

SPECIFICATIONS $T_J = 25\text{ }^\circ\text{C}$, unless otherwise noted						
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Static						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS} = 0\text{ V}, I_D = -250\text{ }\mu\text{A}$	-60			V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = -250\text{ }\mu\text{A}$	-1		-3	V
Gate-Body Leakage	I_{GSS}	$V_{DS} = 0\text{ V}, V_{GS} = \pm 20\text{ V}$			± 100	nA
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = -60\text{ V}, V_{GS} = 0\text{ V}$			-1	μA
		$V_{DS} = -60\text{ V}, V_{GS} = 0\text{ V}, T_J = 125\text{ }^\circ\text{C}$			-50	
		$V_{DS} = -60\text{ V}, V_{GS} = 0\text{ V}, T_J = 175\text{ }^\circ\text{C}$			-150	
On-State Drain Current ^a	$I_{D(on)}$	$V_{DS} = -5\text{ V}, V_{GS} = -10\text{ V}$	-30			A
Drain-Source On-State Resistance ^a	$r_{DS(on)}$	$V_{GS} = -10\text{ V}, I_D = -10\text{ A}$		0.048	0.060	Ω
		$V_{GS} = -10\text{ V}, I_D = -16.8\text{ A}, T_J = 125\text{ }^\circ\text{C}$			0.102	
		$V_{GS} = -10\text{ V}, I_D = -16.8\text{ A}, T_J = 175\text{ }^\circ\text{C}$			0.129	
		$V_{GS} = -4.5\text{ V}, I_D = -5\text{ A}$		0.061	0.077	
Forward Transconductance ^a	g_{fs}	$V_{DS} = -15\text{ V}, I_D = -10\text{ A}$		22		S
Dynamic^b						
Input Capacitance	C_{iss}	$V_{GS} = 0\text{ V}, V_{DS} = -25\text{ V}, f = 1\text{ MHz}$		1140	1710	pF
Output Capacitance	C_{oss}		130			
Reverse Transfer Capacitance	C_{rss}		90			
Total Gate Charge	Q_g	$V_{DS} = -30\text{ V}, V_{GS} = -10\text{ V}, I_D = -10\text{ A}$		26	40	nC
Gate-Source Charge	Q_{gs}		4.5			
Gate-Drain Charge	Q_{gd}		7.0			
Gate Resistance	R_g	$f = 1\text{ MHz}$		7.0		Ω
Turn-On Delay Time ^c	$t_{d(on)}$	$V_{DD} = -30\text{ V}, R_L = 3\text{ }\Omega$ $I_D \cong -19\text{ A}, V_{GEN} = -10\text{ V}, R_g = 2.5\text{ }\Omega$		8	15	ns
Rise Time ^c	t_r		9	15		
Turn-Off Delay Time ^c	$t_{d(off)}$		65	100		
Fall Time ^c	t_f		30	45		
Drain-Source Body Diode Characteristics ($T_C = 25\text{ }^\circ\text{C}$) ^b						
Continuous Current	I_S				-30	A
Pulsed Current	I_{SM}				-30	
Forward Voltage ^a	V_{SD}	$I_F = -19\text{ A}, V_{GS} = 0\text{ V}$		-1.0	-1.5	V
Reverse Recovery Time	t_{rr}	$I_F = -19\text{ A}, di/dt = 100\text{ A}/\mu\text{s}$		41	61	ns

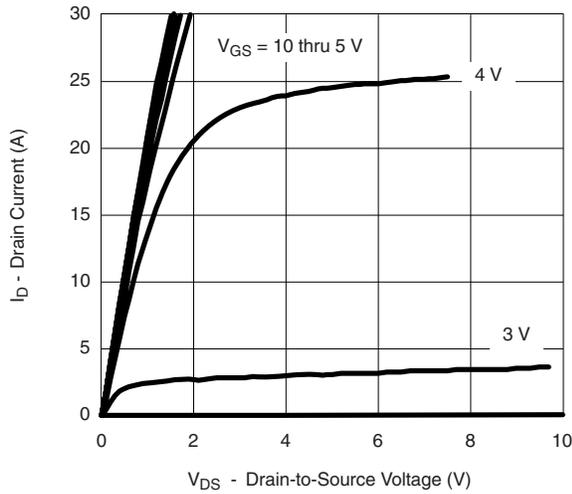
Notes:

