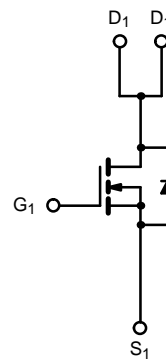
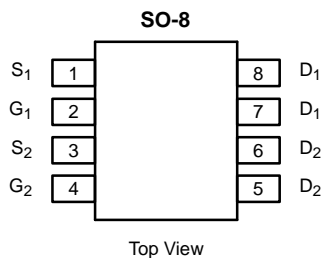




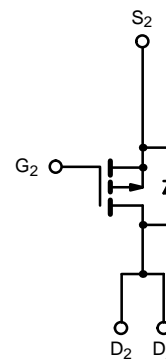
## N- and P-Channel 2.5-V (G-S) MOSFET

PRODUCT SUMMARY			
	V <sub>DS</sub> (V)	r <sub>DS(on)</sub> (Ω)	I <sub>D</sub> (A)
N-Channel	20	0.025 @ V <sub>GS</sub> = 4.5 V	± 7.1
		0.035 @ V <sub>GS</sub> = 2.5 V	± 6.0
P-Channel	-20	0.033 @ V <sub>GS</sub> = -4.5 V	± 6.2
		0.050 @ V <sub>GS</sub> = -2.5 V	± 5.0

**TrenchFET<sup>®</sup>**  
Power MOSFETs  
2.5-V Rated



N-Channel MOSFET



P-Channel MOSFET

ABSOLUTE MAXIMUM RATINGS (T <sub>A</sub> = 25 °C UNLESS OTHERWISE NOTED)				
Parameter	Symbol	N-Channel	P-Channel	Unit
Drain-Source Voltage	V <sub>DS</sub>	20	-20	V
Gate-Source Voltage	V <sub>GS</sub>	± 12	± 12	
Continuous Drain Current (T <sub>J</sub> = 150 °C) <sup>a</sup>	I <sub>D</sub>	T <sub>A</sub> = 25 °C	± 7.1	A
		T <sub>A</sub> = 70 °C	± 5.7	
Pulsed Drain Current	I <sub>DM</sub>	± 40	± 40	A
Continuous Source Current (Diode Conduction) <sup>a</sup>	I <sub>S</sub>	1.7	-1.7	
Maximum Power Dissipation <sup>a</sup>	P <sub>D</sub>	T <sub>A</sub> = 25 °C	2.0	W
		T <sub>A</sub> = 70 °C	1.3	
Operating Junction and Storage Temperature Range	T <sub>J</sub> , T <sub>stg</sub>	-55 to 150		°C

THERMAL RESISTANCE RATINGS			
Parameter	Symbol	N- or P-Channel	Unit
Maximum Junction-to-Ambient <sup>a</sup>	R <sub>thJA</sub>	62.5	°C/W

Notes

a. Surface Mounted on FR4 Board, t ≤ 10 sec.



