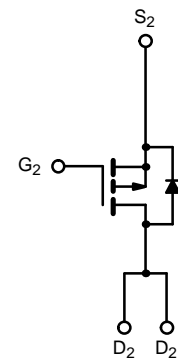
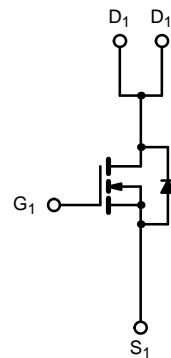
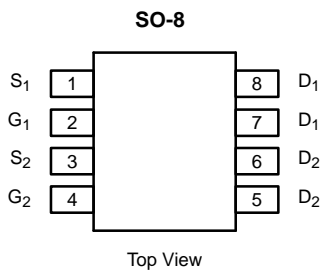




Complimentary 30-V (D-S) MOSFET

PRODUCT SUMMARY			
	V_{DS} (V)	$r_{DS(on)}$ (Ω)	I_D (A)
N-Channel	30	0.05 @ $V_{GS} = 10$ V	± 3.5
		0.07 @ $V_{GS} = 6$ V	± 3
		0.08 @ $V_{GS} = 4.5$ V	± 2.5
P-Channel	-30	0.10 @ $V_{GS} = -10$ V	± 3.5
		0.12 @ $V_{GS} = -6$ V	± 3
		0.16 @ $V_{GS} = -4.5$ V	± 2.5



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	$T_A = 25^\circ\text{C}$	± 3.5	± 3.5	A
	$T_A = 70^\circ\text{C}$	± 2.8	± 2.8	
Pulsed Drain Current	I_{DM}	± 20	± 20	A
Continuous Source Current (Diode Conduction) ^a	I_S	1.7	-1.7	A
Maximum Power Dissipation ^a	$T_A = 25^\circ\text{C}$	2.0		W
	$T_A = 70^\circ\text{C}$	1.3		
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}	62.5	$^\circ\text{C}/\text{W}$

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 ^a	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			±100	nA	
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = 24 V, V _{GS} = 0 V	N-Ch			1	μA
		V _{DS} = -24 V, V _{GS} = 0 V	P-Ch			-1	
		V _{DS} = 15 V, V _{GS} = 0 V, T _J = 70°C	N-Ch			5	
		V _{DS} = -15 V, V _{GS} = 0 V, T _J = 70°C	P-Ch			-5	
On-State Drain Current ^b	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			
		V _{DS} ≥ 5 V, V _{GS} = 4.5 V	N-Ch	3.5			
		V _{DS} ≤ -5 V, V _{GS} = -4.5 V	P-Ch	-3.5			
Drain-Source On-State Resistance ^b	r _{DS(on)}	V _{GS} = 10 V, I _D = 3.5 A	N-Ch		0.04	0.05	Ω
		V _{GS} = -10 V, I _D = 3.5 A	P-Ch		0.074	0.10	
		V _{GS} = 6 V, I _D = 3 A	N-Ch		0.045	0.07	
		V _{GS} = -6 V, I _D = 3 A	P-Ch		0.090	0.12	
		V _{GS} = 4.5 V, I _D = 2.5 A	N-Ch		0.054	0.08	
		V _{GS} = -4.5 V, I _D = 2 A	P-Ch		0.115	0.16	
Forward Transconductance ^b	g _{fs}	V _{DS} = 15 V, I _D = 3.5 A	N-Ch		9		S
		V _{DS} = -15 V, I _D = -3.5 A	P-Ch		6		
Diode Forward Voltage ^b	V _{SD}	I _S = 1.7 A, V _{GS} = 0 V	N-Ch		0.75	1.2	V
		I _S = -1.7 A, V _{GS} = 0 V	P-Ch		-0.75	-1.2	
Dynamic^a							
Total Gate Charge	Q _g	N-Channel V _{DS} = 10 V, V _{GS} = 10 V, I _D = 3.5 A P-Channel V _{DS} = -10 V, V _{GS} = -10 V I _D = -3.5 A	N-Ch		14	35	nC
Gate-Source Charge	Q _{gs}		P-Ch		14.5	35	
Gate-Drain Charge	Q _{gd}		N-Ch		1.9		
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		10	30	ns
			P-Ch		11	30	
Rise Time	t _r		N-Ch		10	40	
			P-Ch		11	40	
Turn-Off Delay Time	t _{d(off)}		N-Ch		26	50	
			P-Ch		30	50	
Fall Time	t _f		N-Ch		10	50	
			P-Ch		12	50	
Source-Drain Reverse Recovery Time	t _{rr}	I _F = 3.5 A, di/dt = 100 A/μs	N-Ch		60	120	
			P-Ch		40	100	

