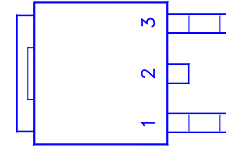
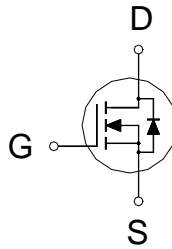




**PRODUCT SUMMARY**

$V_{(BR)DSS}$	$R_{DS(ON)}$	$I_D$
250V	1.1Ω	4A



- 1. GATE
- 2. DRAIN
- 3. SOURCE

**100% UIS tested**

**ABSOLUTE MAXIMUM RATINGS ( $T_A = 25\text{ °C}$  Unless Otherwise Noted)**

PARAMETERS/TEST CONDITIONS		SYMBOL	LIMITS	UNITS
Drain-Source Voltage		$V_{DS}$	250	V
Gate-Source Voltage		$V_{GS}$	±20	V
Continuous Drain Current <sup>2</sup>	$T_C = 25\text{ °C}$	$I_D$	4	A
	$T_C = 100\text{ °C}$		2.4	
Pulsed Drain Current <sup>1, 2</sup>		$I_{DM}$	15	
Avalanche Current <sup>3</sup>		$I_{AS}$	0.6	
Avalanche Energy <sup>3</sup>		$E_{AS}$	0.2	mJ
Power Dissipation	$T_C = 25\text{ °C}$	$P_D$	43	W
	$T_C = 100\text{ °C}$		17	
Operating Junction & Storage Temperature Range		$T_j, T_{stg}$	-55 to 150	°C

**THERMAL RESISTANCE RATINGS**

THERMAL RESISTANCE	SYMBOL	TYPICAL	MAXIMUM	UNITS
Junction-to-Case	$R_{\theta JC}$		2.9	°C / W
Junction-to-Ambient	$R_{\theta JA}$		62.5	

<sup>1</sup>Pulse width limited by maximum junction temperature.

<sup>2</sup>Limited only by maximum temperature allowed

<sup>3</sup> $V_{DD} = 50V$  ,  $L = 1mH$ , starting  $T_J = 25\text{ °C}$

**ELECTRICAL CHARACTERISTICS ( $T_J = 25\text{ °C}$ , Unless Otherwise Noted)**

PARAMETER	SYMBOL	TEST CONDITIONS	LIMITS			UNIT
			MIN	TYP	MAX	
<b>STATIC</b>						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = 250\mu A$	250			V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu A$	1	2.1	3	
Gate-Body Leakage	$I_{GSS}$	$V_{DS} = 0V, V_{GS} = \pm 20V$			±100	nA

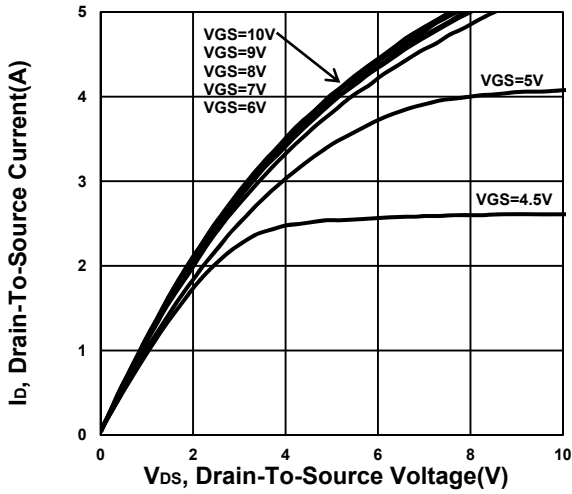
Gate Voltage Drain Current	$I_{DSS}$	$V_{DS} = 250V, V_{GS} = 0V, T_C = 25\text{ }^\circ\text{C}$			1	$\mu\text{A}$
		$V_{DS} = 200V, V_{GS} = 0V, T_C = 100\text{ }^\circ\text{C}$			10	
Drain-Source On-State Resistance <sup>1</sup>	$R_{DS(ON)}$	$V_{GS} = 10V, I_D = 2A$		0.81	1.1	$\Omega$
		$V_{GS} = 4.5V, I_D = 2A$		0.98	1.7	
Forward Transconductance <sup>1</sup>	$g_{fs}$	$V_{DS} = 10V, I_D = 2A$		3		S
<b>DYNAMIC</b>						
Input Capacitance	$C_{iss}$	$V_{GS} = 0V, V_{DS} = 25V, f = 1\text{MHz}$		170		$\text{pF}$
Output Capacitance	$C_{oss}$			42		
Reverse Transfer Capacitance	$C_{rss}$			10		
Total Gate Charge <sup>2</sup>	$Q_g$	$V_{DD} = 200V, I_D = 4A, V_{GS} = 10V$		6.2		$\text{nC}$
Gate-Source Charge <sup>2</sup>	$Q_{gs}$			1		
Gate-Drain Charge <sup>2</sup>	$Q_{gd}$			2.7		
Turn-On Delay Time <sup>2</sup>	$t_{d(on)}$	$V_{DD} = 125V, I_D = 4A, V_{GS} = 10V$		10		$\text{nS}$
Rise Time <sup>2</sup>	$t_r$			6		
Turn-Off Delay Time <sup>2</sup>	$t_{d(off)}$			14		
Fall Time <sup>2</sup>	$t_f$			3		
<b>SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS (<math>T_J = 25\text{ }^\circ\text{C}</math>)</b>						
Continuous Current <sup>3</sup>	$I_S$				4	A
Forward Voltage <sup>1</sup>	$V_{SD}$	$I_F = 4A, V_{GS} = 0V$			1.5	V
Reverse Recovery Time	$t_{rr}$	$I_F = 4A, di_F/dt = 100A / \mu\text{S}$		115		nS
Reverse Recovery Charge	$Q_{rr}$			370		nC

