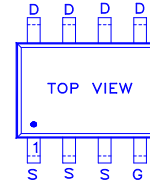
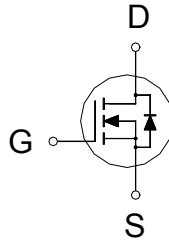


**PRODUCT SUMMARY**

$V_{(BR)DSS}$	$R_{DS(ON)}$	$I_D$
100V	37mΩ	5.2A



G: GATE  
D: DRAIN  
S: SOURCE

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

PARAMETERS/TEST CONDITIONS		SYMBOL	LIMITS	UNITS
Drain-Source Voltage		$V_{DS}$	100	V
Gate-Source Voltage		$V_{GS}$	±20	V
Continuous Drain Current	$T_A = 25\text{ °C}$	$I_D$	5.2	A
	$T_A = 70\text{ °C}$		4.2	
Pulsed Drain Current <sup>1</sup>		$I_{DM}$	40	
Avalanche Current		$I_{AS}$	16	
Avalanche Energy	L = 1mH	$E_{AS}$	128	mJ
Power Dissipation	$T_A = 25\text{ °C}$	$P_D$	2.3	W
	$T_A = 70\text{ °C}$		1.5	
Junction & Storage Temperature Range		$T_J, T_{stg}$	-55 to 150	°C

**THERMAL RESISTANCE RATINGS**

THERMAL RESISTANCE	SYMBOL	TYPICAL	MAXIMUM	UNITS
Junction-to-Ambient	$R_{\theta JA}$		53	°C / W

<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)**

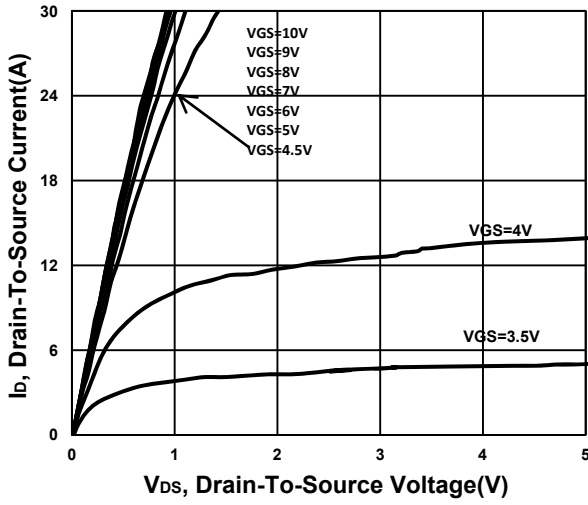
PARAMETER	SYMBOL	TEST CONDITIONS	LIMITS			UNIT
			MIN	TYP	MAX	
<b>STATIC</b>						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = 250\mu A$	100			V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu A$	1	2	3	
Gate-Body Leakage	$I_{GSS}$	$V_{DS} = 0V, V_{GS} = \pm 20V$			±100	nA
Zero Gate Voltage Drain Current	$I_{DSS}$	$V_{DS} = 80V, V_{GS} = 0V$			1	μA
		$V_{DS} = 80V, V_{GS} = 0V, T_J = 55\text{ °C}$			10	
Drain-Source On-State Resistance <sup>1</sup>	$R_{DS(ON)}$	$V_{GS} = 4.5V, I_D = 5A$		33	48	mΩ
		$V_{GS} = 10V, I_D = 5A$		26	37	
Forward Transconductance <sup>1</sup>	$g_{fs}$	$V_{DS} = 5V, I_D = 5A$		30		S

<b>DYNAMIC</b>						
Input Capacitance	$C_{iss}$	$V_{GS} = 0V, V_{DS} = 25V, f = 1MHz$		990		pF
Output Capacitance	$C_{oss}$			120		
Reverse Transfer Capacitance	$C_{rss}$			60		
Gate Resistance	$R_g$	$V_{GS} = 0V, V_{DS} = 0V, f = 1MHz$		1		$\Omega$
Total Gate Charge <sup>2</sup>	$Q_g$	$V_{DS} = 50V, V_{GS} = 10V, I_D = 5A$		26		nC
Gate-Source Charge <sup>2</sup>	$Q_{gs}$			4.3		
Gate-Drain Charge <sup>2</sup>	$Q_{gd}$			8.9		
Turn-On Delay Time <sup>2</sup>	$t_{d(on)}$	$V_{DS} = 50V, I_D \cong 5A, V_{GS} = 10V, R_{GEN} = 6\Omega$		14		nS
Rise Time <sup>2</sup>	$t_r$			20		
Turn-Off Delay Time <sup>2</sup>	$t_{d(off)}$			37		
Fall Time <sup>2</sup>	$t_f$			27		
<b>SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS (<math>T_J = 25^\circ C</math>)</b>						
Continuous Current	$I_S$				5.2	A
Forward Voltage <sup>1</sup>	$V_{SD}$	$I_F = 5A, V_{GS} = 0V$			1.2	V
Diode Reverse Recovery Time	$t_{rr}$	$I_F = 5A, di/dt = 100A/\mu s$		31		nS
Diode Reverse Recovery Charge	$Q_{rr}$				32	

