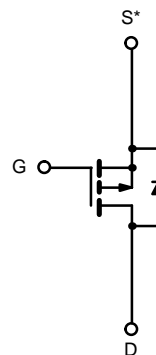
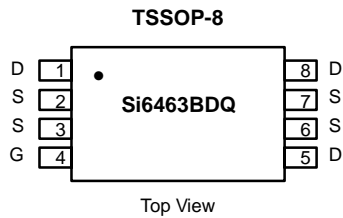




P-Channel 1.8-V (G-S) MOSFET

PRODUCT SUMMARY		
V_{DS} (V)	$r_{DS(on)}$ (Ω)	I_D (A)
-20	0.015 @ $V_{GS} = -4.5$ V	-7.4
	0.020 @ $V_{GS} = -2.5$ V	-6.3
	0.027 @ $V_{GS} = -1.8$ V	-5.5

TrenchFET[®]
Power MOSFETs



* Source Pins 2, 3, 6 and 7 must be tied common.

P-Channel MOSFET

ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ UNLESS OTHERWISE NOTED)					
Parameter		Symbol	10 secs	Steady State	Unit
Drain-Source Voltage		V_{DS}	-20		V
Gate-Source Voltage		V_{GS}	± 8		
Continuous Drain Current ($T_J = 150^\circ\text{C}$) ^a	$T_A = 25^\circ\text{C}$	I_D	-7.4	-6.2	A
	$T_A = 70^\circ\text{C}$		-5.9	4.9	
Pulsed Drain Current (10 μs Pulse Width)		I_{DM}	-30		
Continuous Source Current (Diode Conduction) ^a		I_S	-1.35	-0.95	W
Maximum Power Dissipation ^a	$T_A = 25^\circ\text{C}$	P_D	1.5	1.05	
	$T_A = 70^\circ\text{C}$		1.0	0.67	
Operating Junction and Storage Temperature Range		T_J, T_{stg}	-55 to 150		$^\circ\text{C}$

THERMAL RESISTANCE RATINGS					
Parameter		Symbol	Typical	Maximum	Unit
Maximum Junction-to-Ambient ^a	$t \leq 10$ sec	R_{thJA}	65	83	$^\circ\text{C/W}$
	Steady State		100	120	
Maximum Junction-to-Foot	Steady State	R_{thJF}	46	56	

Notes

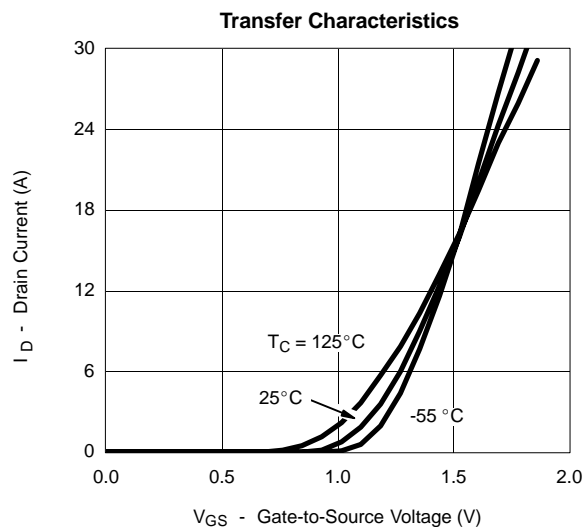
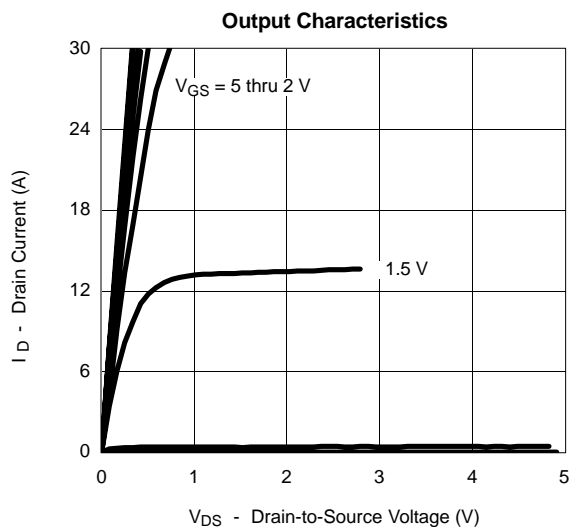
a. Surface Mounted on 1" x 1" FR4 Board.

