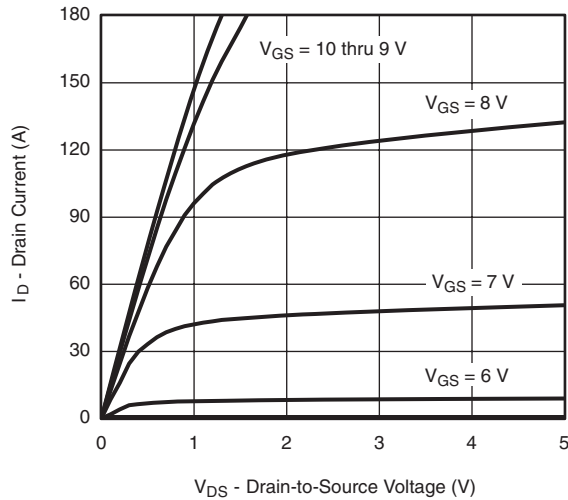
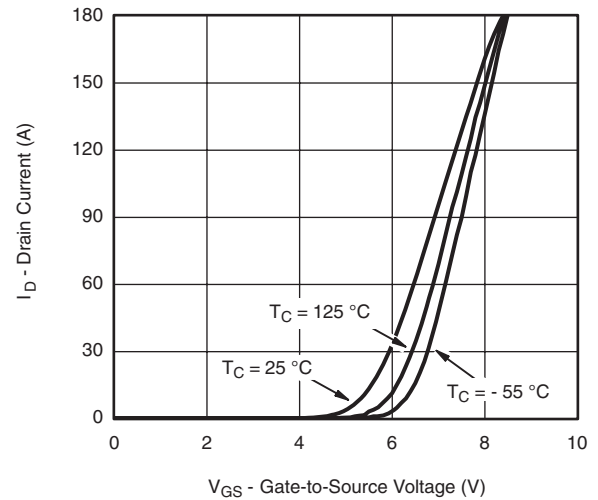
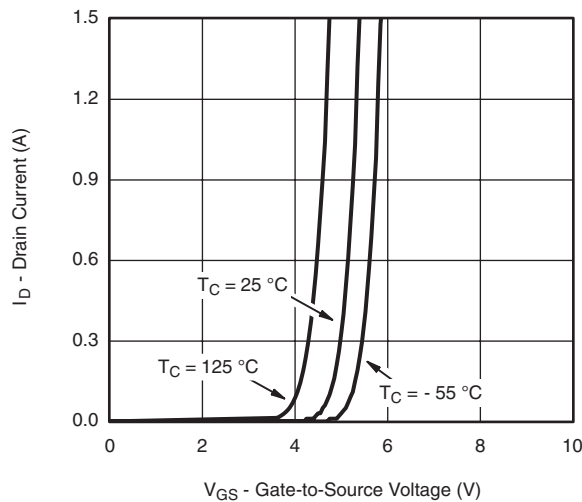
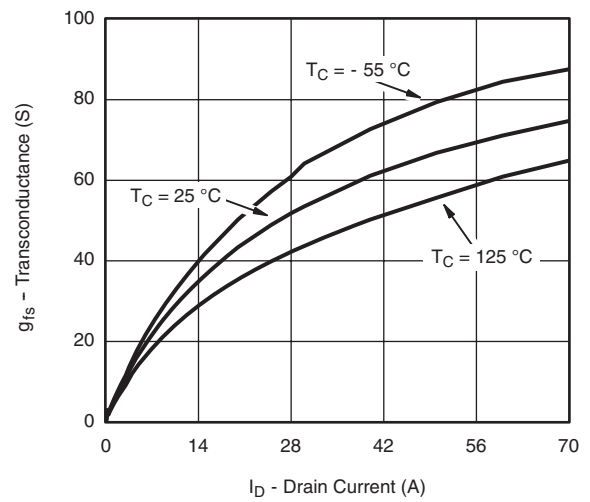
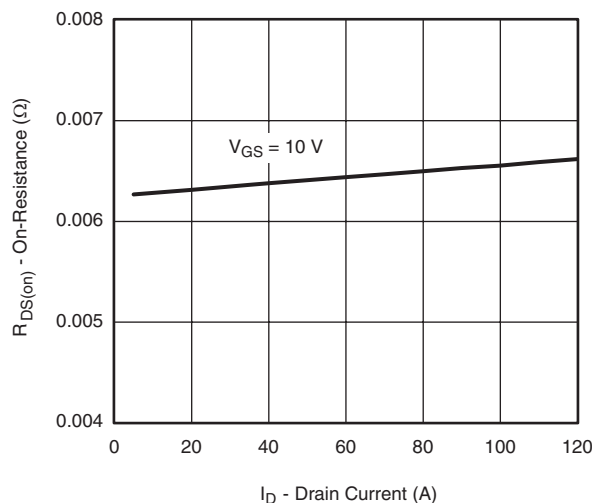
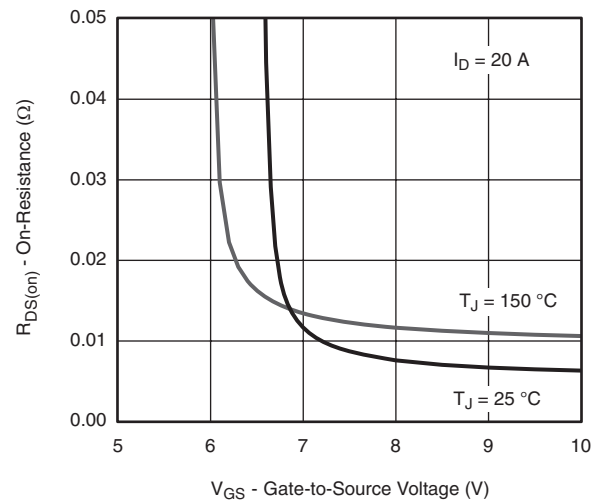


