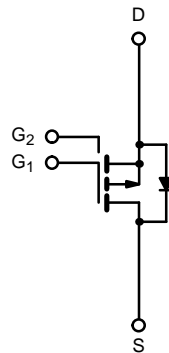
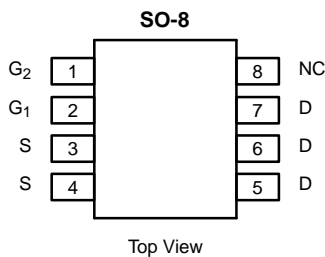




P-Channel 30:1 Ratio Dual-Gate 30-V (D-S) MOSFET

TrenchFET[®]
Power MOSFETs

PRODUCT SUMMARY			
	V_{DS} (V)	$r_{DS(ON)}$ (Ω)	I_D (A)
Gate 1	-30	0.035 @ $V_{GS} = -10$ V	± 6
		0.054 @ $V_{GS} = -4.5$ V	± 4.8
Gate 2		1.3 @ $V_{GS} = -10$ V	± 0.9
		2.2 @ $V_{GS} = -4.5$ V	± 0.7



ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ UNLESS OTHERWISE NOTED)					
Parameter	Symbol	Gate 1	Gate 2	Unit	
Drain-Source Voltage	V_{DS}	-30		V	
Gate-Source Voltage	V_{GS}	± 20			
Continuous Drain Current ($T_J = 150^\circ\text{C}$) ^a	I_D	$T_A = 25^\circ\text{C}$	± 6	± 0.9	A
		$T_A = 70^\circ\text{C}$	± 4.8	± 0.7	
Pulsed Drain Current	I_{DM}	± 30	± 1.5		
Continuous Source Current (Diode Conduction) ^a	I_S	-1.25			
Maximum Power Dissipation ^a	P_D	$T_A = 25^\circ\text{C}$	2.3		W
		$T_A = 70^\circ\text{C}$	1.0		
Operating Junction and Storage Temperature Range	T_J, T_{stg}	-55 to 150		$^\circ\text{C}$	

THERMAL RESISTANCE RATINGS			
Parameter	Symbol	Limit	Unit
Maximum Junction-to-Ambient ^a	R_{thJA}	55	$^\circ\text{C/W}$