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

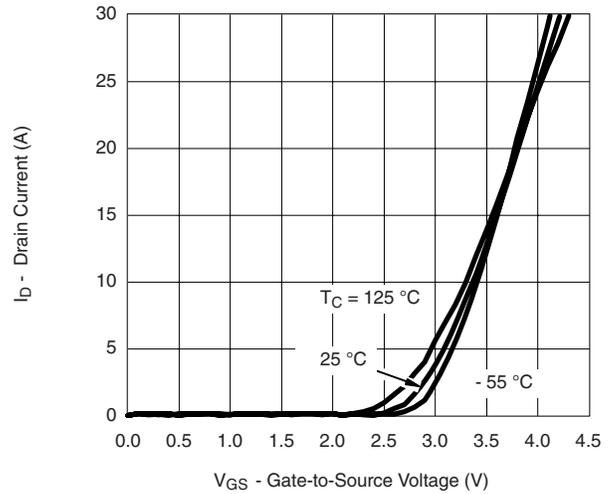
Stresses beyond those listed under "Absolute Maximum Ratings" may cause permanent damage to the device. These are stress ratings only, and functional operation of the device at these or any other conditions beyond those indicated in the operational sections of the specifications is not implied. Exposure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



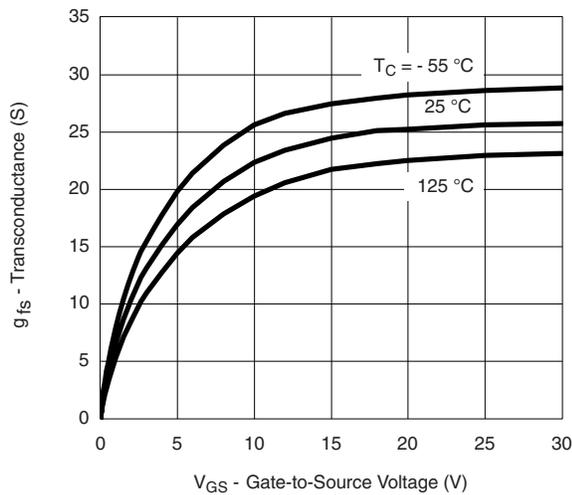
TYPICAL CHARACTERISTICS 25 °C, unless otherwise noted



