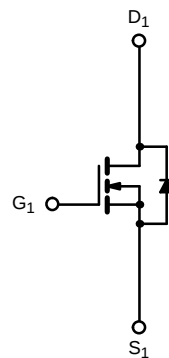
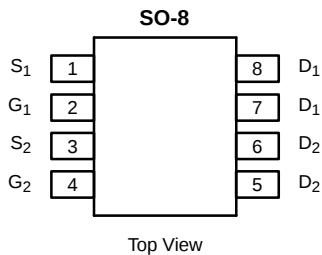




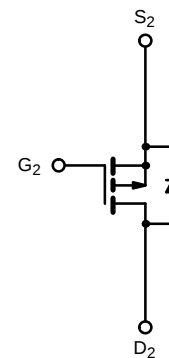
N- and P-Channel 30-V (D-S) MOSFET

PRODUCT SUMMARY			
	V_{DS} (V)	$r_{DS(on)}$ (Ω)	I_D (A)
N-Channel	30	0.025 @ $V_{GS} = 10$ V	± 6.9
		0.035 @ $V_{GS} = 4.5$ V	± 5.8
P-Channel	-30	0.032 @ $V_{GS} = -10$ V	± 6.1
		0.045 @ $V_{GS} = -4.5$ V	± 5.1

TrenchFET[®]
Power MOSFETs



N-Channel MOSFET



P-Channel MOSFET

ABSOLUTE MAXIMUM RATINGS (T _A = 25 °C UNLESS OTHERWISE NOTED)					
Parameter		Symbol	N-Channel	P-Channel	Unit
Drain-Source Voltage		V _{DS}	30	−30	V
Gate-Source Voltage		V _{GS}	± 20	± 20	
Continuous Drain Current (T _J = 150 °C) ^a	T _A = 25 °C	I _D	± 6.9	± 6.1	A
	T _A = 70 °C		± 5.5	± 4.9	
Pulsed Drain Current		I _{DM}	± 40	± 40	
Continuous Source Current (Diode Conduction) ^a		I _S	1.7	−1.7	
Maximum Power Dissipation ^a	T _A = 25 °C	P _D	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	$^\circ\text{C/W}$

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	Max	Unit
Static							
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = 250 μA	N-Ch	1.0			V
		V _{DS} = V _{GS} , I _D = −250 μA	P-Ch	−1.0			
Gate-Body Leakage	I _{GSS}	V _{DS} = 0 V, V _{GS} = ±20 V	N-Ch P-Ch			±100 ±100	nA
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = 30 V, V _{GS} = 0 V	N-Ch			1	μA
		V _{DS} = −30 V, V _{GS} = 0 V	P-Ch			−1	
		V _{DS} = 30 V, V _{GS} = 0 V, T _J = 55 °C	N-Ch			25	
		V _{DS} = −30 V, V _{GS} = 0 V, T _J = 55 °C	P-Ch			−25	
On-State Drain Current ^a	I _{D(on)}	V _{DS} ≥ 5 V, V _{GS} = 10 V	N-Ch	20			A
		V _{DS} ≤ −5 V, V _{GS} = −10 V	P-Ch	−20			
Drain-Source On-State Resistance ^a	r _{DS(on)}	V _{GS} = 10 V, I _D = 6.9 A	N-Ch		0.020	0.025	Ω
		V _{GS} = −10 V, I _D = −6.1 A	P-Ch		0.026	0.032	
		V _{GS} = 4.5 V, I _D = 5.8 A	N-Ch		0.026	0.035	
		V _{GS} = −4.5 V, I _D = −5.1 A	P-Ch		0.036	0.045	
Forward Transconductance ^a	g _{fs}	V _{DS} = 15 V, I _D = 6.9 A	N-Ch		25		S
		V _{DS} = −15 V, I _D = −6.1 A	P-Ch		16		
Diode Forward Voltage ^a	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 ^b							
Total Gate Charge	Q _g	N-Channel V _{DS} = 15 V, V _{GS} = 10 V, I _D = 6.9 A P-Channel V _{DS} = −15 V, V _{GS} = −10 V, I _D = −6.1 A	N-Ch		30	50	nC
Gate-Source Charge	Q _{gs}		P-Ch		32	50	
			N-Ch		7.5		
Gate-Drain Charge	Q _{gd}		P-Ch		7.0		
		N-Ch		3.5			
Turn-On Delay Time	t _{d(on)}	P-Ch		5.0			
		N-Ch		12	20		
Rise Time	t _r	P-Ch		10	20		
		N-Ch		10	20		
Turn-Off Delay Time	t _{d(off)}	P-Ch		10	20		
		N-Ch		60	90		
Fall Time	t _f	P-Ch		55	80		
		N-Ch		15	30		
Source-Drain Reverse Recovery Time	t _{rr}	P-Ch		25	40		
		N-Ch		50	90		
		I _F = 1.7 A, di/dt = 100 A/μs	N-Ch		50	90	
		I _F = −1.7 A, di/dt = 100 A/μs	P-Ch		50	90	

