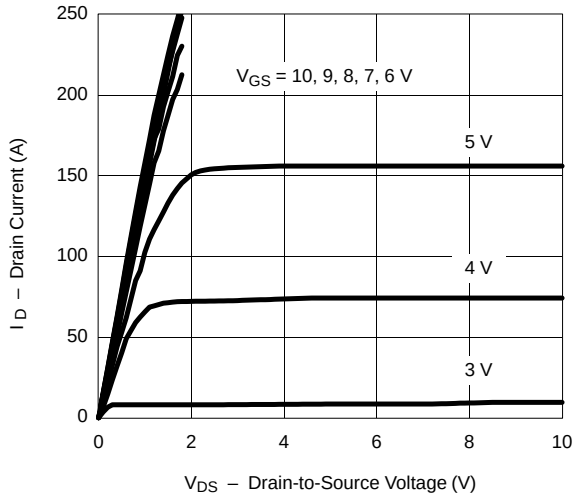
MOSFET SPECIFICATIONS (T_J =25°C UNLESS OTHERWISE NOTED)

Parameter	Symbol	Test Condition	Min	Typ	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_{DS} = 250 μA	1	2		
Gate-Body Leakage	I_{GSS}	V_{DS} = 0 V, V_{GS} = ±20 V			±100	nA
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS} = 30 V, V_{GS} = 0 V			1	μA
		V_{DS} = 30 V, V_{GS} = 0 V, T_J = 125°C			50	
		V_{DS} = 30 V, V_{GS} = 0 V, T_J = 175°C			150	
On-State Drain Current[a]	$I_{D(on)}$	V_{DS} = 5 V, V_{GS} = 10 V	120			A
Drain-Source On-State Resistance[a]	$r_{DS(on)}$	V_{GS} = 10 V, I_D = 30 A		0.006	0.007	Ω
		V_{GS} = 10 V, I_D = 30 A, T_J = 125°C			0.011	
		V_{GS} = 10 V, I_D = 30 A, T_J = 175°C			0.015	
		V_{GS} = 4.5 V, I_D = 20 A			0.01	
Forward Transconductance[a]	g_{fs}	V_{DS} = 15 V, I_D = 30 A	20			S
Dynamic[b]						
Input Capacitance	C_{iss}	V_{GS} = 0 V, V_{DS} = 25 V, f = 1 MHz		5600		pF
Output Capacitance	C_{oss}			1100		
Reversen Transfer Capacitance	C_{rss}			450		
Total Gate Charge[c]	Q_g	V_{DS} = 15 V, V_{GS} = 10 V, I_D = 75 A		70	130	nC
Gate-Source Charge[c]	Q_{gs}			18		
Gate-Drain Charge[c]	Q_{gd}			10		
Turn-On Delay Time[c]	$t_{d(on)}$	V_{DD} = 15 V, R_L = 0.2 Ω I_D ≃ 75 A, V_{GEN} = 10 V, R_G = 2.5 Ω		18	30	ns
Rise Time[c]	t_r			12	20	
Turn-Off Delay Time[c]	$t_{d(off)}$			60	120	
Fall Time[c]	t_f			22	40	
Source-Drain Diode Ratings and Characteristics (T_C = 25°C)[b]						
Continuous Current	I_s				75	A
Pulsed Current	I_{SM}				200	
Forward Voltage[a]	V_{SD}	I_F = 75 A, V_{GS} = 0 V		1.2	1.5	V
Reverse Recovery Time	t_{rr}	I_F = 75 A, di/dt = 100 A/μs		55	100	ns

