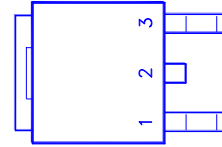
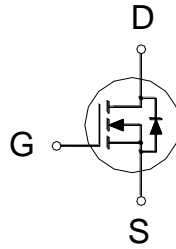


**PRODUCT SUMMARY**

$V_{(BR)DSS}$	$R_{DS(ON)}$	$I_D$
150V	300mΩ	6.4A



1. GATE
2. DRAIN
3. SOURCE

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

PARAMETERS/TEST CONDITIONS		SYMBOL	LIMITS	UNITS
Gate-Source Voltage		$V_{GS}$	±20	V
Continuous Drain Current <sup>2</sup>	$T_C = 25\text{ °C}$	$I_D$	6.4	A
	$T_C = 100\text{ °C}$		4	
Pulsed Drain Current <sup>1,2</sup>		$I_{DM}$	15	
Avalanche Current		$I_{AS}$	2.1	
Avalanche Energy	L = 1mH	$E_{AS}$	2.2	mJ
Power Dissipation	$T_C = 25\text{ °C}$	$P_D$	31	W
	$T_C = 100\text{ °C}$		12	
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	$R_{\theta JC}$		4	°C / W

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

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

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

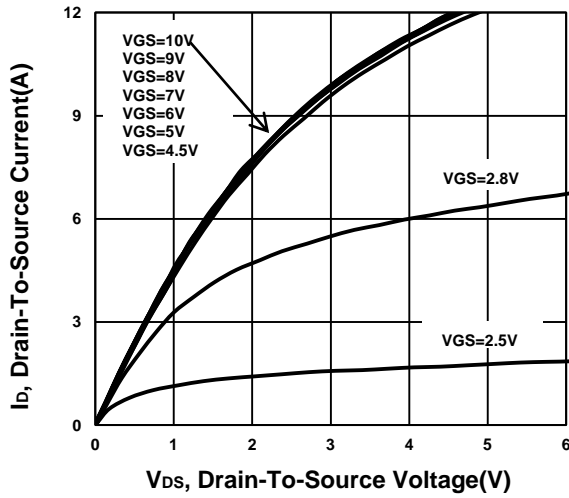
PARAMETER	SYMBOL	TEST CONDITIONS	LIMITS			UNIT
			MIN	TYP	MAX	
<b>STATIC</b>						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = 250\mu A$	150			V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu A$	1.3	1.8	2.3	
Gate-Body Leakage	$I_{GSS}$	$V_{DS} = 0V, V_{GS} = \pm 20V$			±100	nA
Zero Gate Voltage Drain Current	$I_{DSS}$	$V_{DS} = 120V, V_{GS} = 0V$			1	μA
		$V_{DS} = 100V, V_{GS} = 0V, T_J = 70\text{ °C}$			10	

Drain-Source On-State Resistance <sup>1</sup>	$R_{DS(ON)}$	$V_{GS} = 4.5V, I_D = 6A$		225	450	mΩ
		$V_{GS} = 10V, I_D = 6A$		220	300	
Forward Transconductance <sup>1</sup>	$g_{fs}$	$V_{DS} = 10V, I_D = 6A$		25		S
<b>DYNAMIC</b>						
Input Capacitance	$C_{iss}$	$V_{GS} = 0V, V_{DS} = 25V, f = 1MHz$		614		pF
Output Capacitance	$C_{oss}$			42		
Reverse Transfer Capacitance	$C_{rss}$			26		
Gate Resistance	$R_g$	$V_{GS} = 0V, V_{DS} = 0V, f = 1MHz$		1.4		Ω
Total Gate Charge <sup>2</sup>	$Q_g$	$V_{DS} = 75V, V_{GS} = 10V, I_D = 6A$		17		nC
Gate-Source Charge <sup>2</sup>	$Q_{gs}$			1.6		
Gate-Drain Charge <sup>2</sup>	$Q_{gd}$			5.1		
Turn-On Delay Time <sup>2</sup>	$t_{d(on)}$	$V_{DD} = 75V, I_D \cong 6A, V_{GS} = 10V, R_{GS} = 6\Omega$		11		nS
Rise Time <sup>2</sup>	$t_r$			14		
Turn-Off Delay Time <sup>2</sup>	$t_{d(off)}$			28		
Fall Time <sup>2</sup>	$t_f$			25		
<b>SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS (T<sub>J</sub> = 25 °C)</b>						
Continuous Current	$I_S$				6.4	A
Forward Voltage <sup>1</sup>	$V_{SD}$	$I_F = 6A, V_{GS} = 0V$			1.3	V
Reverse Recovery Time	$t_{rr}$	$I_F = 6A, di/dt=100A/\mu s$		40		nS
Reverse Recovery Charge	$Q_{rr}$			51		nC

