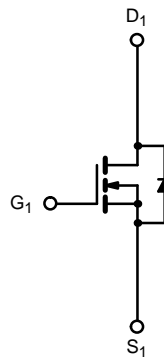
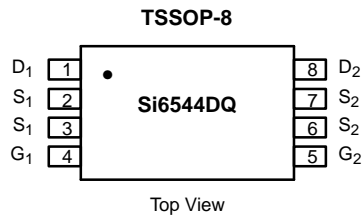




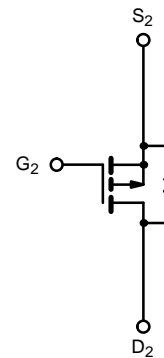
N- and P-Channel 30-V (D-S) MOSFET

PRODUCT SUMMARY			
	V_{DS} (V)	$r_{DS(on)}$ (Ω)	I_D (A)
N-Channel	30	0.035 @ $V_{GS} = 10$ V	± 4.0
		0.050 @ $V_{GS} = 4.5$ V	± 3.4
P-Channel	-30	0.045 @ $V_{GS} = -10$ V	± 3.5
		0.090 @ $V_{GS} = -4.5$ V	± 2.5

TrenchFET[®]
Power MOSFETs



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}	30	-30	V
Gate-Source Voltage	V_{GS}	± 20	± 20	V
Continuous Drain Current ($T_J = 150^\circ\text{C}$) ^a	I_D	$T_A = 25^\circ\text{C}$	± 4.0	A
		$T_A = 70^\circ\text{C}$	± 3.2	
Pulsed Drain Current	I_{DM}	± 20	± 20	
Continuous Source Current (Diode Conduction) ^a	I_S	1.25	-1.25	
Maximum Power Dissipation ^a	P_D	$T_A = 25^\circ\text{C}$	1.0	W
		$T_A = 70^\circ\text{C}$	0.64	
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}	125	$^\circ\text{C/W}$

