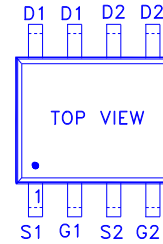
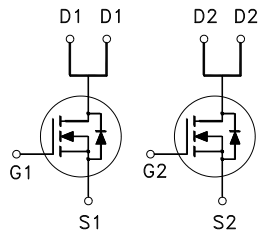


**PRODUCT SUMMARY**

$V_{(BR)DSS}$	$R_{DS(ON)}$	$I_D$
100V	120mΩ	2.3A



G: GATE  
D: DRAIN  
S: SOURCE

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

PARAMETERS/TEST CONDITIONS		SYMBOL	LIMITS	UNITS
Drain-Source Voltage		$V_{DS}$	100	V
Gate-Source Voltage		$V_{GS}$	$\pm 20$	V
Continuous Drain Current	$T_A = 25^\circ\text{C}$	$I_D$	2.3	A
	$T_A = 70^\circ\text{C}$		1.8	
Pulsed Drain Current <sup>1</sup>		$I_{DM}$	20	
Avalanche Current		$I_{AS}$	6	
Avalanche Energy	L = 1mH	$E_{AS}$	18	mJ
Power Dissipation	$T_A = 25^\circ\text{C}$	$P_D$	1.5	W
	$T_A = 70^\circ\text{C}$		0.9	
Junction & Storage Temperature Range		$T_J, T_{stg}$	-55 to 150	$^\circ\text{C}$

**THERMAL RESISTANCE RATINGS**

THERMAL RESISTANCE	SYMBOL	TYPICAL	MAXIMUM	UNITS
Junction-to-Ambient	$R_{\theta JA}$		85	$^\circ\text{C} / \text{W}$
Junction-to-Case	$R_{\theta JC}$		35	

<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  $T_A = 25^\circ\text{C}$ .

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

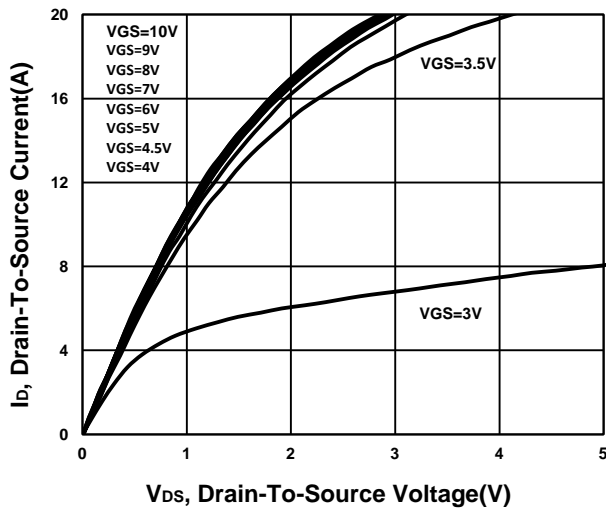
PARAMETER	SYMBOL	TEST CONDITIONS	LIMITS			UNIT
			MIN	TYP	MAX	
<b>STATIC</b>						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = 250\mu\text{A}$	100			V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu\text{A}$	1	1.8	3	
Gate-Body Leakage	$I_{GSS}$	$V_{DS} = 0V, V_{GS} = \pm 20V$			$\pm 100$	nA
Zero Gate Voltage Drain Current	$I_{DSS}$	$V_{DS} = 80V, V_{GS} = 0V$			1	$\mu\text{A}$
		$V_{DS} = 80V, V_{GS} = 0V, T_J = 70^\circ\text{C}$			10	
Drain-Source On-State Resistance <sup>1</sup>	$R_{DS(ON)}$	$V_{GS} = 4.5V, I_D = 2A$		82	130	mΩ
		$V_{GS} = 10V, I_D = 2A$		78	120	

Forward Transconductance <sup>1</sup>	$g_{fs}$	$V_{DS} = 10V, I_D = 2A$		10		S
<b>DYNAMIC</b>						
Input Capacitance	$C_{iss}$	$V_{GS} = 0V, V_{DS} = 25V, f = 1MHz$		591		pF
Output Capacitance	$C_{oss}$			52		
Reverse Transfer Capacitance	$C_{rss}$			31		
Gate Resistance	$R_g$	$V_{GS} = 0V, V_{DS} = 0V, f = 1MHz$		1.6		$\Omega$
Total Gate Charge <sup>2</sup>	$Q_{g(VGS=10V)}$	$V_{DS} = 50V, I_D = 2A$		13.5		nC
	$Q_{g(VGS=4.5V)}$			7.8		
Gate-Source Charge <sup>2</sup>	$Q_{gs}$			1.9		
Gate-Drain Charge <sup>2</sup>	$Q_{gd}$			4.4		
Turn-On Delay Time <sup>2</sup>	$t_{d(on)}$		$V_{DS} = 50V, I_D \cong 2A, V_{GS} = 10V, R_{GEN} = 6\Omega$		15	
Rise Time <sup>2</sup>	$t_r$			10		
Turn-Off Delay Time <sup>2</sup>	$t_{d(off)}$			34		
Fall Time <sup>2</sup>	$t_f$			10		
<b>SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS (T<sub>J</sub> = 25 ° C)</b>						
Continuous Current	$I_S$				1.2	A
Forward Voltage <sup>1</sup>	$V_{SD}$	$I_F = 2A, V_{GS} = 0V$			1.2	V
Diode Reverse Recovery Time	$t_{rr}$	$I_F = 2A, di/dt = 100A/\mu s$		19		nS
Diode Reverse Recovery Charge	$Q_{rr}$			14		nC