<sup>1</sup>Pulse test : Pulse Width  $\leq 300\text{ }\mu\text{sec}$ , Duty Cycle  $\leq 2\%$ .

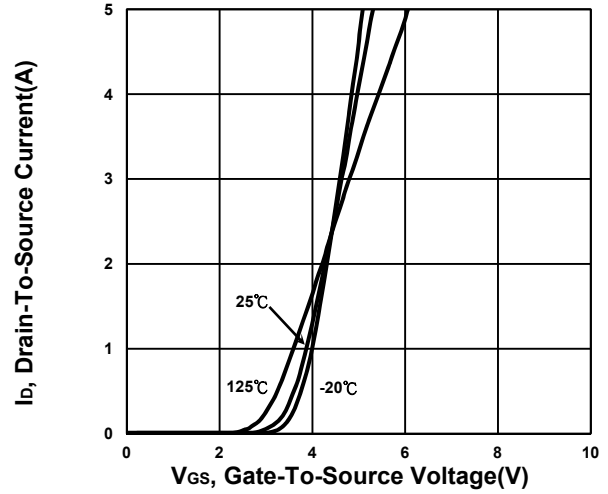
<sup>2</sup>Independent of operating temperature.

<sup>3</sup>Pulse width limited by maximum junction temperature.

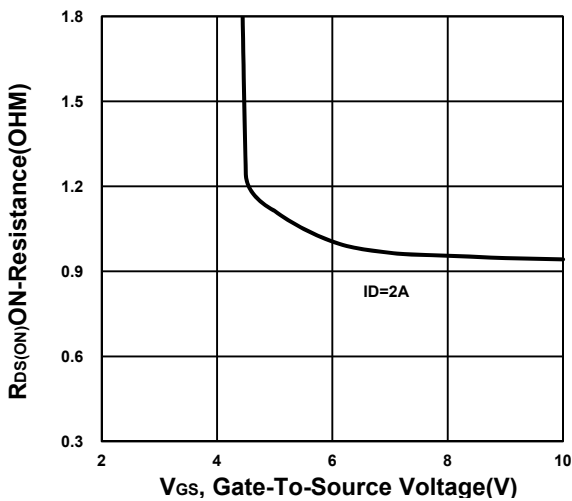
**Output Characteristics**



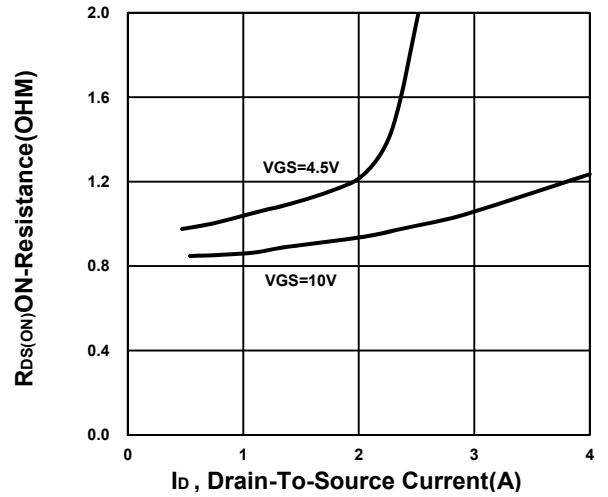
**Transfer Characteristics**



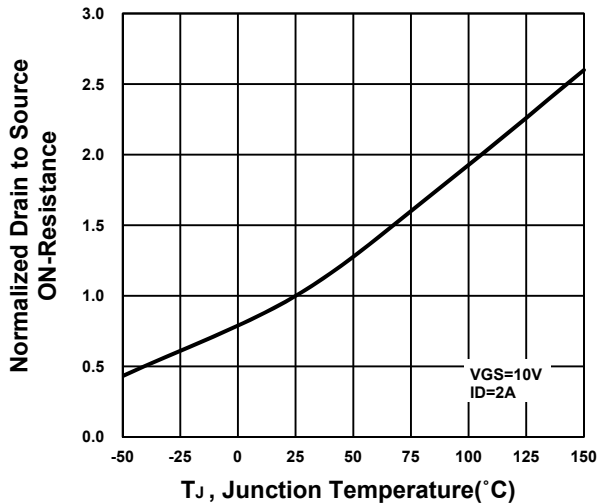
**On-Resistance VS Gate-To-Source**



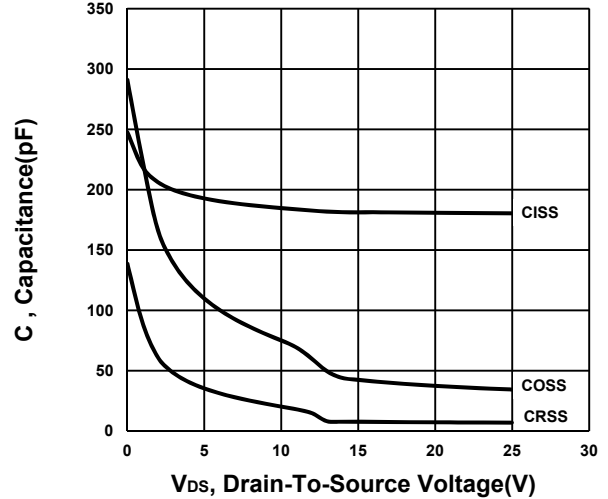