Notes

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



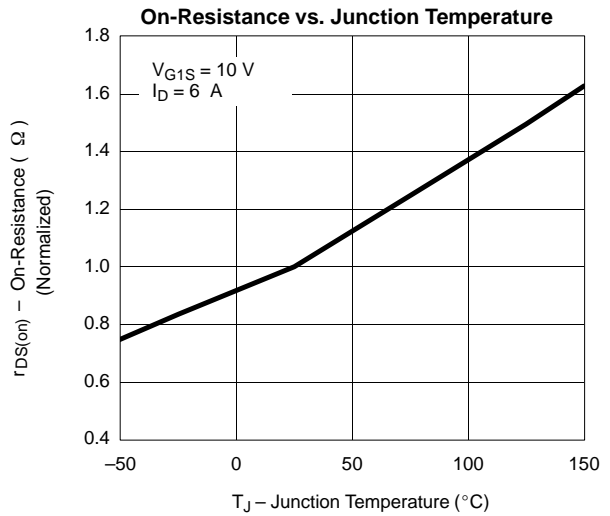
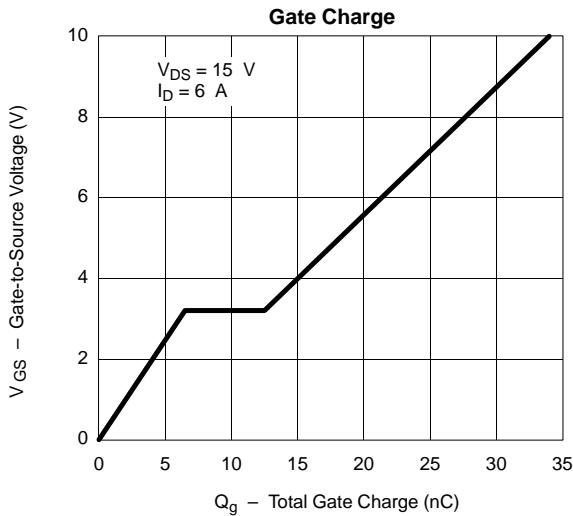
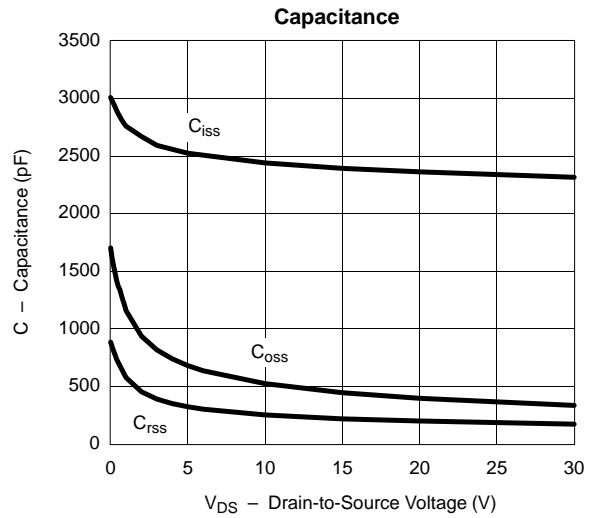
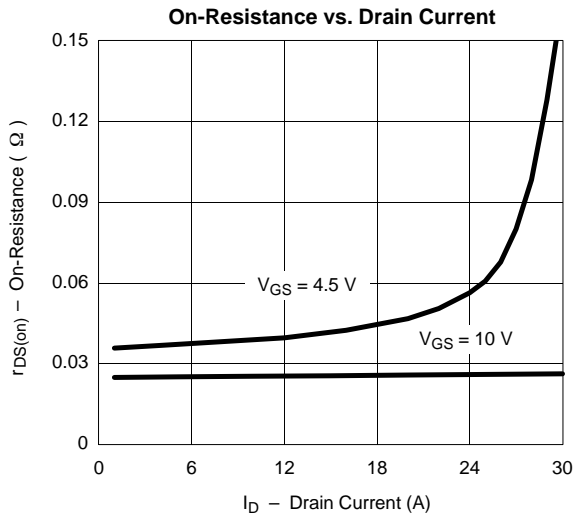
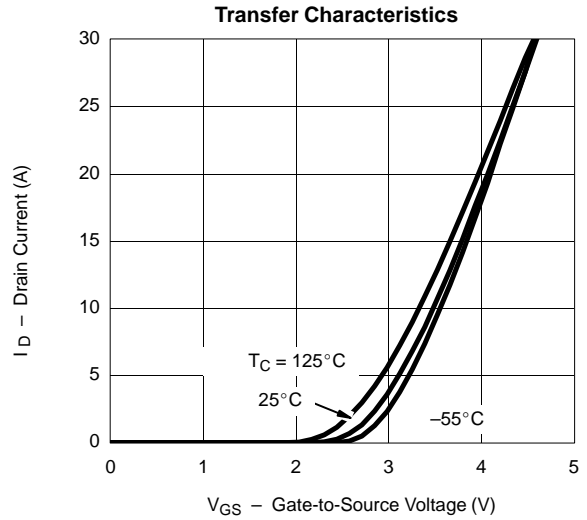
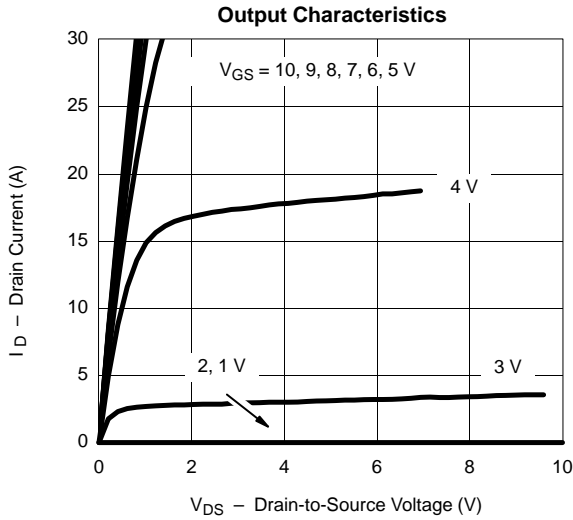
SPECIFICATIONS (T_J = 25 °C UNLESS OTHERWISE NOTED)							
Parameter	Symbol	Test Condition	Min	Typ	Max	Unit	
Static							
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = -250 μA	-1			V	
Gate-Body Leakage	I _{GSS}	V _{DS} = 0 V, V _{GS} = ±20 V			±100	nA	
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = -30 V, V _{GS} = 0 V			-1	μA	
		V _{DS} = -30 V, V _{GS} = 0 V, T _J = 55 °C			-5		
On-State Drain Current ^a	I _{D(on)}	(G ₁ = G ₂) V _{DS} = -5 V, V _{GS} = -10 V	-20			A	
Drain-Source On-State Resistance ^a	r _{DS1(on)}	(G ₁ = G ₂) V _{GS} = -10 V, I _D = -6 A		0.028	0.035	Ω	
