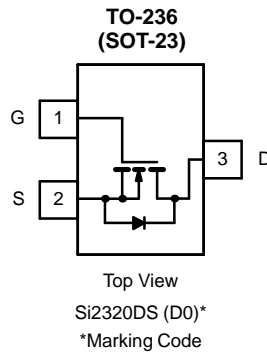




N-Channel 200-V (D-S) MOSFET

PRODUCT SUMMARY		
V_{DS} (V)	$r_{DS(on)}$ (Ω)	I_D (A)
200	7 @ $V_{GS} = 10$ V	± 0.28



ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ UNLESS OTHERWISE NOTED)					
Parameter	Symbol	5 sec	Steady State	Unit	
Drain-Source Voltage	V_{DS}	± 200		V	
Gate-Source Voltage	V_{GS}	± 20			
Continuous Drain Current ($T_J = 150^\circ\text{C}$) ^a	I_D	$T_A = 25^\circ\text{C}$	± 0.28	± 0.22	A
		$T_A = 70^\circ\text{C}$	± 0.22	± 0.17	
Pulsed Drain Current ^b	I_{DM}	± 0.5			
Avalanche Current ^b	I_{AS}	± 0.5			
Single Avalanche Energy	E_{AS}	0.013		mJ	
Continuous Source Current (Diode Conduction) ^a	I_S	± 1		A	
Power Dissipation ^a	P_D	$T_A = 25^\circ\text{C}$	1.25	0.75	W
		$T_A = 70^\circ\text{C}$	0.80	0.48	
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	R_{thJA}	$t \leq 5$ sec	75	100	$^\circ\text{C/W}$
		Steady State	120	166	
Maximum Junction-to-Foot	R_{thJF}	40	50		

Notes

- a. Surface Mounted on 1" x 1" FR4 Board.
- b. Pulse width limited by maximum junction temperature

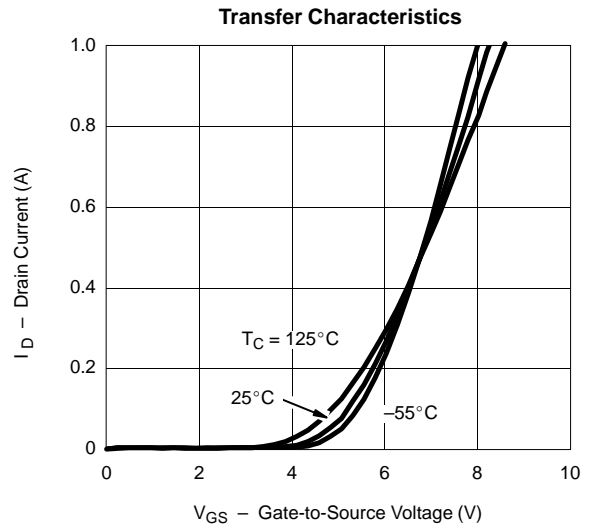
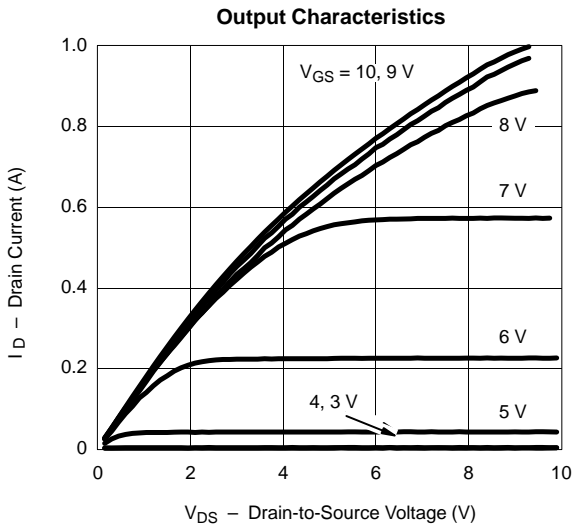