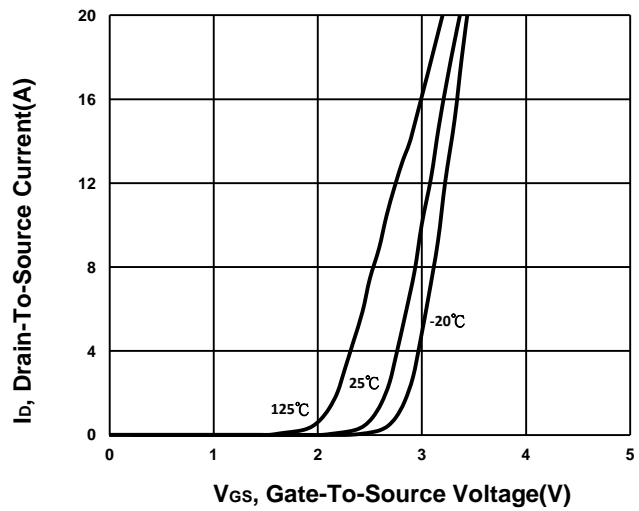
<sup>1</sup>Pulse test : Pulse Width ≤ 300 μsec, Duty Cycle ≤ 2%.

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

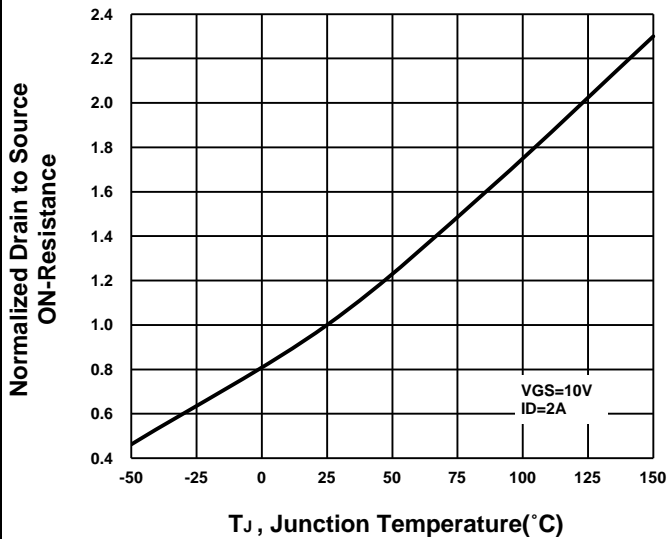
**Output Characteristics**



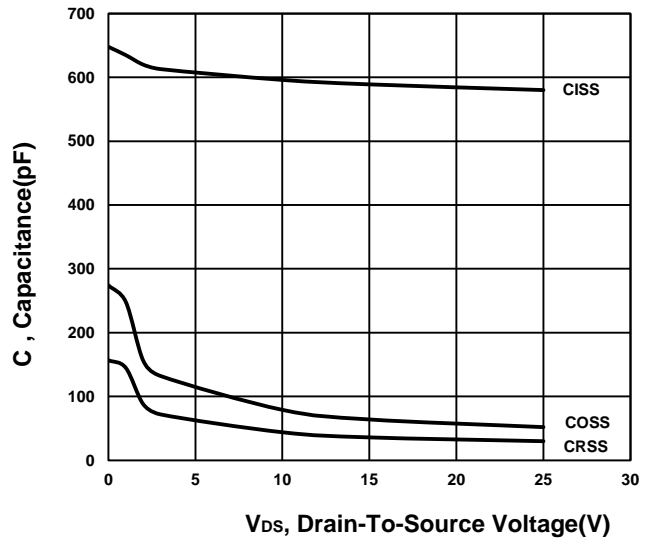
**Transfer Characteristics**



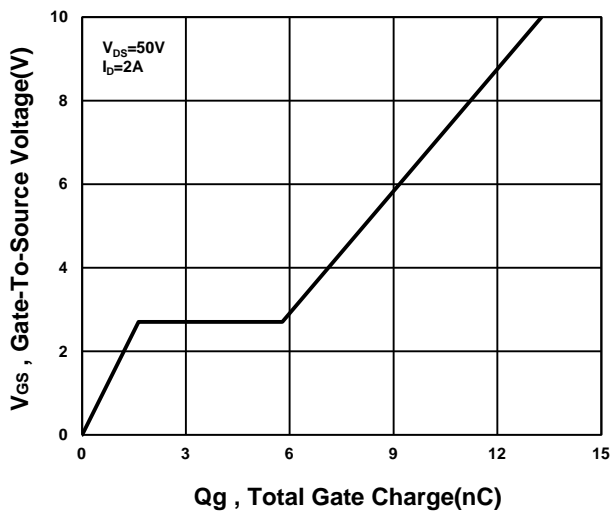
