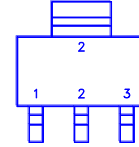
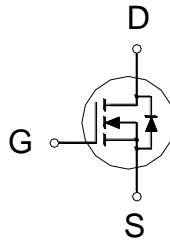




**PRODUCT SUMMARY**

$V_{(BR)DSS}$	$R_{DS(ON)}$	$I_D$
100V	110mΩ	3A



- 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	$T_C = 25\text{ °C}$	$I_D$	6	A
	$T_A = 25\text{ °C}$		3.2	
	$T_A = 100\text{ °C}$		2	
Pulsed Drain Current <sup>1</sup>		$I_{DM}$	15	
Avalanche Current		$I_{AS}$	6.6	
Avalanche Energy	$L = 0.1\text{mH}$	$E_{AS}$	2.2	mJ
Power Dissipation	$T_A = 25\text{ °C}$	$P_D$	2.5	W
	$T_A = 100\text{ °C}$		1	
Operating Junction & Storage Temperature Range		$T_j, T_{stg}$	-55 to 150	°C

**THERMAL RESISTANCE RATINGS**

THERMAL RESISTANCE	SYMBOL	TYPICAL	MAXIMUM	UNITS
Junction-to-Ambient <sup>2</sup>	$R_{\theta JA}$		50	°C / W
Junction-to-Case	$R_{\theta JC}$		14	

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

<sup>2</sup>The value of  $R_{\theta JA}$  is measured with the device mounted on 1in<sup>2</sup> FR-4 board with 2oz. Copper, in a still air environment with  $T_A = 25\text{ °C}$ .

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

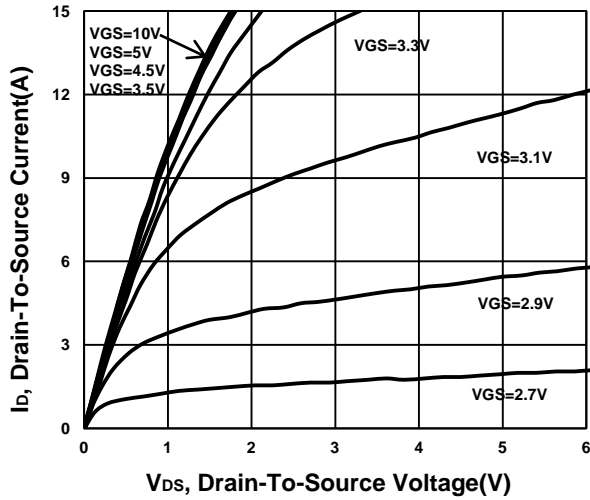
PARAMETER	SYMBOL	TEST CONDITIONS	LIMITS			UNIT
			MIN	TYP	MAX	
<b>STATIC</b>						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = 250\mu A$	100			V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu A$	1	1.8	3	
Gate-Body Leakage	$I_{GSS}$	$V_{DS} = 0V, V_{GS} = \pm 20V$			±100	nA
Zero Gate Voltage Drain Current	$I_{DSS}$	$V_{DS} = 80V, V_{GS} = 0V$			1	μA
		$V_{DS} = 80V, V_{GS} = 0V, T_J = 125\text{ °C}$			10	

Drain-Source On-State Resistance <sup>1</sup>	$R_{DS(ON)}$	$V_{GS} = 4.5V, I_D = 6A$	85	120	mΩ
		$V_{GS} = 10V, I_D = 6A$	80	110	
Forward Transconductance <sup>1</sup>	$g_{fs}$	$V_{DS} = 5V, I_D = 6A$	22		S
<b>DYNAMIC</b>					
Input Capacitance	$C_{iss}$	$V_{GS} = 0V, V_{DS} = 25V, f = 1MHz$	579		pF
Output Capacitance	$C_{oss}$		57		
Reverse Transfer Capacitance	$C_{rss}$		31		
Gate Resistance	$R_g$	$V_{GS} = 0V, V_{DS} = 0V, f = 1MHz$	1.4		Ω
Total Gate Charge <sup>2</sup>	$Q_g$	$V_{DS} = 50V, V_{GS} = 10V, I_D = 6A$	14		nC
Gate-Source Charge <sup>2</sup>	$Q_{gs}$		1.8		
Gate-Drain Charge <sup>2</sup>	$Q_{gd}$		4.6		
Turn-On Delay Time <sup>2</sup>	$t_{d(on)}$	$V_{DS} = 50V, I_D \cong 6A, V_{GS} = 10V, R_{GS} = 6\Omega$	16		nS
Rise Time <sup>2</sup>	$t_r$		5		
Turn-Off Delay Time <sup>2</sup>	$t_{d(off)}$		36		
Fall Time <sup>2</sup>	$t_f$		10		
<b>SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS (<math>T_J = 25\text{ }^\circ\text{C}</math>)</b>					
Continuous Current	$I_S$			1.7	A
Forward Voltage <sup>1</sup>	$V_{SD}$	$I_F = 6A, V_{GS} = 0V$		1.4	V
Reverse Recovery Time	$t_{rr}$	$I_F = 6A, di/dt = 100 A/\mu s$	22		nS
Reverse Recovery Charge	$Q_{rr}$		15		nC

