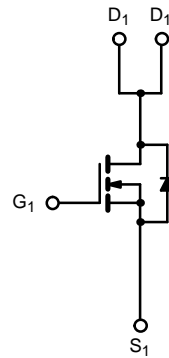
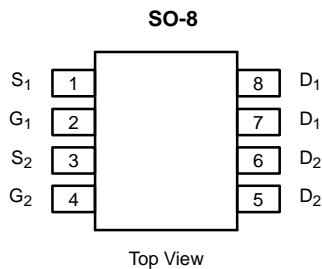
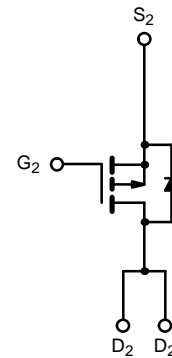


Complimentary 20-V (D-S) MOSFET

PRODUCT SUMMARY			
	V_{DS} (V)	$r_{DS(on)}$ (Ω)	I_D (A)
N-Channel	20	0.05 @ $V_{GS} = 4.5$ V	± 5.0
		0.06 @ $V_{GS} = 3.0$ V	± 4.2
		0.08 @ $V_{GS} = 2.7$ V	± 3.6
P-Channel	-20	0.11 @ $V_{GS} = -4.5$ V	± 3.4
		0.15 @ $V_{GS} = -3.0$ V	± 2.9
		0.19 @ $V_{GS} = -2.7$ V	± 2.6



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}	20	-20	V
Gate-Source Voltage	V_{GS}	± 12	± 12	
Continuous Drain Current ($T_J = 150^\circ\text{C}$) ^a	I_D	$T_A = 25^\circ\text{C}$	± 5.0	A
		$T_A = 70^\circ\text{C}$	± 4.0	
Pulsed Drain Current	I_{DM}	± 10	± 10	A
Continuous Source Current (Diode Conduction) ^a	I_S	2.0	-2.0	
Maximum Power Dissipation ^a	P_D	$T_A = 25^\circ\text{C}$	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	$^\circ\text{C/W}$

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	0.8	1.2		V	
		V _{DS} = V _{GS} , I _D = -250 μA	P-Ch	-0.8	-1.1			
Gate-Body Leakage	I _{GSS}	V _{DS} = 0 V, V _{GS} = ±12 V	N-Ch			±100	nA	
			P-Ch			±100		
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = 16 V, V _{GS} = 0 V	N-Ch			1	μA	
		V _{DS} = -16 V, V _{GS} = 0 V	P-Ch			-1		
		V _{DS} = 10 V, V _{GS} = 0 V, T _J = 70 °C	N-Ch			5		
		V _{DS} = -10 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} = 4.5 V	N-Ch	10			A	
		V _{DS} ≤ -5 V, V _{GS} = -4.5 V	P-Ch	-10				
Drain-Source On-State Resistance ^b	r _{DS(on)}	V _{GS} = 4.5 V, I _D = 5.0 A	N-Ch		0.041	0.05	Ω	
		V _{GS} = -4.5 V, I _D = -3.2 A	P-Ch		0.087	0.11		
		V _{GS} = 3.0 V, I _D = 3.9 A	N-Ch		0.052	0.06		
		V _{GS} = -3.0 V, I _D = -2.0 A	P-Ch		0.120	0.15		
		V _{GS} = 2.7 V, I _D = 1.0 A	N-Ch		0.060	0.08		
		V _{GS} = -2.7 V, I _D = -1.0 A	P-Ch		0.135	0.19		
Forward Transconductance ^b	g _{fs}	V _{DS} = 10 V, I _D = 5.0 A	N-Ch		13		S	
		V _{DS} = -9 V, I _D = -3.2 A	P-Ch		8			
Diode Forward Voltage ^b	V _{SD}	I _S = 5.0 A, V _{GS} = 0 V	N-Ch		0.9	1.2	V	
		I _S = -2.0 A, V _{GS} = 0 V	P-Ch		-0.9	-1.2		
Dynamic^a								
Total Gate Charge	Q _g	N-Channel V _{DS} = 6 V, V _{GS} = 4.5 V, I _D = 5.0 A P-Channel V _{DS} = -6 V, V _{GS} = -4.5 V, I _D = -3.2 A	N-Ch		10	20	nC	
Gate-Source Charge	Q _{gs}		P-Ch		8	20		
			N-Ch		2.6			
Gate-Drain Charge	Q _{gd}		P-Ch		1.6			
			N-Ch		3.7			
P-Ch			3.5					
Turn-On Delay Time	t _{d(on)}	N-Channel V _{DD} = 6 V, R _L = 6 Ω I _D ≅ 1 A, V _{GEN} = 4.5 V, R _G = 6 Ω P-Channel V _{DD} = -6 V, R _L = 6 Ω I _D ≅ -1 A, V _{GEN} = -4.5 V, R _G = 6 Ω	N-Ch		13	30	ns	
			P-Ch		22	40		
Rise Time	t _r		N-Ch		9	40		
			P-Ch		43	80		
Turn-Off Delay Time	t _{d(off)}		N-Ch		30	60		
			P-Ch		35	70		
Fall Time	t _f		N-Ch		9	30		
			P-Ch		20	40		
Source-Drain Reverse Recovery Time	t _{rr}		I _F = 5.0 A, di/dt = 100 A/μs	N-Ch		100		150
			I _F = -2.0 A, di/dt = 100 A/μs	P-Ch		75		100