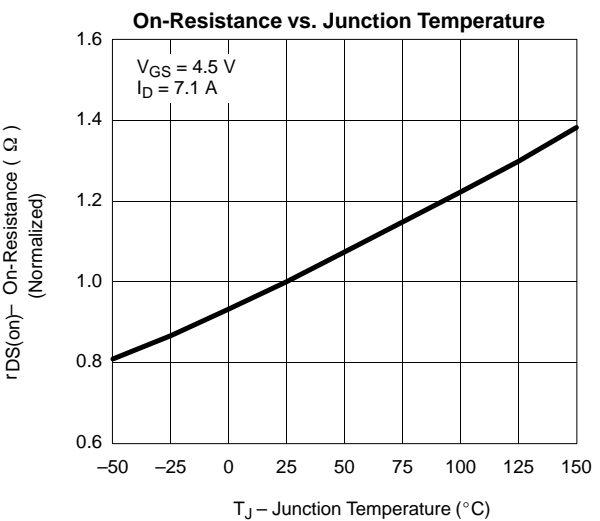
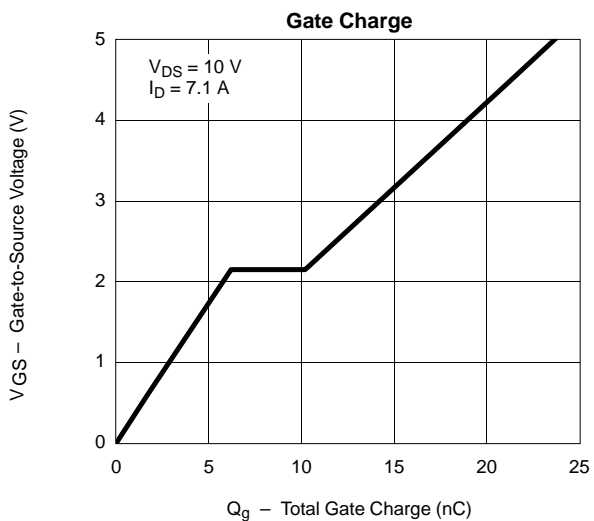
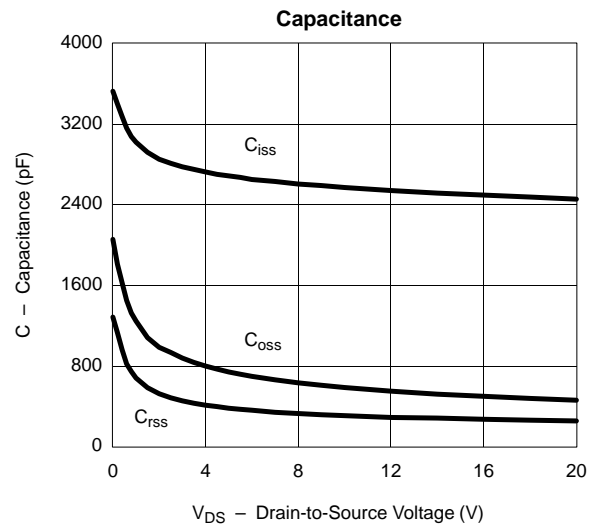
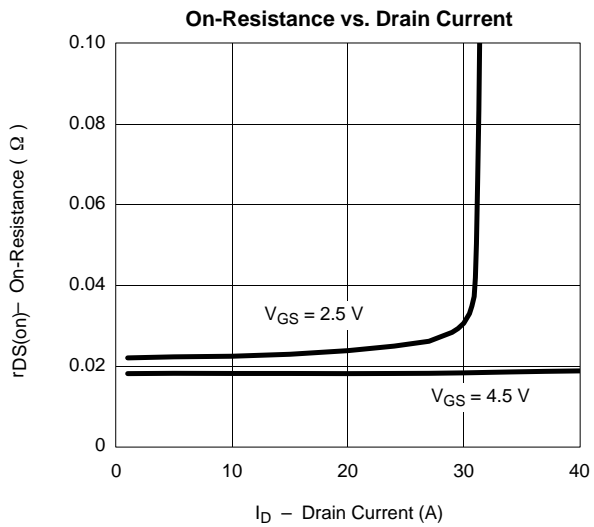
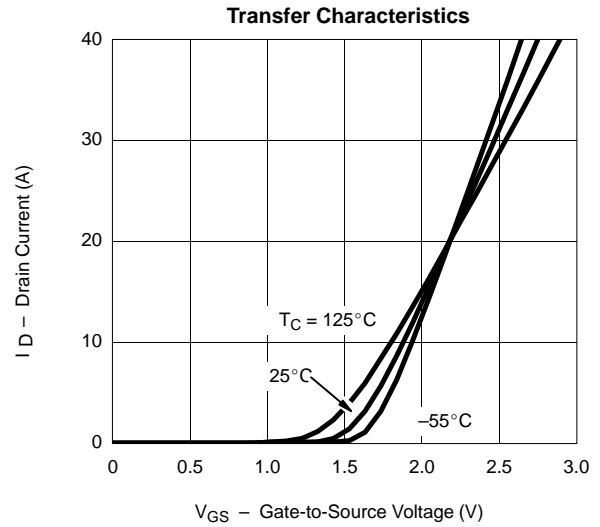
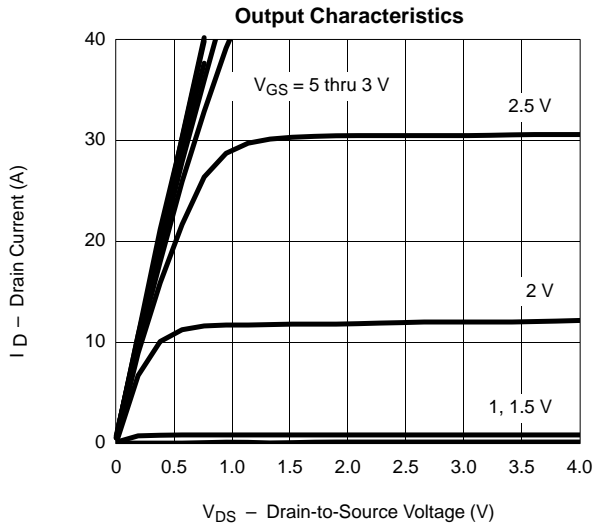
<b>SPECIFICATIONS (T<sub>J</sub> = 25 °C UNLESS OTHERWISE NOTED)</b>							
Parameter	Symbol	Test Condition	Min	Typ <sup>a</sup>	Max	Unit	
<b>Static</b>							
Gate Threshold Voltage	V <sub>GS(th)</sub>	V <sub>DS</sub> = V <sub>GS</sub> , I <sub>D</sub> = 250 μA	N-Ch	0.6			V
		V <sub>DS</sub> = V <sub>GS</sub> , I <sub>D</sub> = -250 μA	P-Ch	-0.6			
Gate-Body Leakage	I <sub>GSS</sub>	V <sub>DS</sub> = 0 V, V <sub>GS</sub> = ± 12 V	N-Ch		± 100	nA	
			P-Ch		± 100		
Zero Gate Voltage Drain Current	I <sub>DSS</sub>	V <sub>DS</sub> = 20 V, V <sub>GS</sub> = 0 V	N-Ch		1	μA	
		V <sub>DS</sub> = -20 V, V <sub>GS</sub> = 0 V	P-Ch		-1		
		V <sub>DS</sub> = 20 V, V <sub>GS</sub> = 0 V, T <sub>J</sub> = 55 °C	N-Ch		5		
		V <sub>DS</sub> = -20 V, V <sub>GS</sub> = 0 V, T <sub>J</sub> = 55 °C	P-Ch		-5		
On-State Drain Current <sup>b</sup>	I <sub>D(on)</sub>	V <sub>DS</sub> ≥ 5 V, V <sub>GS</sub> = 4.5 V	N-Ch	20		A	
		V <sub>DS</sub> ≤ -5 V, V <sub>GS</sub> = -4.5 V	P-Ch	-20			
Drain-Source On-State Resistance <sup>b</sup>	r <sub>DS(on)</sub>	V <sub>GS</sub> = 4.5 V, I <sub>D</sub> = 7.1 A	N-Ch		0.019	0.025	Ω