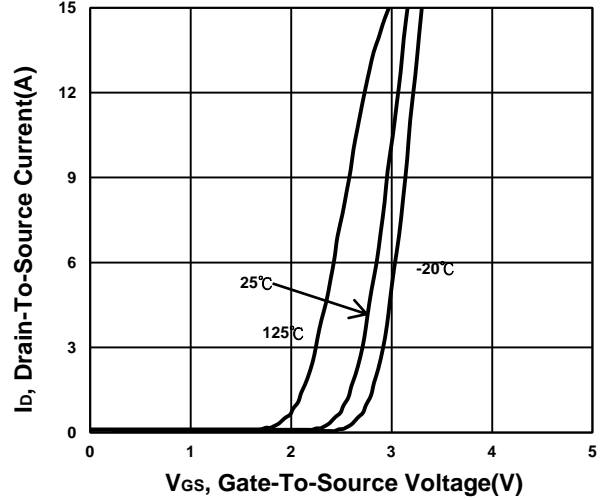
<sup>1</sup>Pulse test : Pulse Width  $\leq 300\ \mu\text{sec}$ , Duty Cycle  $\leq 2\%$ .

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

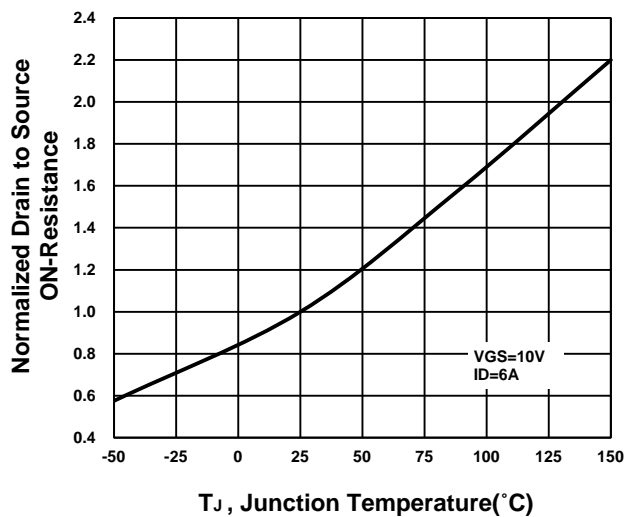
**Output Characteristics**



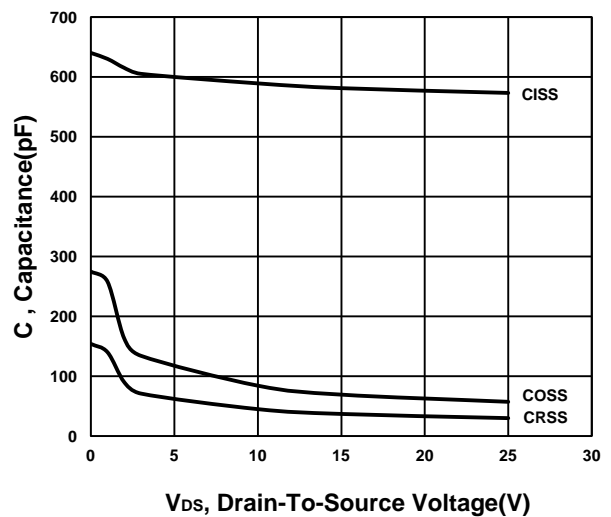
**Transfer Characteristics**



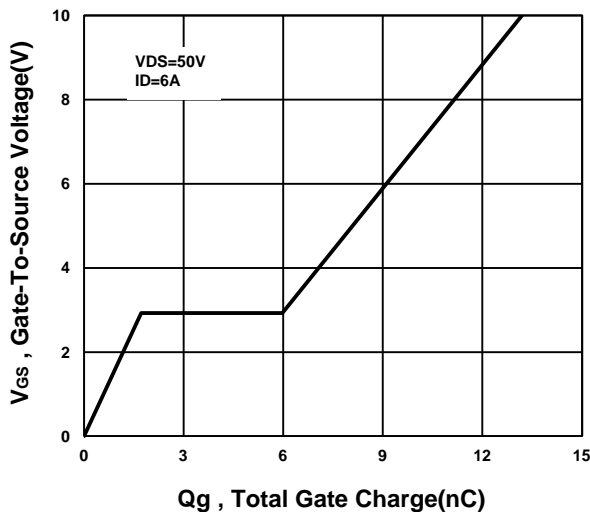