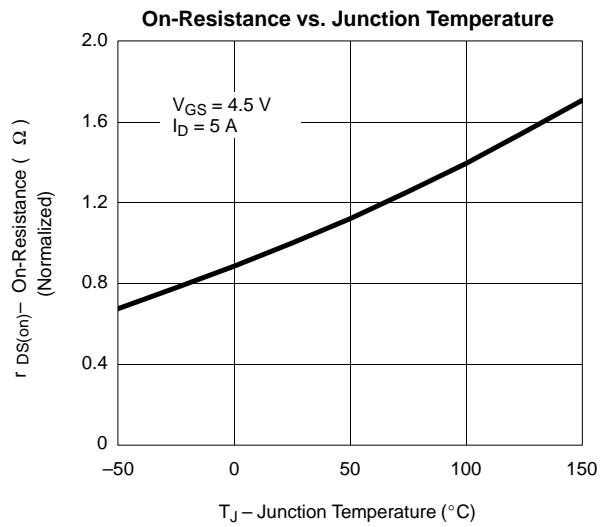
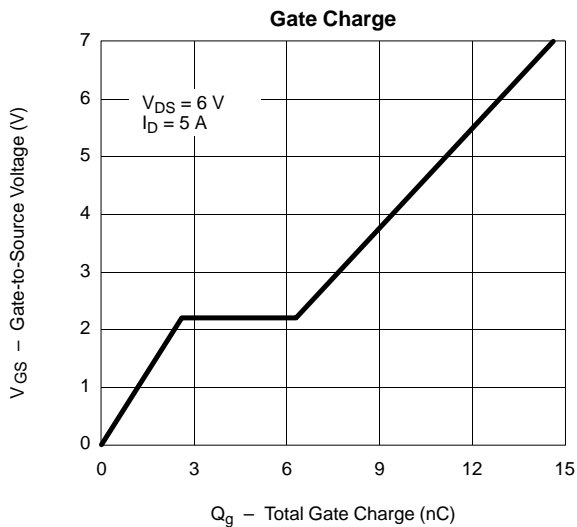
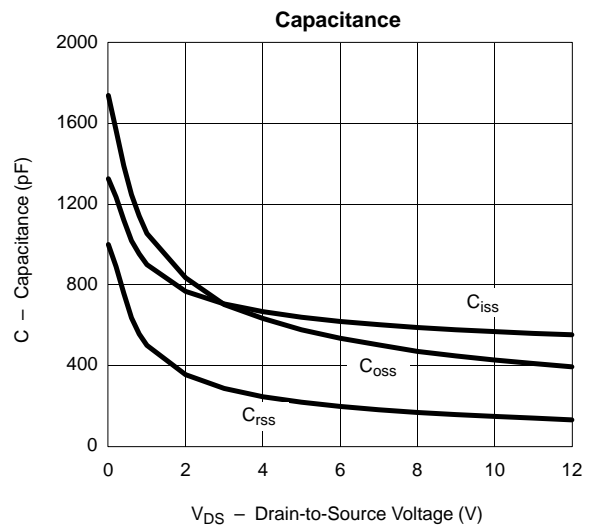
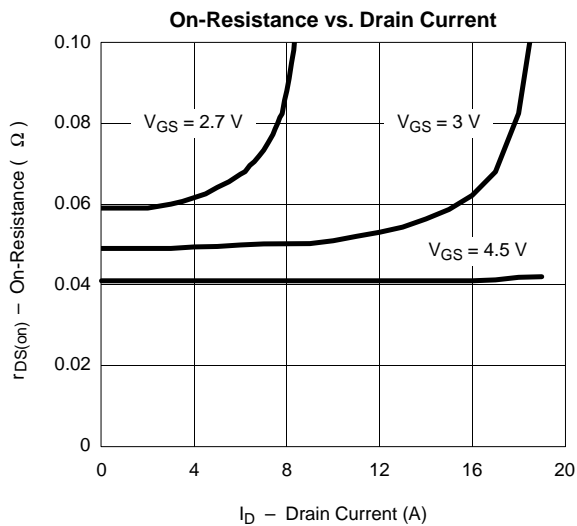
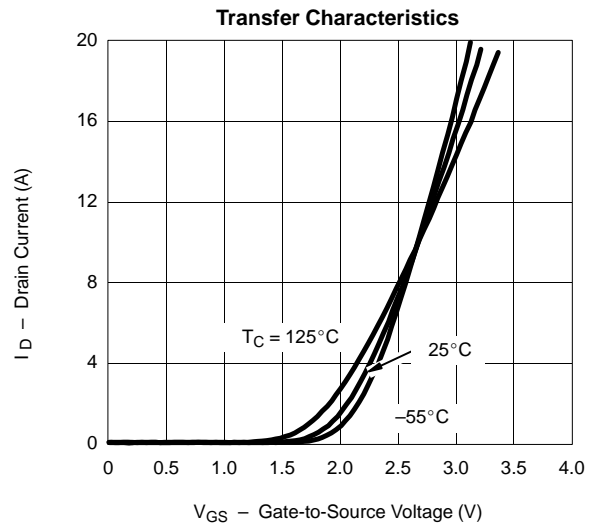
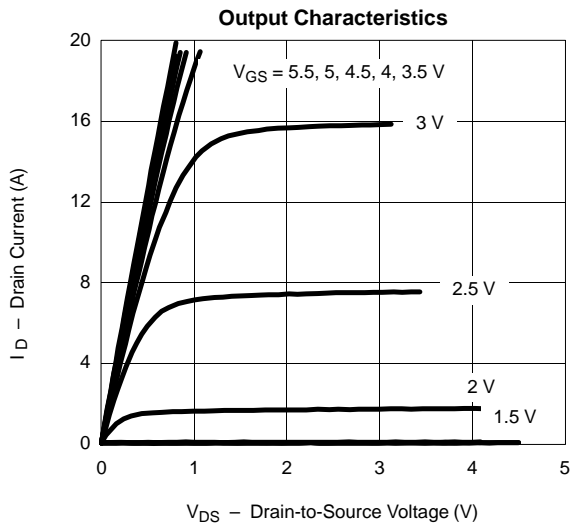
Notes