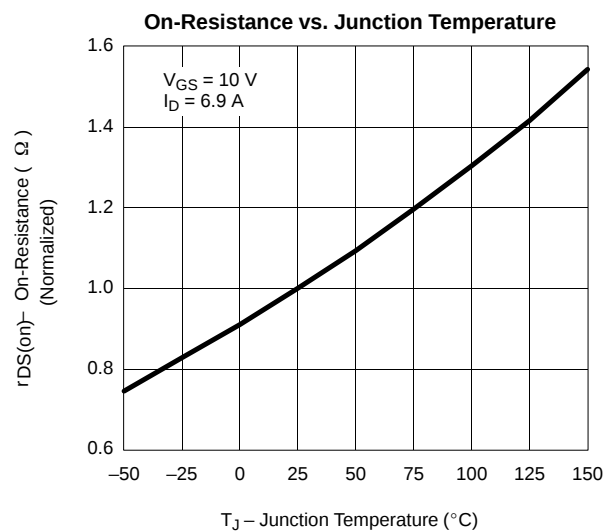
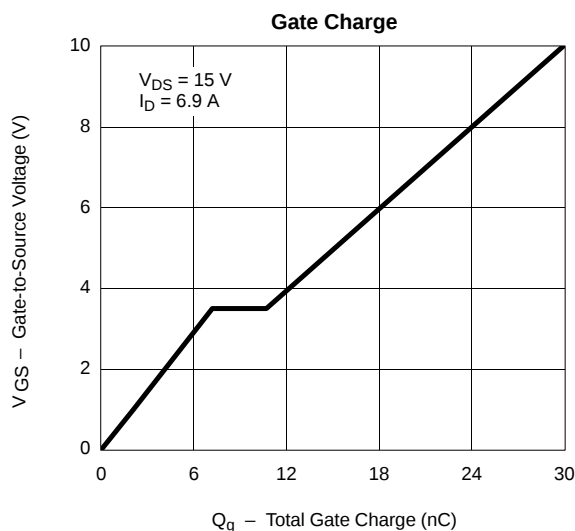
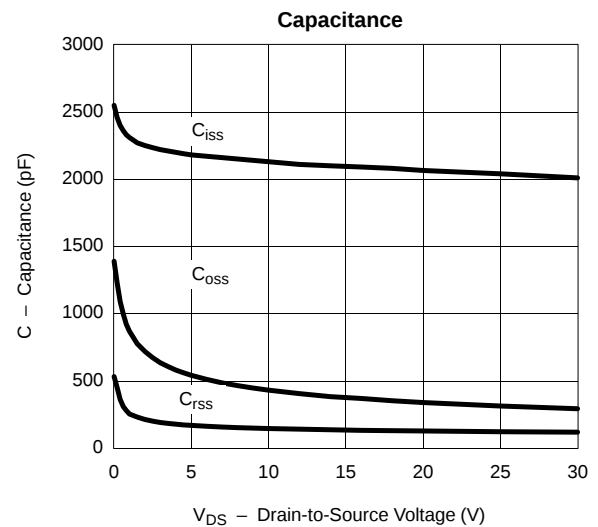
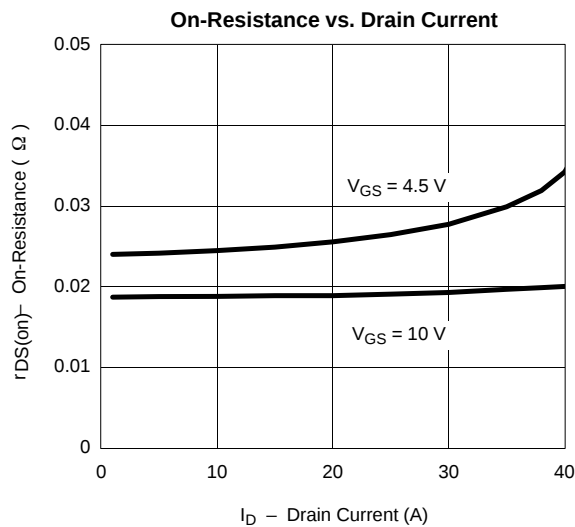
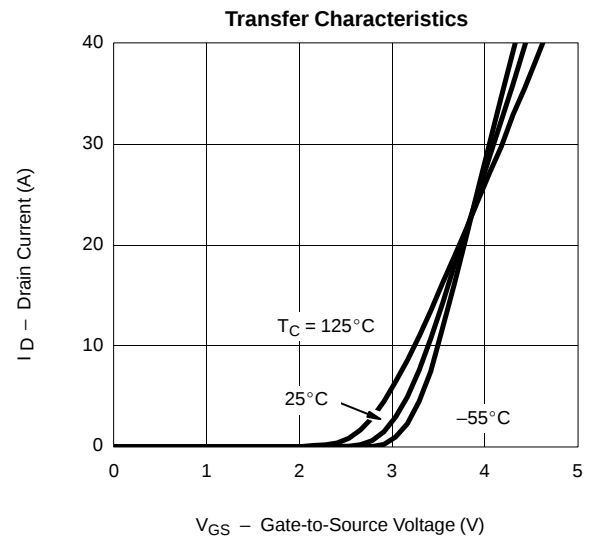
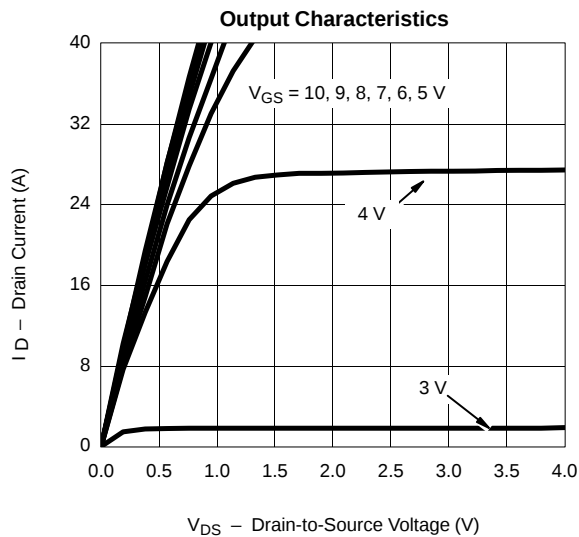
Notes

