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

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
Off Characteristics						
$V_{(BR)DSS}$	Drain-Source Breakdown Voltage	I_D = 250μA, V_{GS} = 0V	30	-	-	V
I_{DSS}	Zero Gate Voltage Drain Current	V_{DS} = 30V, V_{GS} = 0V	-	-	1.0	μA
I_{GSS}	Gate-Body Leakage Current	V_{DS} = 0V, V_{GS} = ±20V	-	-	±100	nA
On Characteristics						
$V_{GS(th)}$	Gate Threshold Voltage	V_{DS} = V_{GS}, I_D = 250μA	1.0	1.9	2.5	V
$R_{DS(ON)}$	Static Drain-Source ON-Resistance(4)	V_{GS} = 10V, I_D = 30A	-	2.6	3.4	mΩ
		V_{GS} = 4.5V, I_D =20A	-	4.9	6.4	mΩ
Dynamic Characteristics						
C_{iss}	Input Capacitance	V_{GS} = 0V, V_{DS} = 15V, f = 1MHz	-	3650	-	pF
C_{oss}	Output Capacitance		-	494	-	pF
C_{rss}	Reverse Transfer Capacitance		-	366	-	pF
Q_g	Total Gate Charge	V_{GS} = 0 to 10V V_{DD} = 30V, I_D = 15A	-	67	-	nC
Q_{gs}	Gate Source Charge		-	11	-	nC
Q_{gd}	Gate Drain("Miller") Charge		-	19	-	nC
Switching Characteristics						
$t_{d(on)}$	Turn-On DelayTime	V_{GS} = 10V, V_{DD} = 15V I_D= 30A, R_{GEN} = 3Ω	-	10	-	ns
t_r	Turn-On Rise Time		-	19	-	ns
$t_{d(off)}$	Turn-Off DelayTime		-	50	-	ns
t_f	Turn-Off Fall Time		-	20	-	ns
Drain-Source Diode Characteristics and Max Ratings						
I_S	Maximum Continuous Drain to Source Diode Forward Current		-	-	150	A
I_{SM}	Maximum Pulsed Drain to Source Diode Forward Current		-	-	600	A
V_{SD}	Drain to Source Diode Forward Voltage	V_{GS} = 0V, I_S = 30A	-	-	1.2	V
trr	Body Diode Reverse Recovery Time	I_F=20A,di/dt=100A/μs	-	18	-	ns
Qrr	Body Diode Reverse Recovery Charge		-	6	-	nC

Notes:

1. Repetitive Rating: Pulse Width Limited by Maximum Junction Temperature.
2. E_{AS} condition: Starting T_J=25 , V_{DD}=15V, V_G=10V, R_G=25Ω, L=0.5mH, I_{AS}=29A.
3. $R_{\theta JA}$ is measured with the device mounted on a 1inch^2 pad of 2oz copper FR4 PCB.
4. Pulse Test: Pulse Width 300μs, Duty Cycle 0.5%.

