

SPECIFICATIONS $T_J = 25^\circ\text{C}$, unless otherwise noted

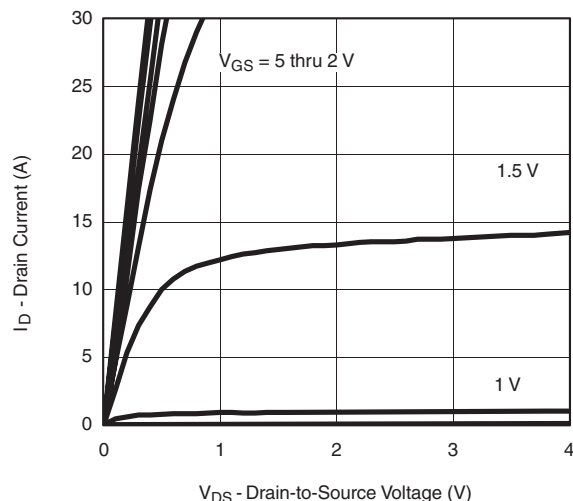
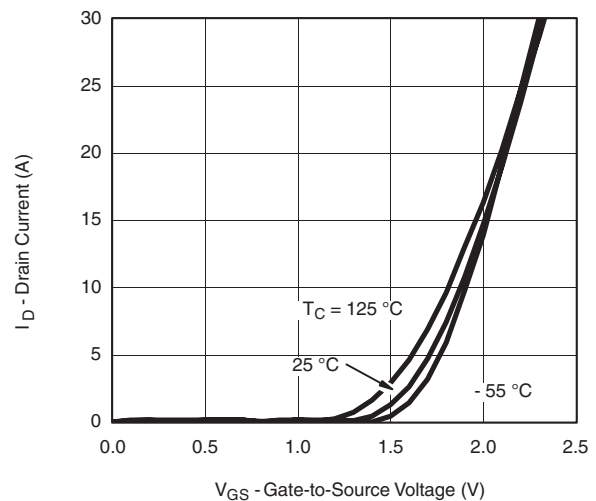
Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Static						
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}$, $I_D = -250\ \mu\text{A}$	-0.6		-1.5	V
Gate-Body Leakage	I_{GSS}	$V_{DS} = 0\ \text{V}$, $V_{GS} = \pm 12\ \text{V}$			± 100	nA
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = -30\ \text{V}$, $V_{GS} = 0\ \text{V}$			-1	μA
		$V_{DS} = -30\ \text{V}$, $V_{GS} = 0\ \text{V}$, $T_J = 85^\circ\text{C}$			-5	
On-State Drain Current ^a	$I_{D(on)}$	$V_{DS} \leq -5\ \text{V}$, $V_{GS} = -4.5\ \text{V}$	-40			A
Drain-Source On-State Resistance ^a	$R_{DS(on)}$	$V_{GS} = -4.5\ \text{V}$, $I_D = -11\ \text{A}$		0.015	0.019	Ω
		$V_{GS} = -2.5\ \text{V}$, $I_D = -8.5\ \text{A}$		0.025	0.031	
Forward Transconductance ^a	g_{fs}	$V_{DS} = -15\ \text{V}$, $I_D = -11\ \text{A}$		40		S
Diode Forward Voltage ^a	V_{SD}	$I_S = -3.2\ \text{A}$, $V_{GS} = 0\ \text{V}$		-0.7	-1.2	V
Dynamic^b						
Total Gate Charge	Q_g	$V_{DS} = -15\ \text{V}$, $V_{GS} = -4.5\ \text{V}$, $I_D = -11\ \text{A}$		25	40	nC
Gate-Source Charge	Q_{gs}			5		
Gate-Drain Charge	Q_{gd}			9		
Gate Resistance	R_g	$f = 1.0\ \text{MHz}$	3.3	6.5	10	Ω
Turn-On Delay Time	$t_{d(on)}$	$V_{DD} = -15\ \text{V}$, $R_L = 15\ \Omega$ $I_D \equiv -1\ \text{A}$, $V_{GEN} = -4.5\ \text{V}$, $R_g = 6\ \Omega$		30	45	ns
Rise Time	t_r			50	75	
Turn-Off Delay Time	$t_{d(off)}$			115	175	
Fall Time	t_f			75	115	
Source-Drain Reverse Recovery Time	t_{rr}	$I_F = -3.2\ \text{A}$, $di/dt = 100\ \text{A}/\mu\text{s}$		60	90	nC
Reverse Recovery Charge	Q_{rr}			100	150	

Notes:

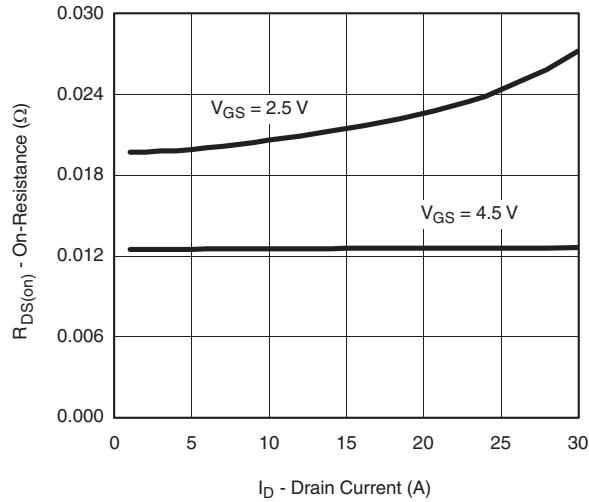
a. Pulse test; pulse width $\leq 300\ \mu\text{s}$, duty cycle $\leq 2\%$.

b. Guaranteed by design, not subject to production testing.

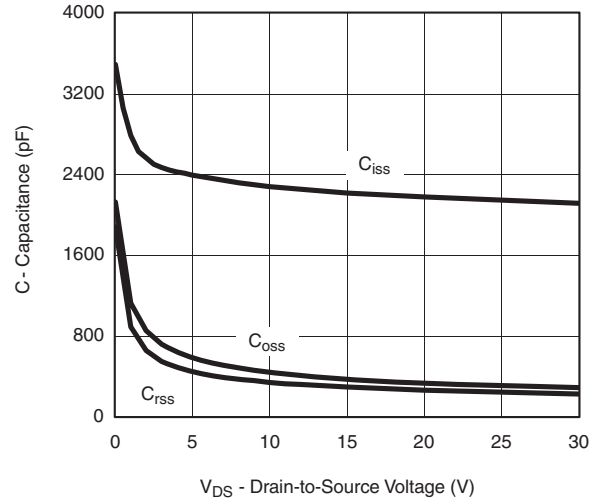
Stresses beyond those listed under "Absolute Maximum Ratings" may cause permanent damage to the device. These are stress ratings only, and functional operation of the device at these or any other conditions beyond those indicated in the operational sections of the specifications is not implied. Exposure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

TYPICAL CHARACTERISTICS 25°C , unless otherwise noted**Output Characteristics****Transfer Characteristics**

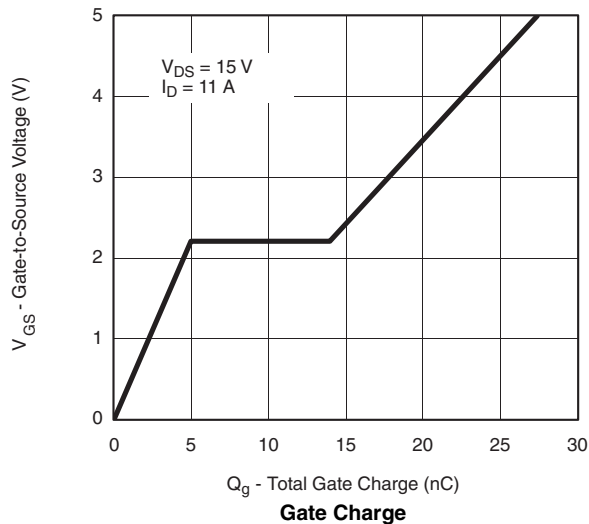
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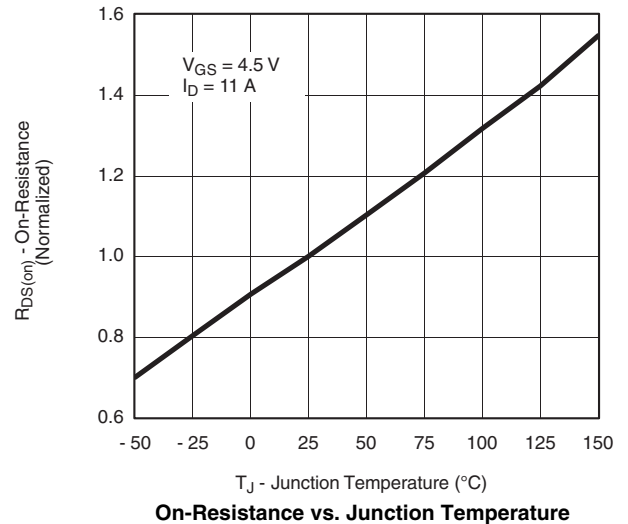
On-Resistance vs. Drain Current