SPECIFICATIONS $T_J = 25\text{ }^{\circ}\text{C}$, unless otherwise noted						
Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Static						
Drain-Source Breakdown Voltage	V_{DS}	$V_{DS} = 0\text{ V}$, $I_D = 250\text{ }\mu\text{A}$	75			V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}$, $I_D = 250\text{ }\mu\text{A}$	2.5		4.5	
Gate-Body Leakage	I_{GSS}	$V_{DS} = 0\text{ V}$, $V_{GS} = \pm 20\text{ V}$			± 250	nA
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = 75\text{ V}$, $V_{GS} = 0\text{ V}$			1	μA
		$V_{DS} = 75\text{ V}$, $V_{GS} = 0\text{ V}$, $T_J = 125\text{ }^{\circ}\text{C}$			50	
		$V_{DS} = 75\text{ V}$, $V_{GS} = 0\text{ V}$, $T_J = 150\text{ }^{\circ}\text{C}$			250	
On-State Drain Current ^a	$I_{D(on)}$	$V_{DS} \geq 10\text{ V}$, $V_{GS} = 10\text{ V}$	70			A
Drain-Source On-State Resistance ^a	$R_{DS(on)}$	$V_{GS} = 10\text{ V}$, $I_D = 20\text{ A}$		0.0063	0.0077	Ω
		$V_{GS} = 10\text{ V}$, $I_D = 20\text{ A}$, $T_J = 125\text{ }^{\circ}\text{C}$		0.0100	0.0125	
Forward Transconductance ^a	g_{fs}	$V_{DS} = 15\text{ V}$, $I_D = 20\text{ A}$		43		S
Dynamic ^b						
Input Capacitance	C_{iss}	$V_{GS} = 0\text{ V}$, $V_{DS} = 30\text{ V}$, $f = 1\text{ MHz}$		4250		pF
Output Capacitance	C_{oss}			580		
Reverse Transfer Capacitance	C_{rss}			230		
Total Gate Charge ^c	Q_g	$V_{DS} = 30\text{ V}$, $V_{GS} = 10\text{ V}$, $I_D = 50\text{ A}$		69	105	nC
Gate-Source Charge ^c	Q_{gs}			23		
Gate-Drain Charge ^c	Q_{gd}			21		
Gate Resistance	R_g	$f = 1\text{ MHz}$		1.2	2.4	Ω
Turn-On Delay Time ^c	$t_{d(on)}$	$V_{DD} = 30\text{ V}$, $R_L = 0.6\text{ }\Omega$ $I_D \cong 50\text{ A}$, $V_{GEN} = 10\text{ V}$, $R_g = 1\text{ }\Omega$		17	30	ns
Rise Time ^c	t_r			5	10	
Turn-Off Delay Time ^c	$t_{d(off)}$			22	40	
Fall Time ^c	t_f			6	15	
Source-Drain Diode Ratings and Characteristics $T_C = 25\text{ }^{\circ}\text{C}$ ^b						
Continuous Current	I_S				90	A
Pulsed Current	I_{SM}				180	
Forward Voltage ^a	V_{SD}	$I_F = 20\text{ A}$, $V_{GS} = 0\text{ V}$		0.83	1.5	V
Reverse Recovery Time	t_{rr}	$I_F = 75\text{ A}$, $di/dt = 100\text{ A}/\mu\text{s}$		65	100	ns
Peak Reverse Recovery Current	$I_{RM(REC)}$			2.5	5	A
Reverse Recovery Charge	Q_{rr}			85	150	nC

