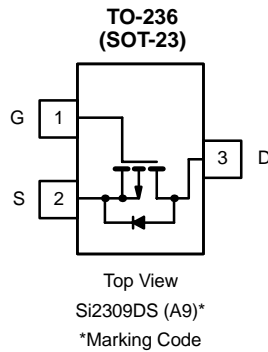


P-Channel 60-V (D-S) MOSFET

PRODUCT SUMMARY		
V_{DS} (V)	$r_{DS(on)}$ (Ω)	I_D (A)
-60	0.340 @ $V_{GS} = -10$ V	-1.25
	0.550 @ $V_{GS} = -4.5$ V	-1



ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ UNLESS OTHERWISE NOTED)				
Parameter		Symbol	Limit	Unit
Drain-Source Voltage		V_{DS}	-60	V
Gate-Source Voltage		V_{GS}	± 20	
Continuous Drain Current ($T_J = 150^\circ\text{C}$) ^{a, b}	$T_A = 25^\circ\text{C}$	I_D	-1.25	A
	$T_A = 100^\circ\text{C}$		-0.85	
Pulsed Drain Current		I_{DM}	-8	
Avalanche Current	$L = 0.1$ mH	I_{AS}	-5	
Maximum Power Dissipation ^{a, b}	$T_A = 25^\circ\text{C}$	P_D	1.25	W
	$T_A = 70^\circ\text{C}$		0.8	
Operating Junction and Storage Temperature Range		T_J, T_{stg}	-55 to 150	$^\circ\text{C}$

THERMAL RESISTANCE RATINGS					
Parameter		Symbol	Typical	Maximum	Unit
Maximum Junction-to-Ambient ^a	$t \leq 5$ sec	R_{thJA}		100	$^\circ\text{C/W}$
	Steady State		130	166	
Maximum Junction-to-Lead ^a	Steady State	R_{thJL}	45	60	

Notes

- a. Surface Mounted on FR4 Board.
- b. $t \leq 5$ sec.

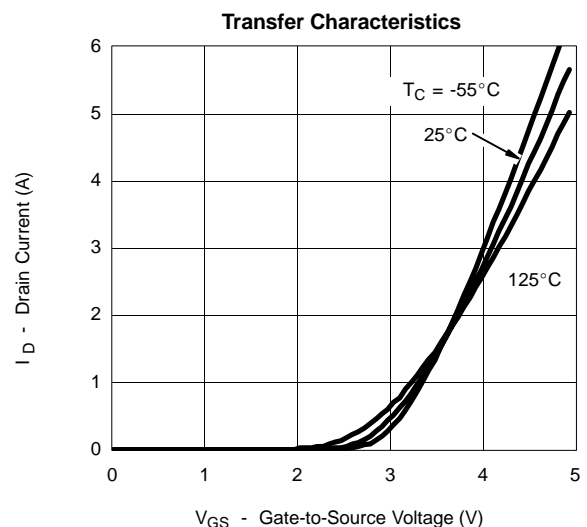
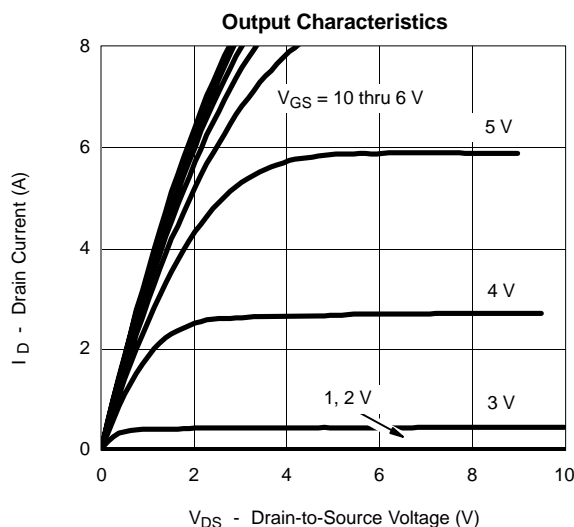


