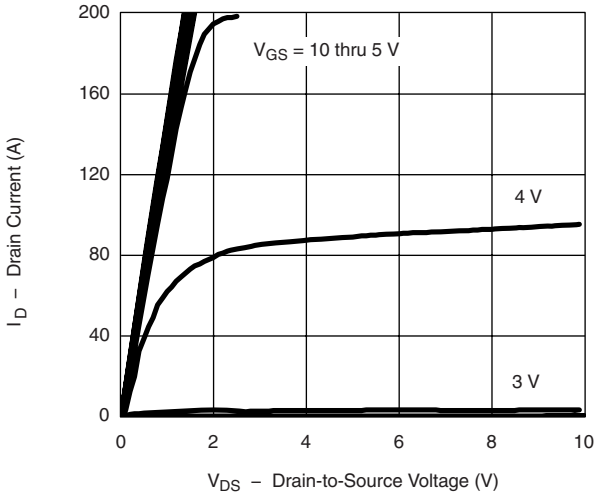
SPECIFICATIONS T_J = 25 °C, unless otherwise noted						
Parameter	**Symbol**	**Test Conditions**	**Min.**	**Typ.**	**Max.**	**Unit**
Static						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	V_{GS} = 0 V, I_D = - 250 µA	- 60			V
Gate-Threshold Voltage	$V_{GS(th)}$	V_{DS} = V_{GS}, I_D = - 250 µA	- 1		- 3	
Gate-Body Leakage	I_{GSS}	V_{DS} = 0 V, V_{GS} = ± 20 V			± 100	nA
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS} = - 60 V, V_{GS} = 0 V			- 1	µA
		V_{DS} = - 60 V, V_{GS} = 0 V, T_J = 125 °C			- 50	
		V_{DS} = - 60 V, V_{GS} = 0 V, T_J = 175 °C			- 250	
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		0.0065	0.008	Ω
		V_{GS} = - 10 V, I_D = - 30 A, T_J = 125 °C			0.0129	
		V_{GS} = - 10 V, I_D = - 30 A, T_J = 175 °C			0.016	
		V_{GS} = - 4.5 V, I_D = - 20 A		0.0085	0.0105	
Forward Transconductance[a]	g_{fs}	V_{DS} = - 15 V, I_D = - 50 A	20			S
Dynamic[b]						
Input Capacitance	C_{iss}	V_{GS} = 0 V, V_{DS} = - 25 V, f = 1 MHz		9200		pF
Output Capacitance	C_{oss}			975		
Reverse Transfer Capacitance	C_{rss}			760		
Total Gate Charge[c]	Q_g	V_{DS} = - 30 V, V_{GS} = - 10 V, I_D = - 110 A		160	240	nC
Gate-Source Charge[c]	Q_{gs}			40		
Gate-Drain Charge[c]	Q_{gd}			36		
Gate Resistance	R_g	f = 1 MHz	1.5	3	4.5	Ω
Turn-On Delay Time[c]	$t_{d(on)}$	V_{DD} = - 30 V, R_L = 0.27 Ω $I_D \cong$ - 110 A, V_{GEN} = - 10 V, R_G = 2.5 Ω		20	30	ns
Rise Time[c]	t_r			190	285	
Turn-Off Delay Time[c]	$t_{d(off)}$			140	210	
Fall Time[c]	t_f			300	450	
Source-Drain Diode Ratings and Characteristics T_C = 25 °C[b]						
Continuous Current	I_S				- 110	A
Pulsed Current	I_{SM}				- 200	
Forward Voltage[a]	V_{SD}	I_F = - 50 A, V_{GS} = 0 V		- 1.0	- 1.5	V
Reverse Recovery Time	t_{rr}	I_F = - 50 A, di/dt = 100 A/µs		60	90	ns
Peak Reverse Recovery Charge	$I_{RM(REC)}$			- 3	- 4.5	A
Reverse Recovery Charge	Q_{rr}			0.09	0.2	µC

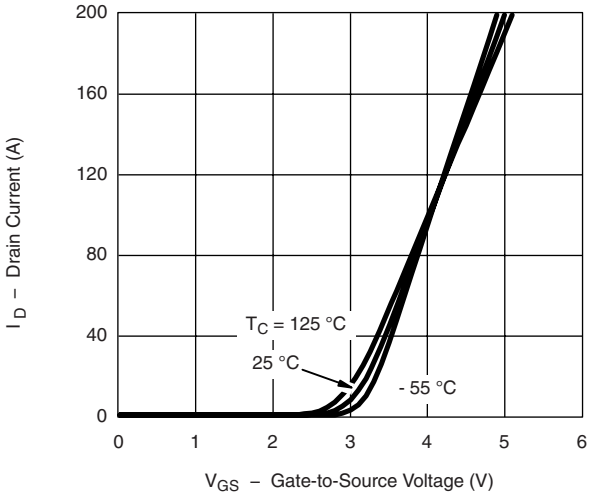
Notes:
a. Pulse test; pulse width ≤ 300 µs, duty cycle ≤ 2 %.
b. Guaranteed by design, not subject to production testing.
c. Independent of operating temperature.

