

MOSFET SPECIFICATIONS $T_J = 25\text{ }^{\circ}\text{C}$, unless otherwise noted								
Parameter	Symbol	Test Conditions		Min.	Typ. ^b	Max.	Unit	
Static								
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\text{ }\mu\text{A}$	Ch-1	1.0		3.0	V	
			Ch-2	0.8		2.0		
Gate-Body Leakage	I_{GSS}	$V_{DS} = 0\text{ V}, V_{GS} = \pm 20\text{ V}$	Ch-1			± 100	nA	
		$V_{DS} = 0\text{ V}, V_{GS} = \pm 12\text{ V}$	Ch-2			± 100		
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = 30\text{ V}, V_{GS} = 0\text{ V}$	Ch-1			1	μA	
			Ch-2			100		
		$V_{DS} = 30\text{ V}, V_{GS} = 0\text{ V}, T_J = 85\text{ }^{\circ}\text{C}$	Ch-1			15		
			Ch-2			2000		
On-State Drain Current ^b	$I_{D(on)}$	$V_{DS} = 5\text{ V}, V_{GS} = 10\text{ V}$	Ch-1	20			A	
			Ch-2	20				
Drain-Source On-State Resistance ^b	$R_{DS(on)}$	$V_{GS} = 10\text{ V}, I_D = 7.5\text{ A}$	Ch-1		0.017	0.022	Ω	
			Ch-2		0.016	0.022		
		$V_{GS} = 4.5\text{ V}, I_D = 6.5\text{ A}$	Ch-1		0.024	0.030		
			Ch-2		0.020	0.028		
Forward Transconductance ^b	g_{fs}	$V_{DS} = 15\text{ V}, I_D = 7.5\text{ A}$	Ch-1		19		S	
			Ch-2		21			
Diode Forward Voltage ^b	V_{SD}	$I_S = 1\text{ A}, V_{GS} = 0\text{ V}$	Ch-1		0.75	1.2	V	
			Ch-2		0.47	0.5		
Dynamic ^a								
Total Gate Charge	Q_g	$V_{DS} = 15\text{ V}, V_{GS} = 4.5\text{ V}, I_D = 7.5\text{ A}$	Ch-1		7	11	nC	
			Ch-2		11.5	18		
Gate-Source Charge	Q_{gs}		Ch-1		2.9			
			Ch-2		3.8			
Gate-Drain Charge	Q_{gd}		Ch-1		2.5			
			Ch-2		3.5			
Gate Resistance	R_G	Ch-1		1.5		Ω		
		Ch-2		1.8				
Turn-On Delay Time	$t_{d(on)}$	$V_{DD} = 15\text{ V}, R_L = 15\text{ }\Omega$ $I_D \cong 1\text{ A}, V_{GEN} = 10\text{ V}, R_G = 6\text{ }\Omega$	Ch-1		9	15	ns	
			Ch-2		12	20		
Rise Time	t_r		Ch-1		10	17		
			Ch-2		10	17		
Turn-Off Delay Time	$t_{d(off)}$		Ch-1		19	30		
			Ch-2		40	66		
Fall Time	t_f		Ch-1		9	15		
			Ch-2		9	15		
Source-Drain Reverse Recovery Time	t_{rr}		$I_F = 1.7\text{ A}, dI/dt = 100\text{ A}/\mu\text{s}$	Ch-1		35		55
				Ch-2		28		45

Notes:

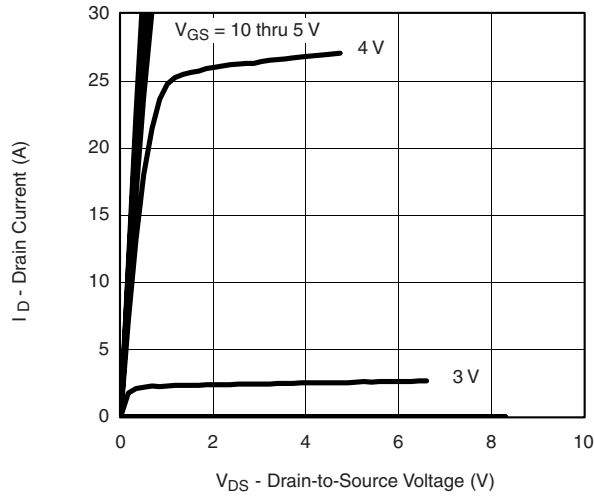
a. Pulse test; pulse width $\leq 300\ \mu\text{s}$, duty cycle $\leq 2\%$.