SPECIFICATIONS (T _J = 25 °C UNLESS OTHERWISE NOTED)						
Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Static						
Drain-Source Breakdown Voltage	V _{(BR)DSS}	V _{DS} = 0 V, I _D = -250 μA	-60			V
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = -250 μA	-1			
Gate-Body Leakage	I _{GSS}	V _{DS} = 0 V, V _{GS} = ±20 V			±100	nA
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = -48 V, V _{GS} = 0 V			-1	μA
		V _{DS} = -48 V, V _{GS} = 0 V, T _J = 125 °C			-50	
On-State Drain Current ^a	I _{D(on)}	V _{DS} ≥ -4.5 V, V _{GS} = -10 V	-6			A
Drain-Source On-State Resistance ^a	r _{DS(on)}	V _{GS} = -10 V, I _D = -1.25 A		0.275	0.340	Ω
		V _{GS} = -4.5 V, I _D = -1 A		0.406	0.550	
Forward Transconductance ^a	g _{fs}	V _{DS} = -4.5 V, I _D = -1 A		1.9		S
Dynamic^b						
Total Gate Charge	Q _g	V _{DS} = -30 V, V _{GS} = -10 V, I _D = -1.25 A		5.4	12	nC
Gate-Source Charge	Q _{gs}			1.15		
Gate-Drain Charge	Q _{gd}			0.92		
Turn-On Delay Time	t _{d(on)}	V _{DD} = -30 V, R _L = 30 Ω I _D ≅ -1 A, V _{GEN} = -4.5 V, R _G = 6 Ω		10.5	20	ns
Rise Time	t _r			11.5	20	
Turn-Off Delay Time	t _{d(off)}			15.5	30	
Fall Time	t _f			7.5	15	
Source-Drain Rating Characteristics^b						
Continuous Current	I _S				-1.25	A
Pulsed Current	I _{SM}				-8	
Diode Forward Voltage ^a	V _{SD}	I _S = -1.25 A, V _{GS} = 0 V		-0.82	-1.2	V
Source-Drain Reverse Recovery Time	t _{rr}	I _F = -1.25 A, di/dt = 100 A/μs		30	55	ns

Notes

- a. Pulse test; pulse width ≤ 300 μs, duty cycle ≤ 2%.
- b. Guaranteed by design, not subject to production testing.

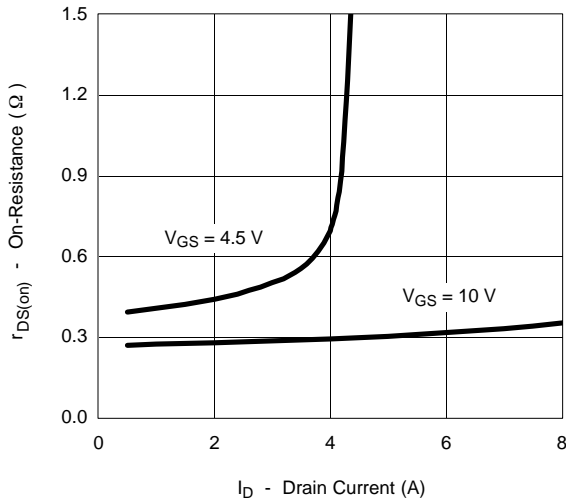
TYPICAL CHARACTERISTICS (25 °C UNLESS NOTED)



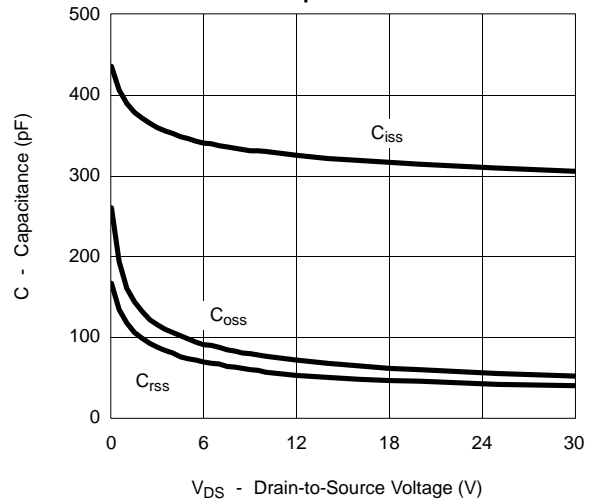


TYPICAL CHARACTERISTICS (25°C UNLESS NOTED)

