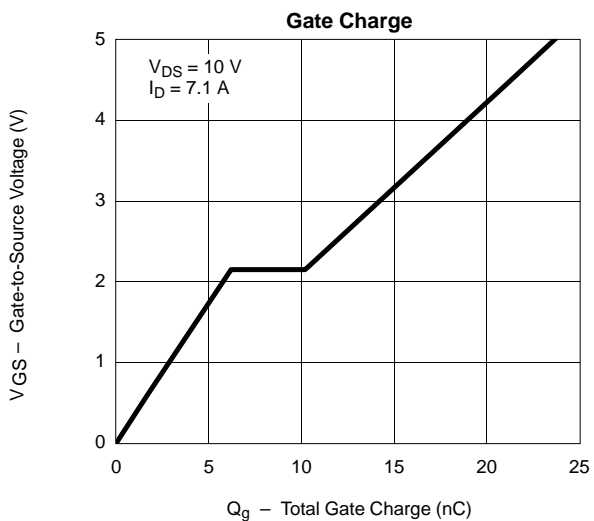
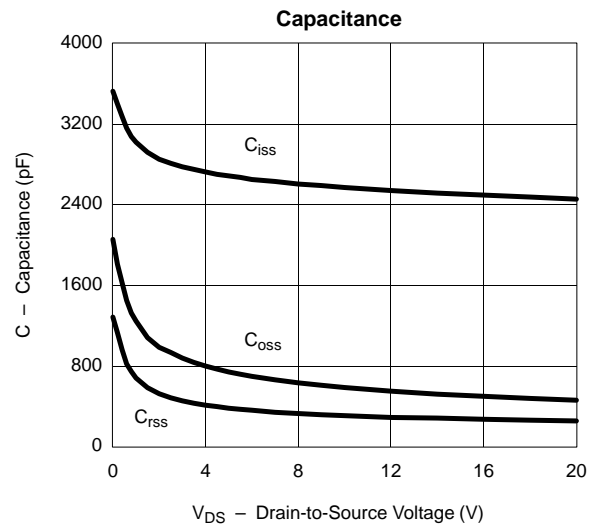
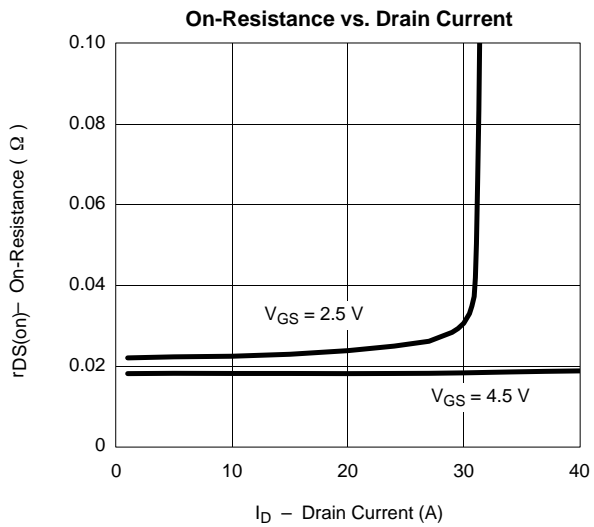
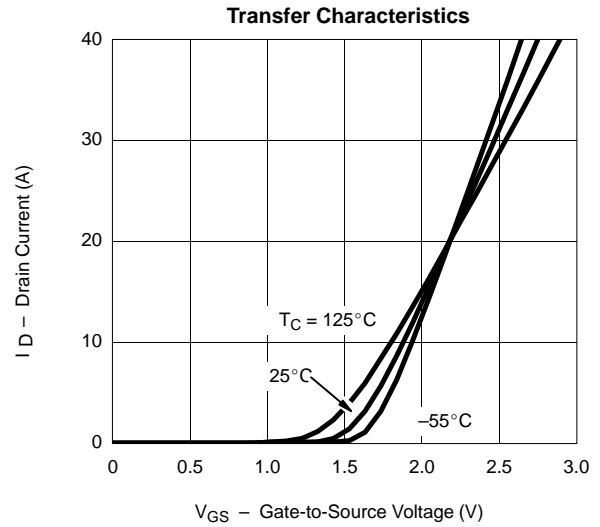
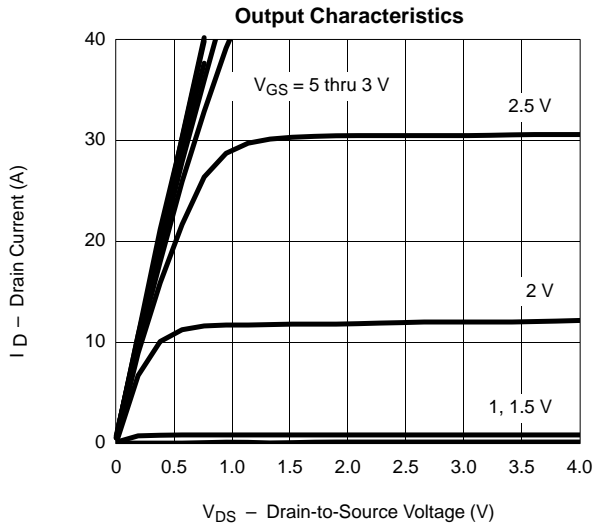
SPECIFICATIONS (T_J = 25 °C UNLESS OTHERWISE NOTED)								
Parameter	Symbol	Test Condition	Min	Typ ^a	Max	Unit		
Static								
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = 250 μA	N-Ch	0.6			V	
		V _{DS} = V _{GS} , I _D = -250 μA	P-Ch	-0.6				
Gate-Body Leakage	I _{GSS}	V _{DS} = 0 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		
		V _{DS} = -20 V, V _{GS} = 0 V	P-Ch		-1			
		V _{DS} = 20 V, V _{GS} = 0 V, T _J = 55 °C	N-Ch		5			
		V _{DS} = -20 V, V _{GS} = 0 V, T _J = 55 °C	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	0.025	Ω	
		V _{GS} = -4.5 V, I _D = -6.2 A	P-Ch		0.027	0.033		
		V _{GS} = 2.5 V, I _D = 6.0 A	N-Ch		0.025	0.035		
		V _{GS} = -2.5 V, I _D = -5.0 A	P-Ch		0.040	0.050		
Forward Transconductance ^b	g _{fs}	V _{DS} = 10 V, I _D = 7.1 A	N-Ch		27	S		
		V _{DS} = -10 V, I _D = -6.2 A	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			
Gate-Drain Charge	Q _{gd}		P-Ch		7			
			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		P-Ch		27	50		
Turn-Off Delay Time	t _{d(off)}		N-Ch		40	60		
			P-Ch		32	50		
Fall Time	t _f		N-Ch		90	150		
			P-Ch		95	150		
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%.