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

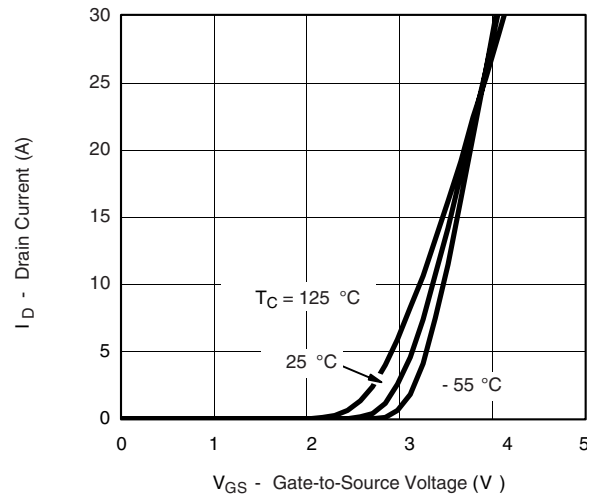
SCHOTTKY SPECIFICATIONS $T_J = 25^\circ\text{C}$, unless otherwise noted						
Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Forward Voltage Drop	V_F	$I_F = 1.0\ \text{A}$		0.47	0.50	V
		$I_F = 1.0\ \text{A}, T_J = 125^\circ\text{C}$		0.36	0.42	
Maximum Reverse Leakage Current	I_{rm}	$V_r = 30\ \text{V}$		0.004	0.100	mA
		$V_r = 30\ \text{V}, T_J = 100^\circ\text{C}$		0.7	10	
		$V_r = -30\ \text{V}, T_J = 125^\circ\text{C}$		3.0	20	
Junction Capacitance	C_T	$V_r = 10\ \text{V}$		50		pF

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.

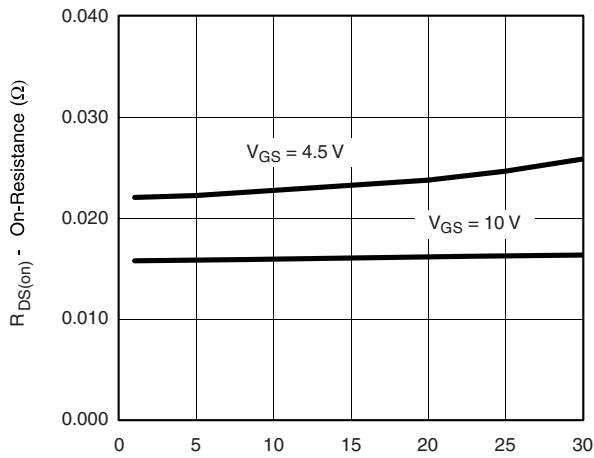
MOSFET CHANNEL-1 TYPICAL CHARACTERISTICS 25 °C, unless otherwise noted