Notes

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



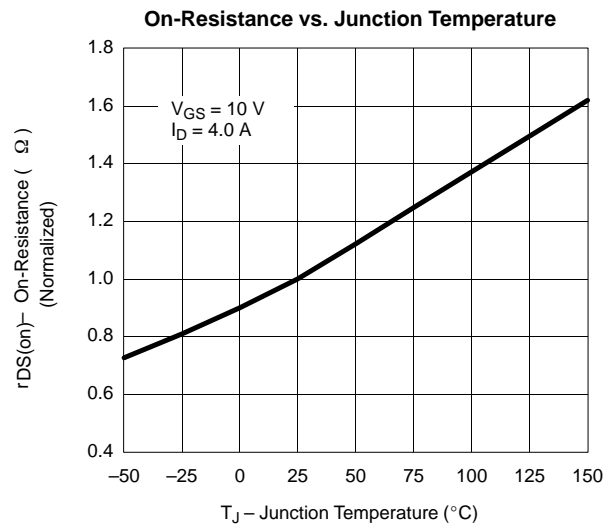
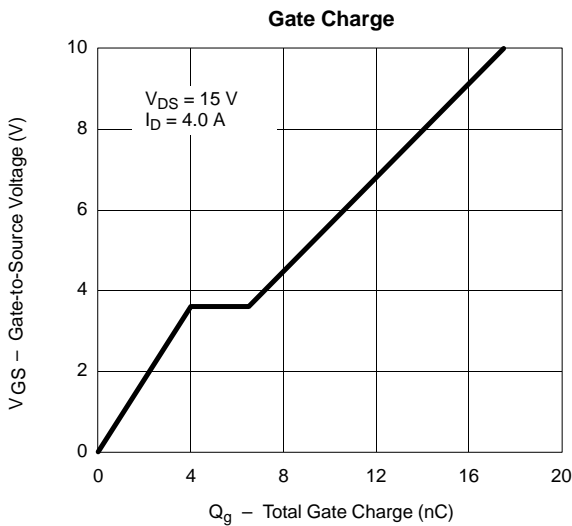
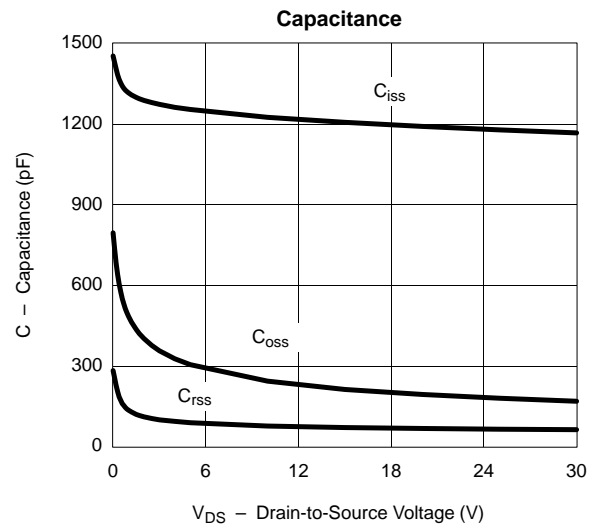
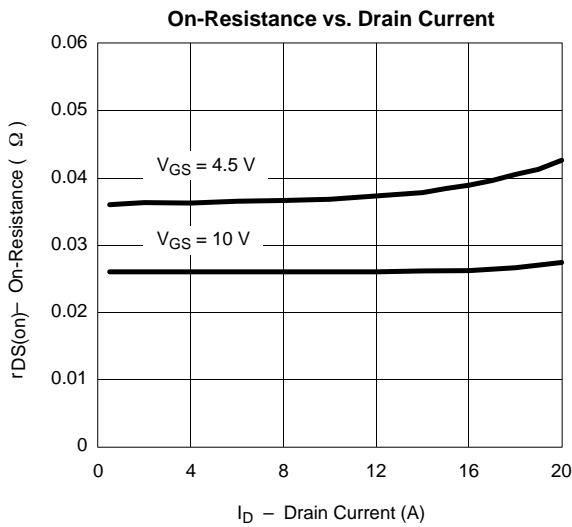
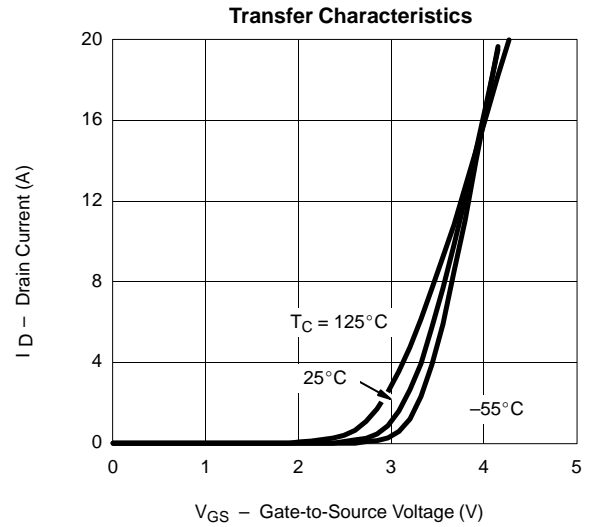
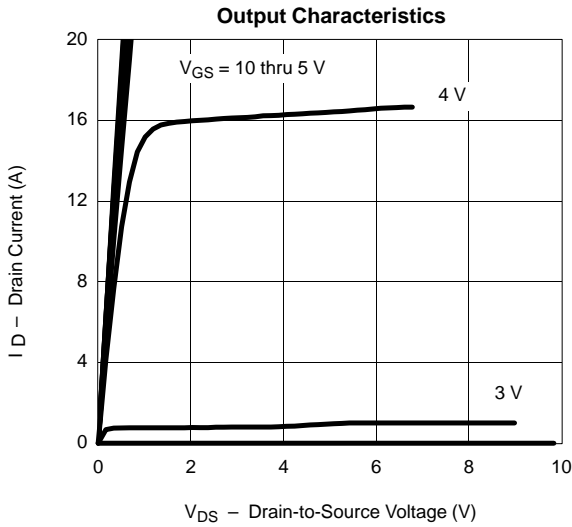
SPECIFICATIONS (T _J = 25 °C UNLESS OTHERWISE NOTED)							
Parameter	Symbol	Test Condition		Min	Typ	Max	Unit
Static							
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = 250 μA	N-Ch	1.0			V
		V _{DS} = V _{GS} , I _D = -250 μA	P-Ch	-1.0			
Gate-Body Leakage	I _{GSS}	V _{DS} = 0 V, V _{GS} = ±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			5	
		V _{DS} = -30 V, V _{GS} = 0 V, T _J = 55 °C	P-Ch			-5	
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 = 4.0 A	N-Ch		0.027	0.035	Ω
		V _{GS} = -10 V, I _D = -3.5 A	P-Ch		0.035	0.045	
		V _{GS} = 4.5 V, I _D = 3.4 A	N-Ch		0.038	0.050	
		V _{GS} = -4.5 V, I _D = -2.5 A	P-Ch		0.062	0.090	
