

Electrical Characteristics ($T_J=25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Static Characteristics						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS}=0V, I_D=-250\mu A$	-40	-	-	V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=-40V, V_{GS}=0V$	-	-	-1	μA
Gate-Body Leakage	I_{GSS}	$V_{DS}=0V, V_{GS}=\pm 20V$	-	-	± 100	nA
Gate-Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=-250\mu A$	-1.2	-1.5	-2.5	V
Drain-Source on-Resistance ³	$R_{DS(on)}$	$V_{GS}=-10V, I_D=-5A$	-	63	75	m Ω
		$V_{GS}=-4.5V, I_D=-4A$	-	76	99	
Dynamic Characteristics⁴						
Input Capacitance	C_{iss}	$V_{GS}=0V, V_{DS}=-20V,$ $f=1.0\text{MHz}$	-	553	-	pF
Output Capacitance	C_{oss}		-	50	-	
Reverse Transfer Capacitance	C_{rss}		-	42	-	
Switching Characteristics⁴						
Total Gate Charge	Q_g	$V_{GS}=-10V, V_{DS}=-20V,$ $I_D=-5A$	-	11.8	-	nC
Gate-Source Charge	Q_{gs}		-	2.2	-	
Gate-Drain Charge	Q_{gd}		-	3	-	
Turn-on Delay Time	$t_{d(on)}$	$V_{DS}=-20V, V_{GS}=-10V$ $R_L=2.5\Omega, R_G=3\Omega$	-	7	-	ns
Rise Time	t_r		-	6.5	-	
Turn-off Delay Time	$t_{d(off)}$		-	24	-	
Fall Time	t_f		-	7.8	-	
Drain-Source Body Diode Characteristics						
Body Diode voltage ³	V_{DS}	$I_S=-5A, V_{GS}=0V$	-	-	-1.2	V
Continuous Source Current	I_S		-	-	-4	A

Notes:

1. Repetitive rating, pulse width limited by junction temperature $T_{J(MAX)}=150^\circ\text{C}$.
2. The data tested by surface mounted on a 1 inch² FR-4 board with 2OZ copper, The value in any given application depends on the user's specific board design.
3. Pulse Test: Pulse width $\leq 300\mu s$, duty cycle $\leq 2\%$.
4. This value is guaranteed by design hence it is not included in the production test.