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

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Static						
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = -250 \mu\text{A}$	-0.45		-0.8	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}	$V_{DS} = -16 \text{ V}, V_{GS} = 0 \text{ V}$			-1	μA
		$V_{DS} = -16 \text{ V}, V_{GS} = 0 \text{ V}, T_J = 70^\circ\text{C}$			-10	
On-State Drain Current ^a	$I_{D(on)}$	$V_{DS} = -5 \text{ V}, V_{GS} = -4.5 \text{ V}$	20			A
Drain-Source On-State Resistance ^a	$r_{DS(on)}$	$V_{GS} = -4.5 \text{ V}, I_D = -7.4 \text{ A}$		0.011	0.015	Ω
		$V_{GS} = -2.5 \text{ V}, I_D = -6.3 \text{ A}$		0.015	0.020	
		$V_{GS} = -1.8 \text{ V}, I_D = -5.5 \text{ A}$		0.020	0.027	
Forward Transconductance ^a	g_{fs}	$V_{DS} = -15 \text{ V}, I_D = -7.4 \text{ A}$		34		S
Diode Forward Voltage ^a	V_{SD}	$I_S = -1.3 \text{ A}, V_{GS} = 0 \text{ V}$		-0.64	-1.1	V
Dynamic^b						
Total Gate Charge	Q_g	$V_{DS} = -10 \text{ V}, V_{GS} = -5 \text{ V}, I_D = -7.4 \text{ A}$		40	60	nC
Gate-Source Charge	Q_{gs}		5.2			
Gate-Drain Charge	Q_{gd}		8			
Turn-On Delay Time	$t_{d(on)}$	$V_{DD} = -10 \text{ V}, R_L = 15 \Omega$ $I_D \cong -1 \text{ A}, V_{GEN} = -4.5 \text{ V}, R_G = 6 \Omega$		35	55	ns
Rise Time	t_r		40	60		
Turn-Off Delay Time	$t_{d(off)}$		190	300		
Fall Time	t_f		90	150		
Source-Drain Reverse Recovery Time	t_{rr}		$I_F = -1.3 \text{ A}, di/dt = 100 \text{ A}/\mu\text{s}$	75	120	

