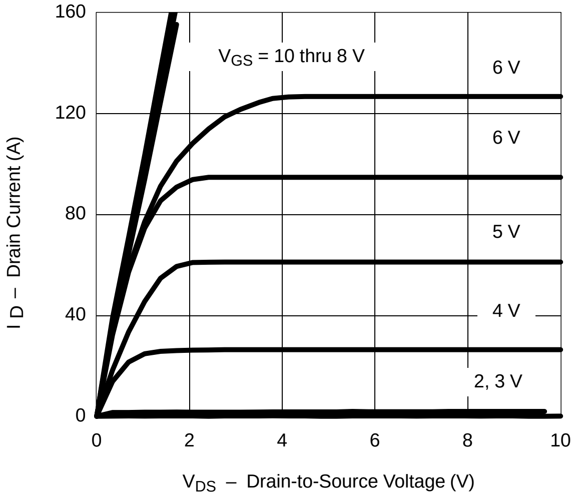
SPECIFICATIONS (T_J = 25°C UNLESS OTHERWISE NOTED)

Parameter	Symbol	Test Condition	Min	Typ[a]	Max	Unit
Static						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	V_{GS} = 0 V, I_D = 250 µA	30			V
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS} = V_{GS}, I_D = 250 µA	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			1	µA
		V_{DS} = 24 V, V_{GS} = 0 V, T_J = 125°C			50	
On-State Drain Current[b]	$I_{D(on)}$	V_{DS} = 5 V, V_{GS} = 10 V	40			A
Drain-Source On-State Resistance[b]	$r_{DS(on)}$	V_{GS} = 10 V, I_D = 20 A		0.014	0.018	Ω
		V_{GS} = 10 V, I_D = 20 A, T_J = 125°C			0.029	
		V_{GS} = 4.5 V, I_D = 10 A		0.021	0.027	
Forward Transconductance[b]	g_{fs}	V_{DS} = 15 V, I_D = 20 A	10			S
Dynamic[a]						
Input Capacitance	C_{iss}	V_{GS} = 0 V, V_{DS} = 25 V, F = 1 MHz		1300		pF
Output Capacitance	C_{oss}			340		
Reverse Transfer Capacitance	C_{rss}			95		
Total Gate Charge[c]	Q_g	V_{DS} = 15 V, V_{GS} = 10 V, I_D = 40 A		19	30	nC
Gate-Source Charge[c]	Q_{gs}			5		
Gate-Drain Charge[c]	Q_{gd}			3		
Turn-On Delay Time[c]	$t_{d(on)}$	V_{DD} = 15 V, R_L = 0.37 Ω I_D ≅ 40 A, V_{GEN} = 10 V, R_G = 2.5 Ω		8	12	ns
Rise Time[c]	t_r			8.5	13	
Turn-Off Delay Time[c]	$t_{d(off)}$			17	25	
Fall Time[c]	t_f			6	9	
Source-Drain Diode Ratings and Characteristic (T_C = 25°C)						
Continuous Current	I_S				40	A
Pulsed Current	I_{SM}				80	
Diode Forward Voltage[b]	V_{SD}	I_F = 100 A, V_{GS} = 0 V			1.5	V
Source-Drain Reverse Recovery Time	t_{rr}	I_F = 40 A, di/dt = 100 A/µs		30	50	ns

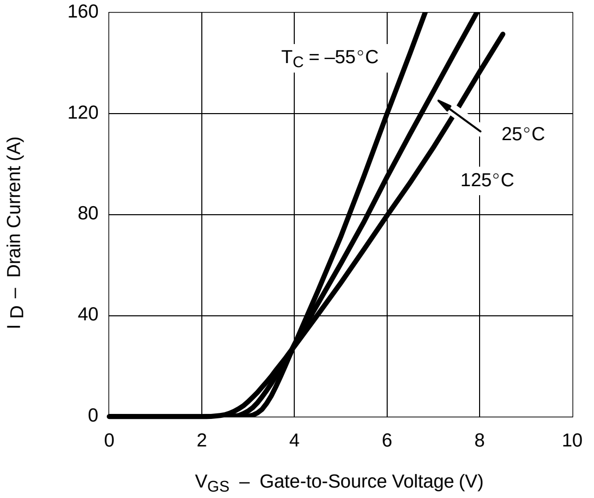
Notes
a. Guaranteed by design, not subject to production testing.
b. Pulse test; pulse width ≤ 300 µs, duty cycle ≤ 2%.
c. Independent of operating temperature.