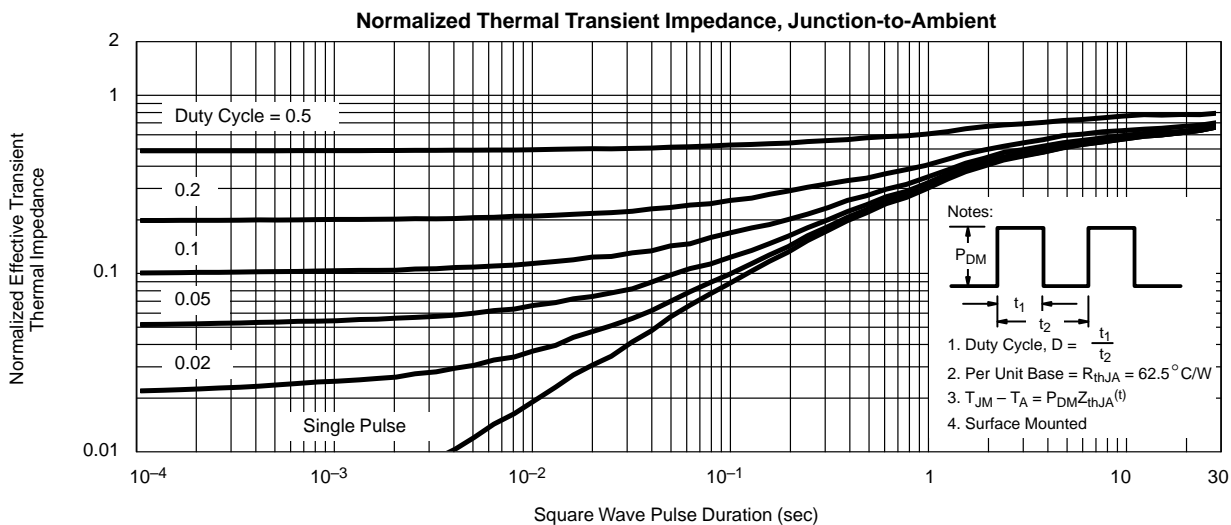
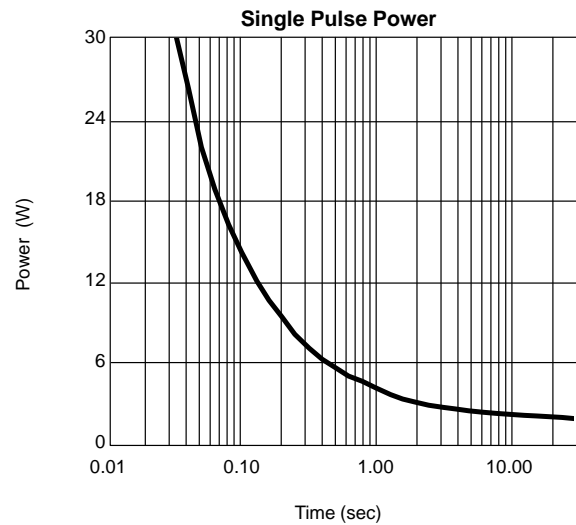
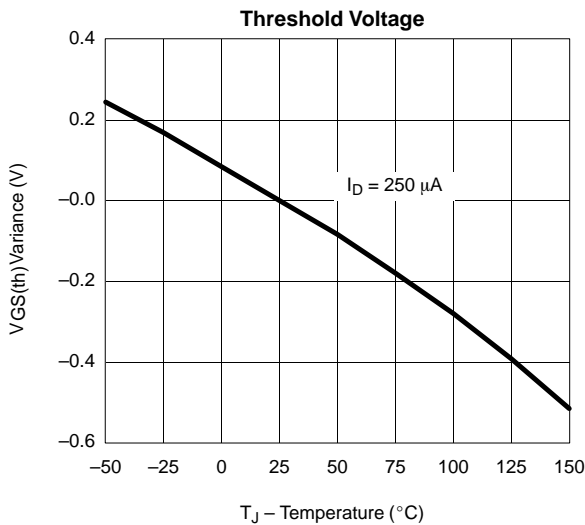
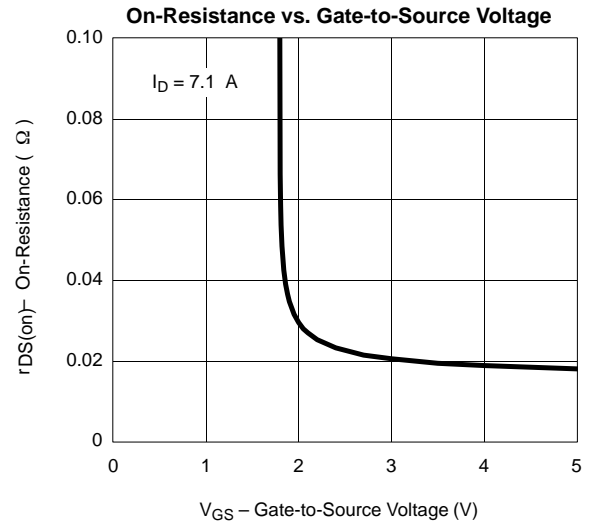
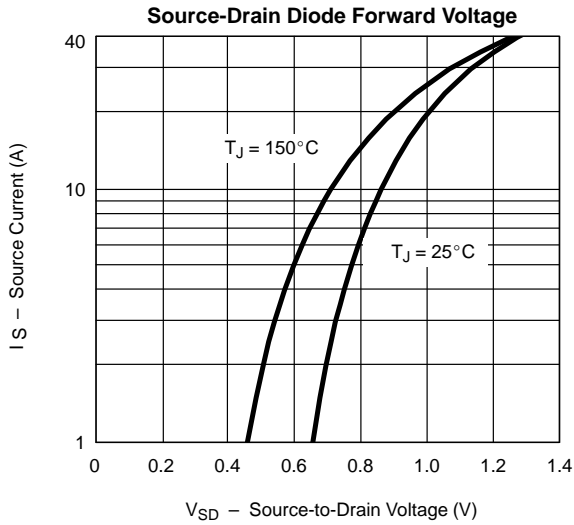