		(G ₁ = G ₂) V _{GS} = -4.5 V, I _D = -4.8 A		0.041	0.054		
	r _{DS2(on)}	V _{G1S} = 0 V, V _{G2S} = -10 V, I _D = -0.15 A		1.05	1.3		
		V _{G1S} = 0 V, V _{G2S} = -4.5 V, I _D = -0.1 A		1.65	2.2		
Forward Transconductance ^a	g _{fs}	V _{DS} = -15 V, I _D = -6 A		13		S	
Diode Forward Voltage ^a	V _{SD}	I _S = -1.25 A, V _{GS} = 0 V		0.7	-1.1	V	
Dynamic^b							
Total Gate Charge	Q _g	Gate 1 V _{DS} = -15 V, V _{GS(1,2)} = -10 V I _D = -6 A Gate 2 V _{DS} = -15 V, V _{GS(1)} = -0 V V _{GS(2)} = -10 V, I _D = -0.15 A	Gate 1		34	60	nC
			Gate 2		2.0	5	
Gate-Source Charge	Q _{gs}		Gate 1		6.5		
			Gate 2		0.5		
Gate-Drain Charge	Q _{gd}		Gate 1		6.0		
			Gate 2		0.2		
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		15	25	ns	
Rise Time	t _r			11	20		
Turn-Off Delay Time	t _{d(off)}			52	80		
Fall Time	t _f			20	35		
Source-Drain Reverse Recovery Time	t _{rr}		I _F = -1.25 A, di/dt = -100 A/μs		30		60