Forward Transconductance ^a	g _{fs}	V _{DS} = 15 V, I _D = 4.0 A	N-Ch		13		S
		V _{DS} = -15 V, I _D = -3.5 A	P-Ch		7.2		
Diode Forward Voltage ^a	V _{SD}	I _S = 1.25 A, V _{GS} = 0 V	N-Ch		0.73	1.2	V
		I _S = -1.25 A, V _{GS} = 0 V	P-Ch		-0.77	-1.2	
Dynamic^b							
Total Gate Charge	Q _g	N-Channel V _{DS} = 15 V, V _{GS} = 10 V, I _D = 4.0 A P-Channel V _{DS} = -15 V, V _{GS} = -10 V, I _D = -3.5 A	N-Ch		17.5	30	nC
Gate-Source Charge	Q _{gs}		P-Ch		17	30	
Gate-Drain Charge	Q _{gd}		N-Ch		2.5		
Turn-On Delay Time	t _{d(on)}	N-Channel V _{DD} = 15 V, R _L = 15 Ω I _D ≅ 1 A, V _{GEN} = 10 V, R _G = 6 Ω P-Channel V _{DD} = -15 V, R _L = 15 Ω I _D ≅ -1 A, V _{GEN} = -10 V, R _G = 6 Ω	N-Ch		12	20	ns
Rise Time	t _r		P-Ch		13	20	
			N-Ch		9	20	
Turn-Off Delay Time	t _{d(off)}		P-Ch		10	20	
			N-Ch		25	50	
Fall Time	t _f		P-Ch		33	60	
			N-Ch		20	40	
Source-Drain Reverse Recovery Time	t _{rr}		I _F = 1.25 A, di/dt = 100 A/μs	N-Ch		25	
		I _F = -1.25 A, di/dt = 100 A/μs	P-Ch		30	60	