		V <sub>GS</sub> = -4.5 V, I <sub>D</sub> = -6.2 A	P-Ch		0.027	0.033	
		V <sub>GS</sub> = 2.5 V, I <sub>D</sub> = 6.0 A	N-Ch		0.025	0.035	
		V <sub>GS</sub> = -2.5 V, I <sub>D</sub> = -5.0 A	P-Ch		0.040	0.050	
Forward Transconductance <sup>b</sup>	g <sub>fs</sub>	V <sub>DS</sub> = 10 V, I <sub>D</sub> = 7.1 A	N-Ch		27	S	
		V <sub>DS</sub> = -10 V, I <sub>D</sub> = -6.2 A	P-Ch		20		
Diode Forward Voltage <sup>b</sup>	V <sub>SD</sub>	I <sub>S</sub> = 1.7 A, V <sub>GS</sub> = 0 V	N-Ch		1.2	V	
		I <sub>S</sub> = -1.7 A, V <sub>GS</sub> = 0 V	P-Ch		-1.2		
<b>Dynamic<sup>a</sup></b>							
Total Gate Charge	Q <sub>g</sub>	N-Channel V <sub>DS</sub> = 10 V, V <sub>GS</sub> = 4.5 V, I <sub>D</sub> = 7.1 A P-Channel V <sub>DS</sub> = -10 V, V <sub>GS</sub> = -4.5 V, I <sub>D</sub> = -6.2 A	N-Ch		25	50	nC
Gate-Source Charge	Q <sub>gs</sub>		N-Ch		6.5		
			P-Ch		7		
Gate-Drain Charge	Q <sub>gd</sub>		N-Ch		4		
			P-Ch		3.5		
Turn-On Delay Time	t <sub>d(on)</sub>		N-Ch		40	60	
Rise Time	t <sub>r</sub>	N-Ch		27	50		
		N-Ch		40	60		
Turn-Off Delay Time	t <sub>d(off)</sub>	P-Ch		32	50		
		N-Ch		90	150		
Fall Time	t <sub>f</sub>	P-Ch		95	150		
		N-Ch		40	60		
Source-Drain Reverse Recovery Time	t <sub>rr</sub>	N-Ch		40	80		
		P-Ch		40	80		