**On-Resistance VS Temperature**



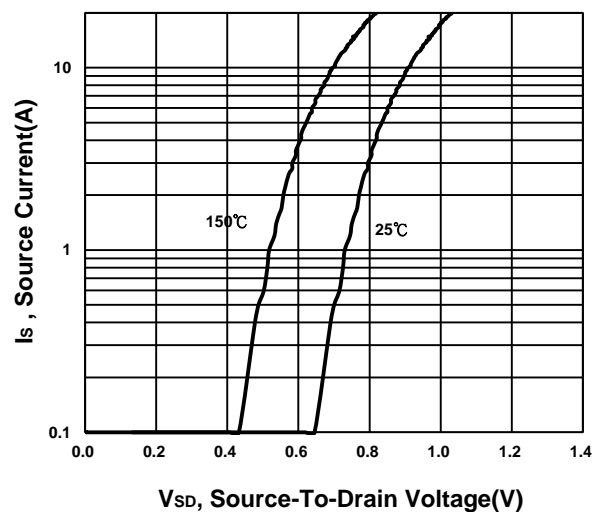
**Capacitance Characteristic**



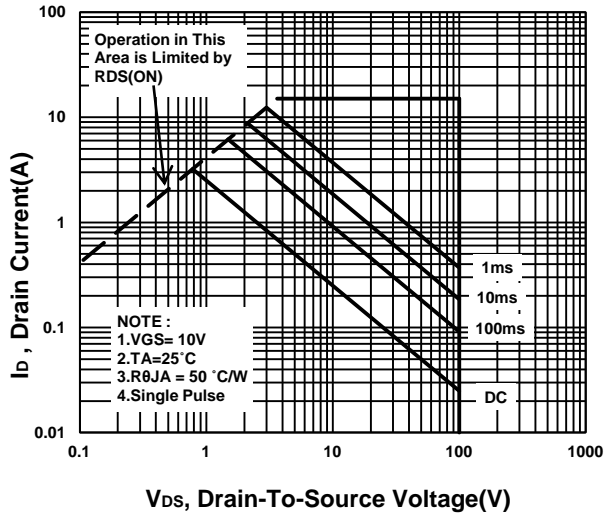
**Gate charge Characteristics**



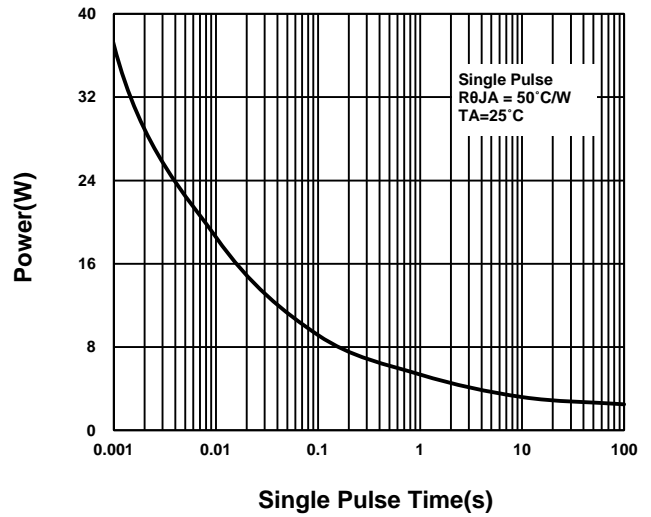
**Source-Drain Diode Forward Voltage**



**Safe Operating Area**



**Single Pulse Maximum Power Dissipation**



**Transient Thermal Response Curve**