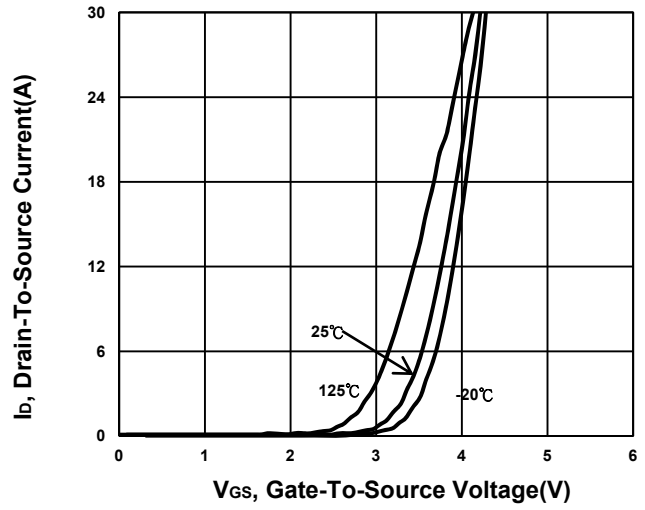
<sup>1</sup>Pulse test : Pulse Width  $\leq 300 \mu sec$ , Duty Cycle  $\leq 2\%$ .