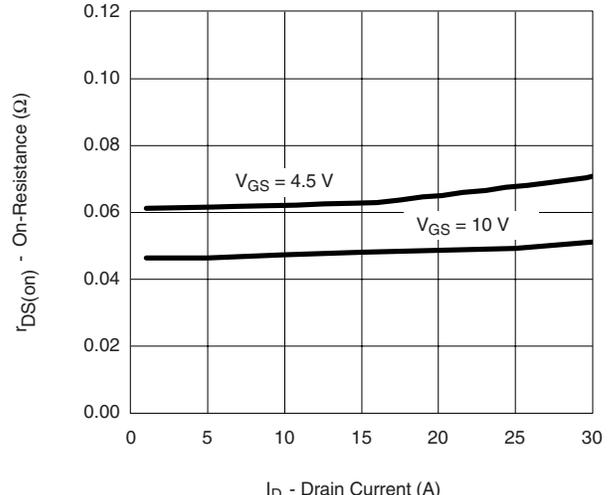
Output Characteristics



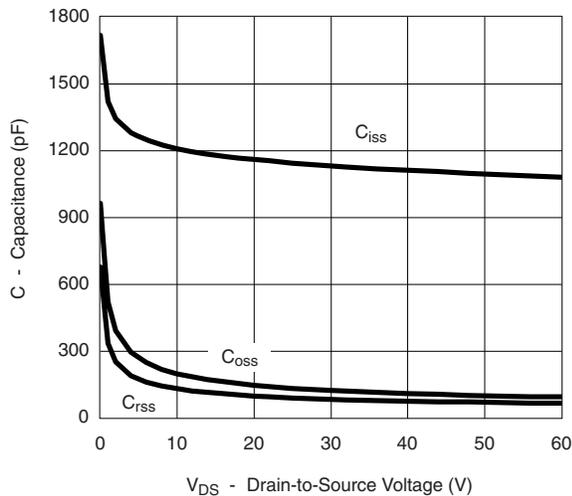
Transfer Characteristics



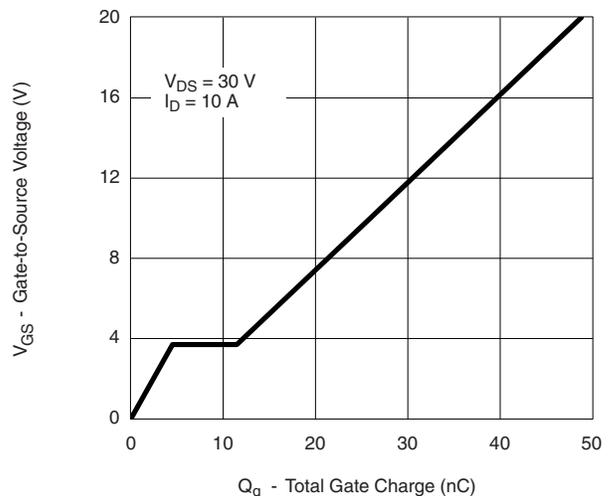
Transconductance



On-Resistance vs. Drain Current



Capacitance



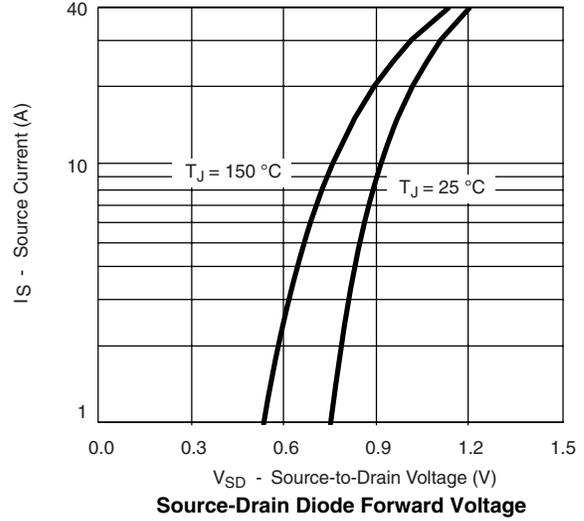
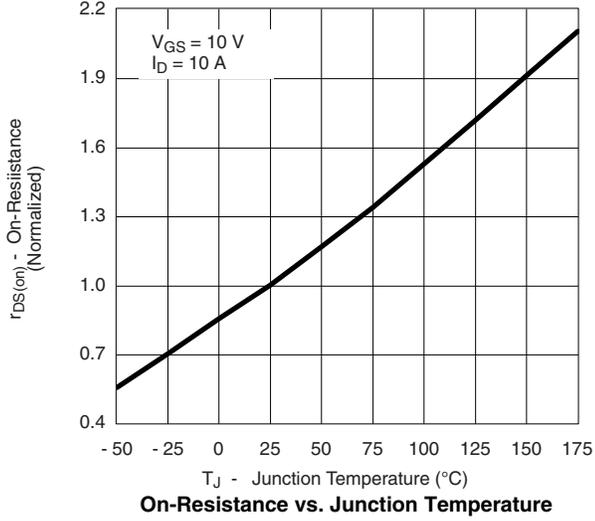
Gate Charge