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

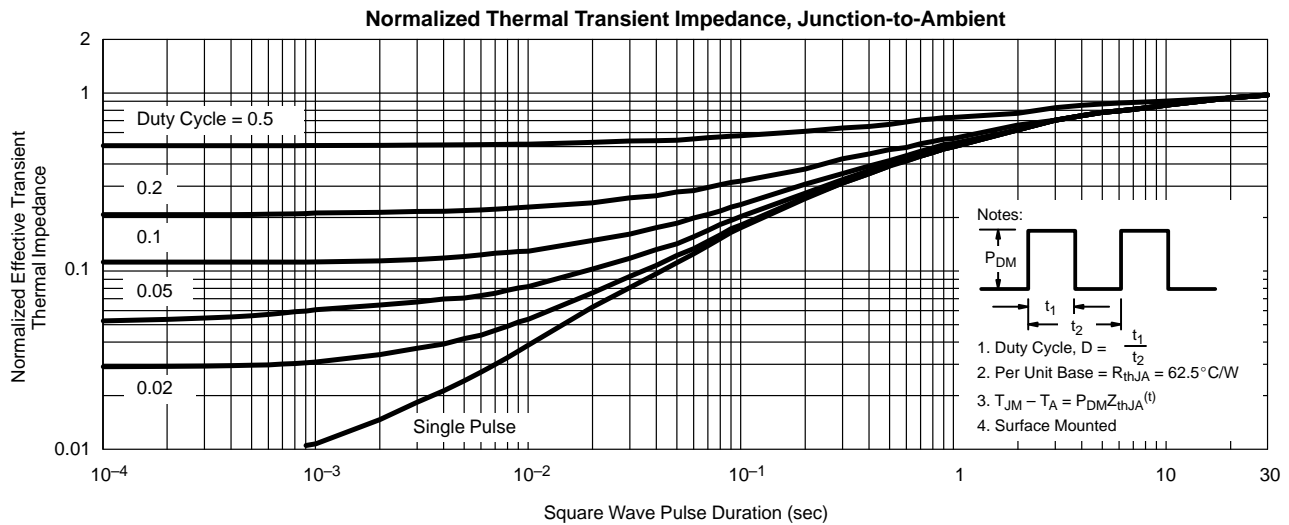
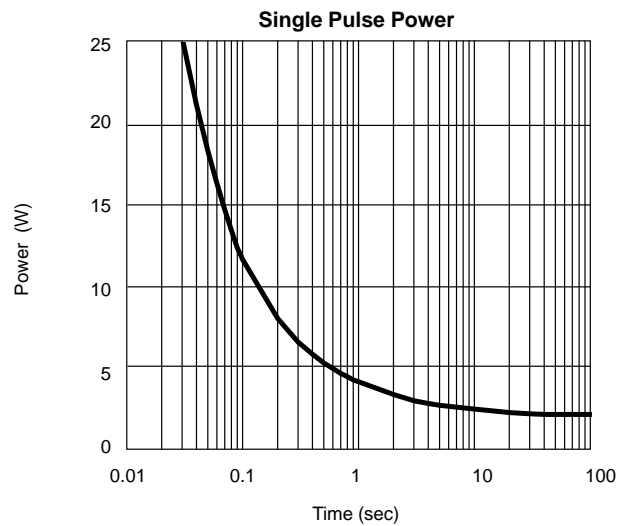