TYPICAL CHARACTERISTICS (25°C UNLESS NOTED)

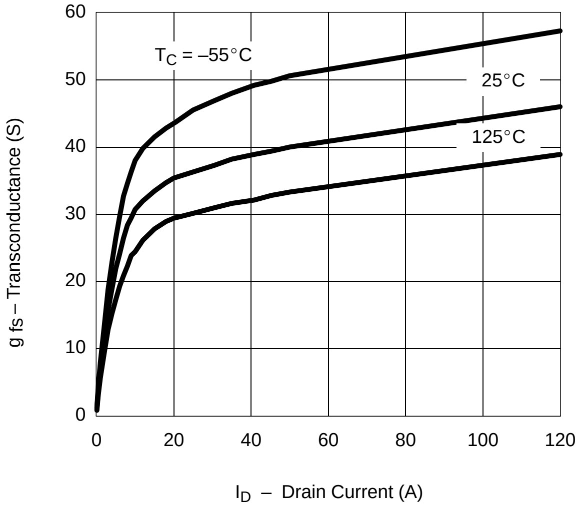
Output Characteristics



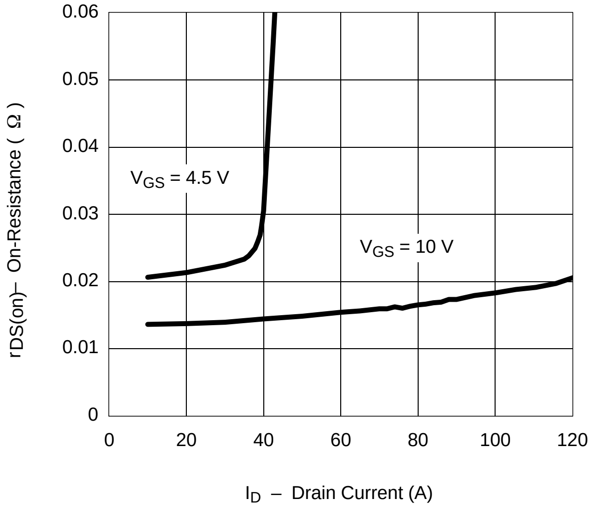
Transfer Characteristics



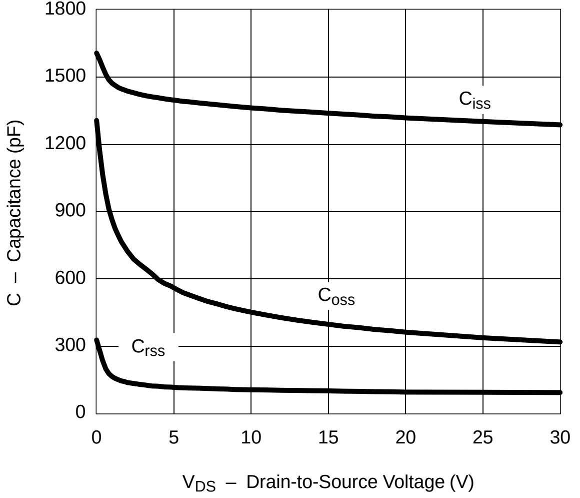
Transconductance



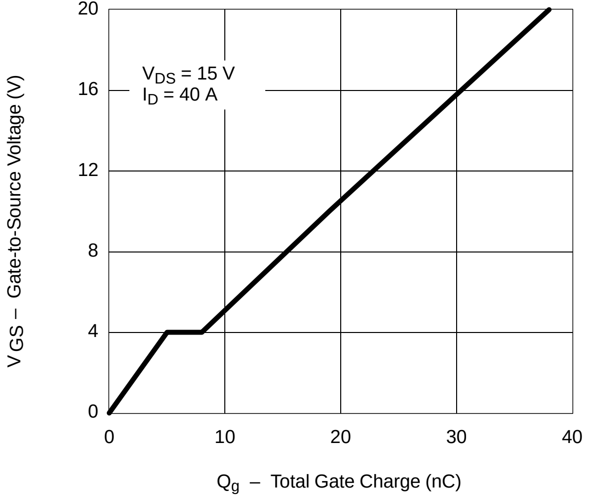
On-Resistance vs. Drain Current



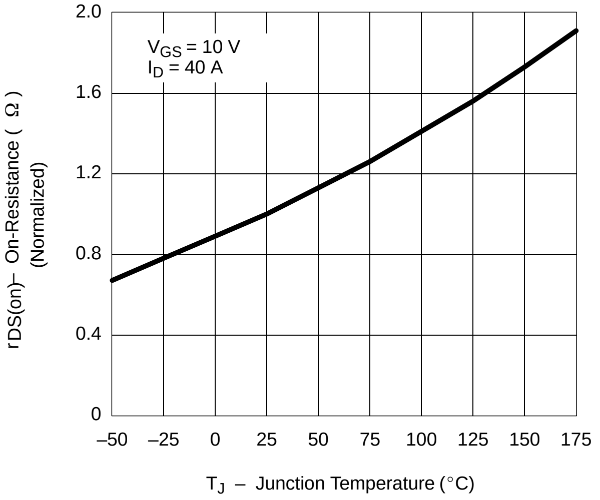
Capacitance

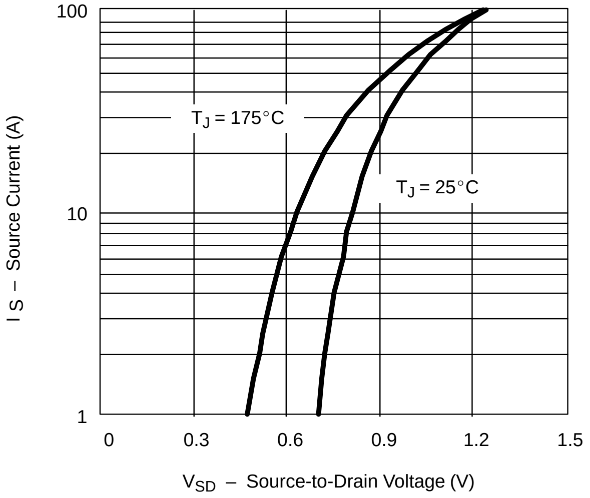


Gate Charge