Notes

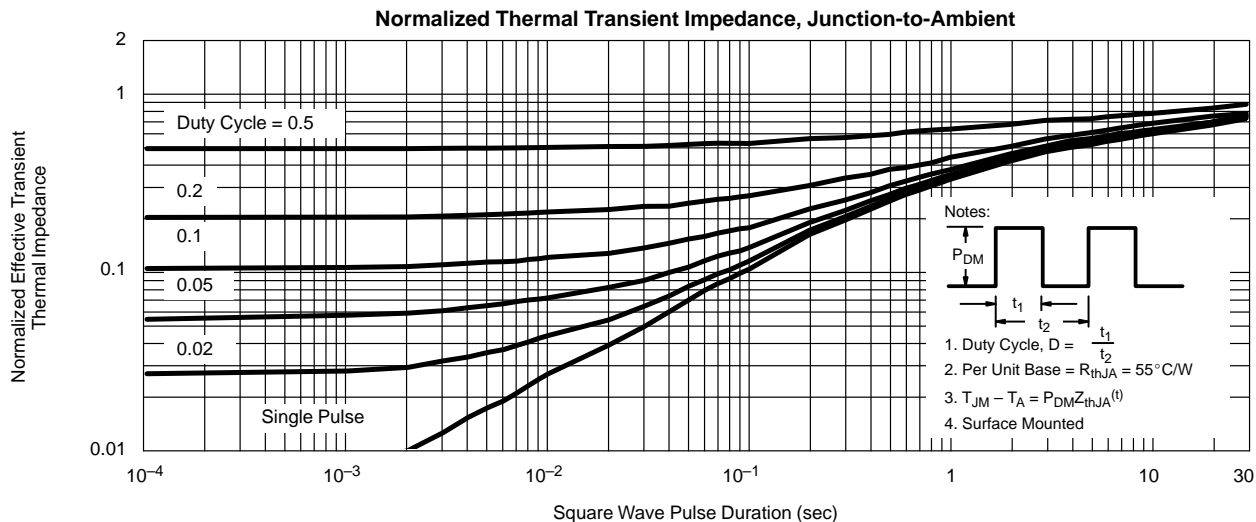
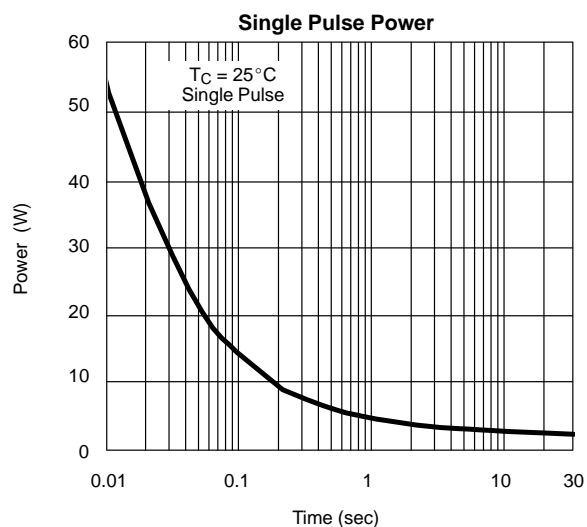
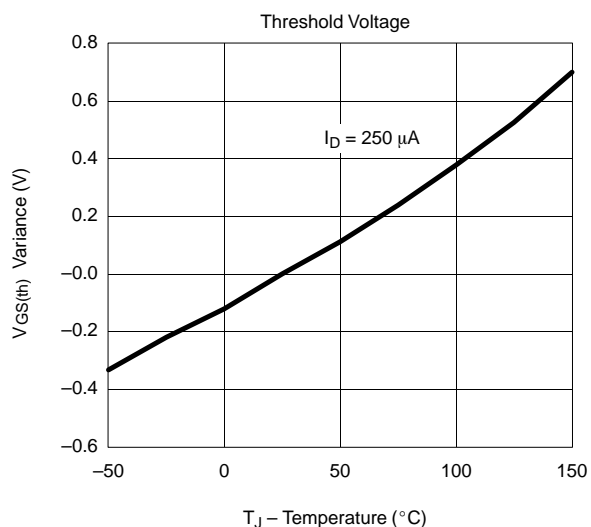
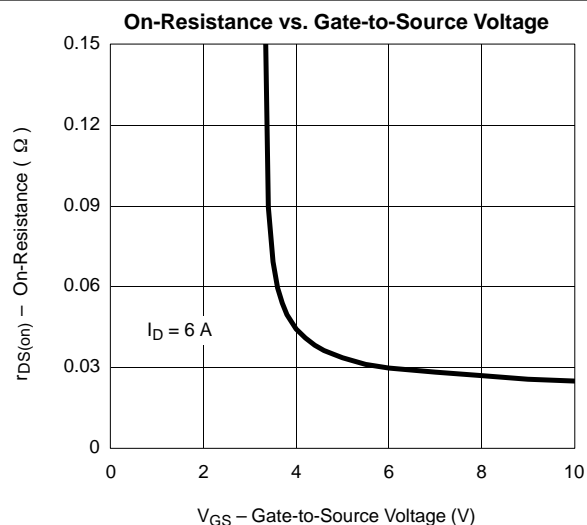
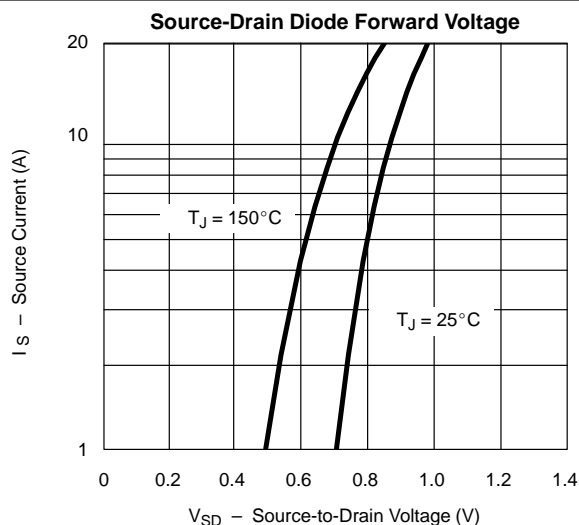
- a. Pulse test; pulse width ≤ 300 μs, duty cycle ≤ 2%.
- b. Guaranteed by design, not subject to production testing.



TYPICAL CHARACTERISTICS ($V_{G1} = V_{G2}$, 25°C UNLESS NOTED)



TYPICAL CHARACTERISTICS ($V_{G1} = V_{G2}$, 25°C UNLESS NOTED)





TYPICAL CHARACTERISTICS ($V_{G1} = 0$ V, 25°C UNLESS NOTED)