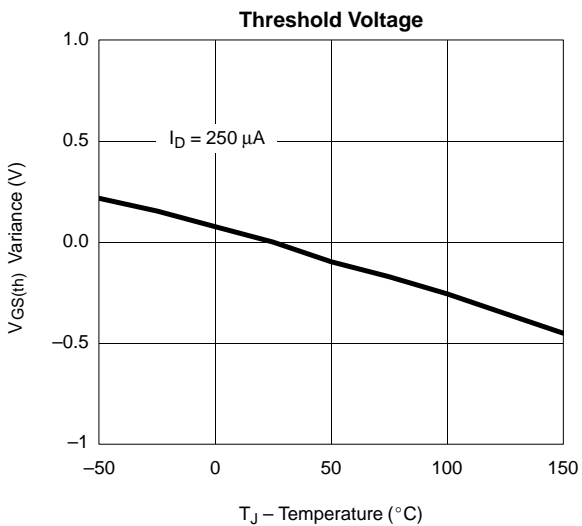
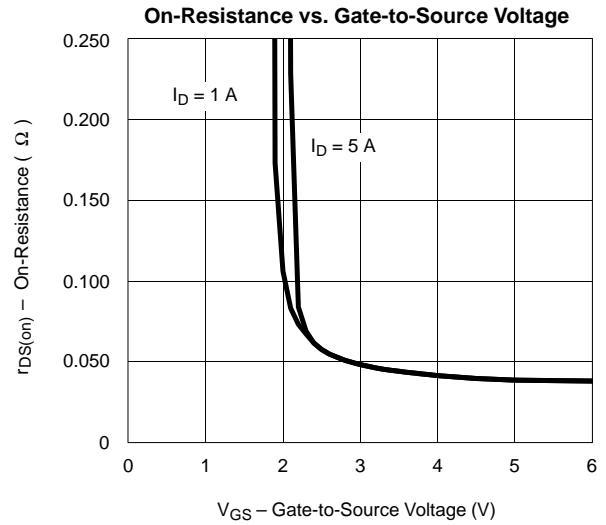
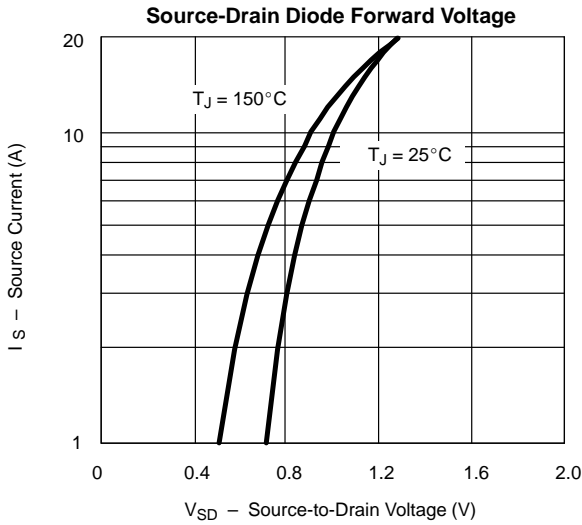