Typical Performance Characteristics

Figure 1: Output Characteristics

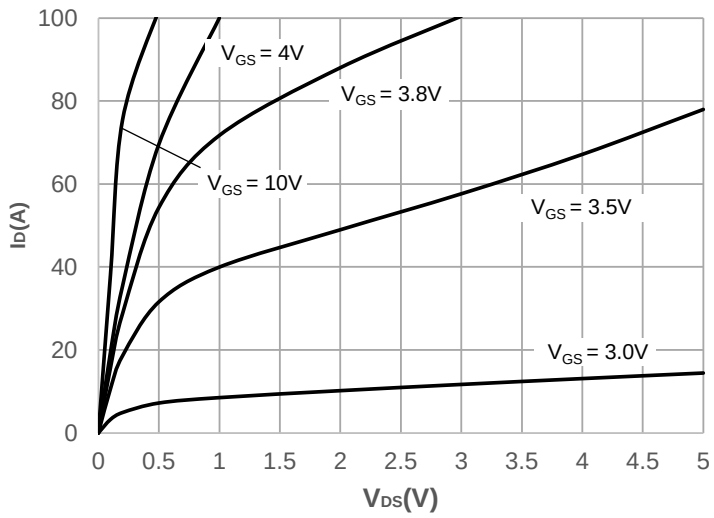


Figure 2: Typical Transfer Characteristics

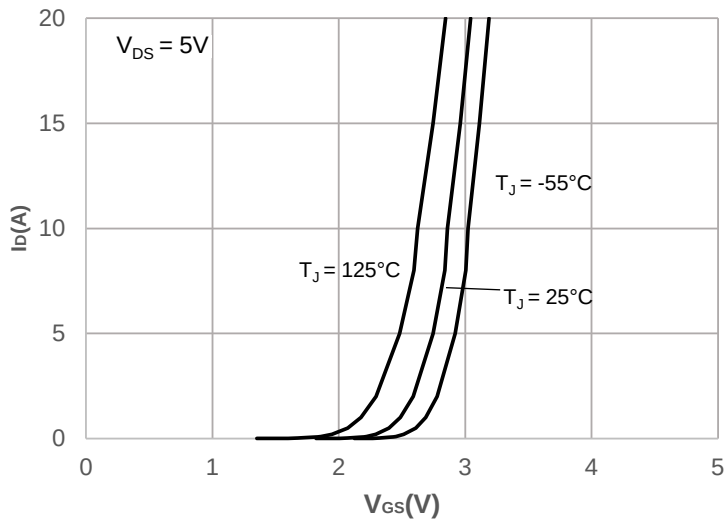


Figure 3: On-resistance vs. Drain Current

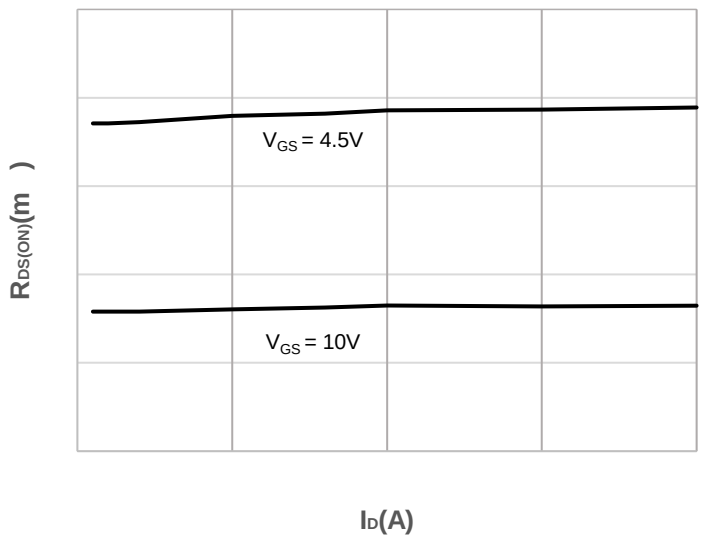


Figure 4: Body Diode Characteristics

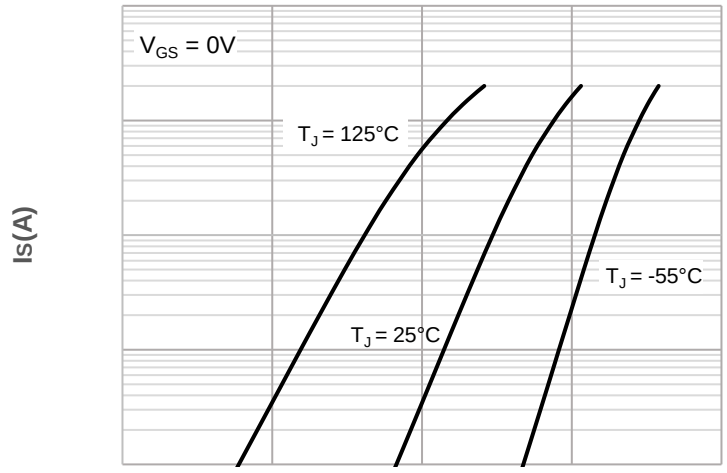


Figure 5: Gate Charge Characteristics

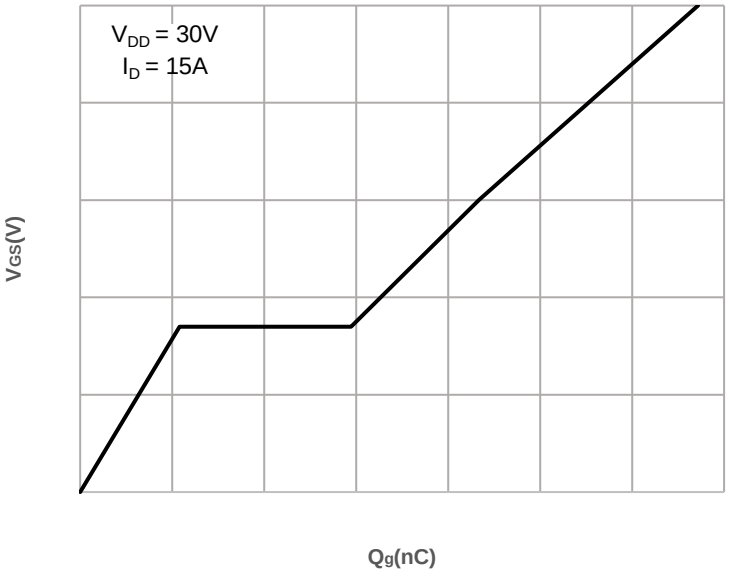
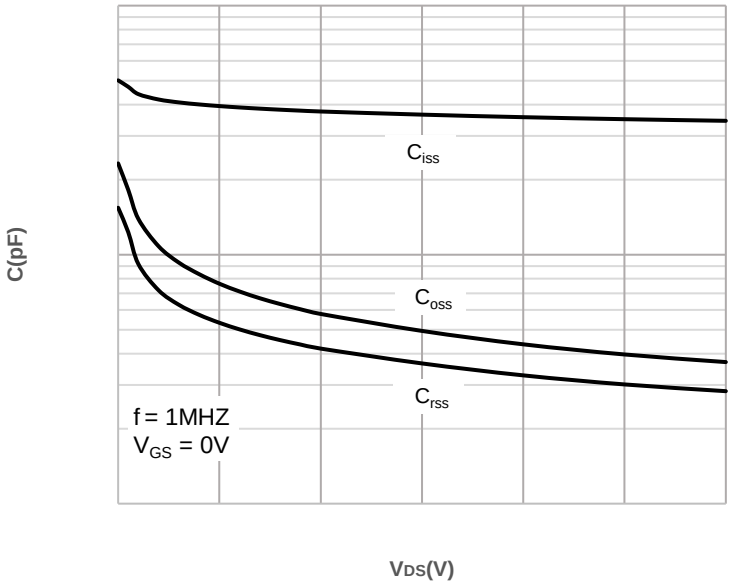


Figure 6: Capacitance Characteristics



Package Mechanical Data(TO-252-3L)