SUD19P06-60L

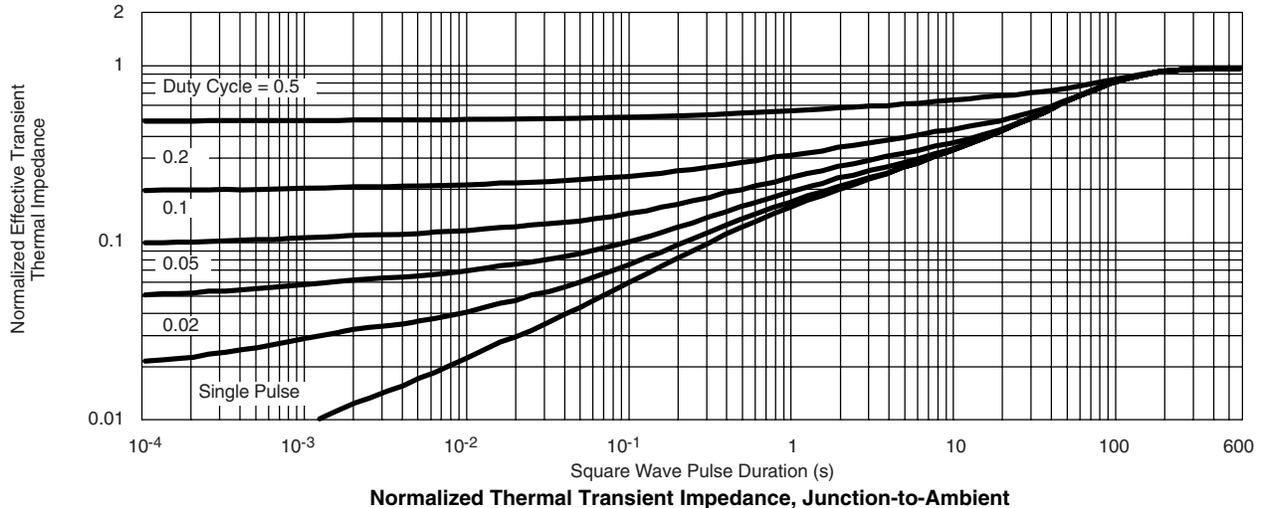
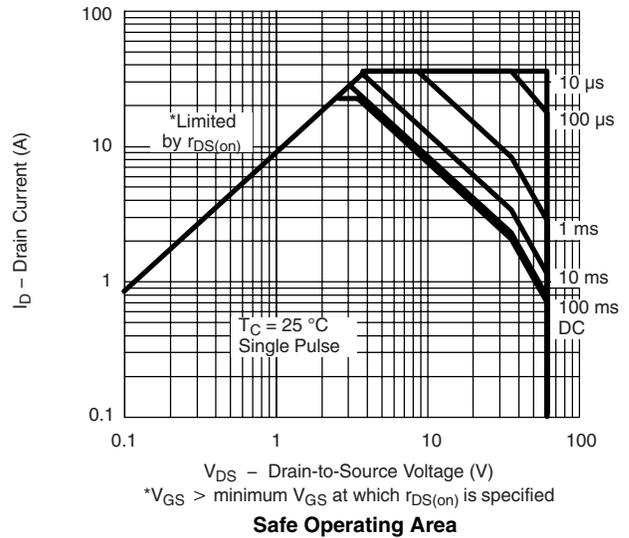
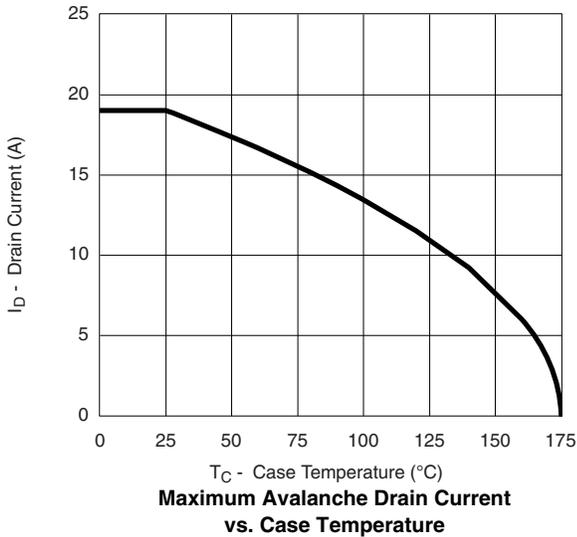


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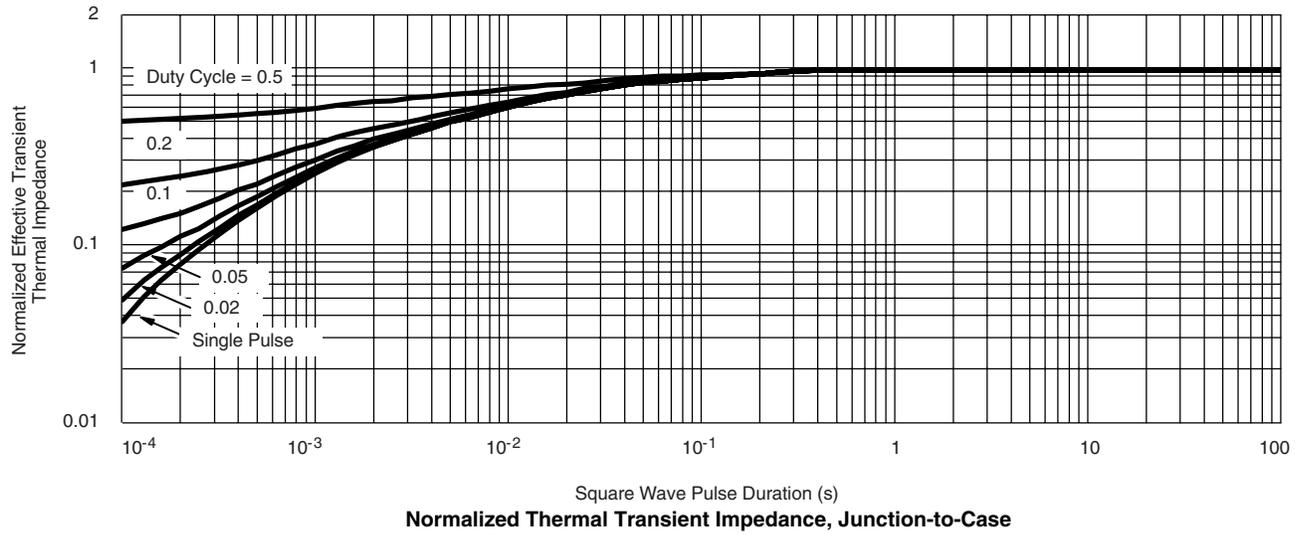


THERMAL RATINGS





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