TYPICAL CHARACTERISTICS (25°C UNLESS NOTED)

N-CHANNEL



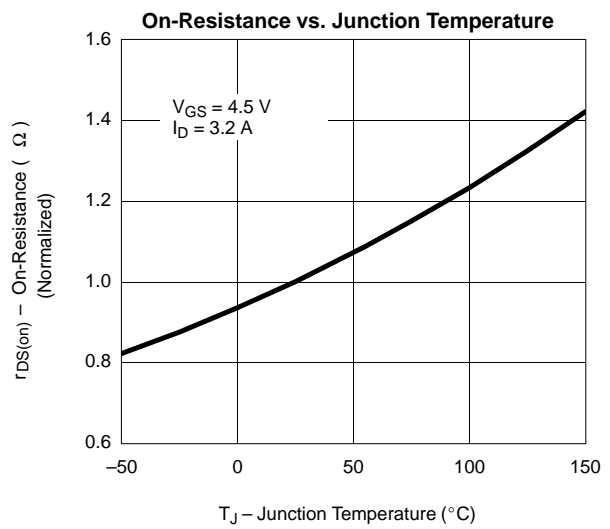
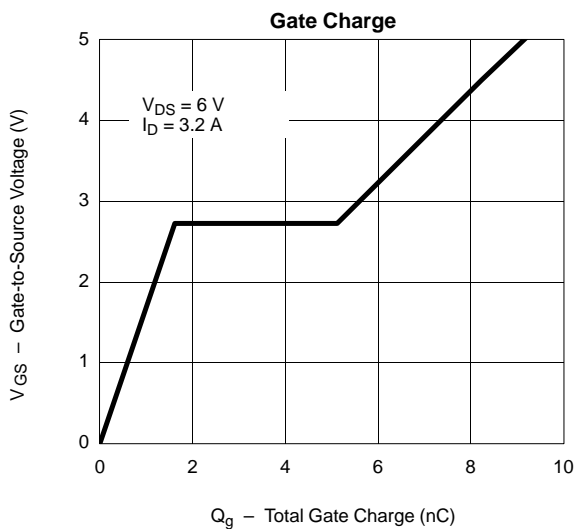
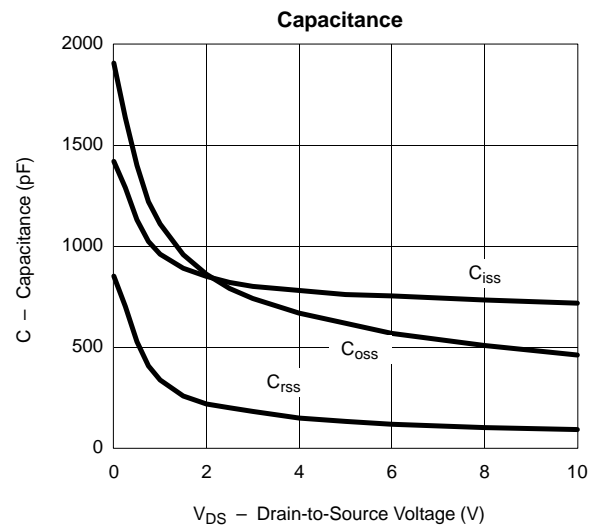
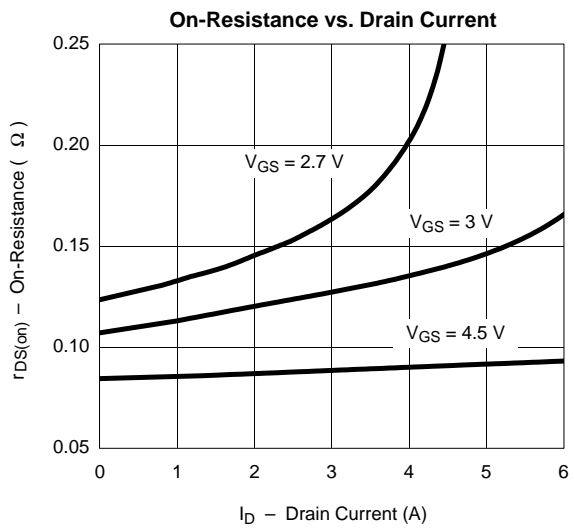