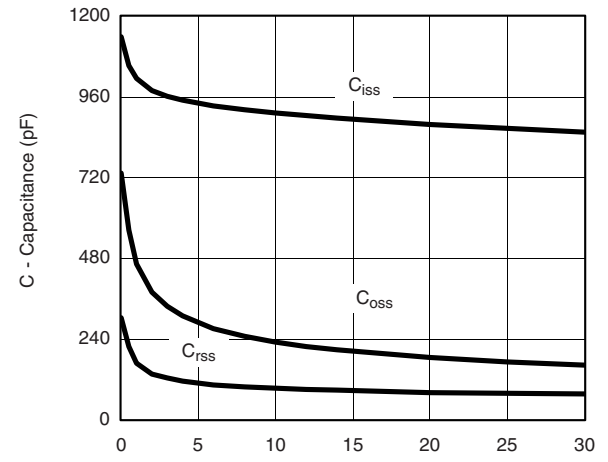
Output Characteristics



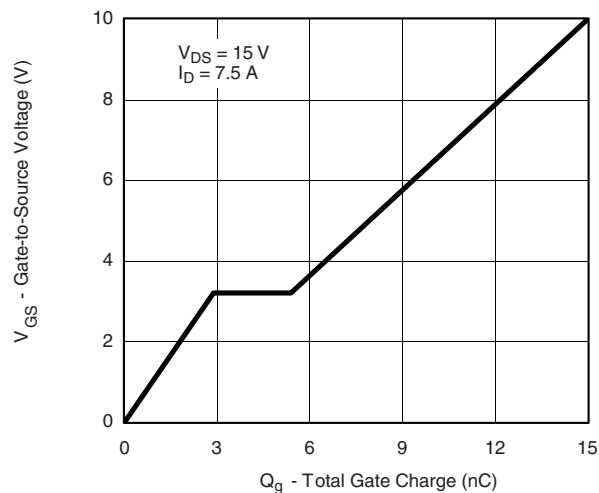
Transfer Characteristics



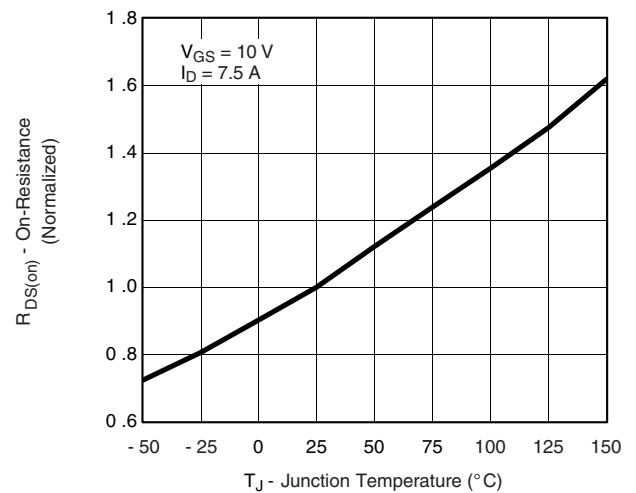
On-Resistance vs. Drain Current



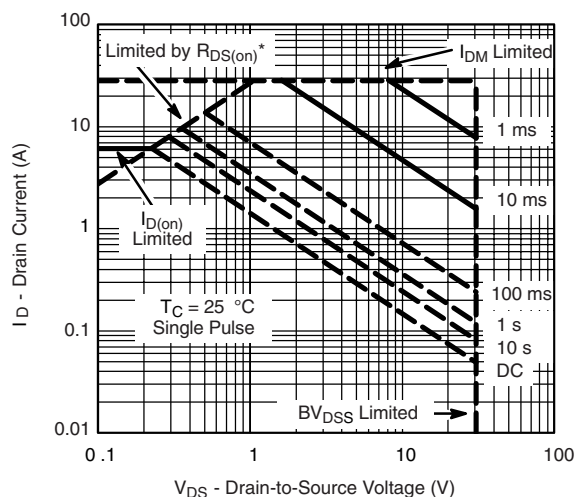
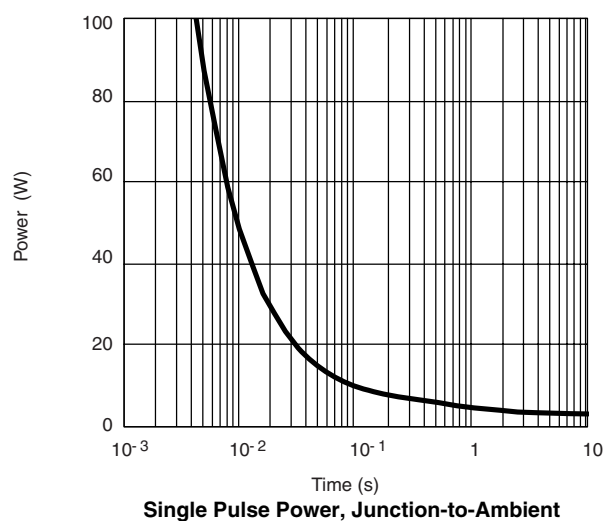
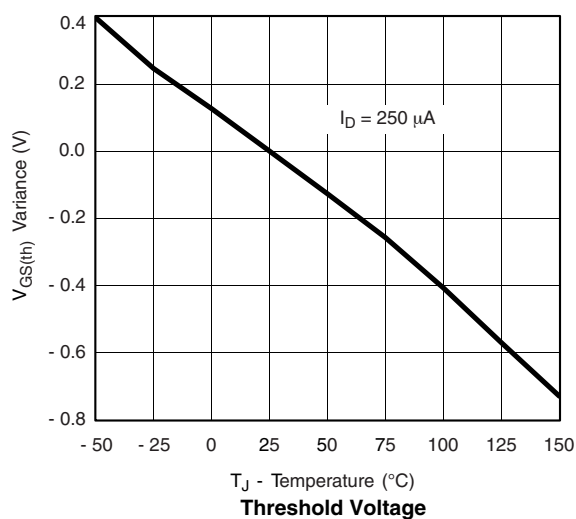
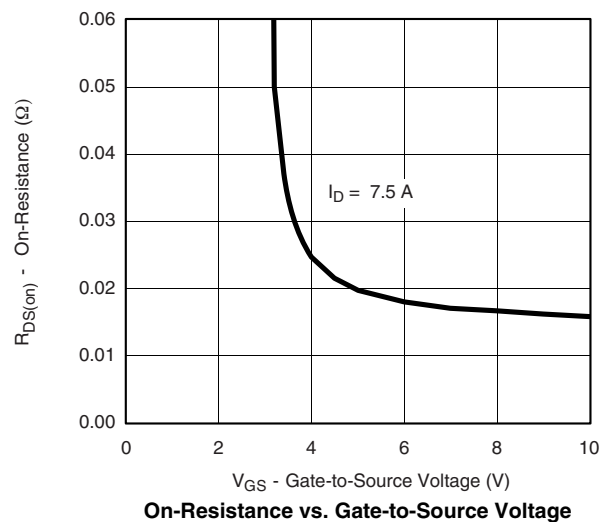
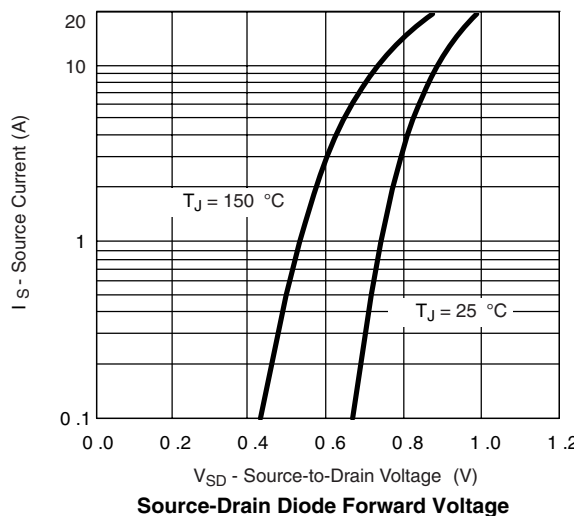
Capacitance



