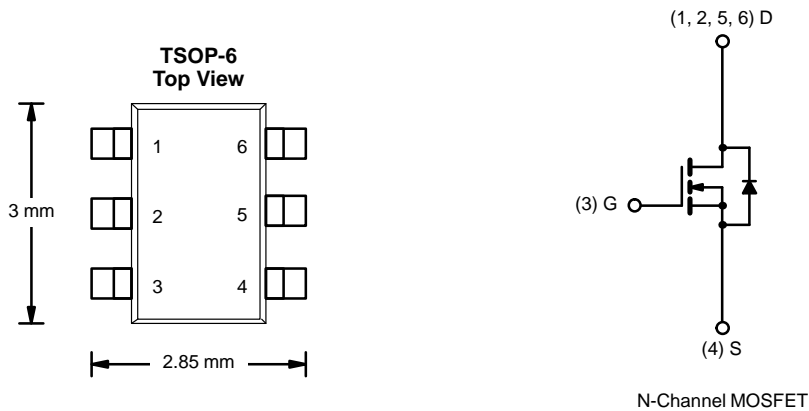




N-Channel 200-V (D-S) MOSFET

PRODUCT SUMMARY		
V_{DS} (V)	$r_{DS(on)}$ (Ω)	I_D (A)
200	3.7 @ $V_{GS} = 10$ V	± 0.5



ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ UNLESS OTHERWISE NOTED)					
Parameter		Symbol	5 secs	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	$T_A = 25^\circ\text{C}$	I_D	± 0.5	± 0.37	A
	$T_A = 70^\circ\text{C}$		± 0.4	± 0.29	
Pulsed Drain Current (10 μs Pulse Width)		I_{DM}	± 1		
Avalanche Current		I_{AS}	± 1		
Single Avalanche Energy		E_{AS}	0.05		mJ
			L = 0.1 mH		
Continuous Source Current (Diode Conduction) ^a		I_S	± 1		A
Maximum Power Dissipation ^a	$T_A = 25^\circ\text{C}$	P_D	2.1	1.14	W
	$T_A = 70^\circ\text{C}$		1.34	0.73	
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}	50	60	$^\circ\text{C}/\text{W}$
	Steady State		90	110	
Maximum Junction-to-Foot	Steady State	R_{thJF}	35	42	

Notes

a. Surface Mounted on 1" x 1" FR4 Board.



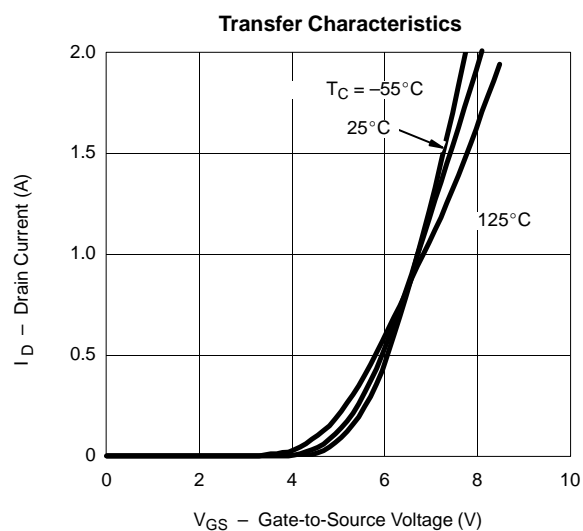
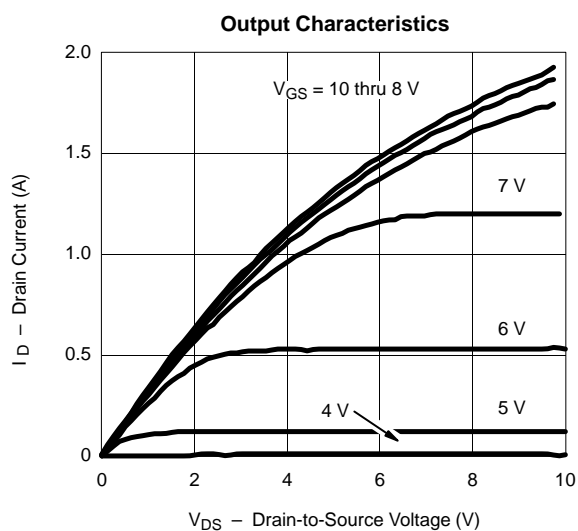
SPECIFICATIONS (T_J = 25 °C UNLESS OTHERWISE NOTED)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Static						
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = 250 μA	2.0			V
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 = 55 °C			25	
On-State Drain Current ^a	I _{D(on)}	V _{DS} = 5 V, V _{GS} = 10 V	1			A
Drain-Source On-State Resistance ^a	r _{DS(on)}	V _{GS} = 10 V, I _D = 0.35 A			3.7	Ω
Forward Transconductance ^a	g _{fs}	V _{DS} = 15 V, I _D = 1 A		9		S
Diode Forward Voltage ^a	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 = 0.5 A		2.2	3.5	nC
Gate-Source Charge	Q _{gs}		0.65			
Gate-Drain Charge	Q _{gd}		0.95			
Turn-On Delay Time	t _{d(on)}	V _{DD} = 100 V, R _L = 100 Ω I _D ≅ 1 A, V _{GEN} = 10 V, R _G = 6 Ω		7	12	ns
Rise Time	t _r		8	13		
Turn-Off Delay Time	t _{d(off)}		10	15		
Fall Time	t _f		30	50		
Source-Drain Reverse Recovery Time	t _{rr}	I _F = 1 A, di/dt = 100 A/μs		140	225	