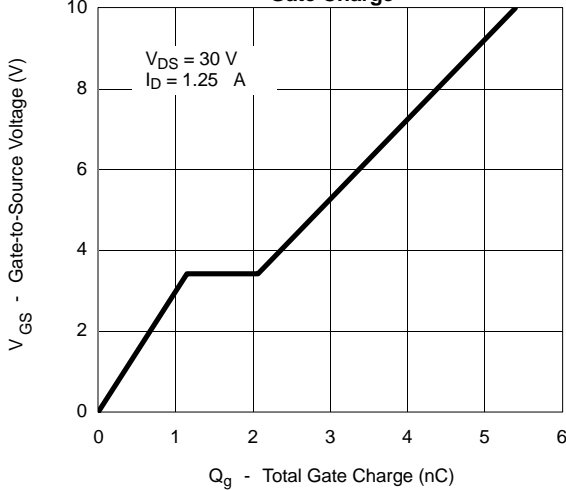
On-Resistance vs. Drain Current



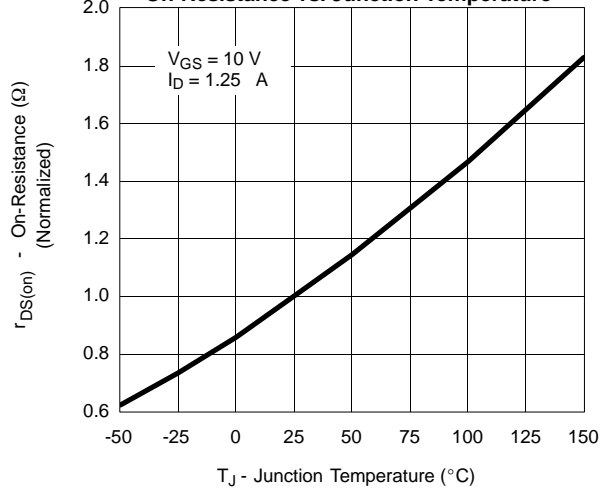
Capacitance



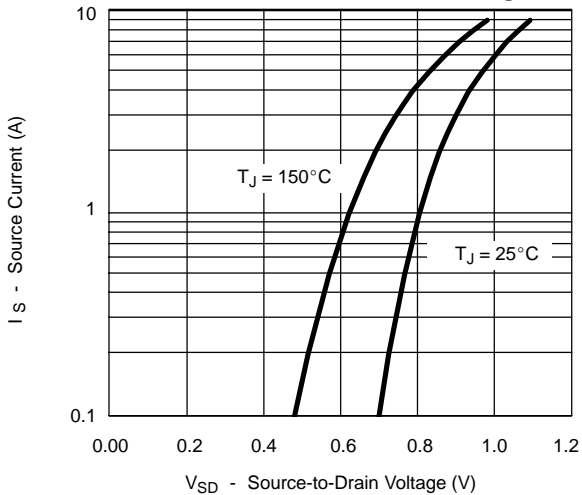
Gate Charge



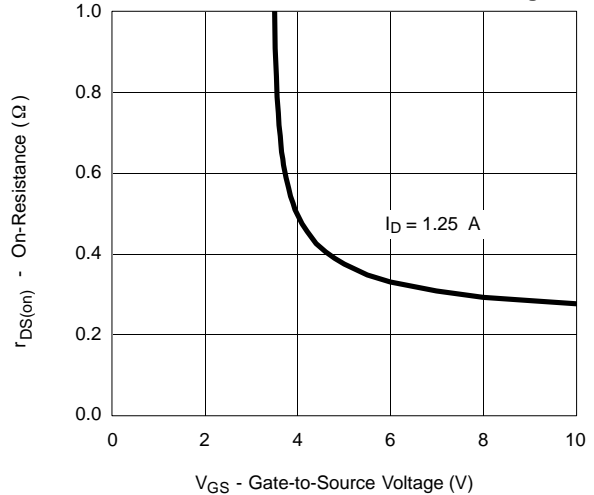
On-Resistance vs. Junction Temperature



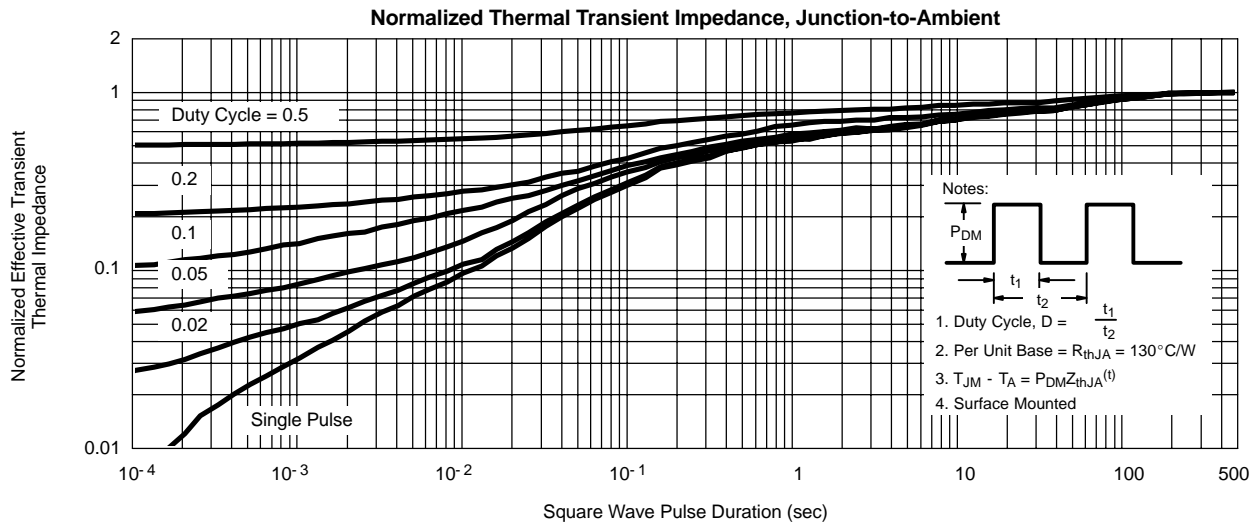