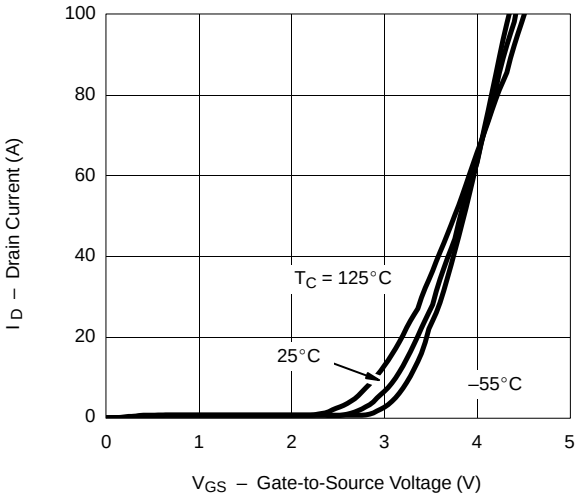
Notes:
a. Pulse test; pulse width ≤ 300 μs, duty cycle ≤ 2%.
b. Guaranteed by design, not subject to production testing.
c. Independent of operating temperature.

TYPICAL CHARACTERISTICS (25°C UNLESS NOTED)

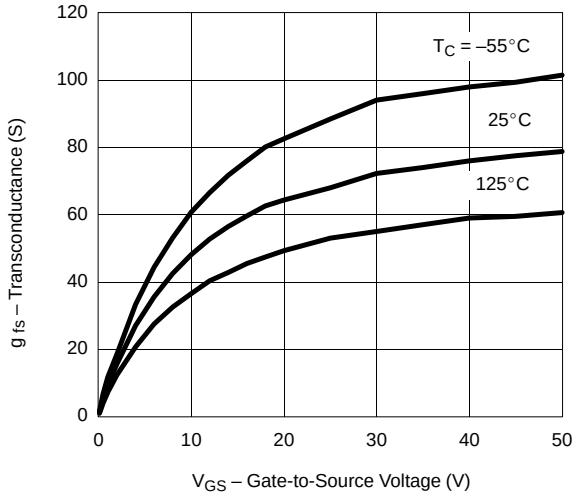
Output Characteristics



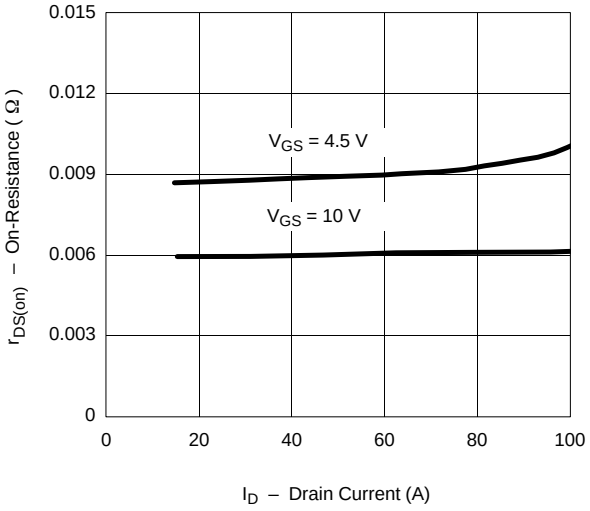