Stresses beyond those listed under "Absolute Maximum Ratings" may cause permanent damage to the device. These are stress ratings only, and functional operation of the device at these or any other conditions beyond those indicated in the operational sections of the specifications is not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

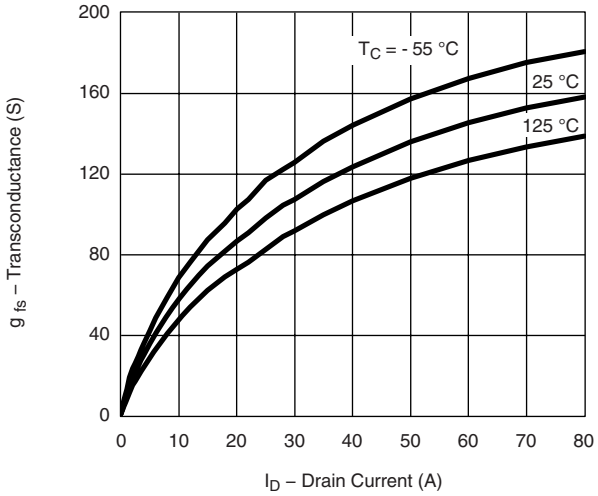
TYPICAL CHARACTERISTICS 25 °C, unless otherwise noted