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

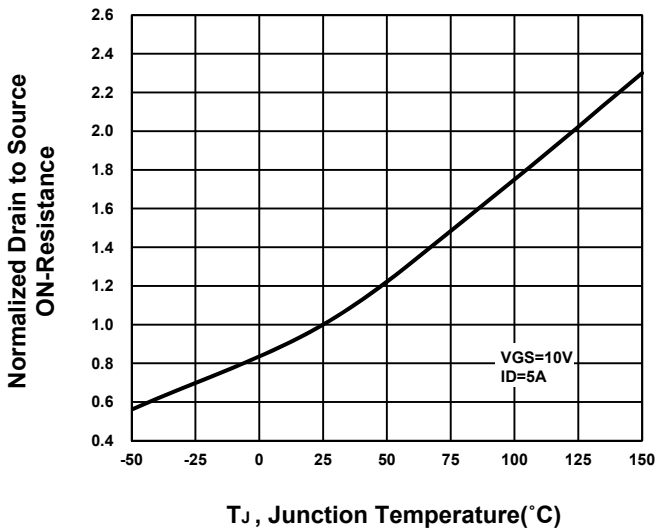
**Output Characteristics**



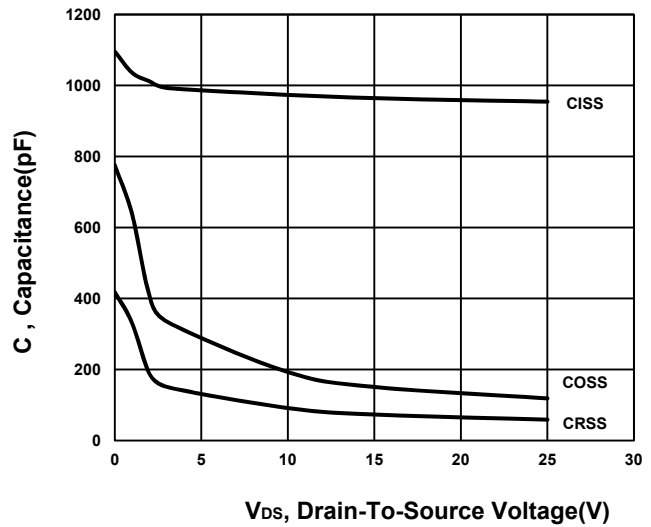
**Transfer Characteristics**



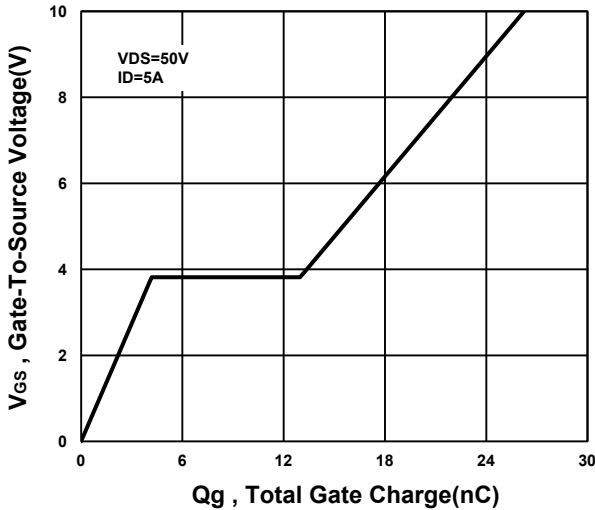
**On-Resistance VS Temperature**



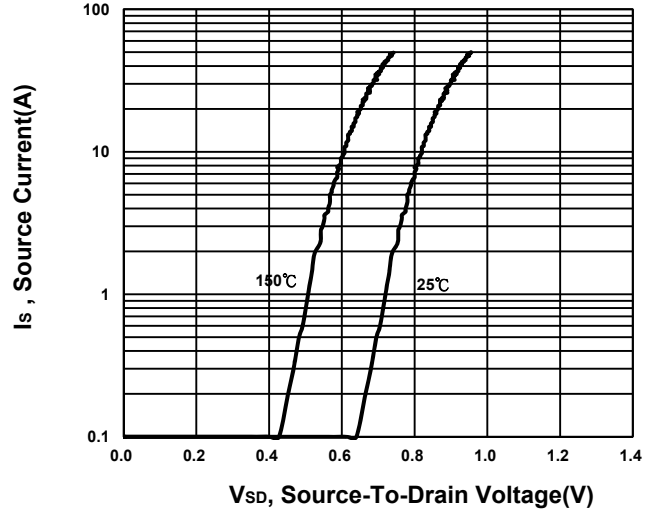
**Capacitance Characteristic**



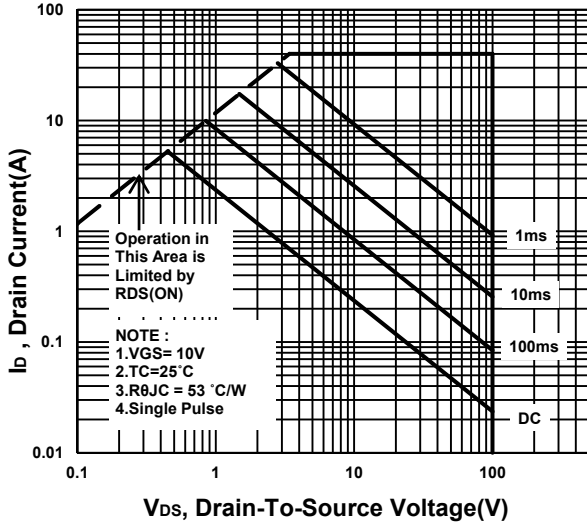
**Gate charge Characteristics**



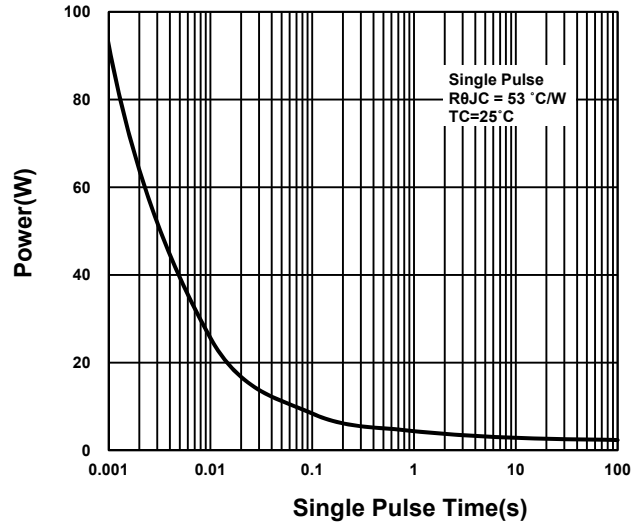
**Source-Drain Diode Forward Voltage**



**Safe Operating Area**



**Single Pulse Maximum Power Dissipation**



**Transient Thermal Response Curve**