Notes

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

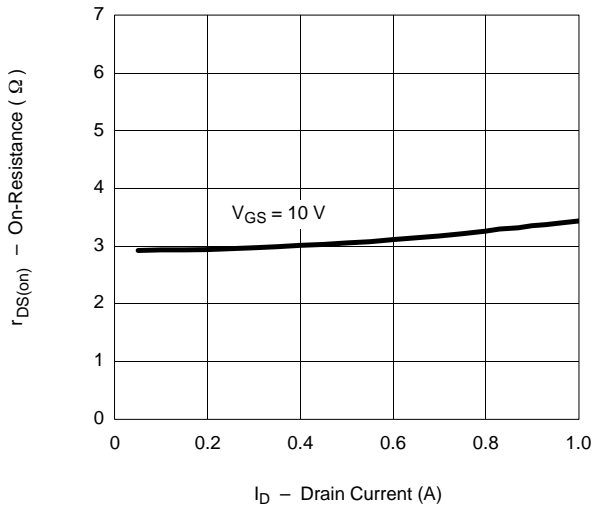
TYPICAL CHARACTERISTICS (25 °C UNLESS NOTED)



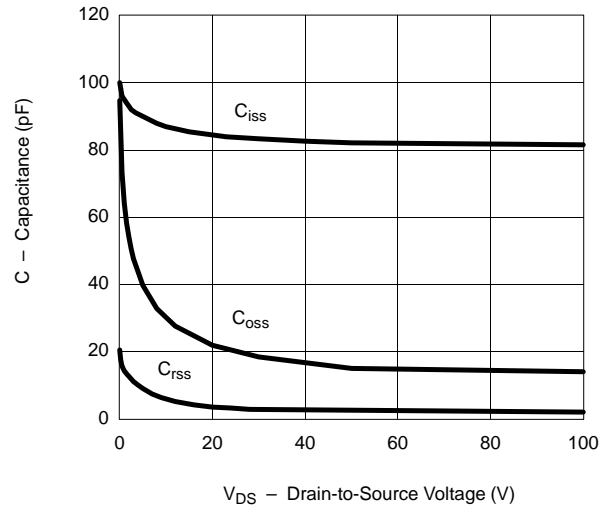


TYPICAL CHARACTERISTICS (25°C UNLESS NOTED)