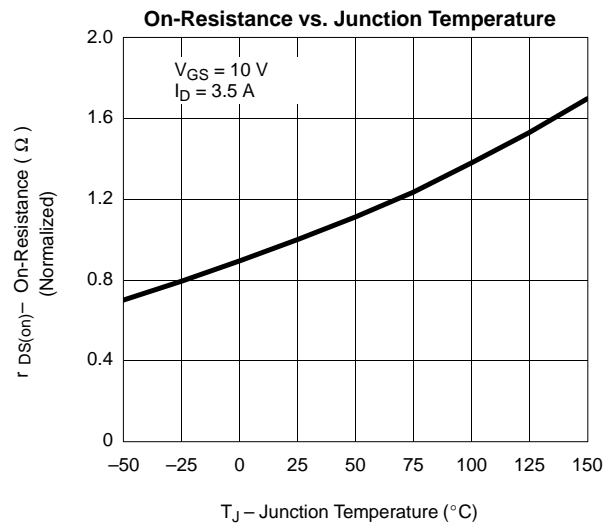
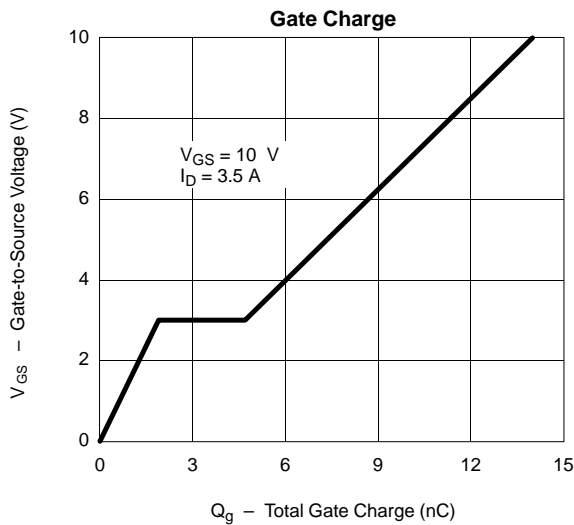
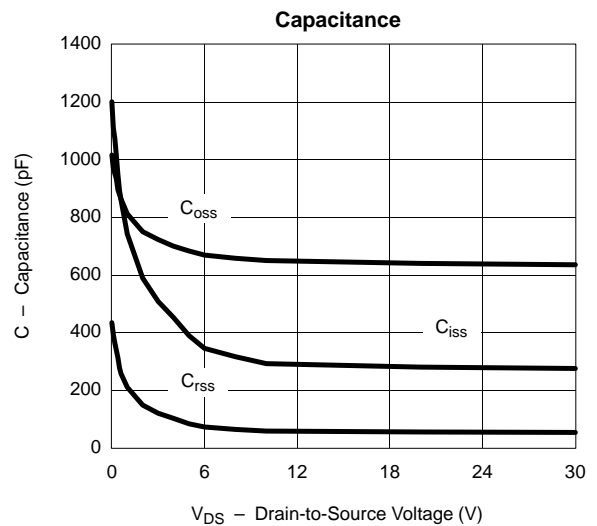
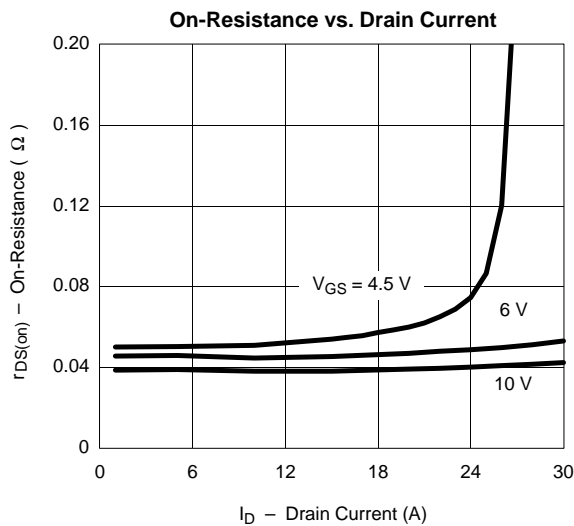
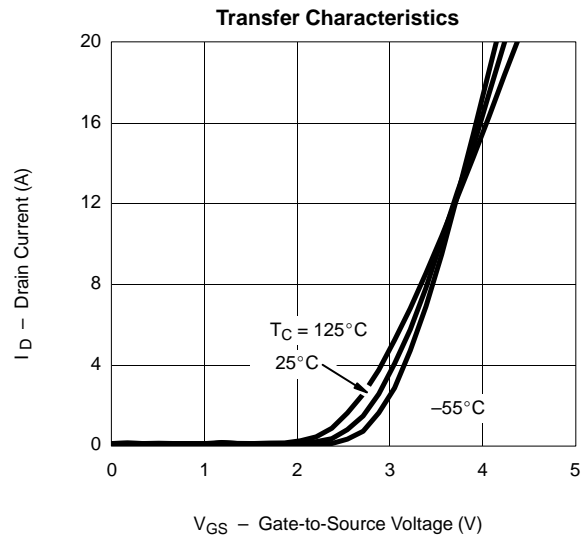
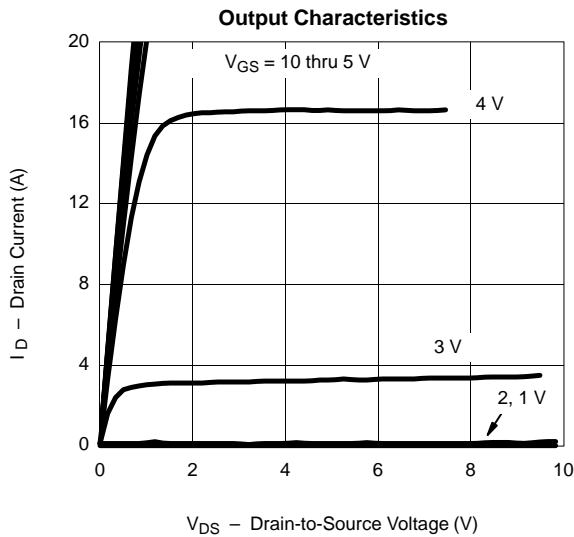
Notes