Notes

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



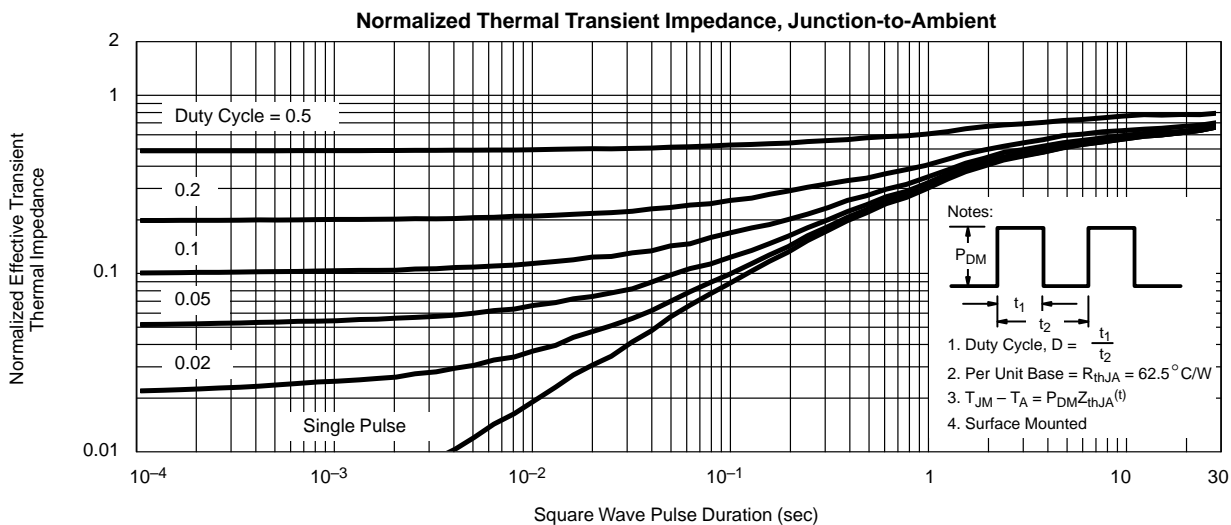
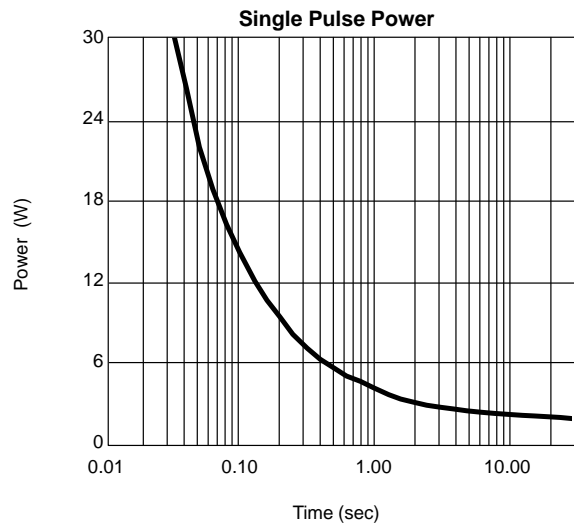
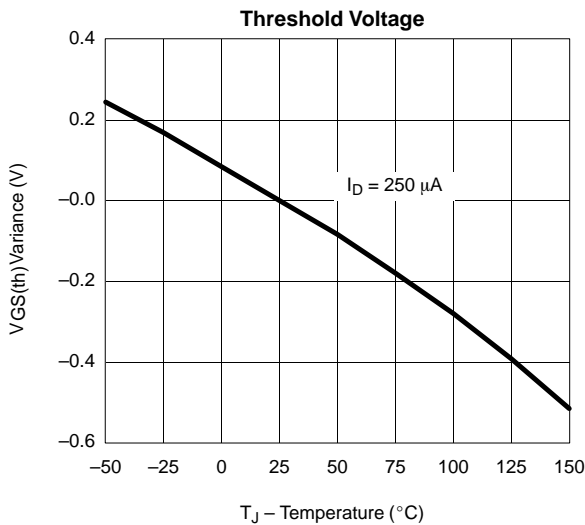
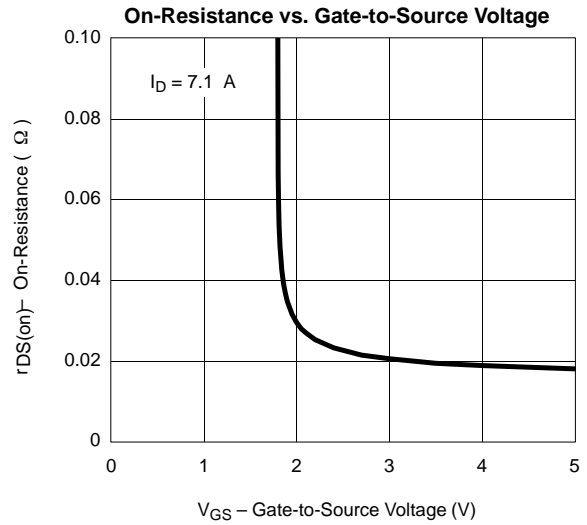
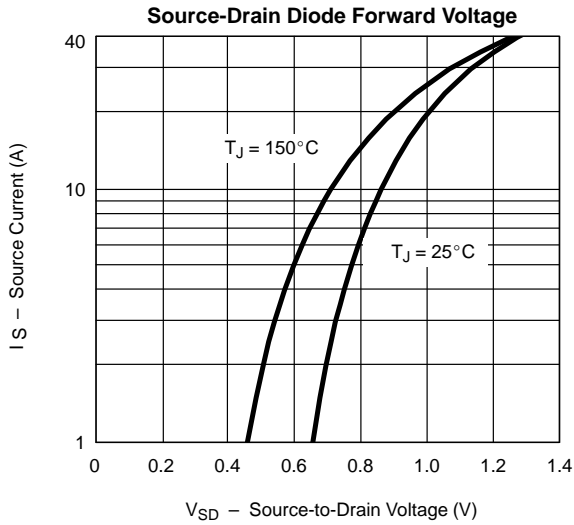
**TYPICAL CHARACTERISTICS (25°C UNLESS NOTED) N-CHANNEL**