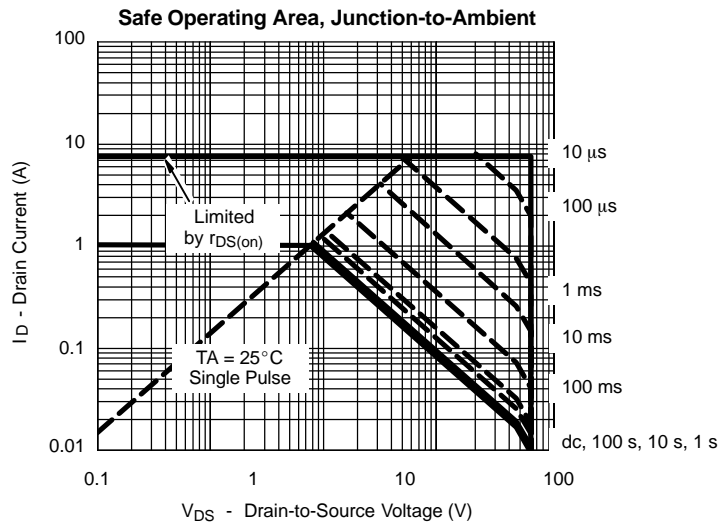
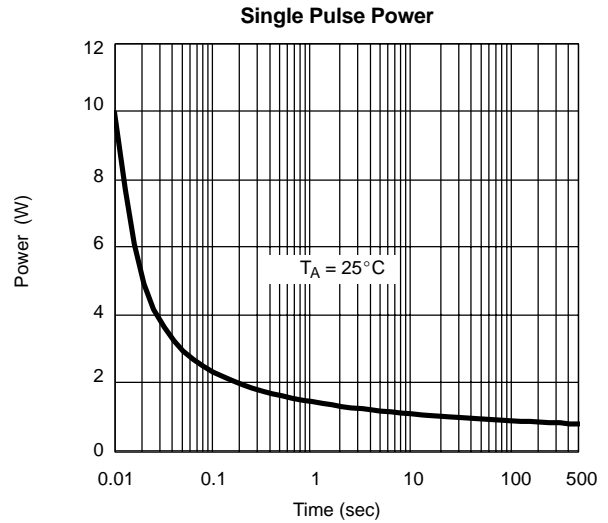
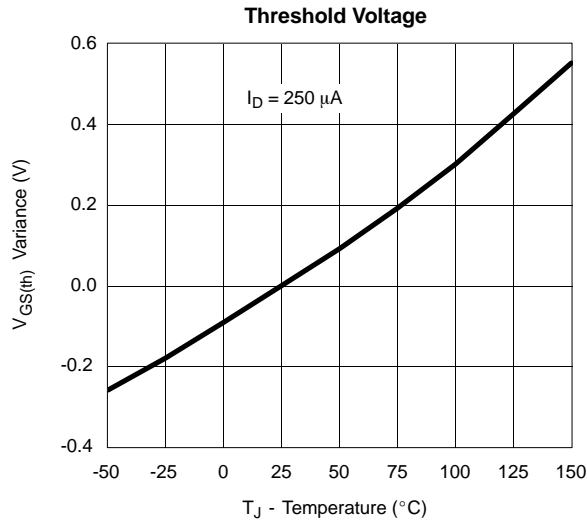
Source-Drain Diode Forward Voltage



On-Resistance vs. Gate-to-Source Voltage



TYPICAL CHARACTERISTICS (25 °C UNLESS NOTED)





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