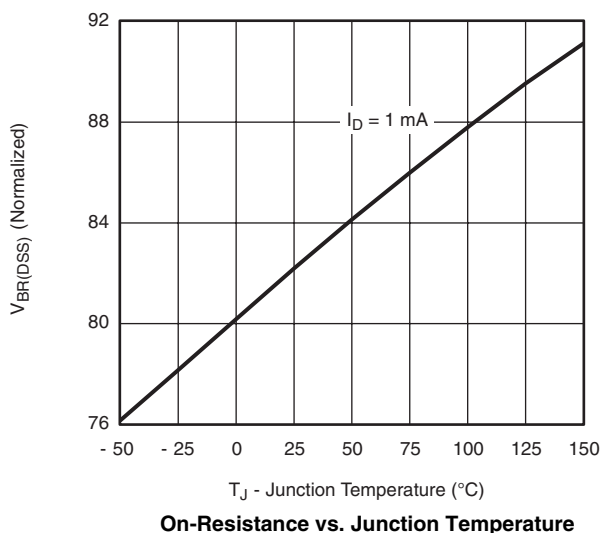
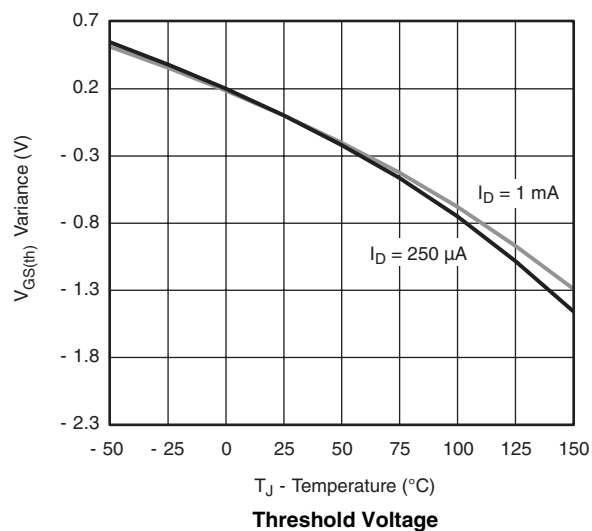
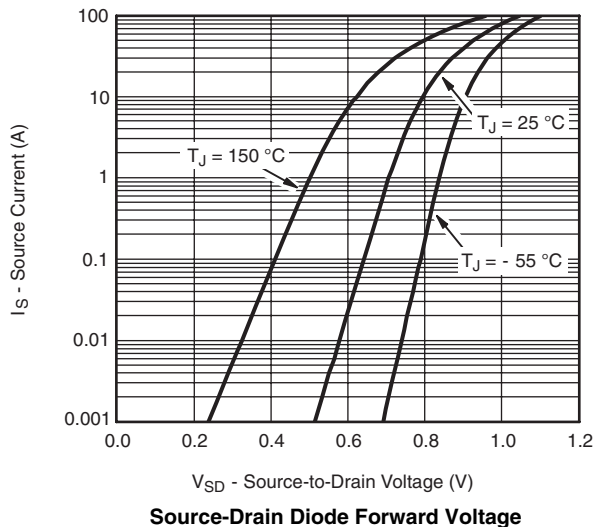
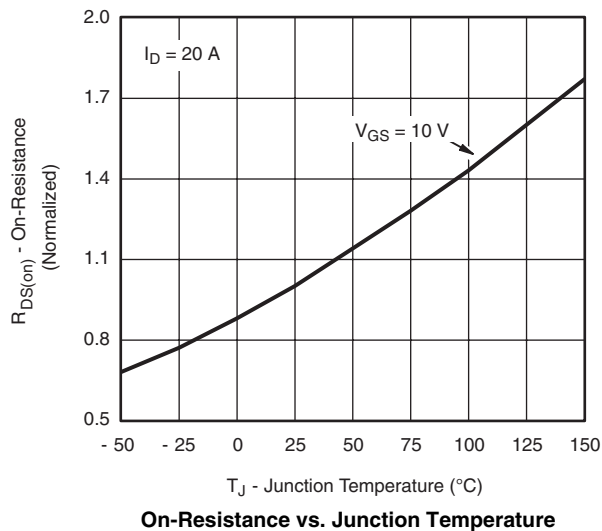
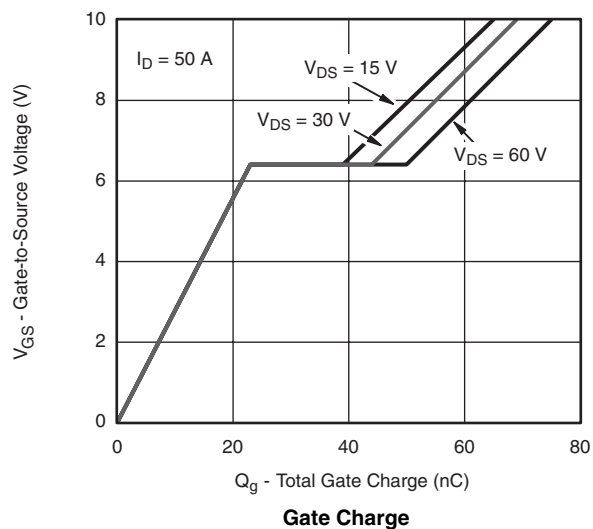
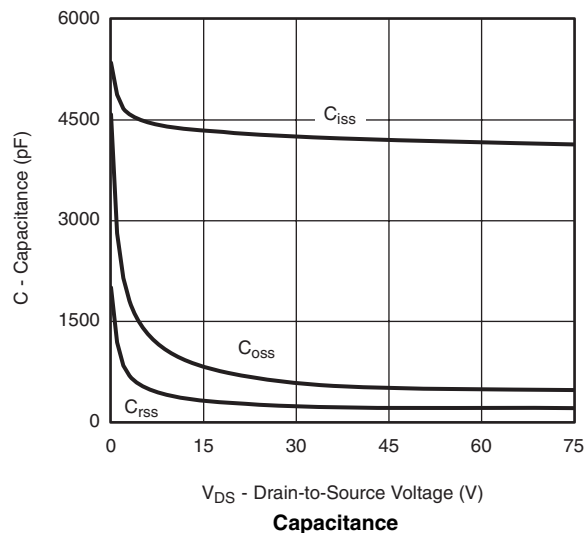
Notes:

- a. Pulse test; pulse width $\leq 300\text{ }\mu\text{s}$, duty cycle $\leq 2\%$.
b. Guaranteed by design, not subject to production testing.
c. Independent of operating temperature.

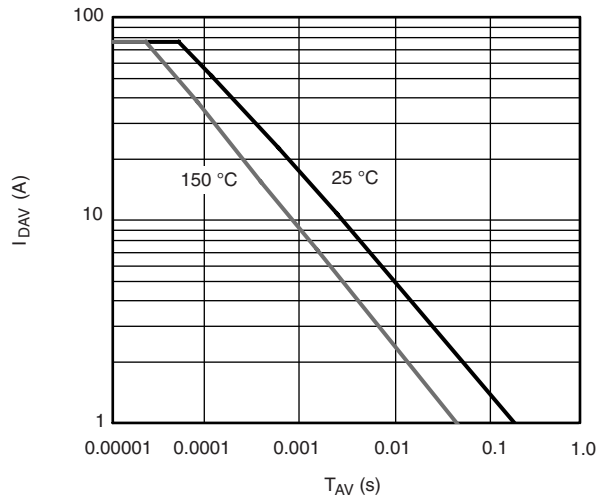
Stresses beyond those listed under "Absolute Maximum Ratings" may cause permanent damage to the device. These are stress ratings only, and functional operation of the device at these or any other conditions beyond those indicated in the operational sections of the specifications is not implied. Exposure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

TYPICAL CHARACTERISTICS 25 °C, unless otherwise noted

Output Characteristics

Transfer Characteristics

Transfer Characteristics

Transconductance

On-Resistance vs. Drain Current

On-Resistance vs. Gate-to-Source Voltage

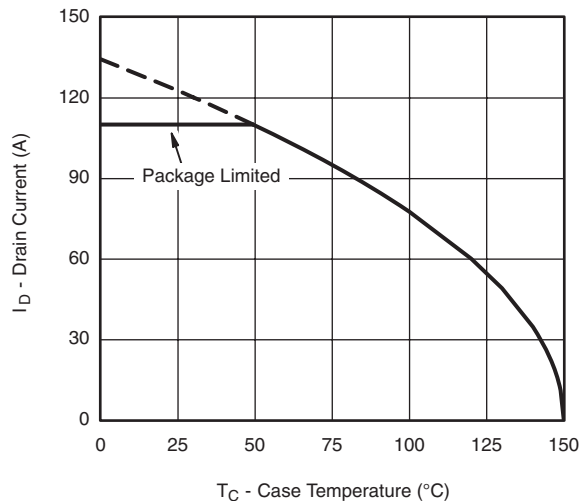
TYPICAL CHARACTERISTICS 25 °C, unless otherwise noted