Transfer Characteristics



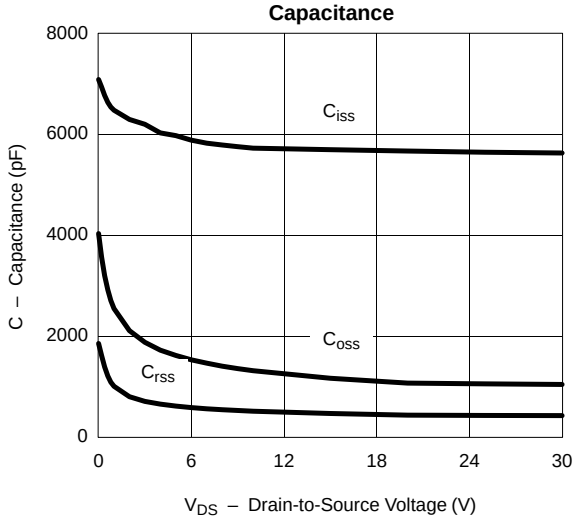
Transconductance



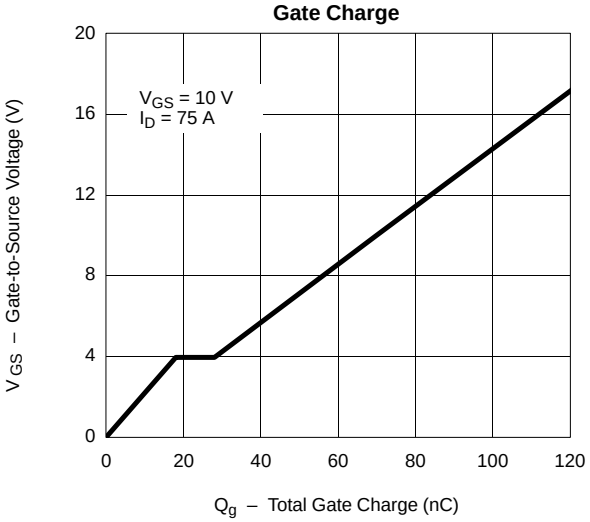
On-Resistance vs. Drain Current



Capacitance

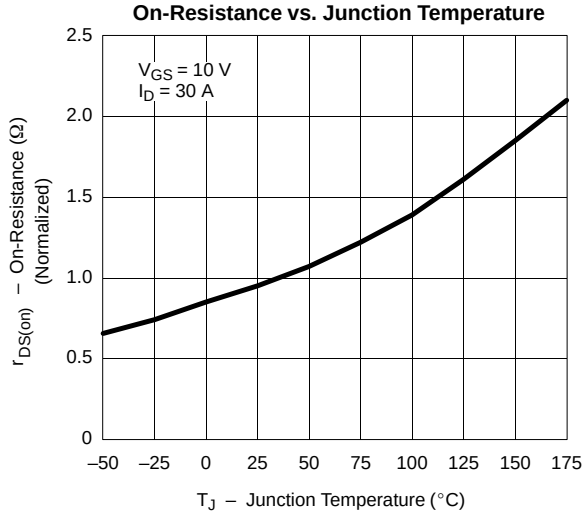


Gate Charge

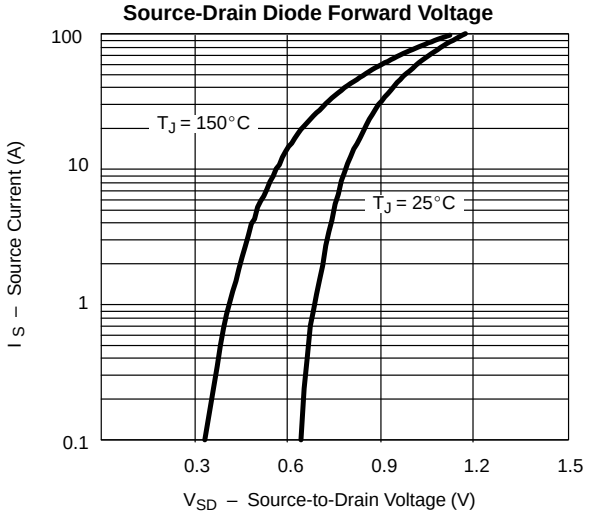


TYPICAL CHARACTERISTICS (25°C UNLESS NOTED)