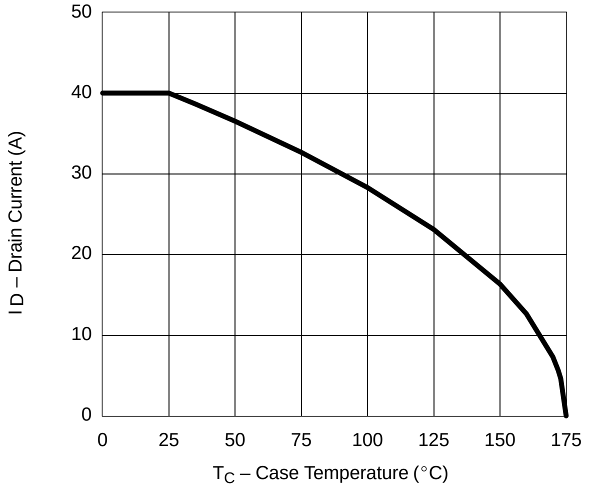


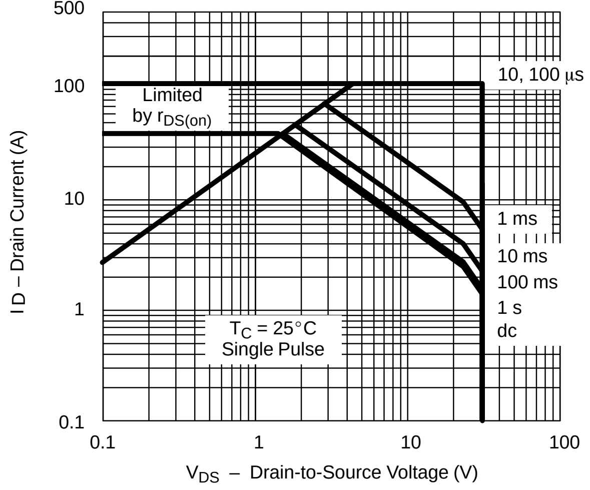
TYPICAL CHARACTERISTICS (25°C UNLESS NOTED)

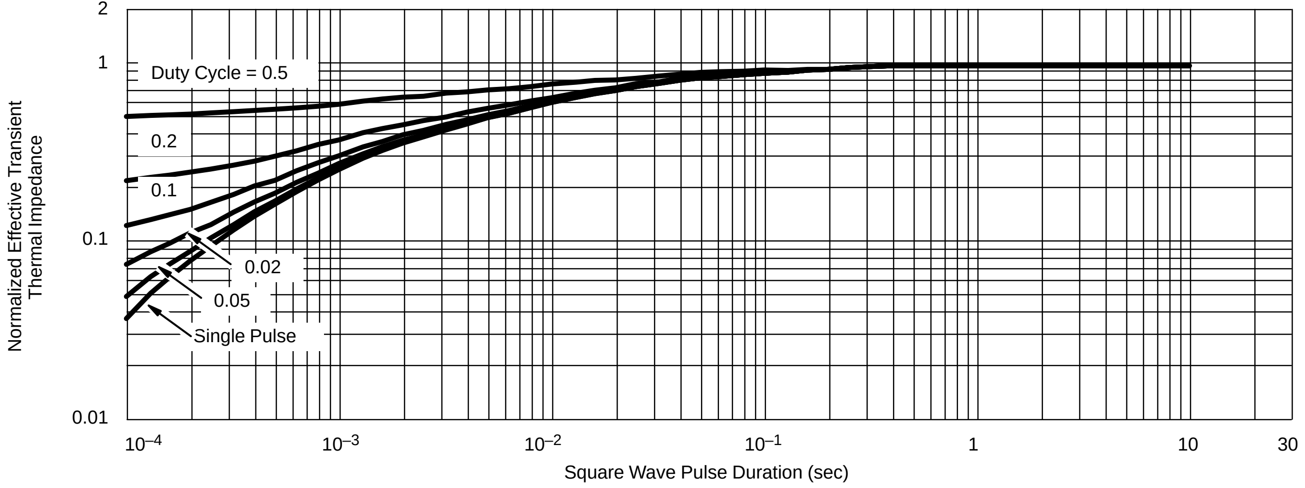

On-Resistance vs. Junction Temperature


Source-Drain Diode Forward Voltage

THERMAL RATINGS


Maximum Avalanche Drain Current vs. Case Temperature


Safe Operating Area


Normalized Thermal Transient Impedance, Junction-to-Case

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