Gate Charge

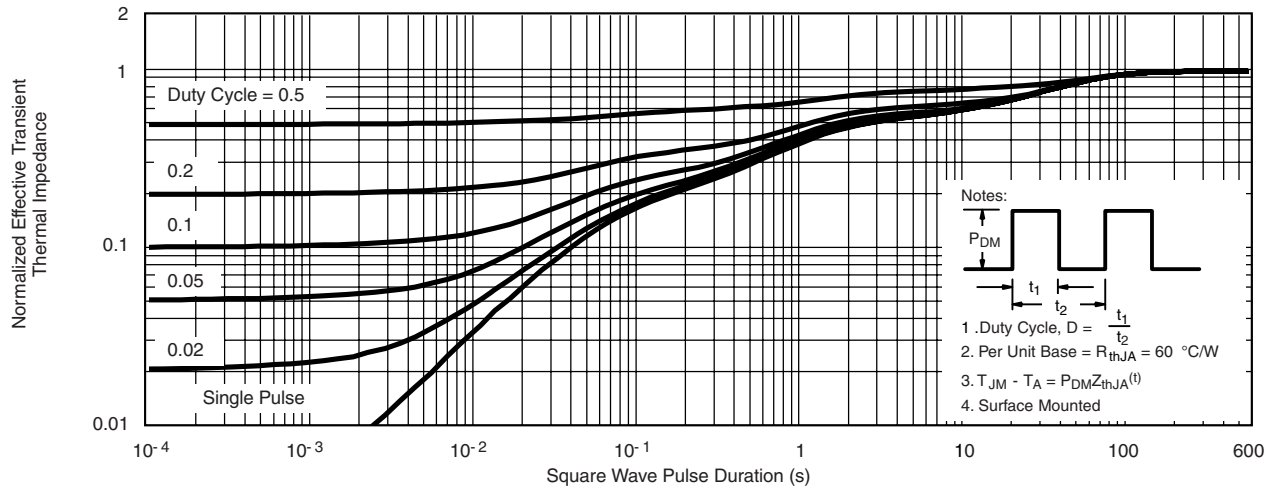


On-Resistance vs. Junction Temperature

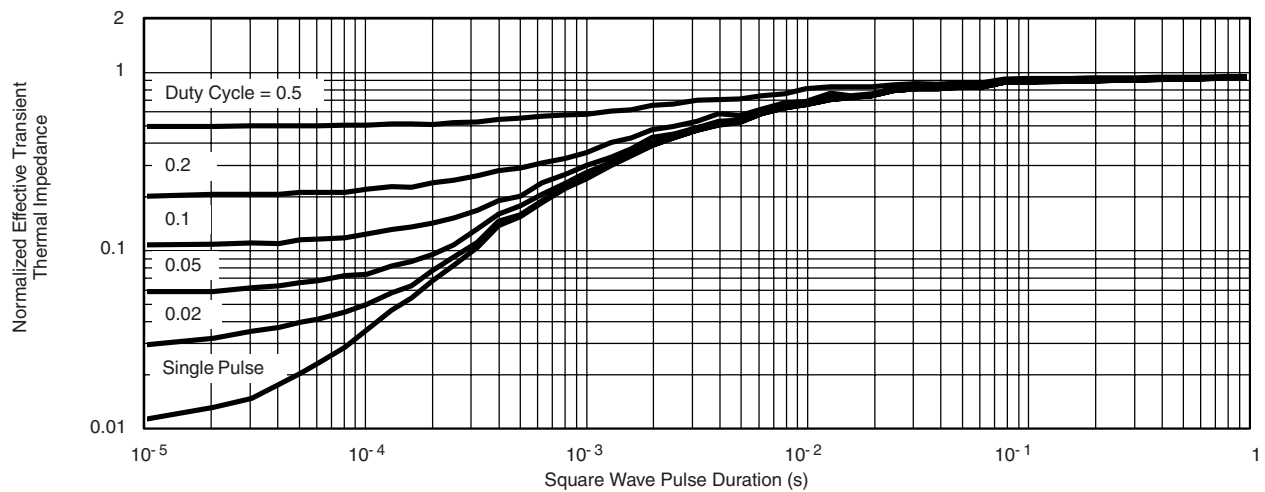
MOSFET CHANNEL-1 TYPICAL CHARACTERISTICS 25 °C, unless otherwise noted