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



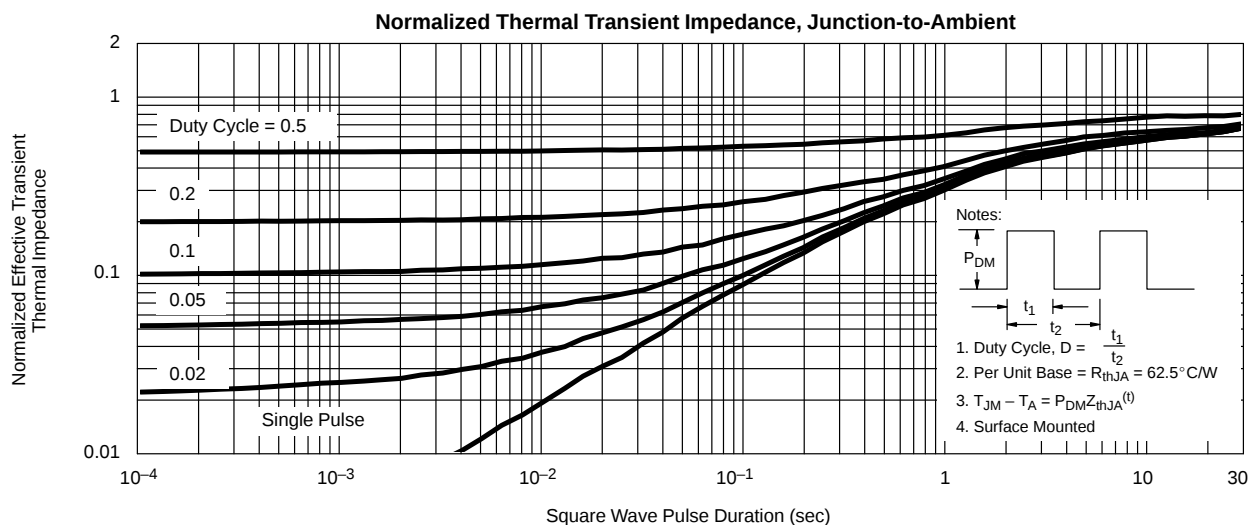
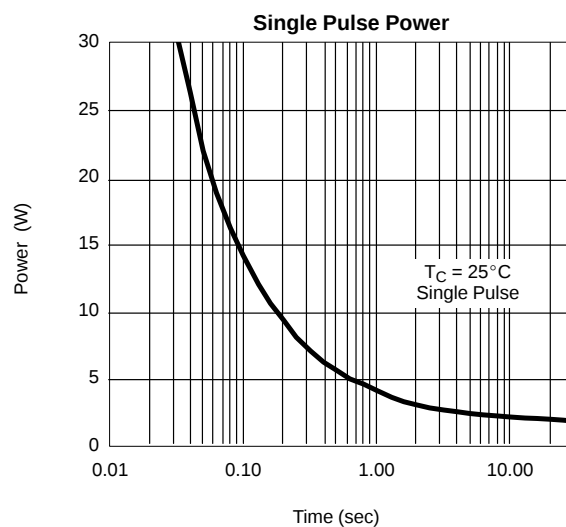