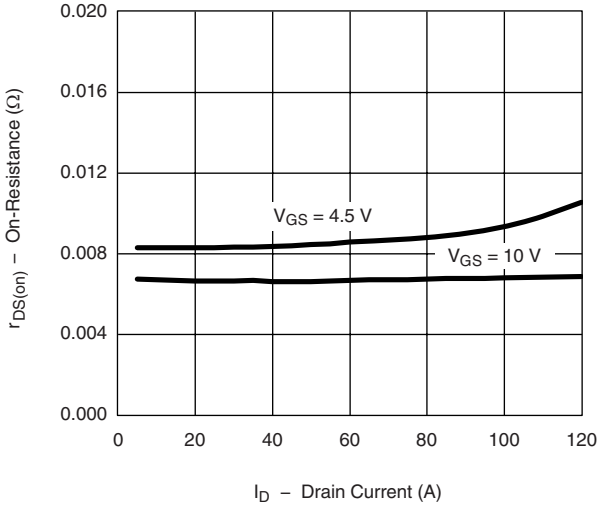
Output Characteristics



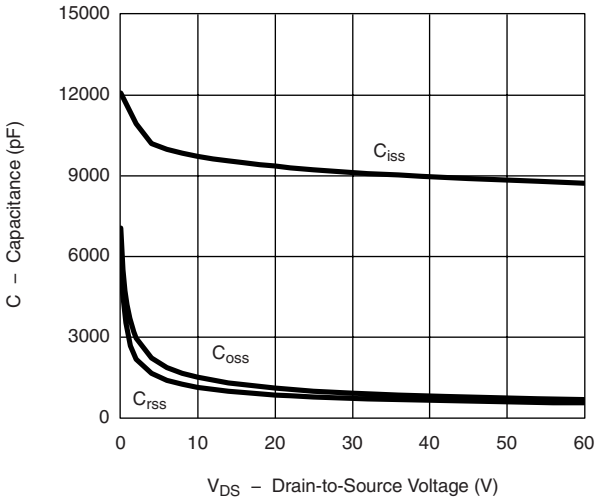
Transfer Characteristics



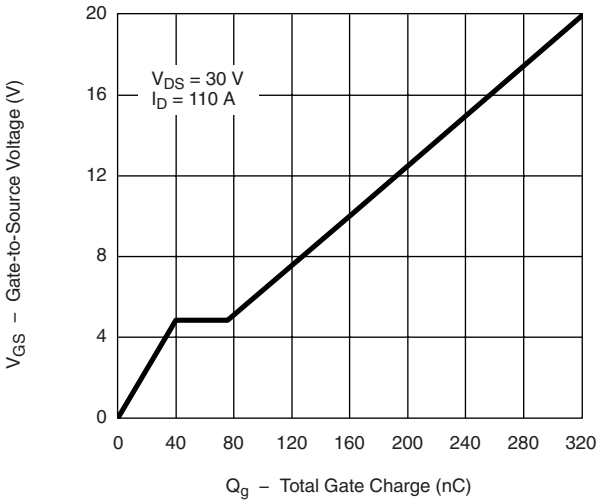
Transconductance



On-Resistance vs. Drain Current

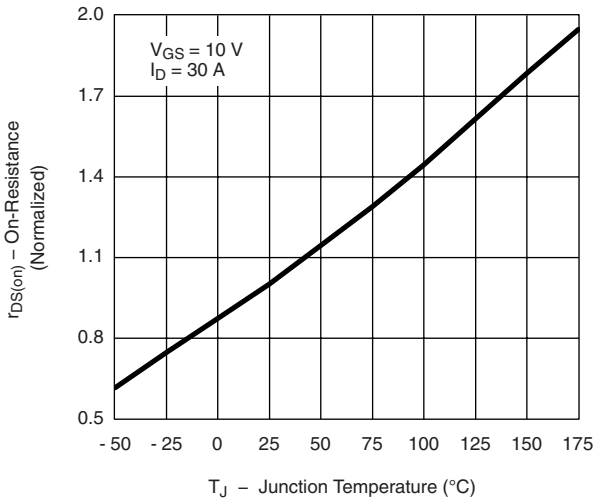


Capacitance

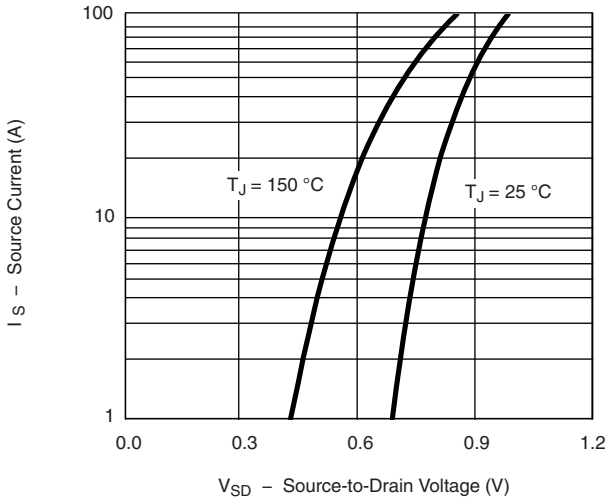


Gate Charge

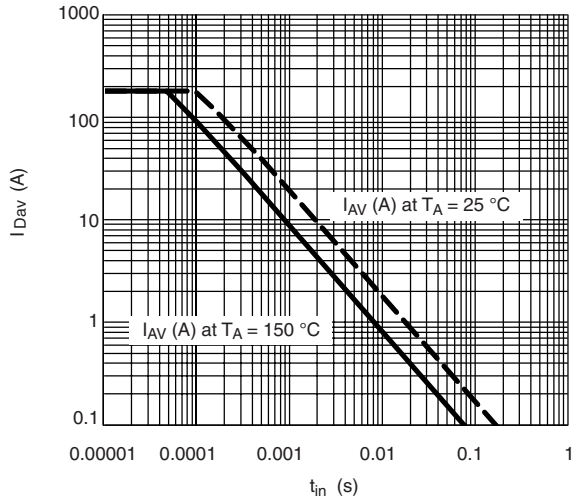
TYPICAL CHARACTERISTICS 25 °C, unless otherwise noted



