Electrical Characteristics @ T_J = 25°C (unless otherwise specified)

	Parameter	Min.	Typ.	Max.	Units	Test Conditions
$V_{(BR)DSS}$	Drain-to-Source Breakdown Voltage	200	—	—	V	V_{GS}=0V, I_D= 250μA
$\Delta V_{(BR)DSS}/\Delta T_J$	Breakdown Voltage Temp. Coefficient	—	0.30	—	V/°C	Reference to 25°C, I_D= 1mA
$R_{DS(on)}$	Static Drain-to-Source On-Resistance	—	—	1.5	Ω	V_{GS}=10V, I_D=2.0A ④
$V_{GS(th)}$	Gate Threshold Voltage	2.0	—	4.0	V	V_{DS}=V_{GS}, I_D= 250μA
g_{fs}	Forward Transconductance	0.80	—	—	S	V_{DS}=50V, I_D=2.0A ④
I_{DSS}	Drain-to-Source Leakage Current	—	—	25	μA	V_{DS}=200V, V_{GS}=0V
		—	—	250		V_{DS}=160V, V_{GS}=0V, T_J=125°C
I_{GSS}	Gate-to-Source Forward Leakage	—	—	100	nA	V_{GS}=20V
	Gate-to-Source Reverse Leakage	—	—	-100		V_{GS}=-20V
Q_g	Total Gate Charge	—	—	8.2	nC	I_D=3.3A
Q_{gs}	Gate-to-Source Charge	—	—	1.8		V_{DS}=160V
Q_{gd}	Gate-to-Drain ("Miller") Charge	—	—	4.5		V_{GS}=10V See Fig. 6 and 13 ④
$t_{d(on)}$	Turn-On Delay Time	—	8.2	—	ns	V_{DD}=100V
t_r	Rise Time	—	17	—		I_D=3.3A
$t_{d(off)}$	Turn-Off Delay Time	—	14	—		R_G=24Ω
t_f	Fall Time	—	8.9	—		R_D=30Ω See Figure 10 ④
L_D	Internal Drain Inductance	—	4.5	—	nH	Between lead, 6 mm (0.25in.) from package and center of die contact
L_S	Internal Source Inductance	—	7.5	—		
C_{iss}	Input Capacitance	—	140	—	pF	V_{GS}=0V
C_{oss}	Output Capacitance	—	53	—		V_{DS}=25V
C_{rss}	Reverse Transfer Capacitance	—	15	—		f=1.0MHz See Figure 5

Source-Drain Ratings and Characteristics

	Parameter	Min.	Typ.	Max.	Units	Test Conditions
I_S	Continuous Source Current (Body Diode)	—	—	3.3	A	MOSFET symbol showing the integral reverse p-n junction diode.
I_{SM}	Pulsed Source Current (Body Diode) ①	—	—	10		
V_{SD}	Diode Forward Voltage	—	—	2.0	V	T_J=25°C, I_S=3.3A, V_{GS}=0V ④
t_{rr}	Reverse Recovery Time	—	150	310	ns	T_J=25°C, I_F=3.3A
Q_{rr}	Reverse Recovery Charge	—	0.60	1.4	μC	di/dt=100A/μs ④
t_{on}	Forward Turn-On Time	Intrinsic turn-on time is neglegible (turn-on is dominated by L_S+L_D)				

Notes:

① Repetitive rating; pulse width limited by max. junction temperature (See Figure 11)

② V_{DD}=50V, starting T_J=25°C, L=8.8mH R_G=25Ω, I_{AS}=3.3A (See Figure 12)

③ I_{SD}≤3.3A, di/dt≤70A/μs, V_{DD}≤$V_{(BR)DSS}$, T_J≤150°C

④ Pulse width ≤ 300 μs; duty cycle ≤2%.