Notes

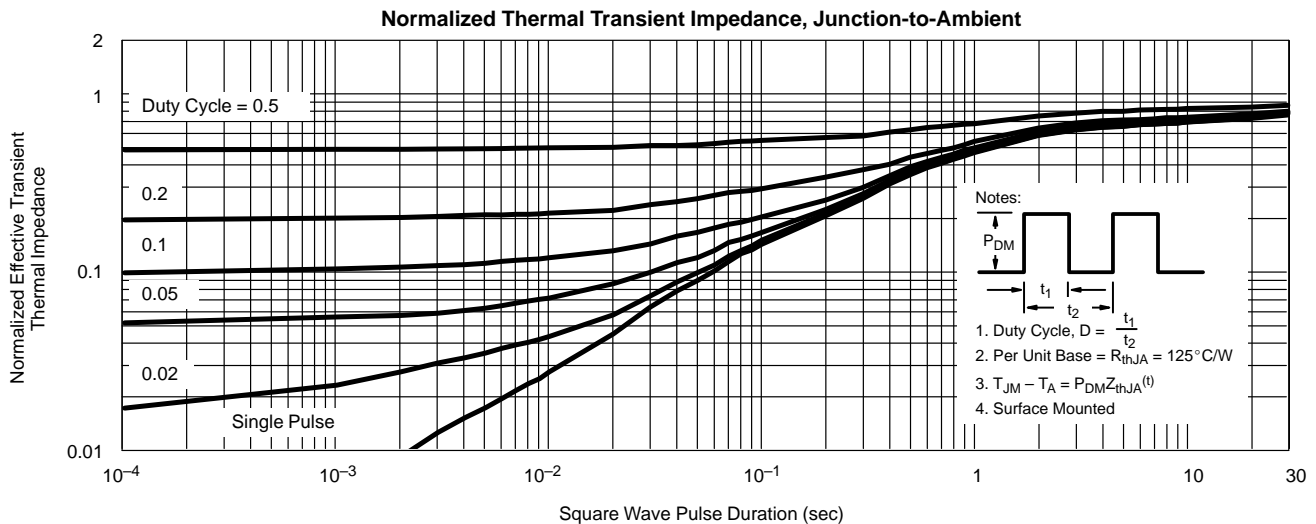
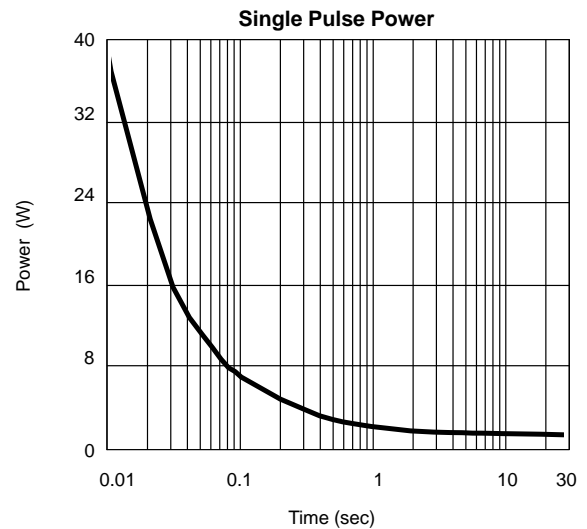
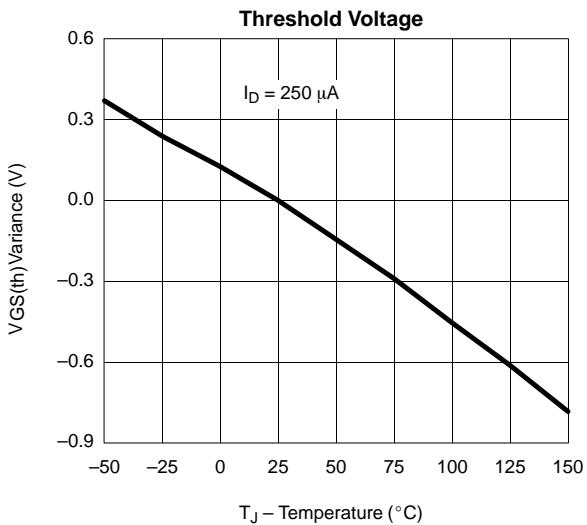
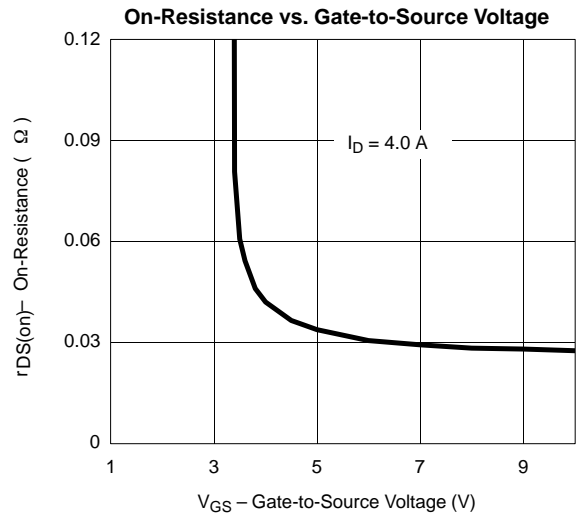
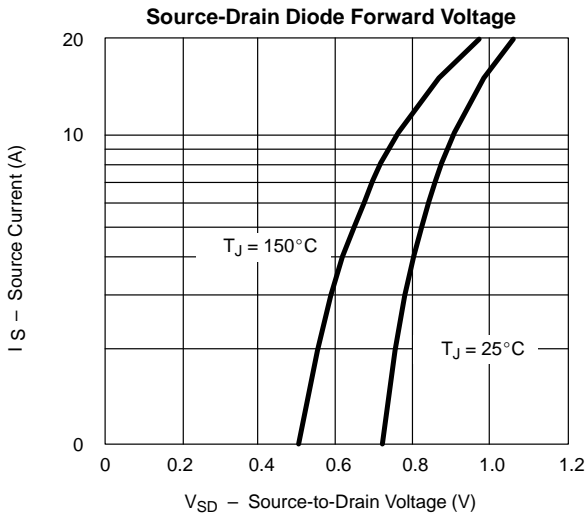
- a. Pulse test; pulse width ≤ 300 μs, duty cycle ≤ 2%.
- b. Guaranteed by design, not subject to production testing.