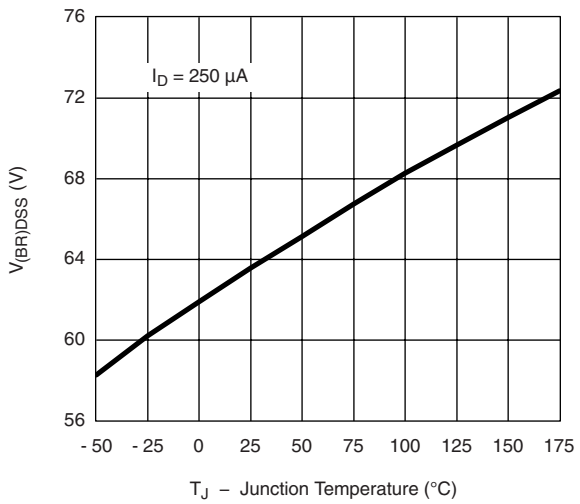
On-Resistance vs. Junction Temperature



Source-Drain Diode Forward Voltage

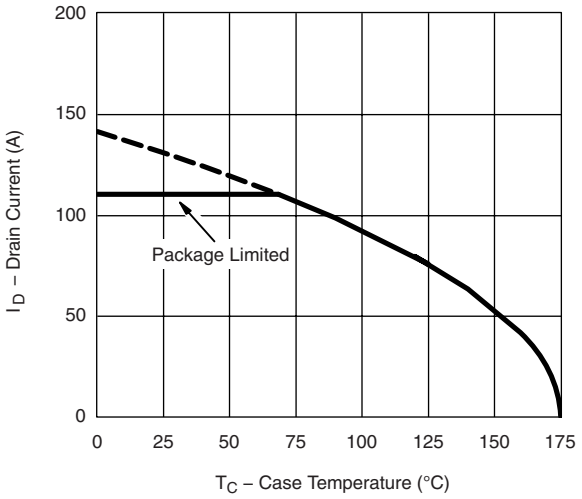


Avalanche Current vs. Time

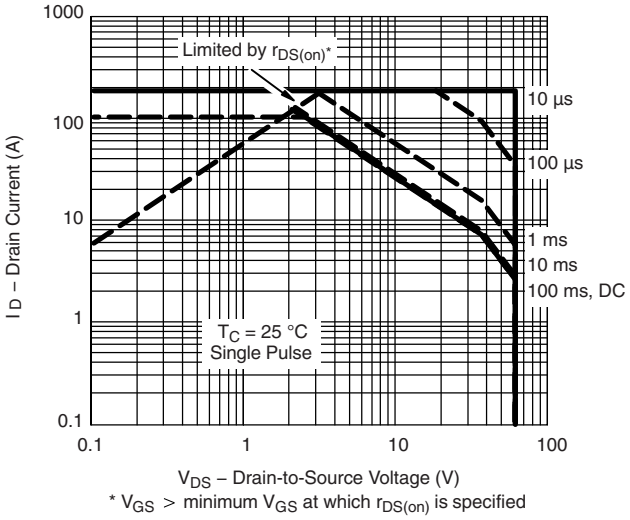


Drain Source Breakdown vs. Junction Temperature

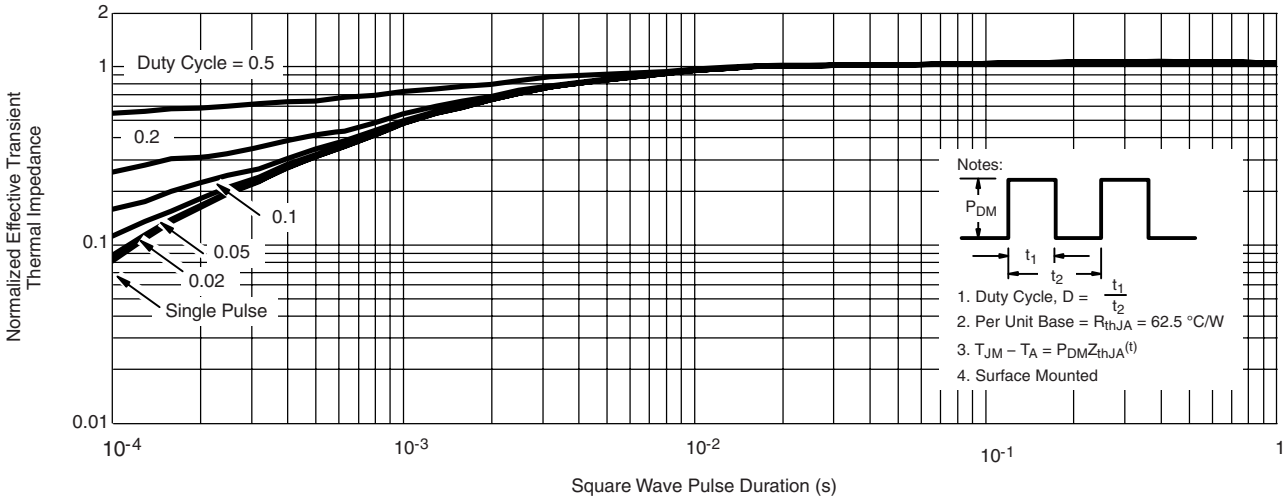
THERMAL RATINGS



Maximum Avalanche and Drain Current vs. Case Temperature



Safe Operating Area



Normalized Thermal Transient Impedance, Junction-to-Case

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