**On-Resistance VS Temperature**



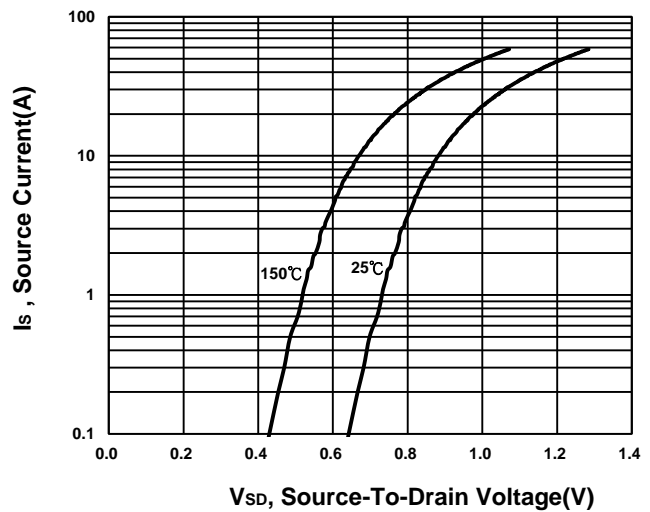
**Capacitance Characteristic**



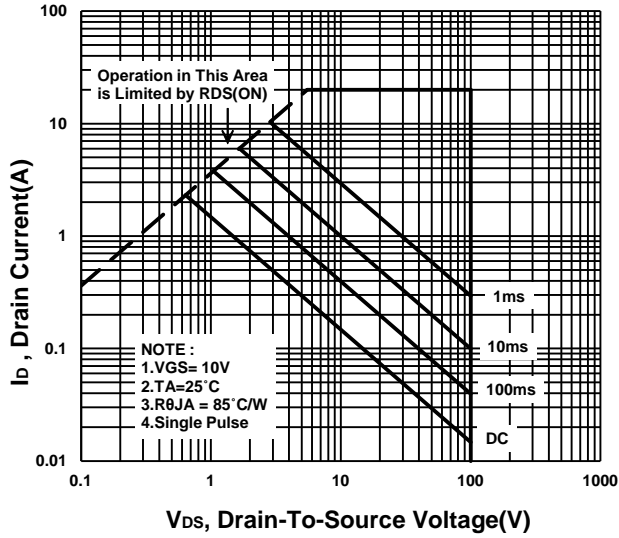
**Gate charge Characteristics**



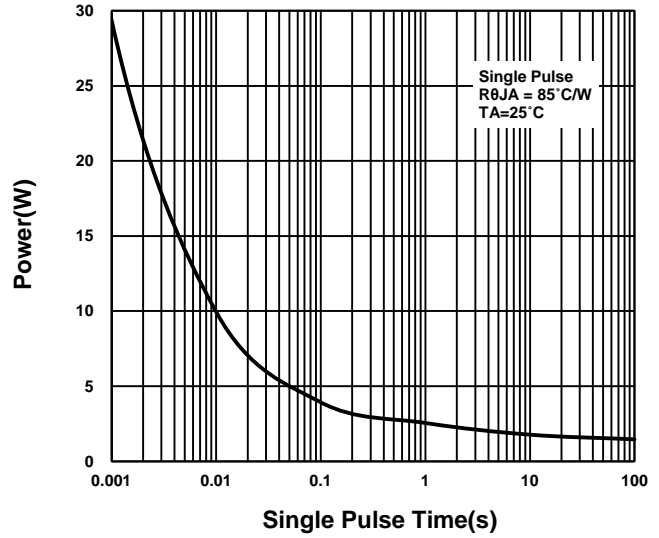
**Source-Drain Diode Forward Voltage**



**Safe Operating Area**



**Single Pulse Maximum Power Dissipation**



**Transient Thermal Response Curve**