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

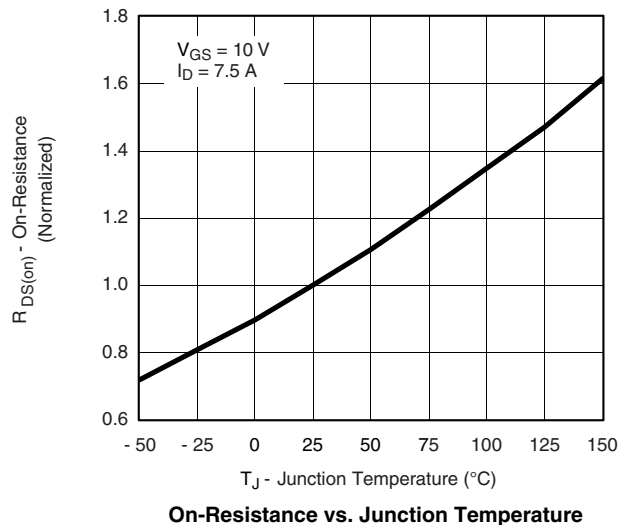
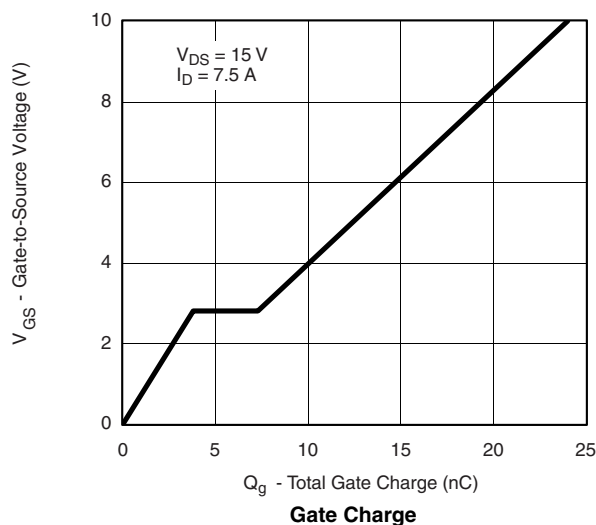
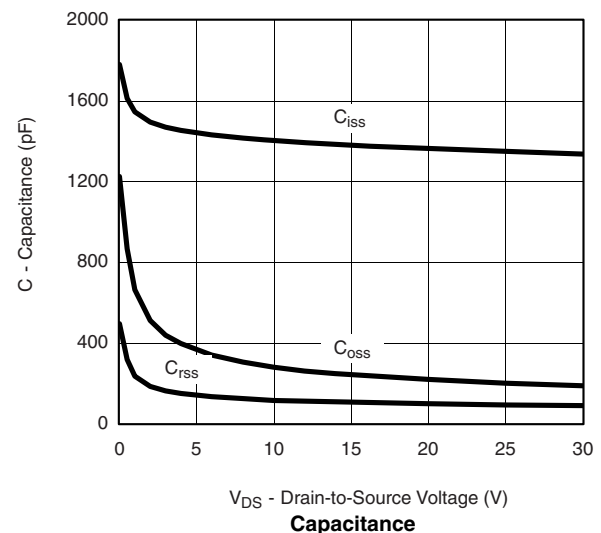
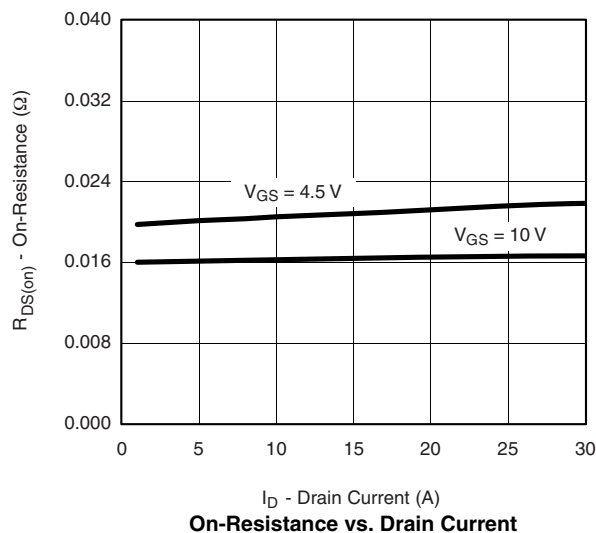
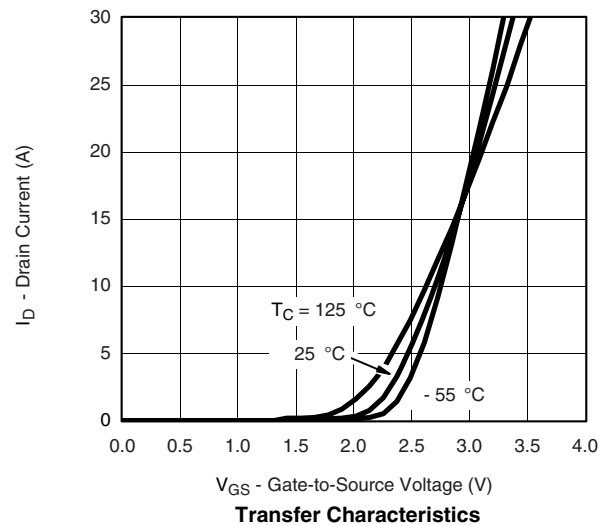
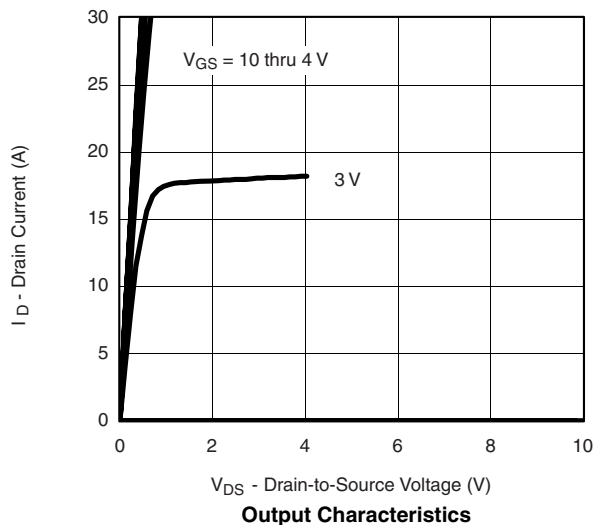
MOSFET CHANNEL-1 TYPICAL CHARACTERISTICS 25 °C, unless otherwise noted