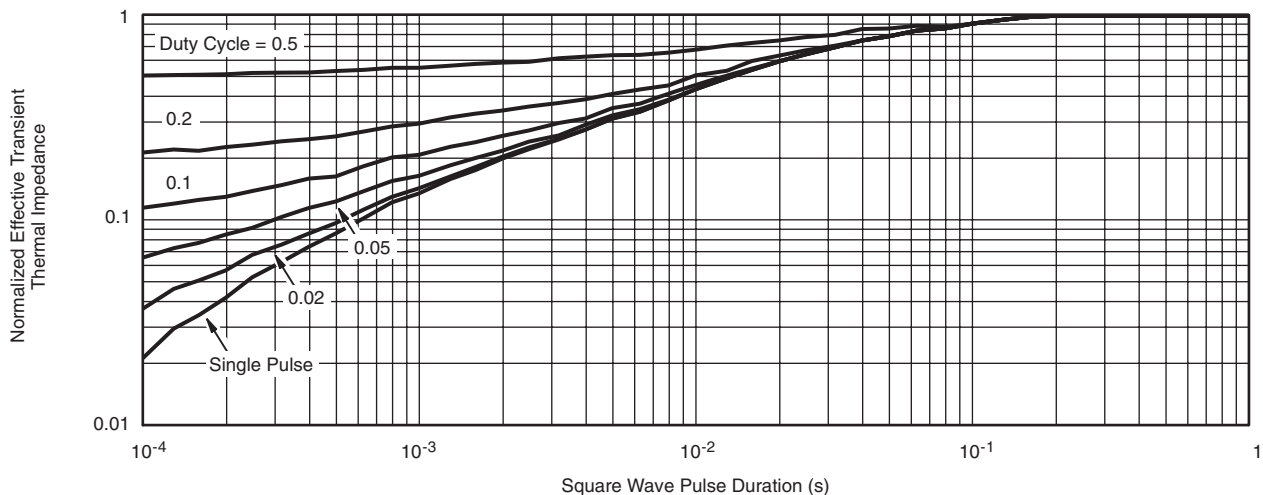
TYPICAL CHARACTERISTICS 25 °C, unless otherwise noted



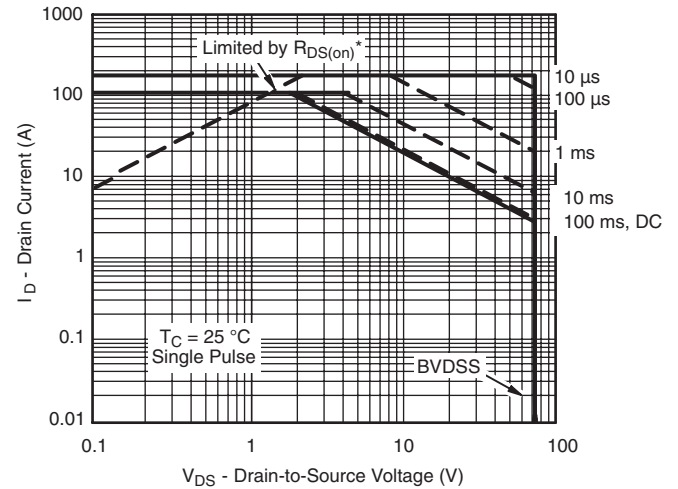
Single Pulse Avalanche Current Capability vs. Time



Current Derating*, Junction-to-Case



Normalized Thermal Transient Impedance, Junction-to-Case



* $V_{GS} >$ minimum V_{GS} at which $R_{DS(on)}$ is specified
Safe Operating Area, Junction-to-Case

* The power dissipation P_D is based on $T_{J(max)} = 150$ °C, using junction-to-case thermal resistance, and is more useful in settling the upper dissipation limit for cases where additional heatsinking is used. It is used to determine the current rating, when this rating falls below the package limit.

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