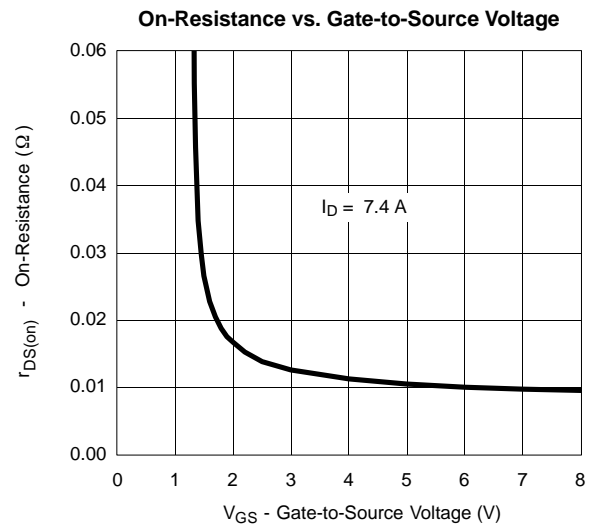
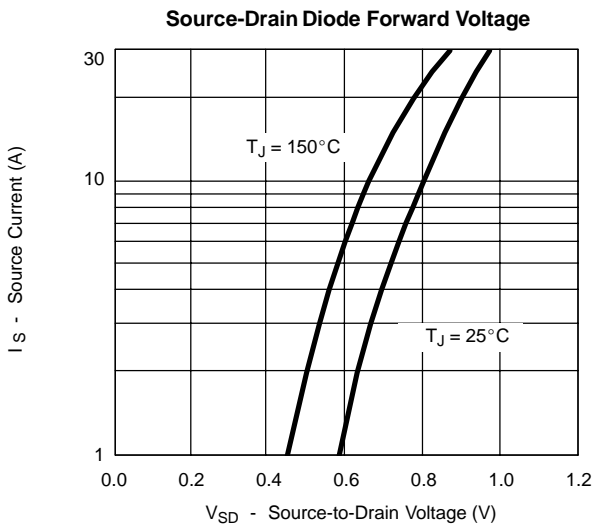
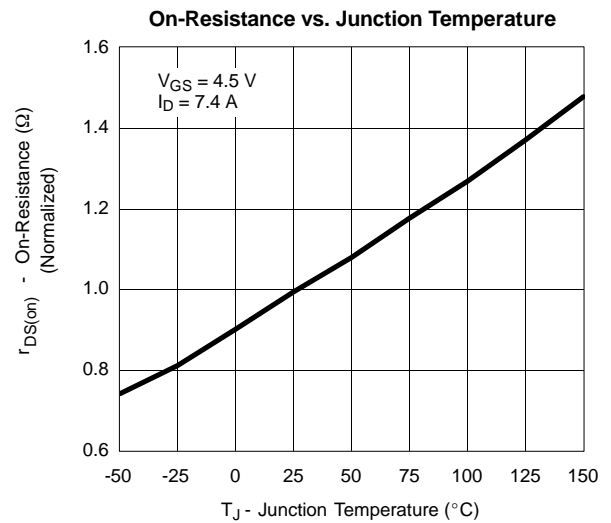
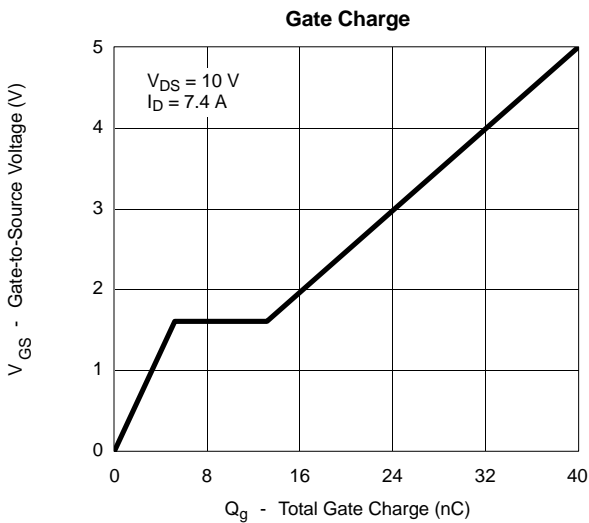
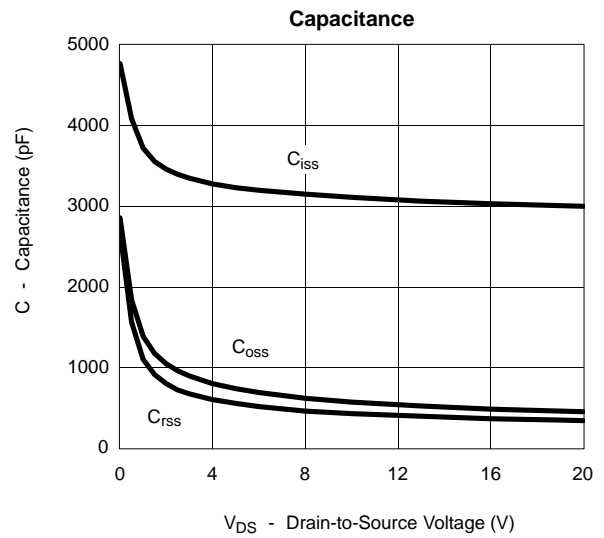
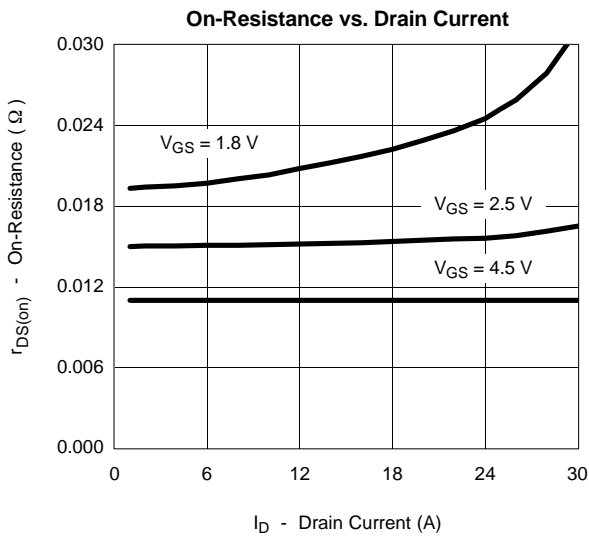
Notes

- a. Pulse test; pulse width $\leq 300 \mu\text{s}$, duty cycle $\leq 2\%$.
b. Guaranteed by design, not subject to production testing.