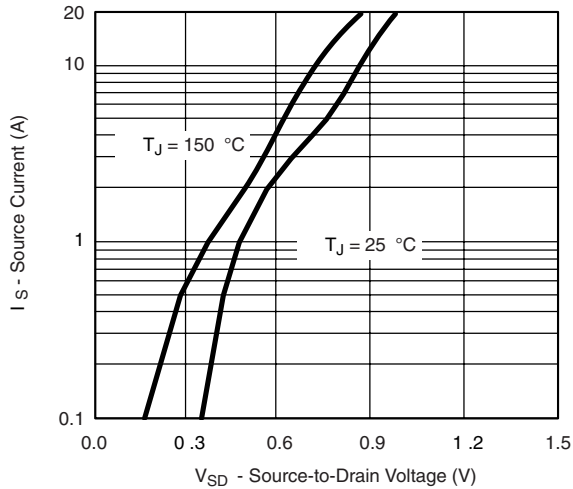
Normalized Thermal Transient Impedance, Junction-to-Ambient



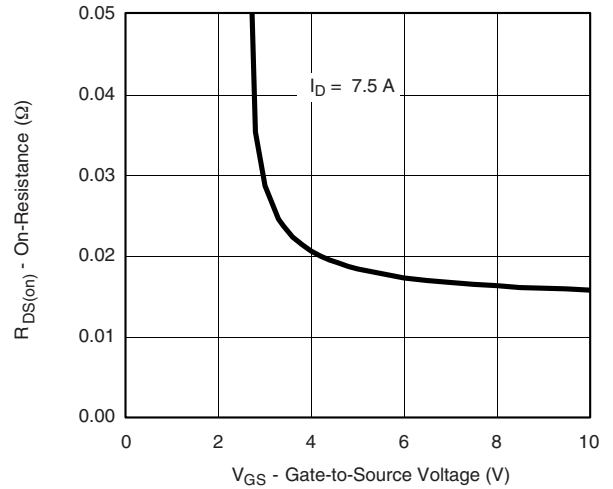
Normalized Thermal Transient Impedance, Junction-to-Case

MOSFET CHANNEL-2 TYPICAL CHARACTERISTICS 25 °C, unless otherwise noted

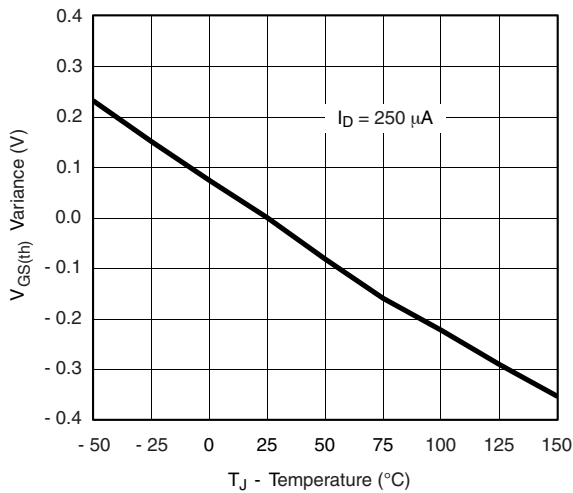
MOSFET CHANNEL-2 TYPICAL CHARACTERISTICS 25 °C, unless otherwise noted