TYPICAL CHARACTERISTICS (25°C UNLESS NOTED) N-CHANNEL



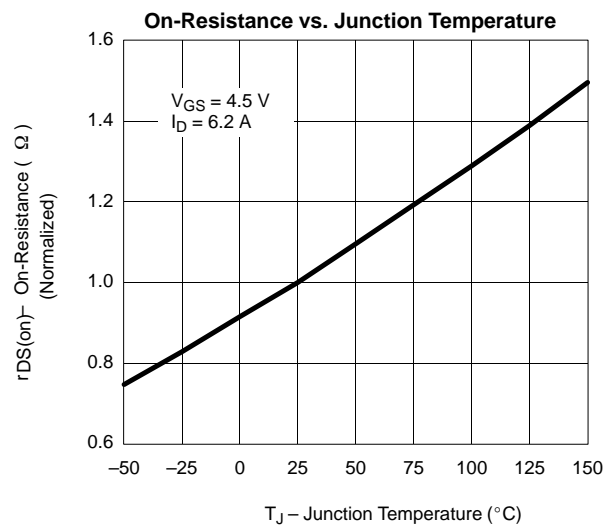
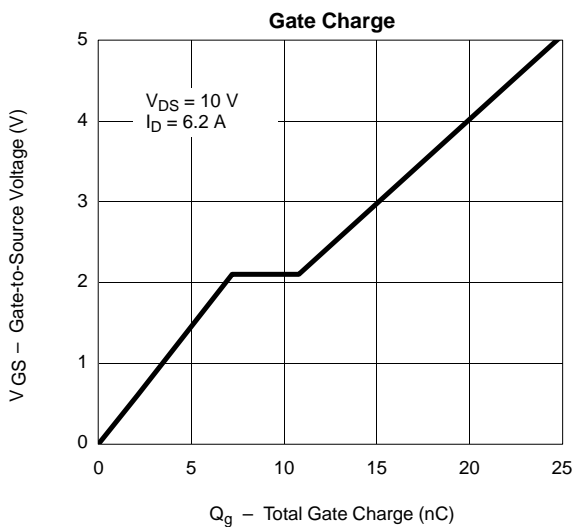
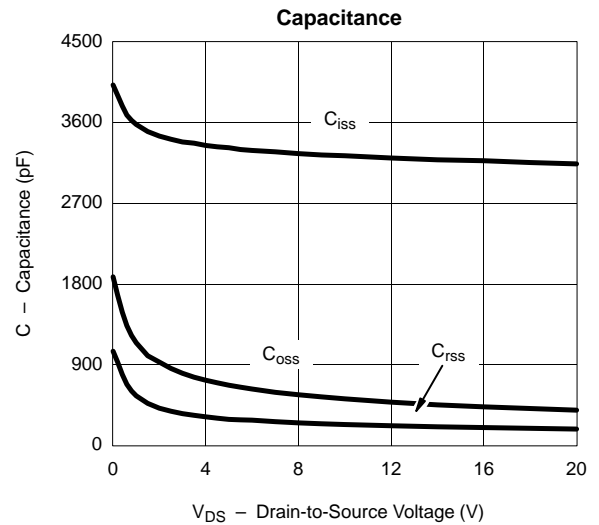
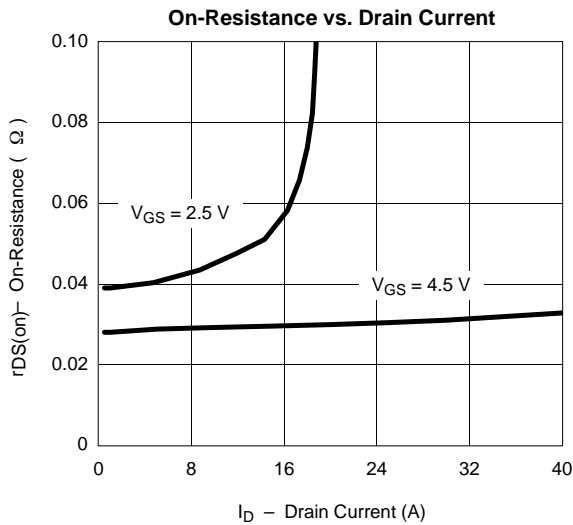
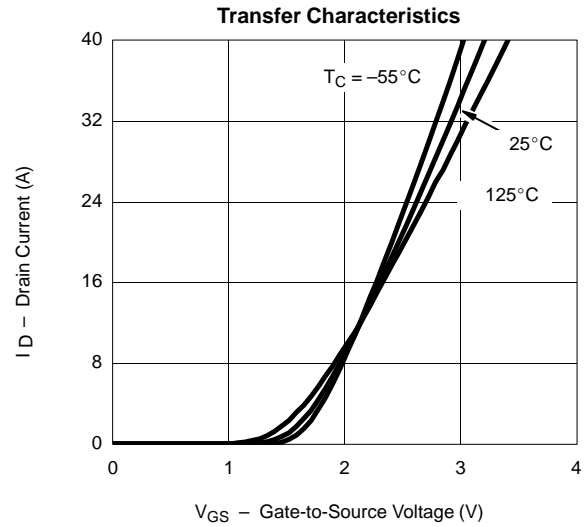
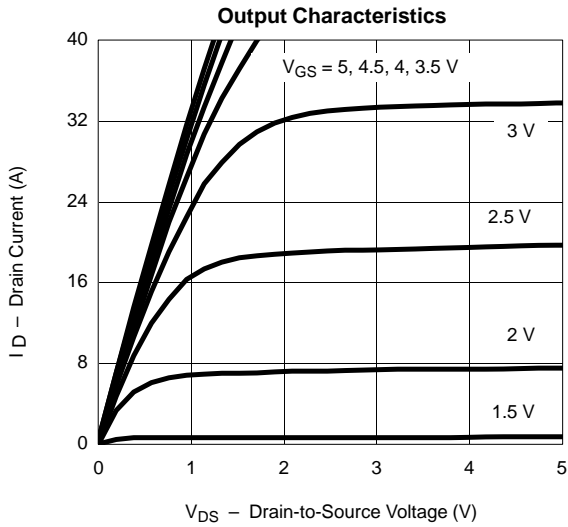
TYPICAL CHARACTERISTICS (25°C UNLESS NOTED)

N-CHANNEL





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



TYPICAL CHARACTERISTICS (25°C UNLESS NOTED)

P-CHANNEL