On-Resistance vs. Junction Temperature

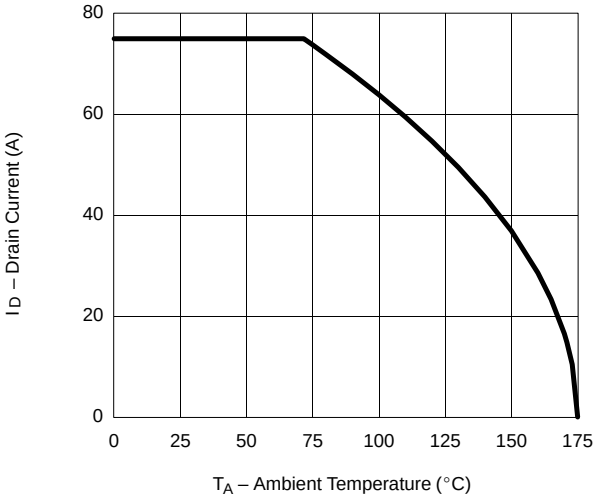


Source-Drain Diode Forward Voltage

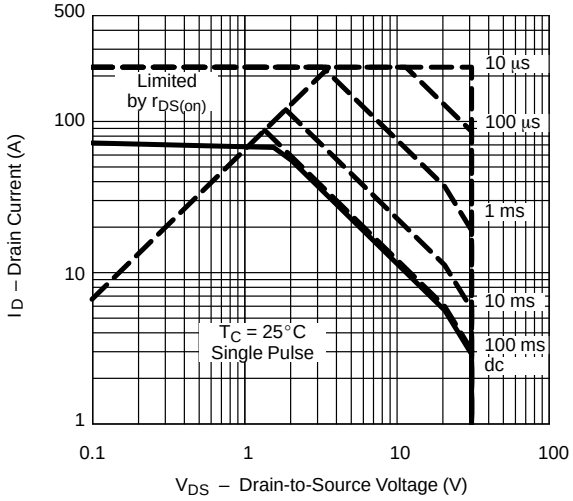


THERMAL RATINGS

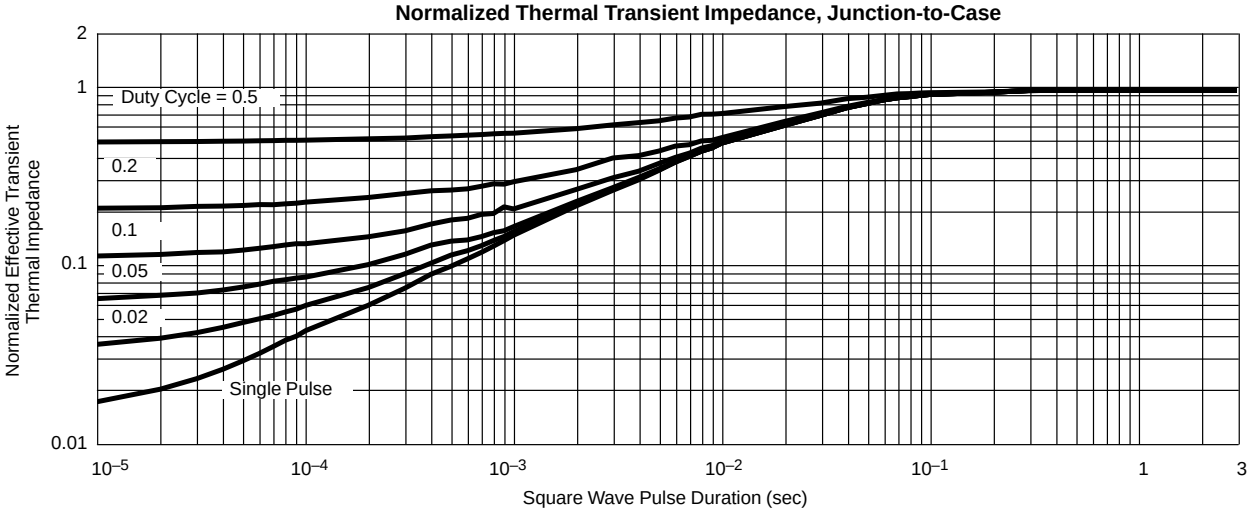
Maximum Drain Current vs. Ambiemt Temperature



Safe Operating Area



Normalized Thermal Transient Impedance, Junction-to-Case



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