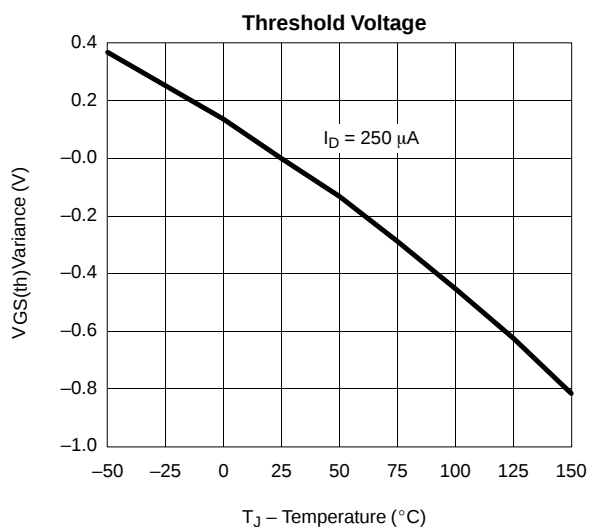
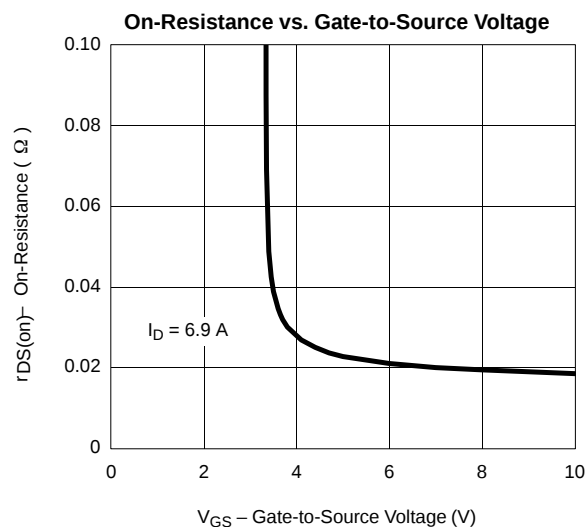
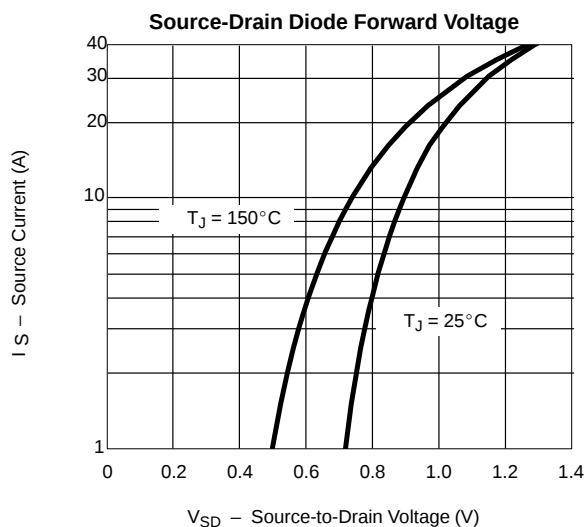
TYPICAL CHARACTERISTICS (25°C UNLESS NOTED)