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

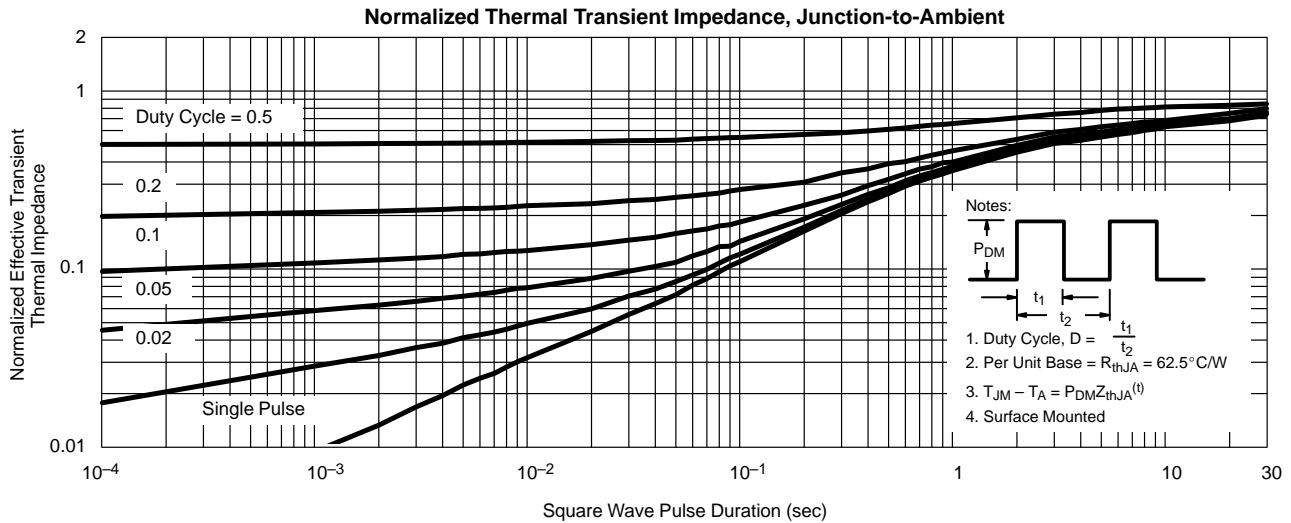
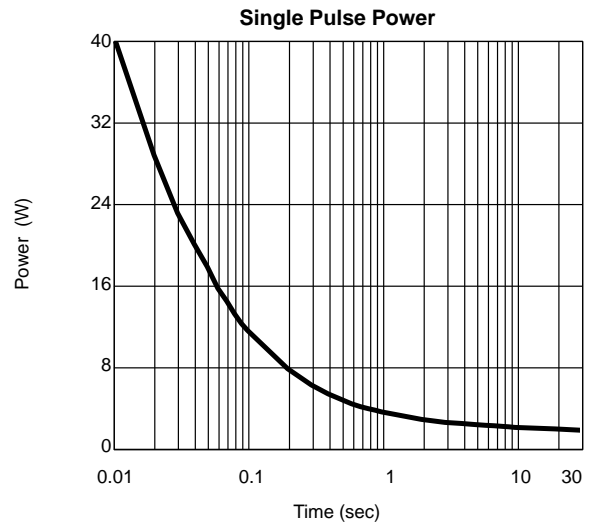
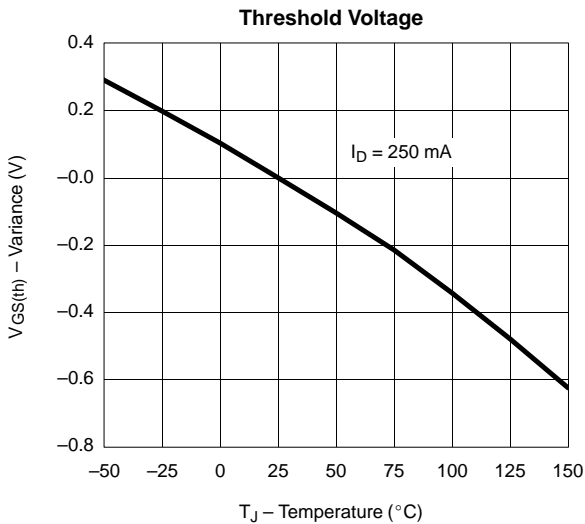
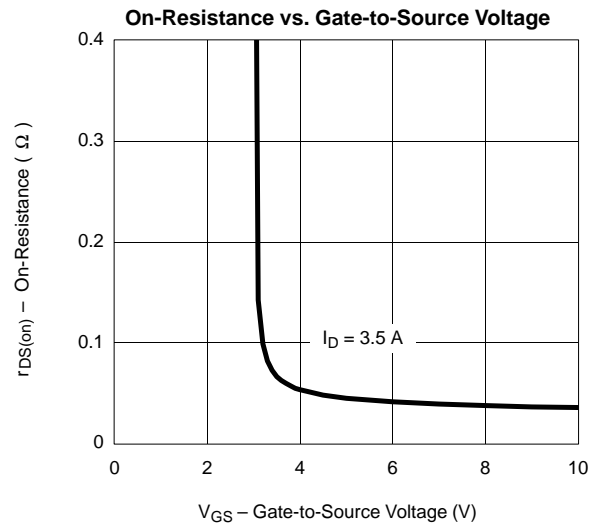
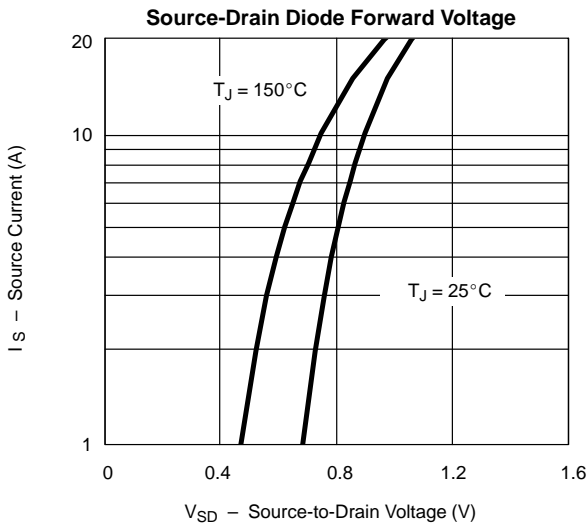