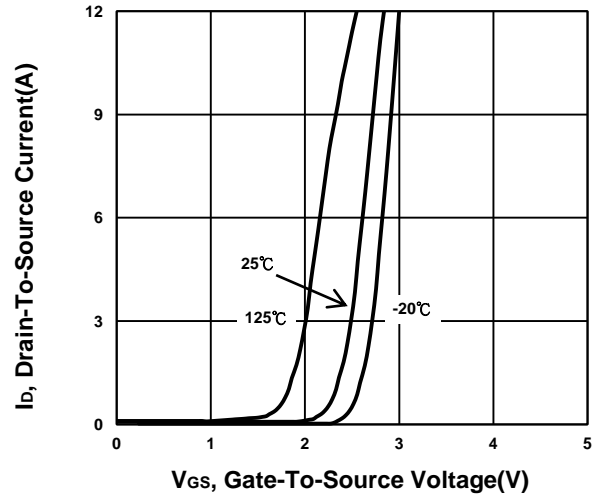
<sup>1</sup>Pulse test : Pulse Width ≤ 300 μsec, Duty Cycle ≤ 2%.

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

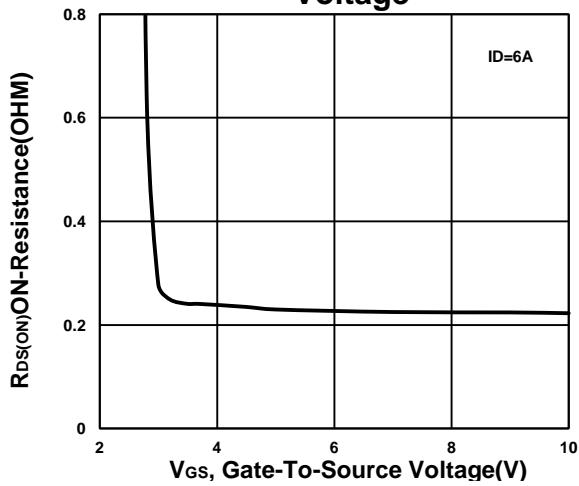
**Output Characteristics**



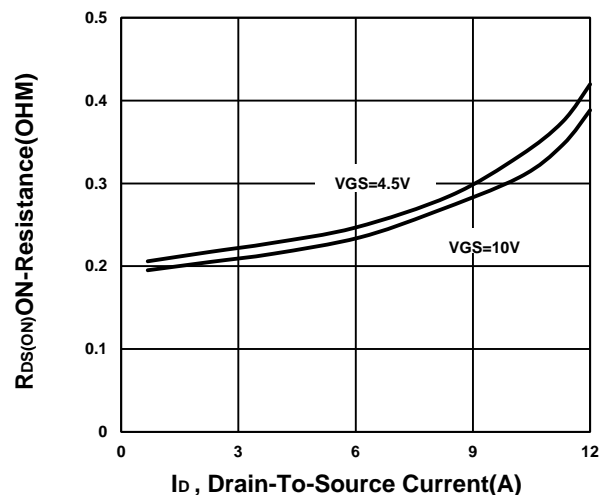
**Transfer Characteristics**



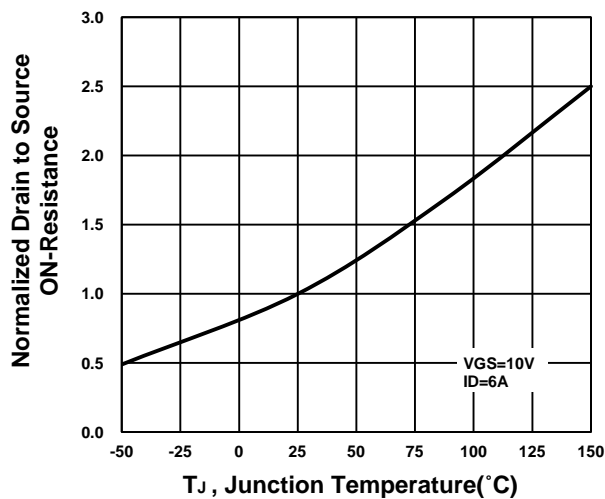
**On-Resistance VS Gate-To-Source Voltage**