**On-Resistance VS Drain Current**



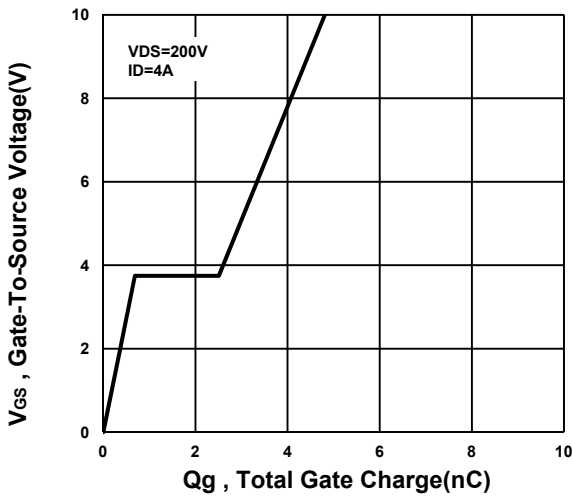
**On-Resistance VS Temperature**



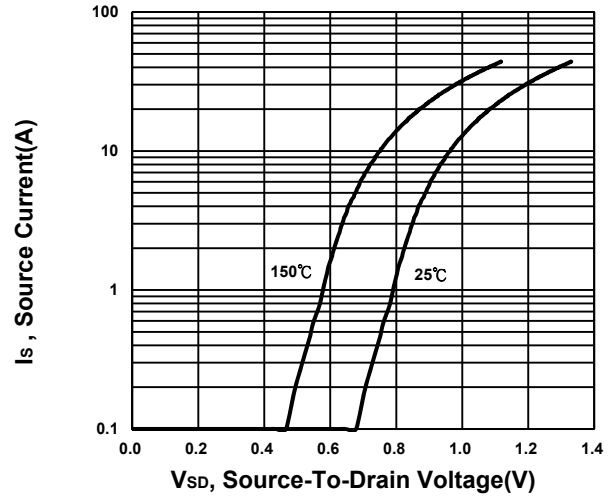
**Capacitance Characteristic**



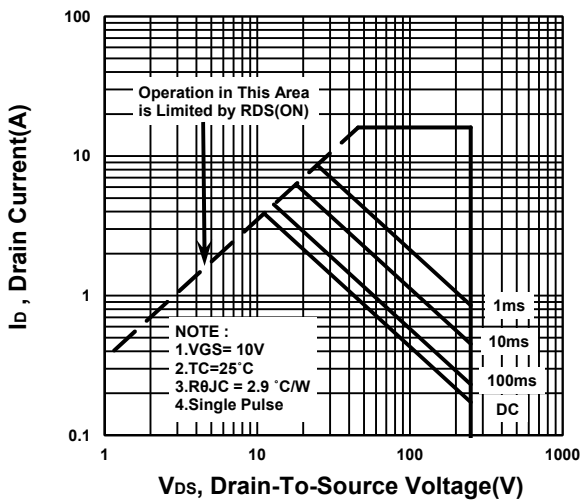
**Gate charge Characteristics**



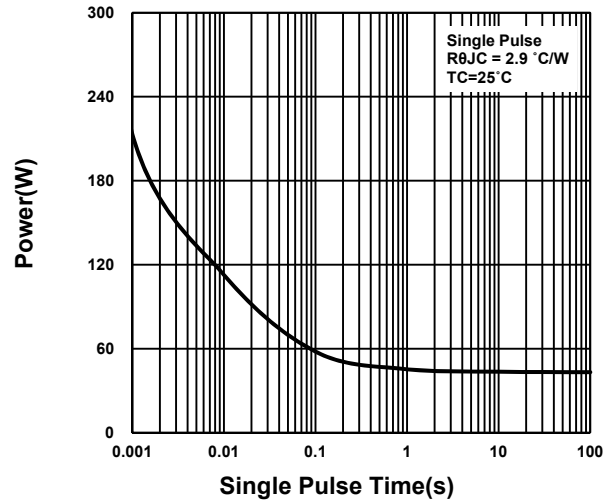
**Source-Drain Diode Forward Voltage**



**Safe Operating Area**



**Single Pulse Maximum Power Dissipation**



**Transient Thermal Response Curve**