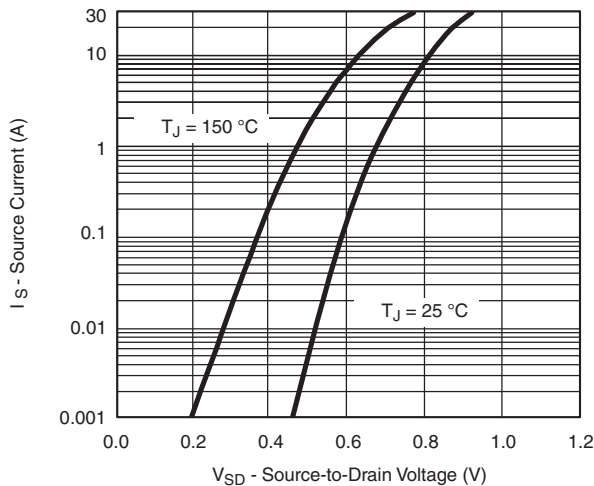
Capacitance



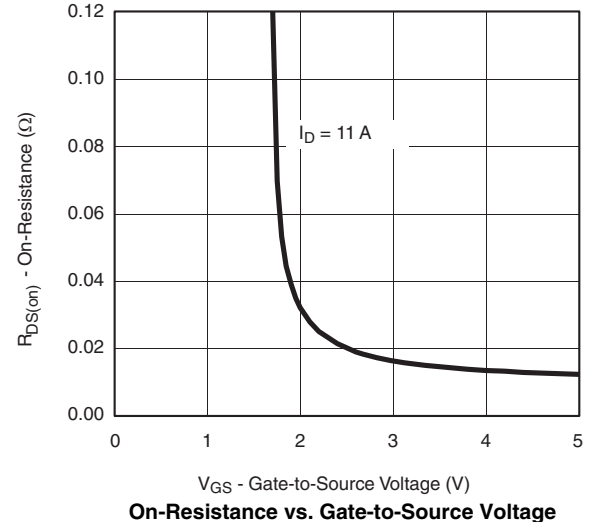
Gate Charge



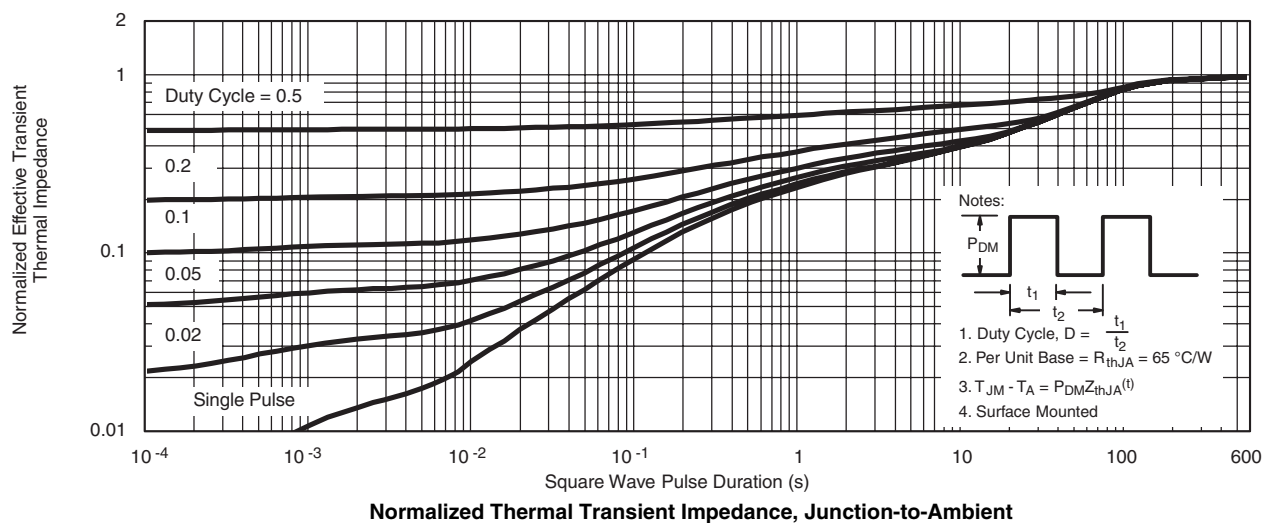
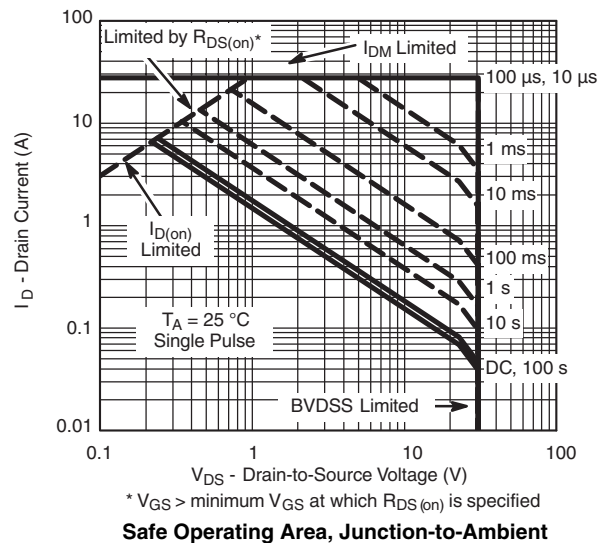
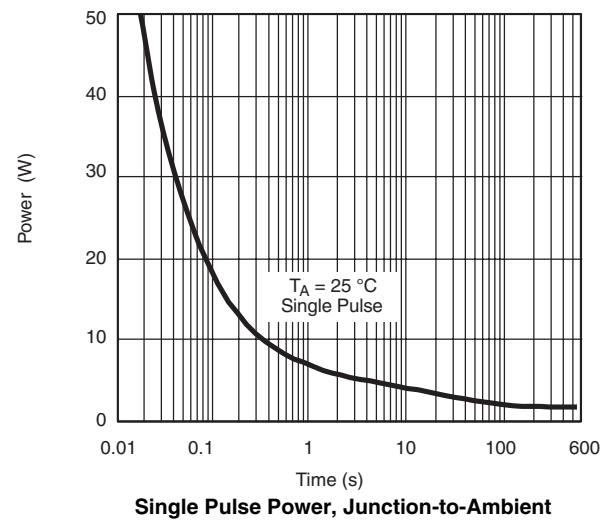
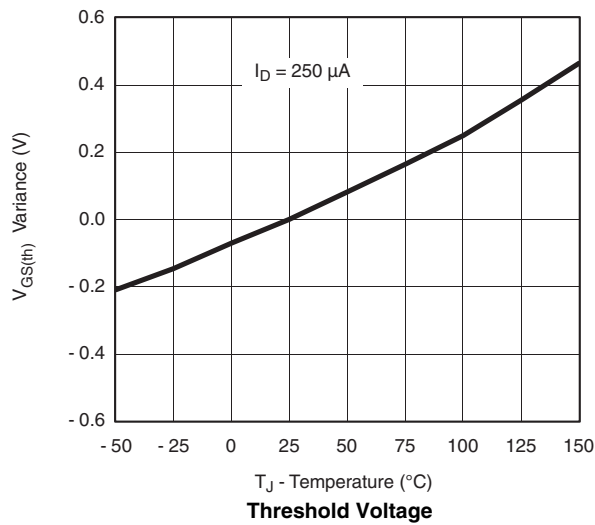
On-Resistance vs. Junction Temperature