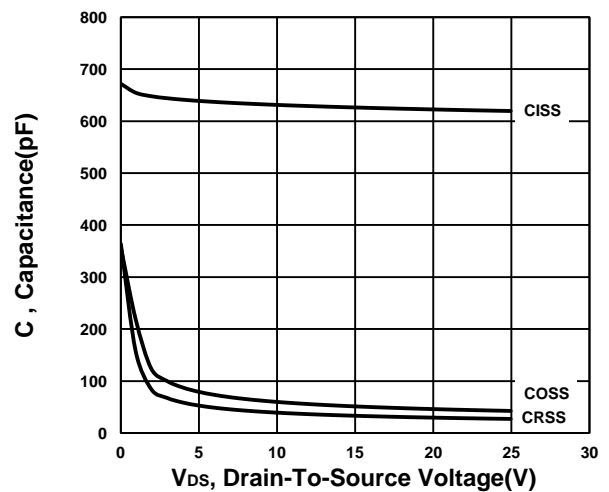
**On-Resistance VS Drain Current**



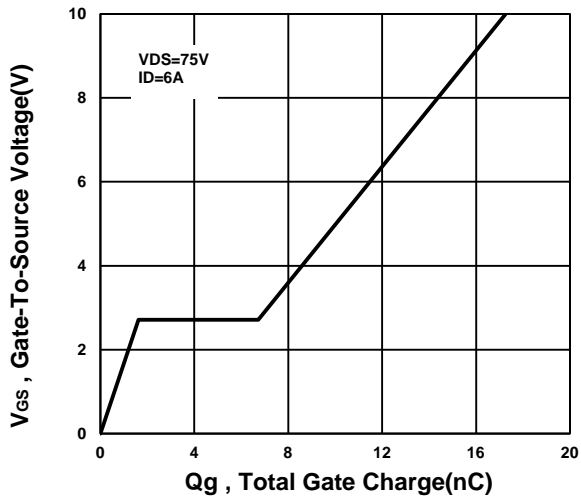
**On-Resistance VS Temperature**



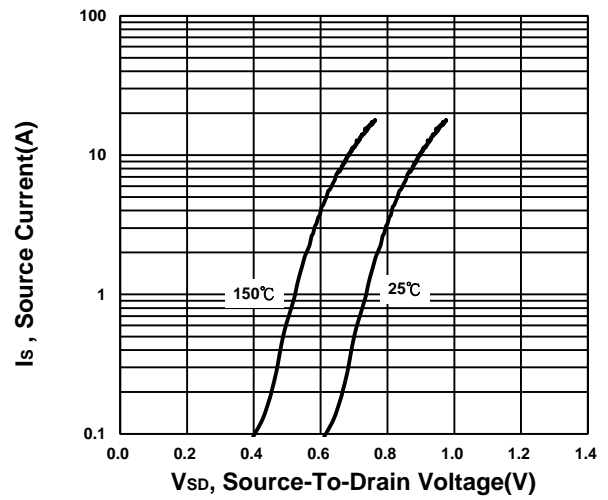
**Capacitance Characteristic**



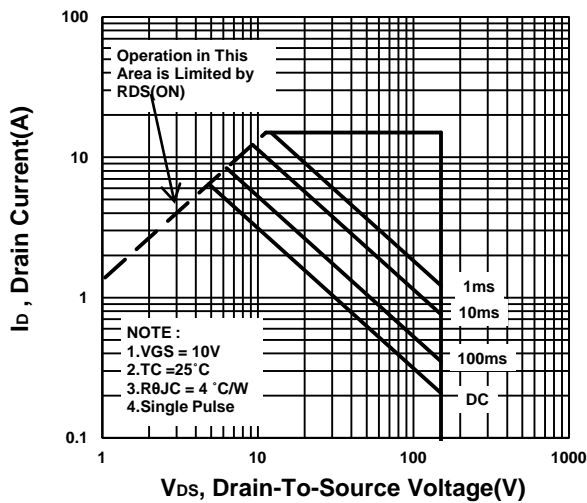
**Gate charge Characteristics**



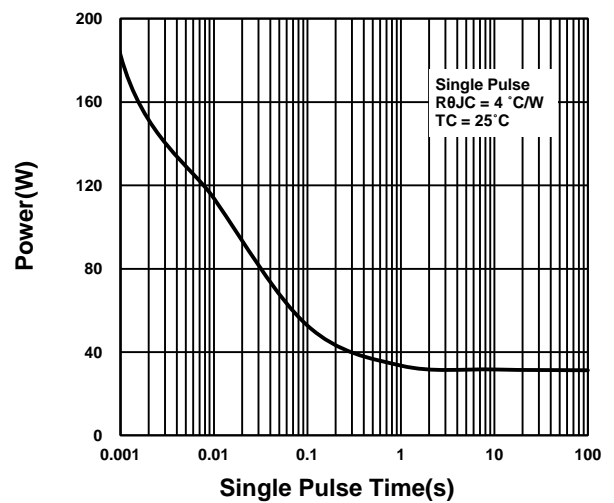
**Source-Drain Diode Forward Voltage**



**Safe Operating Area**



**Single Pulse Maximum Power Dissipation**



**Transient Thermal Response Curve**