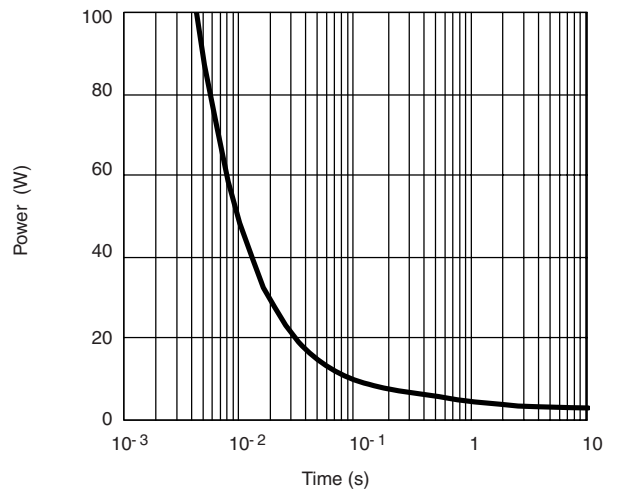
Source-Drain Diode Forward Voltage



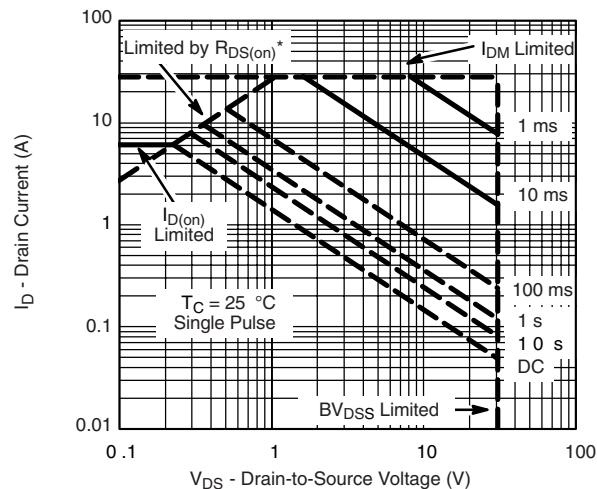
On-Resistance vs. Gate-to-Source Voltage



Threshold Voltage

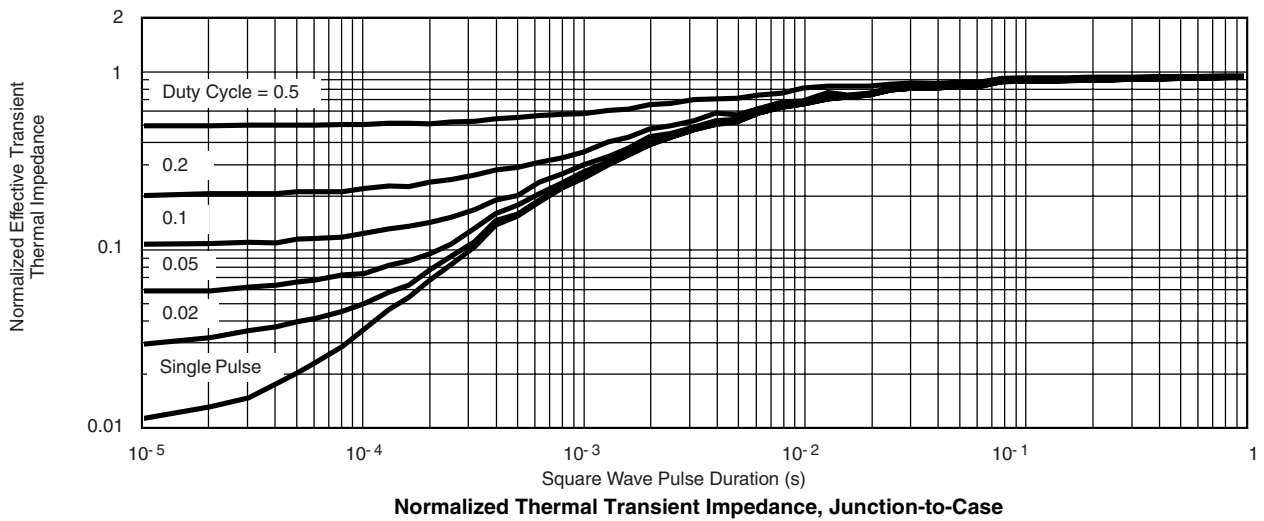
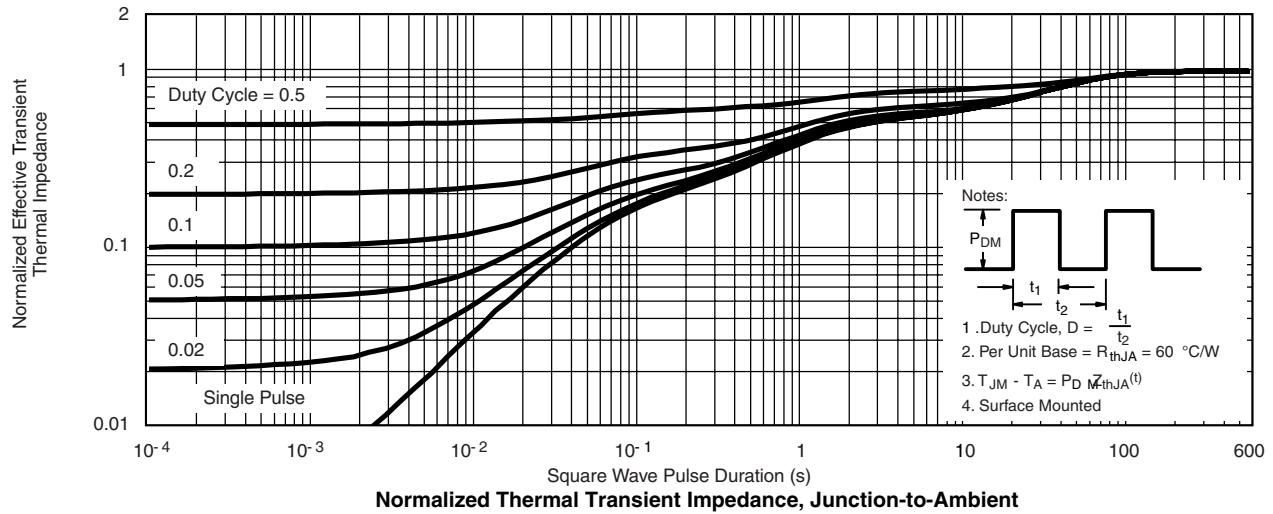