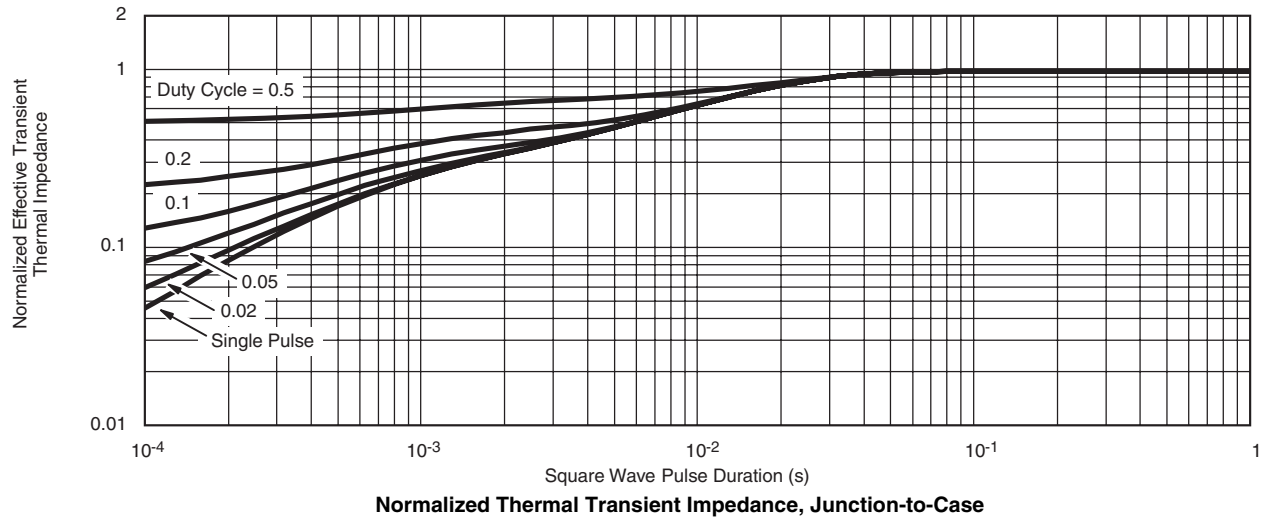
Source-Drain Diode Forward Voltage



On-Resistance vs. Gate-to-Source Voltage

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