TYPICAL CHARACTERISTICS (25°C UNLESS NOTED)

N-CHANNEL



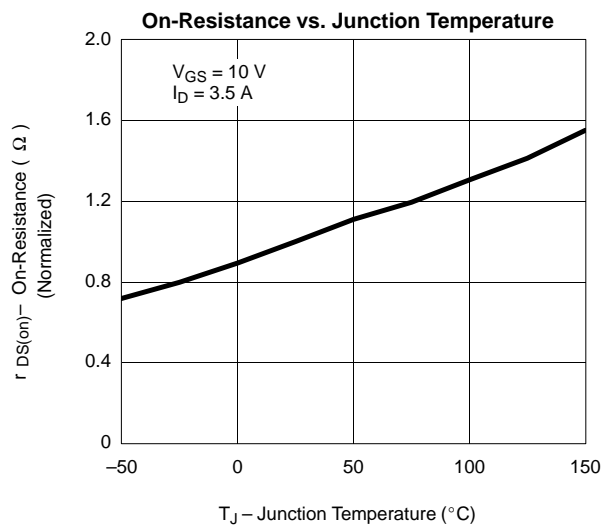
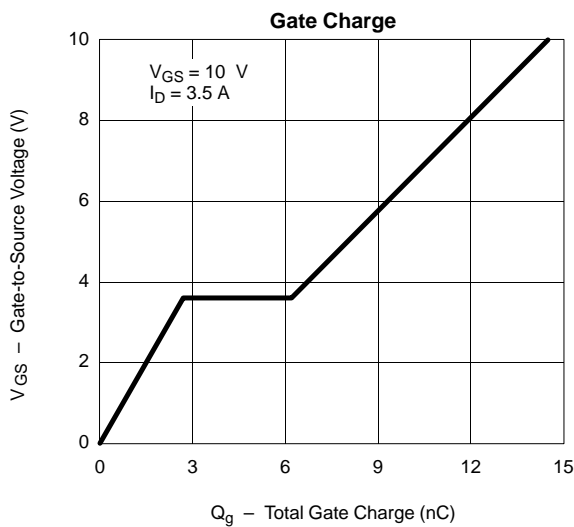
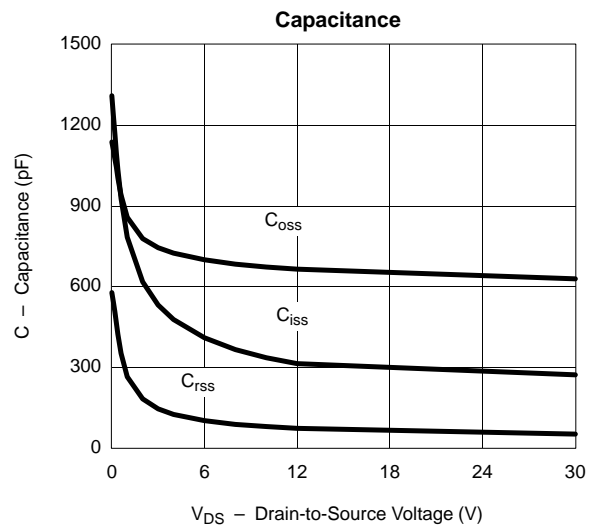