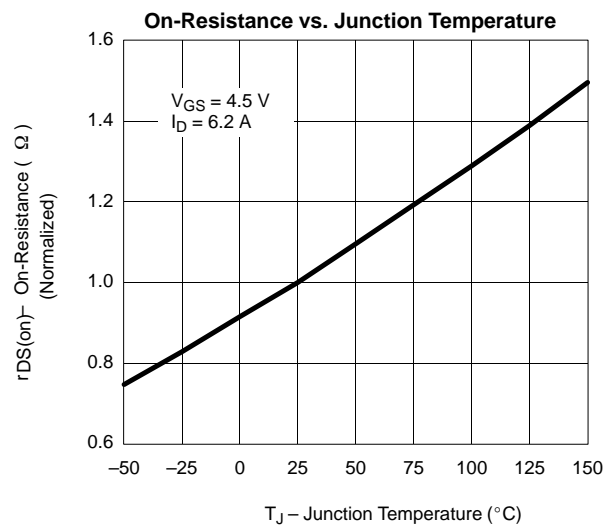
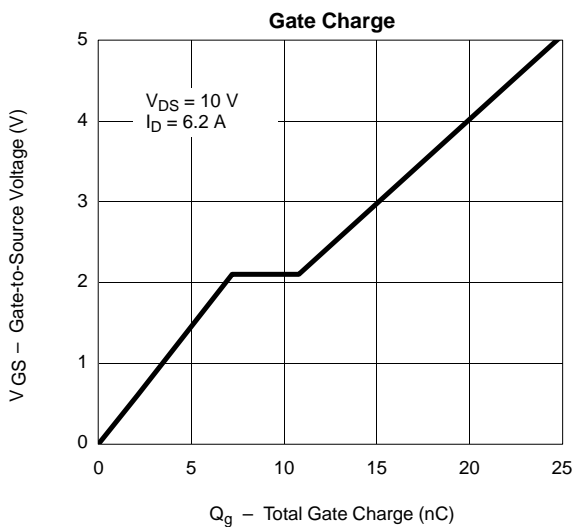
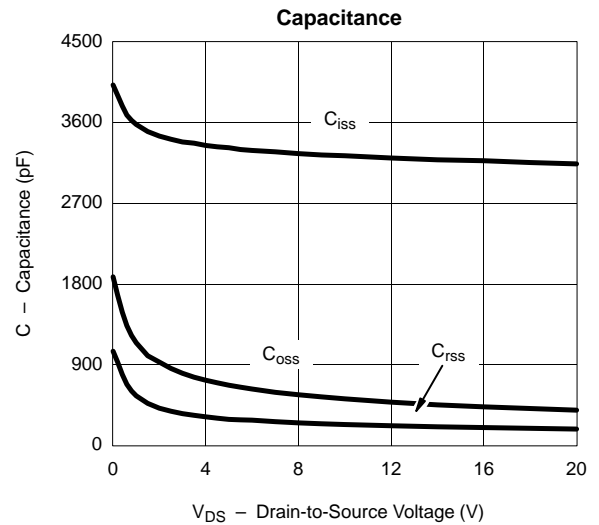
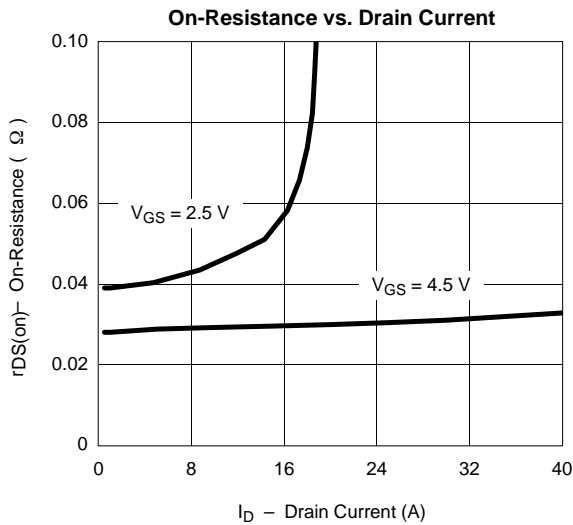
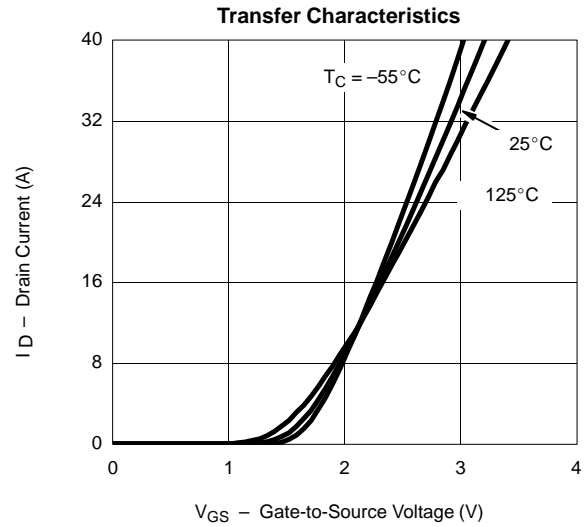
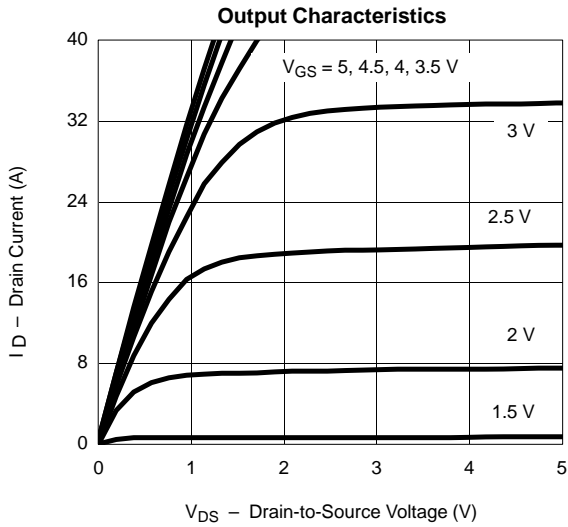
**TYPICAL CHARACTERISTICS (25°C UNLESS NOTED)**

**N-CHANNEL**





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



**TYPICAL CHARACTERISTICS (25°C UNLESS NOTED)**

**P-CHANNEL**