N-CHANNEL



TYPICAL CHARACTERISTICS (25°C UNLESS NOTED)

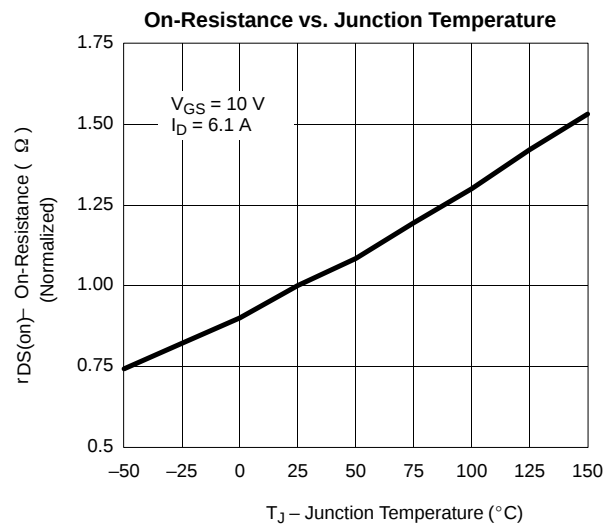
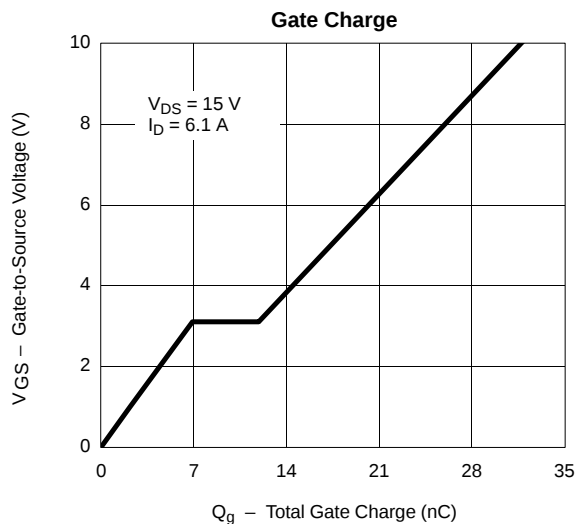
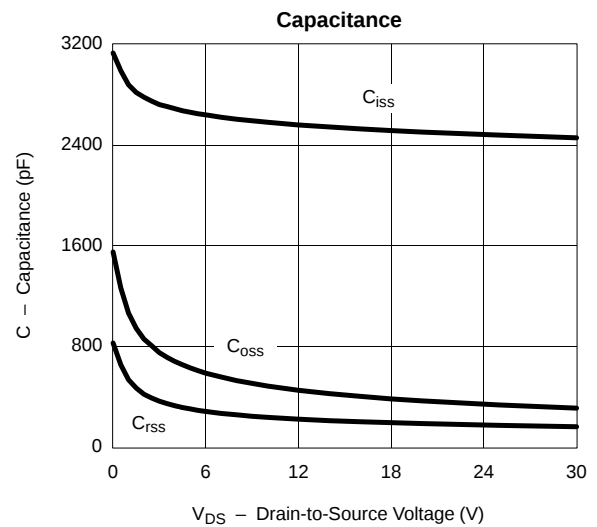
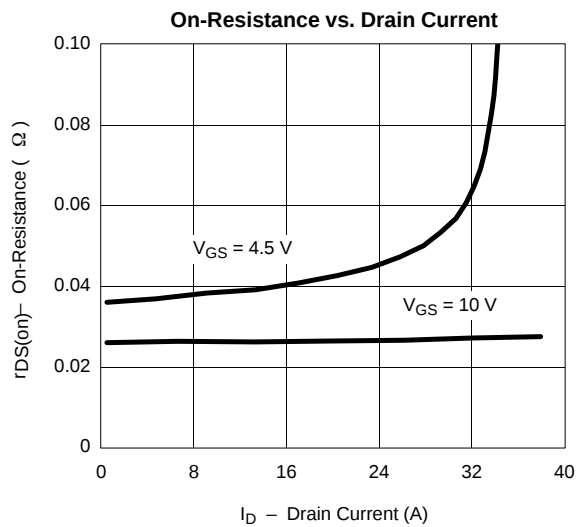