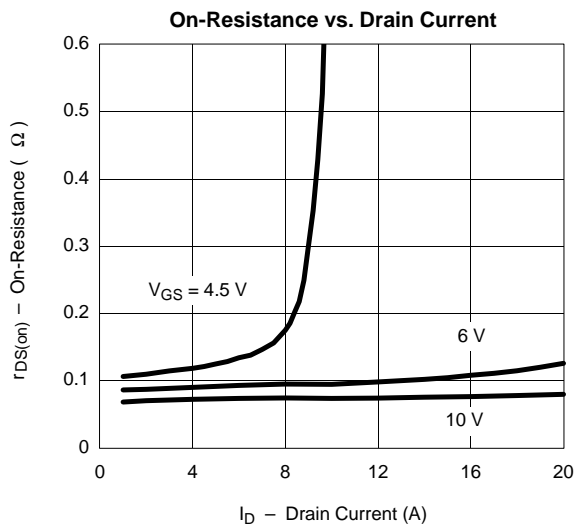
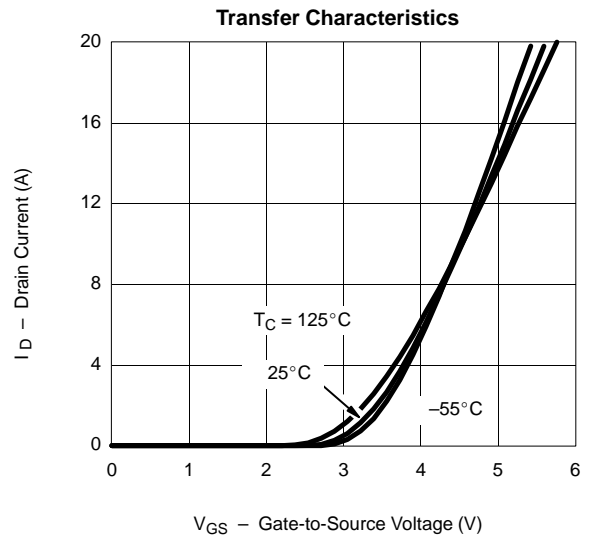
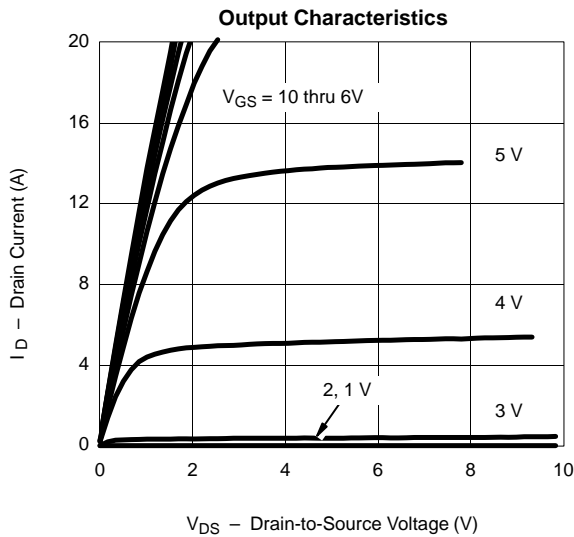
TYPICAL CHARACTERISTICS (25°C UNLESS NOTED) N-CHANNEL