Typical Characteristics

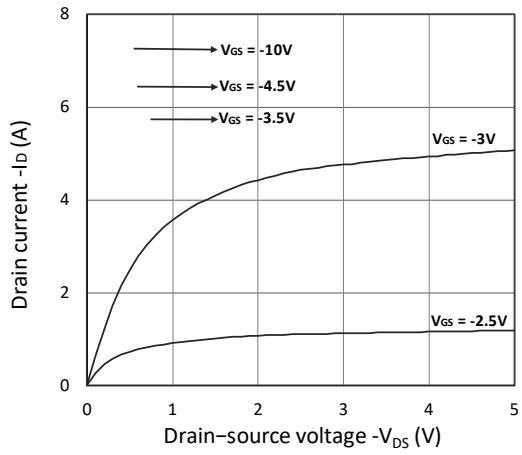


Figure 1. Output Characteristics

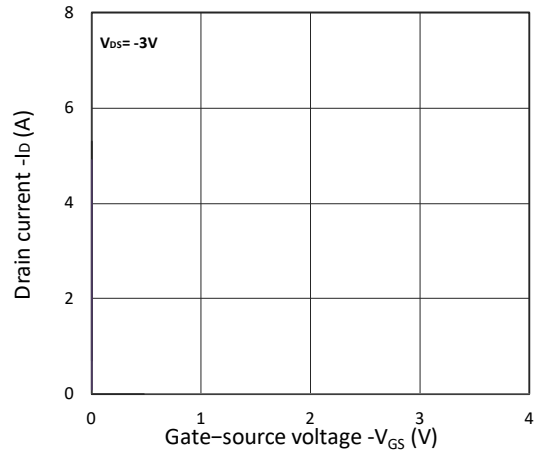


Figure 2. Transfer Characteristics

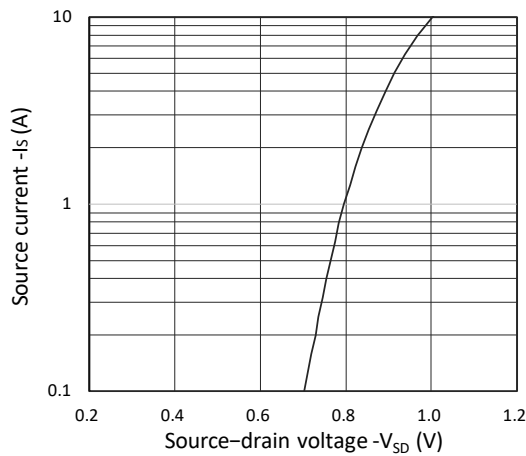


Figure 3. Forward Characteristics of Reverse

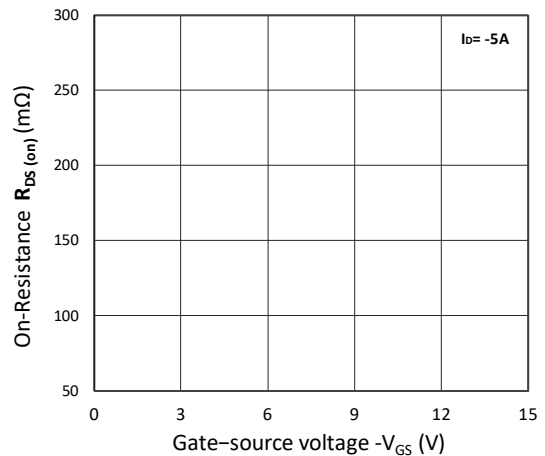


Figure 4. $R_{DS(ON)}$ vs. V_{GS}

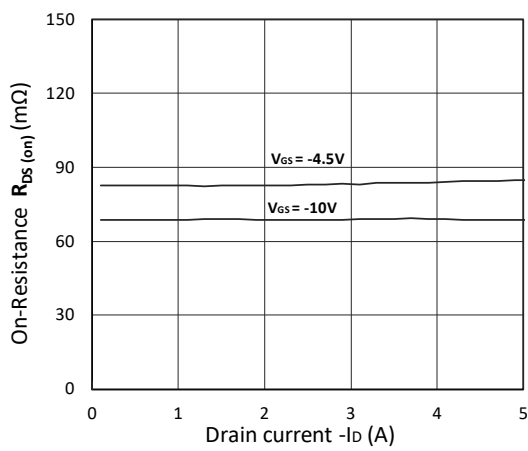


Figure 5. $R_{DS(ON)}$ vs. I_D

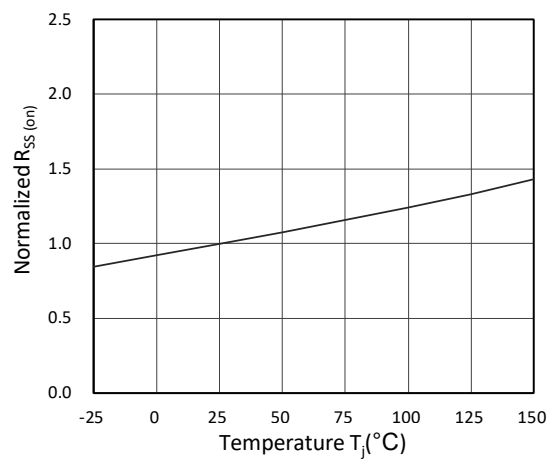


Figure 6. Normalized $R_{DS(ON)}$ vs. Temperature

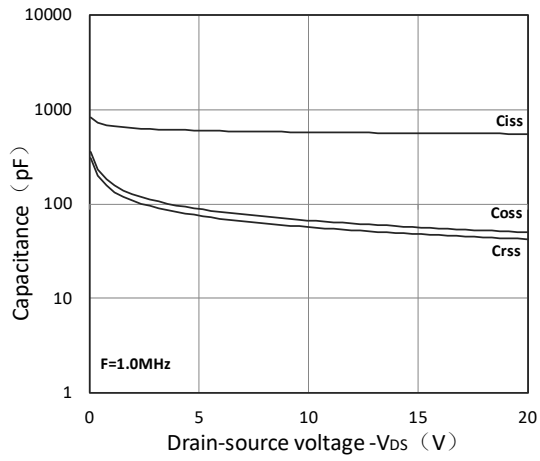


Figure 7. Capacitance Characteristics

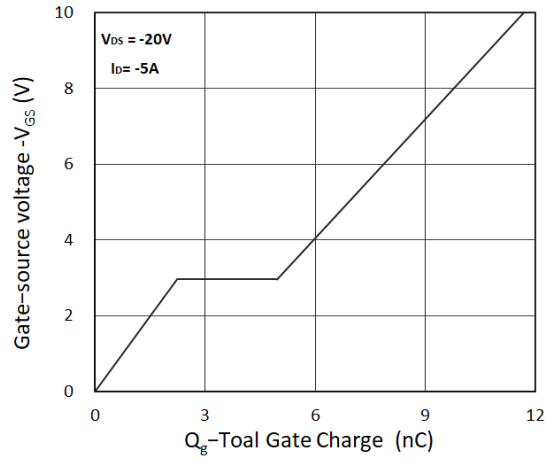


Figure 8. Gate Charge Characteristics

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