SPECIFICATIONS (T _A = 25 °C UNLESS OTHERWISE NOTED)						
Parameter	Symbol	Test Conditions	Limits			Unit
			Min	Typ	Max	
Static						
Drain-Source Breakdown Voltage	V _{(BR)DSS}	V _{GS} = 0 V, I _D = 1 mA	200			V
Gate-Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = 250 μA	2			
Gate-Body Leakage	I _{GSS}	V _{DS} = 0 V, V _{GS} = ±20 V			±100	nA
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = 160 V, V _{GS} = 0 V			1	μA
		V _{DS} = 160 V, V _{GS} = 0 V, T _J = 70 °C			75	
On-State Drain Current ^a	I _{D(on)}	V _{DS} ≥ 15 V, V _{GS} = 10 V	0.5			A
Drain-Source On-Resistance ^a	r _{DS(on)}	V _{GS} = 10 V, I _D = 0.2 A		5.8	7	Ω
Forward Transconductance ^a	g _{fs}	V _{DS} = 15 V, I _D = 0.4 A		13		S
Diode Forward Voltage	V _{SD}	I _S = 1 A, V _{GS} = 0 V			1.2	V
Dynamic^b						
Total Gate Charge	Q _g	V _{DS} = 100 V, V _{GS} = 10 V, I _D = 0.2 A		1.1	1.6	nC
Gate-Source Charge	Q _{gs}			0.31		
Gate-Drain Charge	Q _{gd}			0.375		
Switching						
Turn-On Delay Time	t _{d(on)}	V _{DD} = 100 V, R _L = 500 Ω I _D ≅ 0.2 A, V _{GEN} = 10 V, R _G = 6 Ω		6	10	ns
Rise Time	t _r			9	15	
Turn-Off Delay Time	t _{d(off)}			9	15	
Fall-Time	t _f			65	100	
Source-Drain Reverse Recovery Time	t _{rr}	I _F = 1 A, di/dt = 100 A/μs		105	160	ns

Notes

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

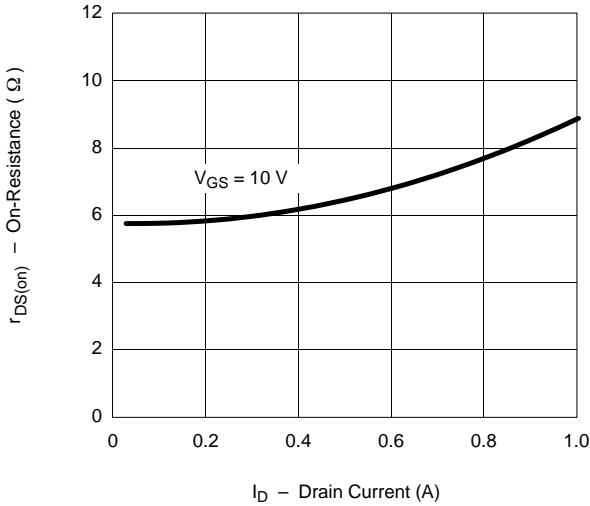
TYPICAL CHARACTERISTICS (25 °C UNLESS NOTED)



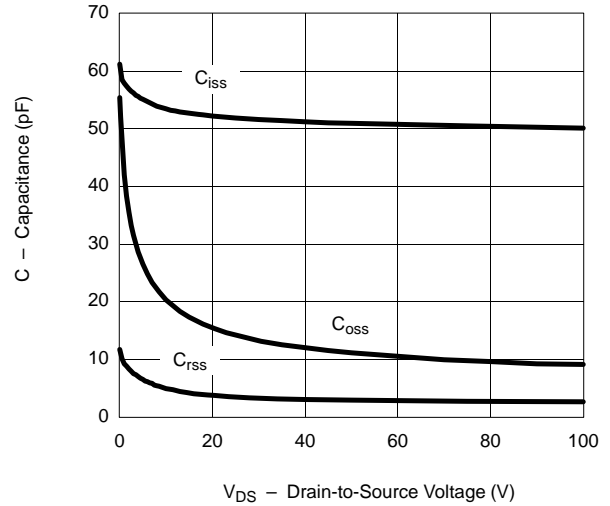


TYPICAL CHARACTERISTICS (25°C UNLESS NOTED)