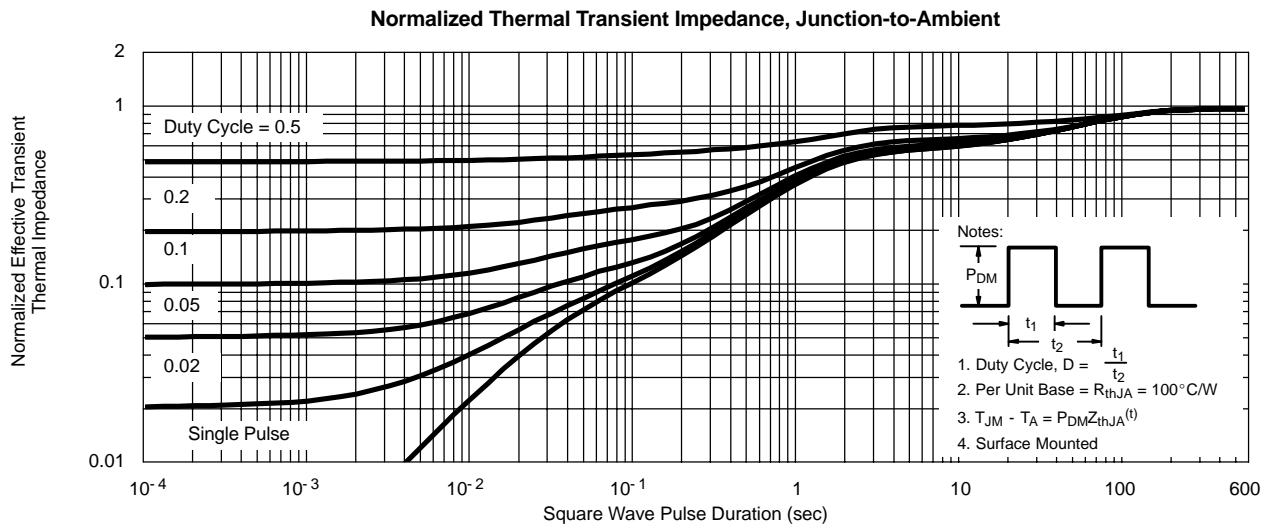
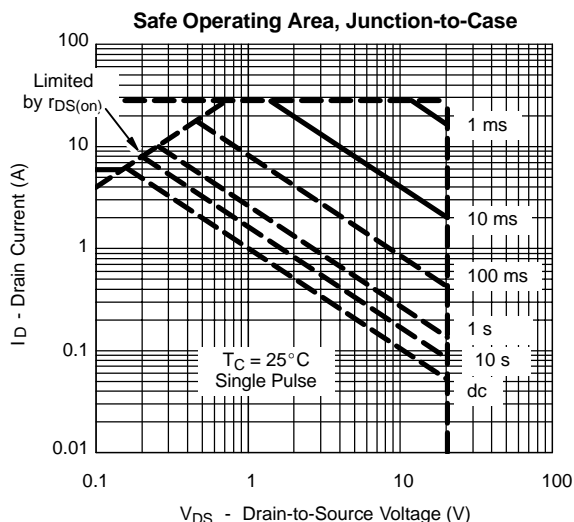
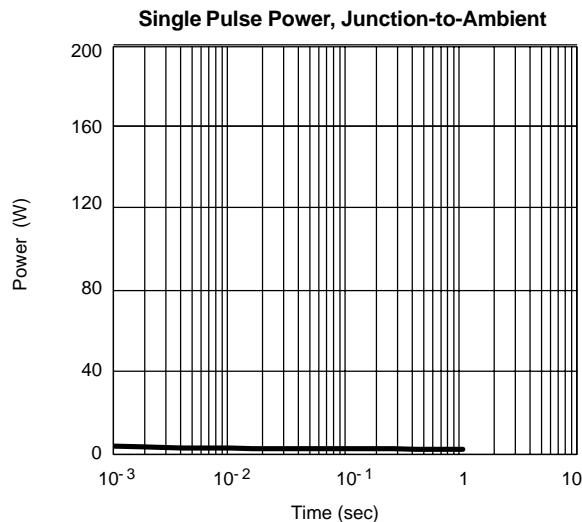
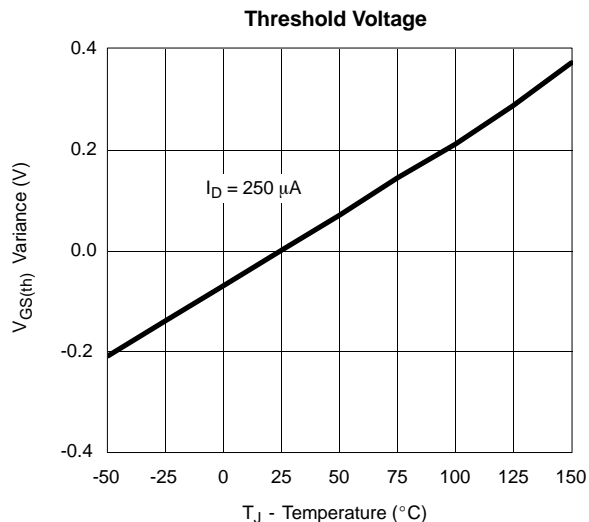
TYPICAL CHARACTERISTICS (25°C UNLESS NOTED)



TYPICAL CHARACTERISTICS (25 °C UNLESS NOTED)



TYPICAL CHARACTERISTICS (25 °C UNLESS NOTED)





TYPICAL CHARACTERISTICS (25°C UNLESS NOTED)

Normalized Thermal Transient Impedance, Junction-to-Foot