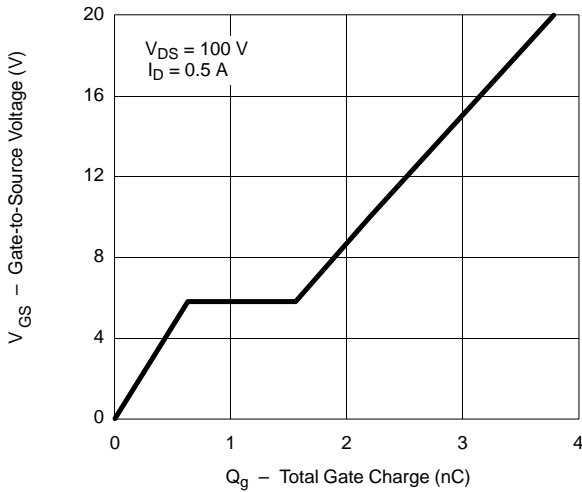
On-Resistance vs. Drain Current



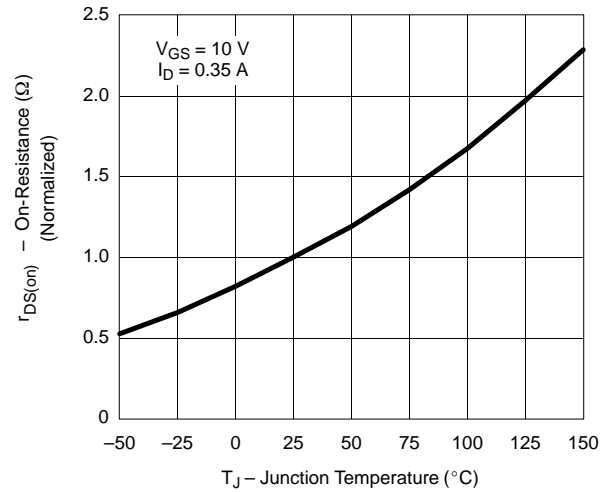
Capacitance



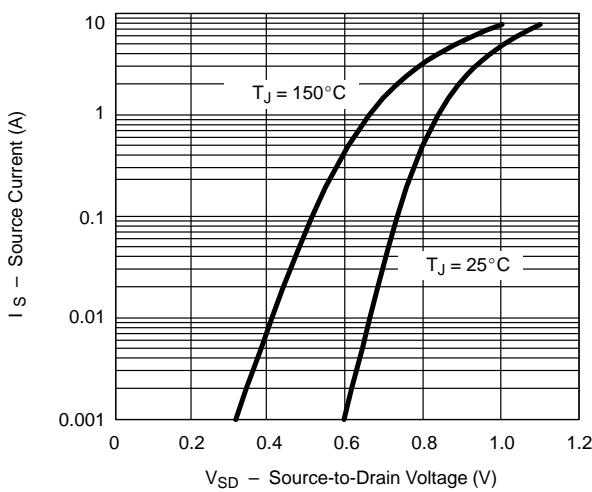
Gate Charge



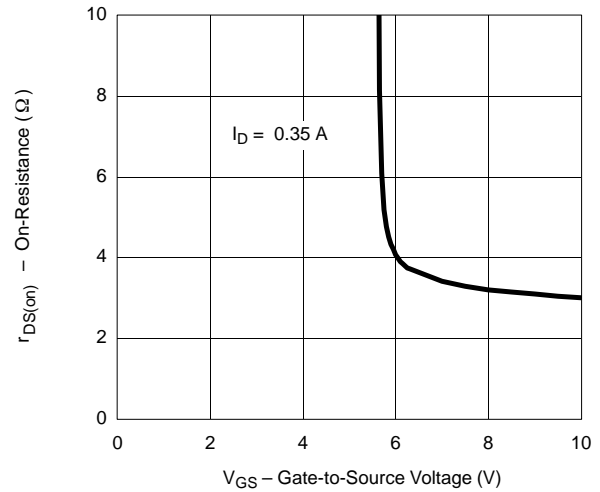
On-Resistance vs. Junction Temperature



Source-Drain Diode Forward Voltage



On-Resistance vs. Gate-to-Source Voltage





TYPICAL CHARACTERISTICS (25°C UNLESS NOTED)