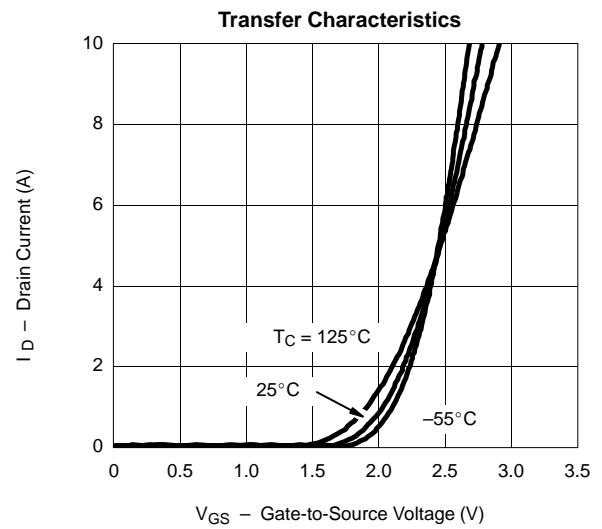
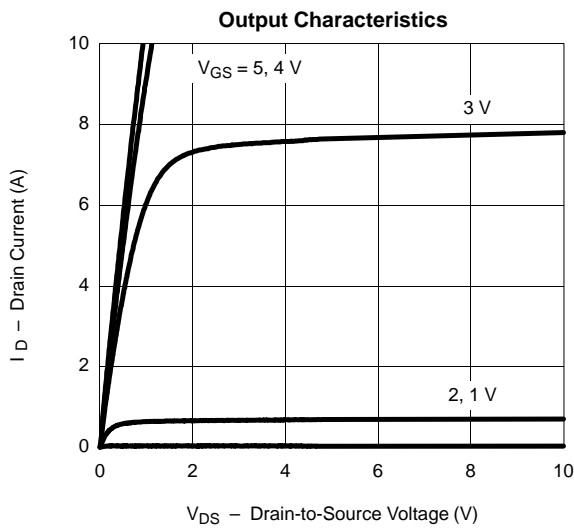
TYPICAL CHARACTERISTICS (25°C UNLESS NOTED) N-CHANNEL





TYPICAL CHARACTERISTICS (25°C UNLESS NOTED)

P-CHANNEL



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