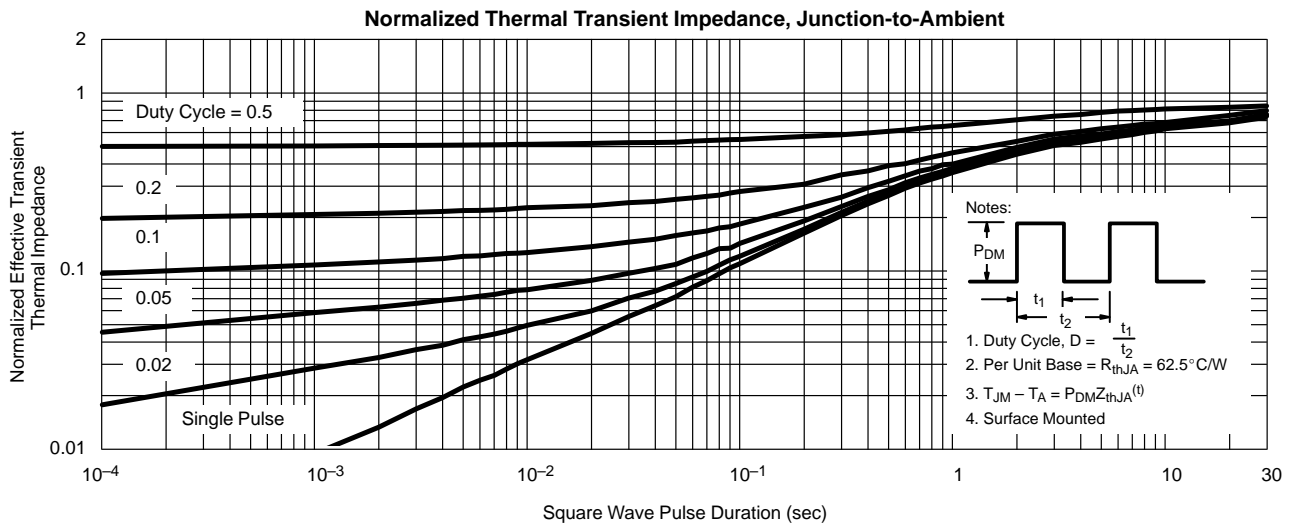
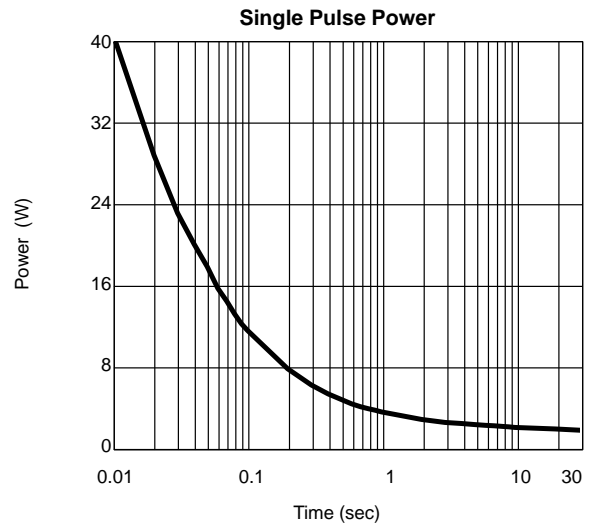
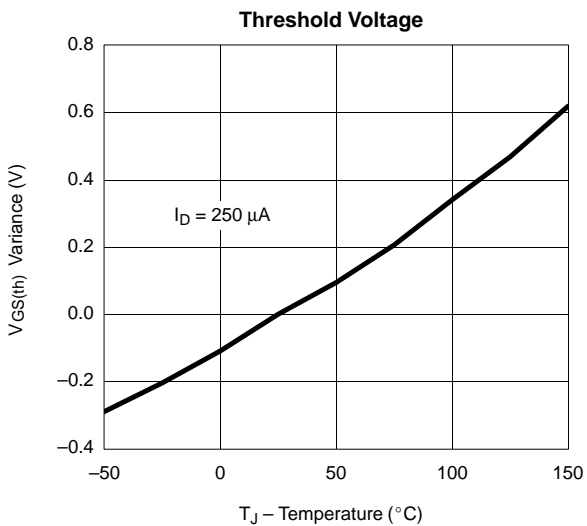
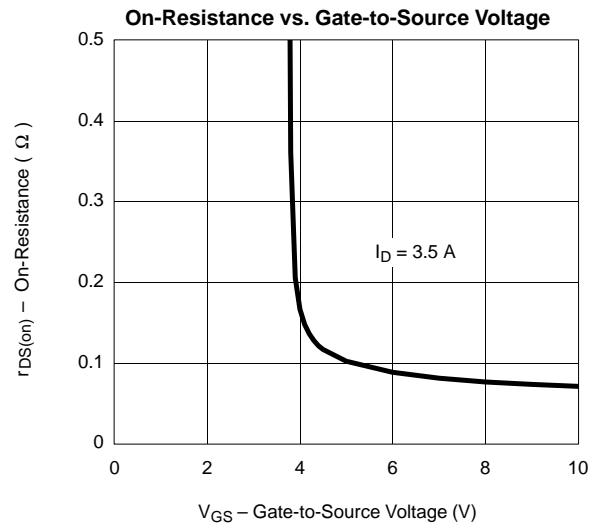
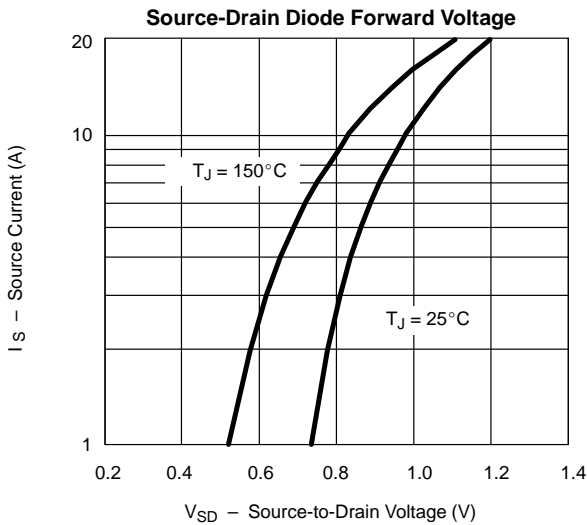


TYPICAL CHARACTERISTICS (25°C UNLESS NOTED)

P-CHANNEL



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





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