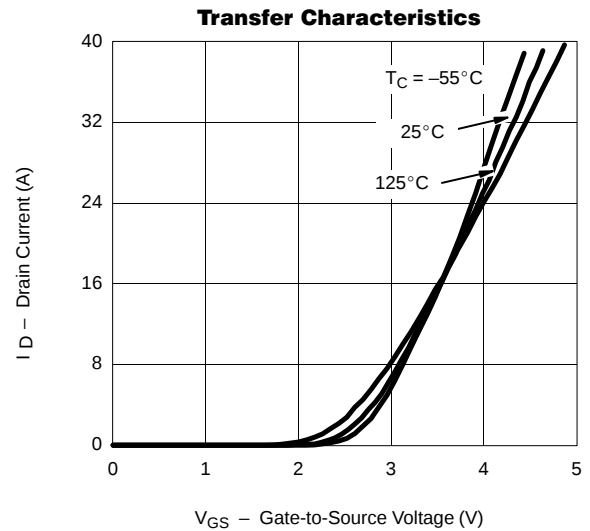
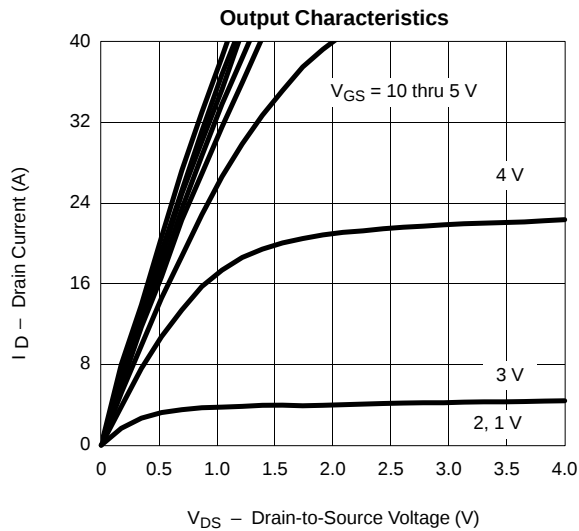
N-CHANNEL





TYPICAL CHARACTERISTICS (25°C UNLESS NOTED)

P-CHANNEL



TYPICAL CHARACTERISTICS (25°C UNLESS NOTED)

P-CHANNEL