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

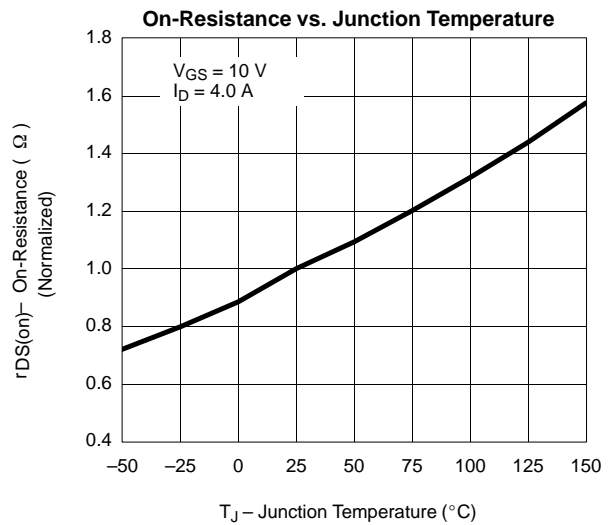
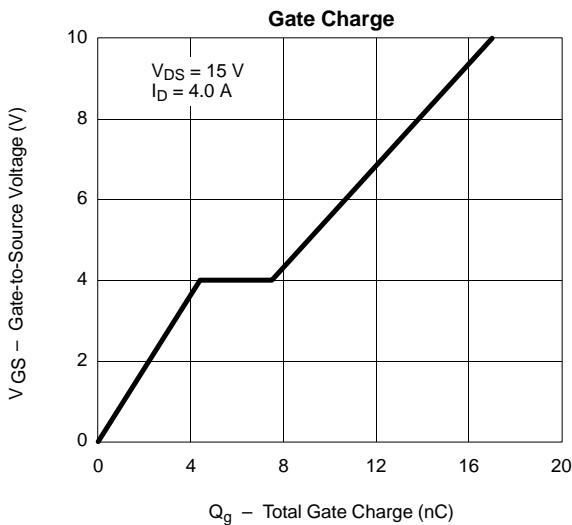
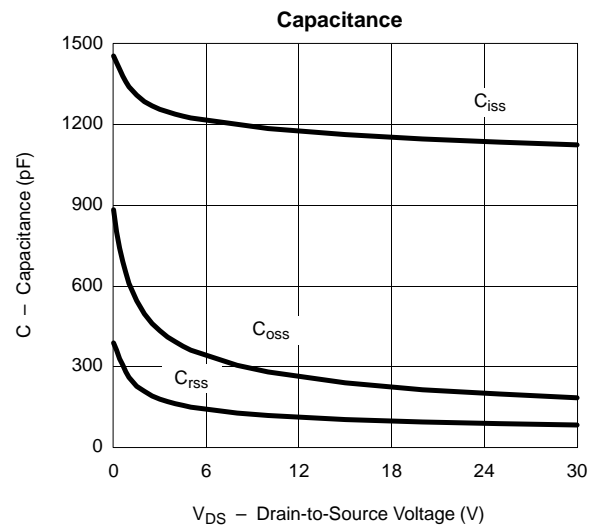
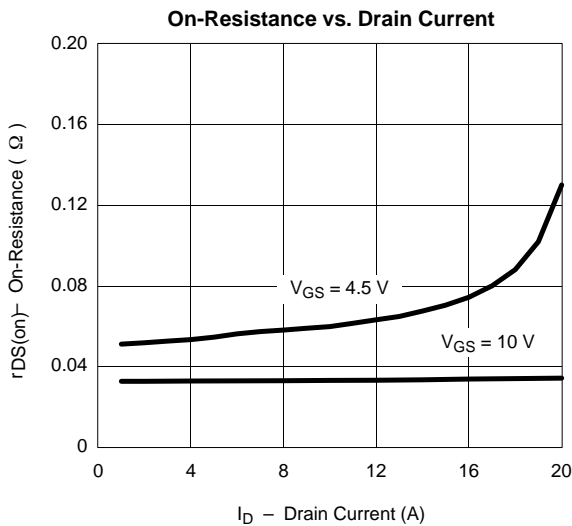
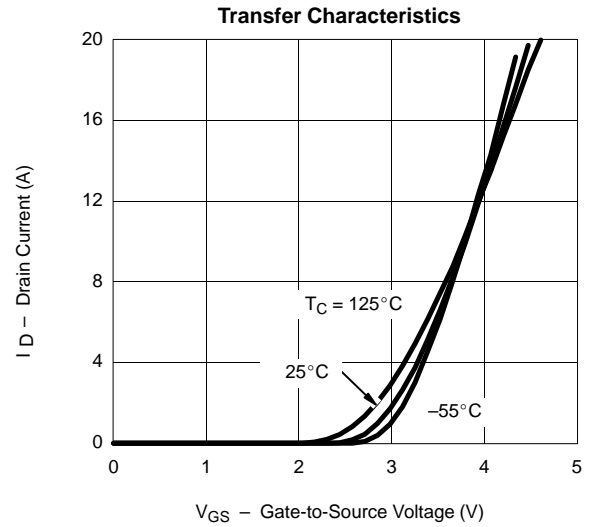
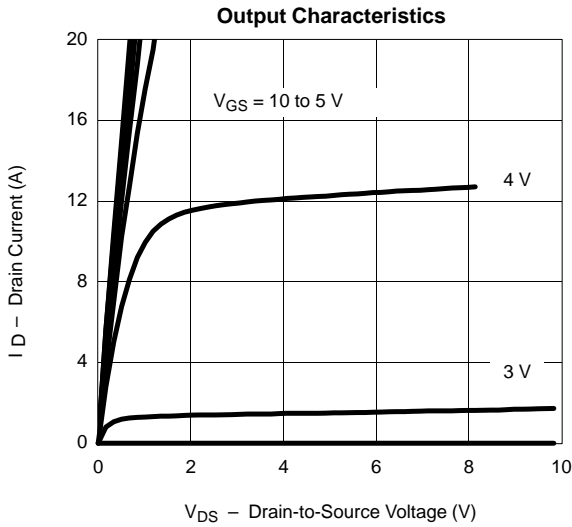