Single Pulse Power, Junction-to-Ambient

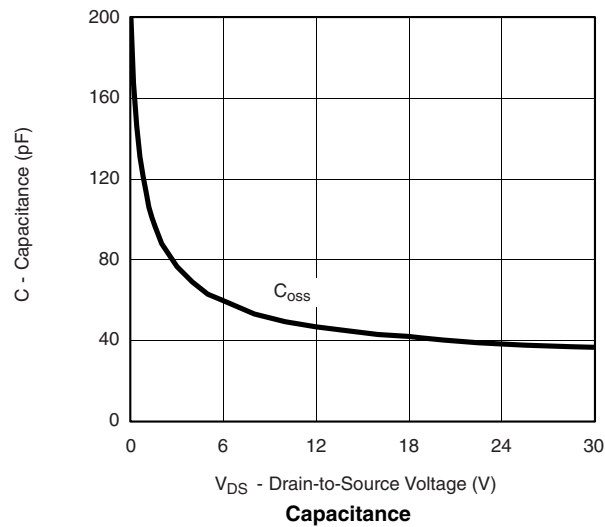
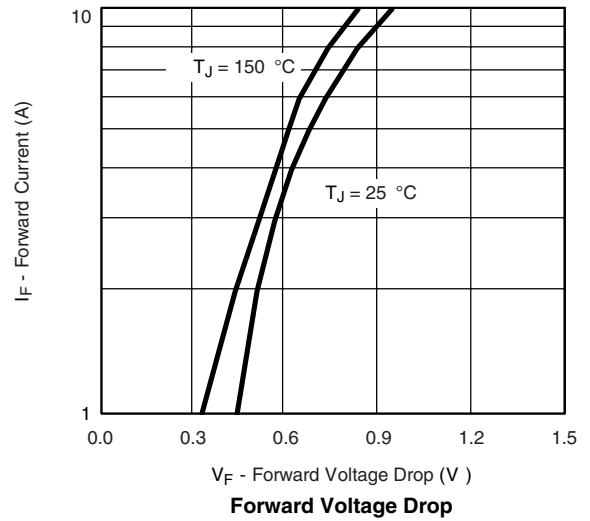
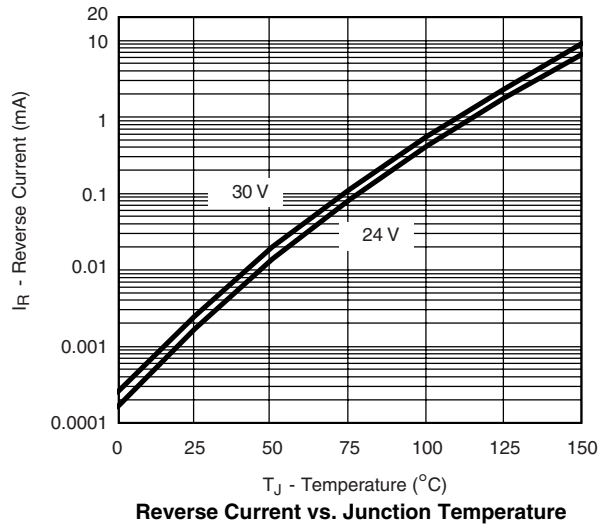


* $V_{GS} >$ minimum V_{GS} at which $R_{DS(on)}$ is specified

Safe Operating Area, Junction-to-Foot

MOSFET CHANNEL-2 TYPICAL CHARACTERISTICS 25 °C, unless otherwise noted

SCHOTTKY TYPICAL CHARACTERISTICS 25 °C, unless otherwise noted



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