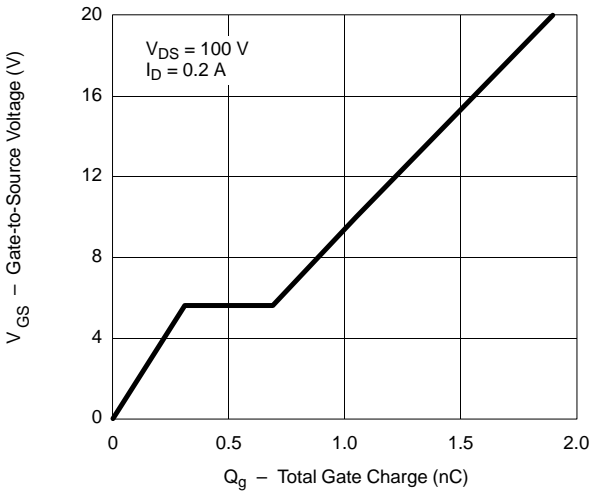
On-Resistance vs. Drain Current



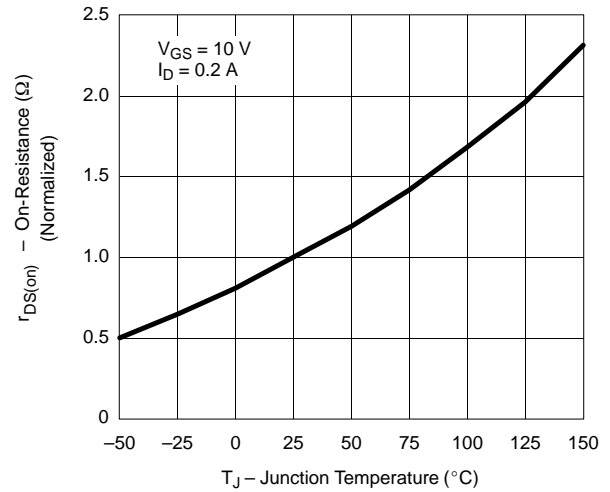
Capacitance



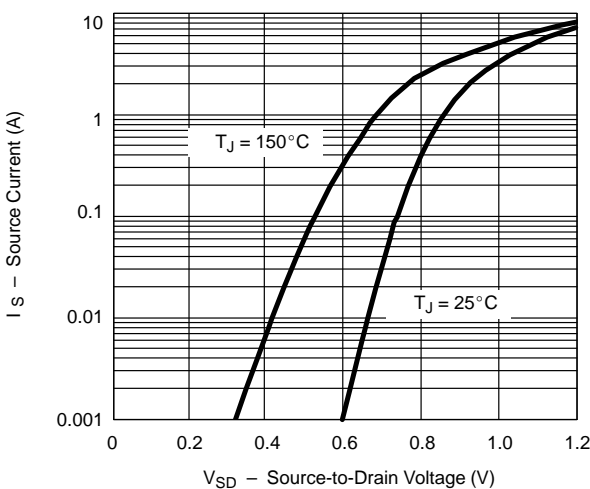
Gate Charge



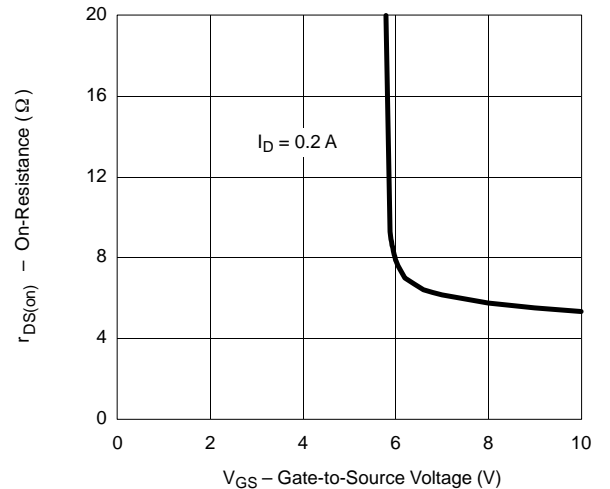
On-Resistance vs. Junction Temperature



Source-Drain Diode Forward Voltage



On-Resistance vs. Gate-to-Source Voltage





TYPICAL CHARACTERISTICS (25°C UNLESS NOTED)