TYPICAL CHARACTERISTICS (25°C UNLESS NOTED) N-CHANNEL



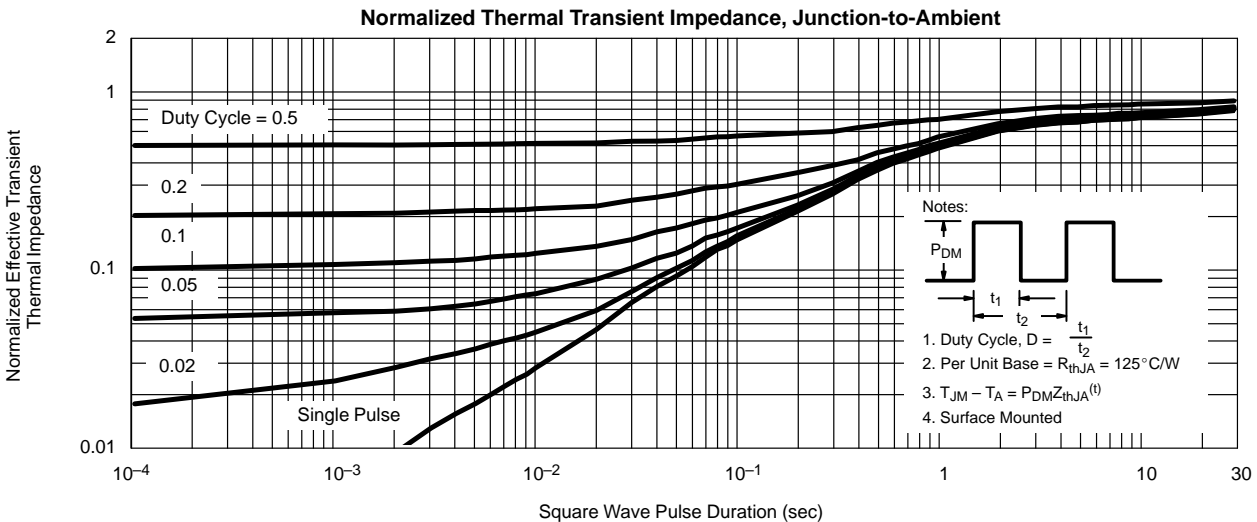
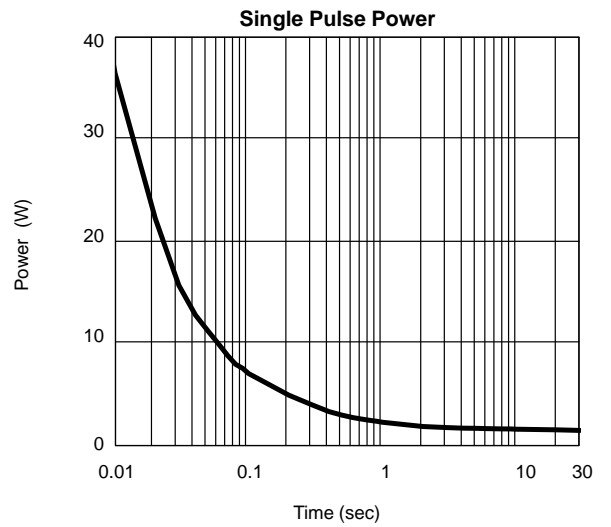
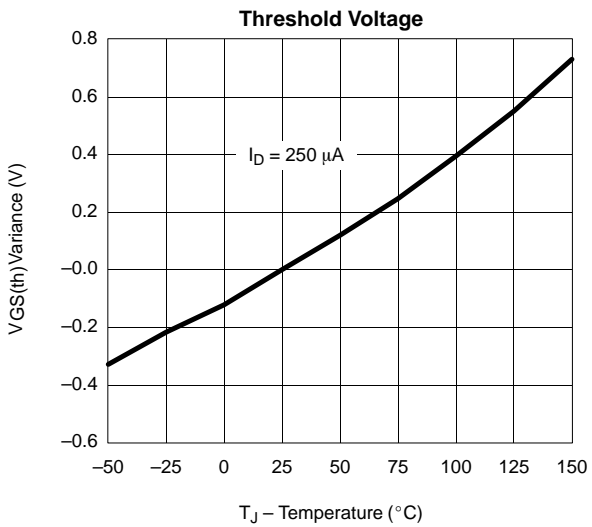
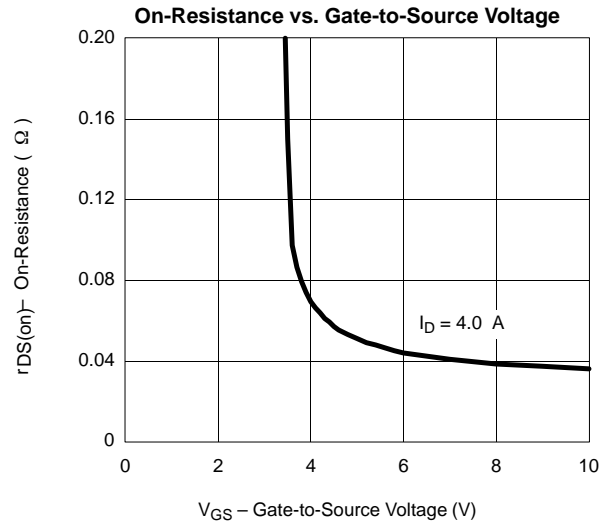
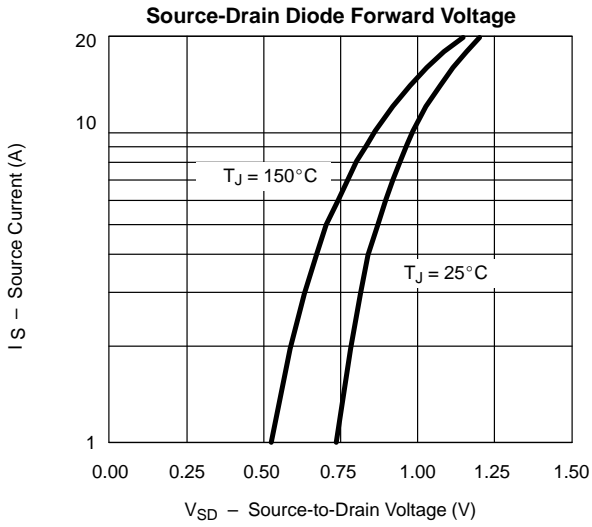


TYPICAL CHARACTERISTICS (25°C UNLESS NOTED) P-CHANNEL





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





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