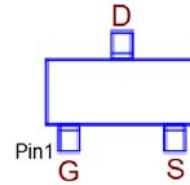
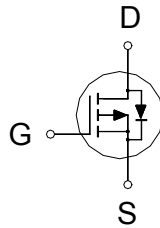




**PRODUCT SUMMARY**

$V_{(BR)DSS}$	$R_{DS(ON)}$	$I_D$
-30V	120mΩ	-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	$V_{DS}$	-30	V
Gate-Source Voltage	$V_{GS}$	±20	V
Continuous Drain Current	$I_D$	$T_A = 25\text{ °C}$	-2
		$T_A = 70\text{ °C}$	-1.5
Pulsed Drain Current <sup>1</sup>	$I_{DM}$	-8	A
Power Dissipation	$P_D$	$T_A = 25\text{ °C}$	0.7
		$T_A = 70\text{ °C}$	0.4
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>	$R_{\theta JA}$		177	°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.

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

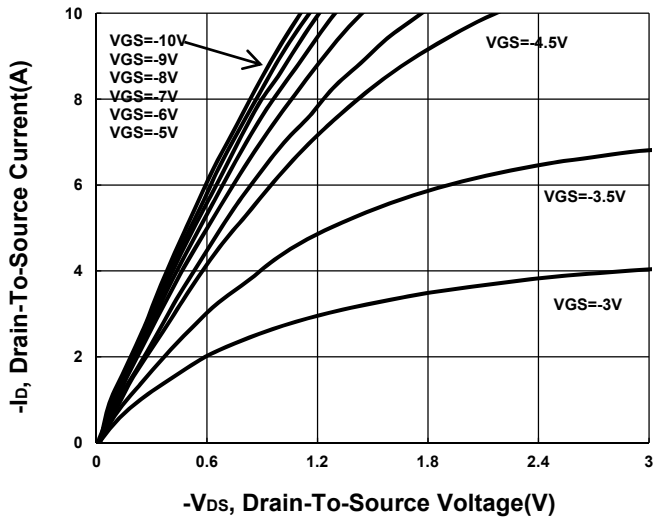
PARAMETER	SYMBOL	TEST CONDITIONS	LIMITS			UNIT
			MIN	TYP	MAX	
<b>STATIC</b>						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = -250\mu A$	-30			V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = -250\mu A$	-1	-1.7	-3	V
Gate-Body Leakage	$I_{GSS}$	$V_{DS} = 0V, V_{GS} = \pm 20V$			±100	nA
Zero Gate Voltage Drain Current	$I_{DSS}$	$V_{DS} = -24V, V_{GS} = 0V$			-1	μA
		$V_{DS} = -20V, V_{GS} = 0V, T_J = 55\text{ °C}$			-10	μA
On-State Drain Current <sup>1</sup>	$I_{D(ON)}$	$V_{DS} = -10V, V_{GS} = -10V$	-8			A
Drain-Source On-State Resistance <sup>1</sup>	$R_{DS(ON)}$	$V_{GS} = -4.5V, I_D = -1.5A$		134	180	mΩ
		$V_{GS} = -10V, I_D = -2A$		98	120	mΩ

Forward Transconductance <sup>1</sup>	$g_{fs}$	$V_{DS} = -5V, I_D = -2A$		4.3		S
<b>DYNAMIC</b>						
Input Capacitance	$C_{iss}$	$V_{GS} = 0V, V_{DS} = -15V, f = 1MHz$		190		pF
Output Capacitance	$C_{oss}$			36		
Reverse Transfer Capacitance	$C_{rss}$			27		
Total Gate Charge <sup>2</sup>	$Q_g$	$V_{DS} = -15V, V_{GS} = -10V, I_D = -2A$		4.8		nC
Gate-Source Charge <sup>2</sup>	$Q_{gs}$			0.5		
Gate-Drain Charge <sup>2</sup>	$Q_{gd}$			1.3		
Turn-On Delay Time <sup>2</sup>	$t_{d(on)}$	$V_{DD} = -15V, V_{GS} = -10V, I_D \cong -2A, R_G = 6\Omega$		14		nS
Rise Time <sup>2</sup>	$t_r$			36		
Turn-Off Delay Time <sup>2</sup>	$t_{d(off)}$			42		
Fall Time <sup>2</sup>	$t_f$			34		
<b>SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS (T<sub>J</sub> = 25 °C)</b>						
Continuous Current	$I_S$				-2	A
Forward Voltage <sup>1</sup>	$V_{SD}$	$I_F = -2A, V_{GS} = 0V$			-1.1	V
Reverse Recovery Time	$t_{rr}$	$I_F = -2A, di_F/dt = 100A / \mu S$		15		nS
Reverse Recovery Charge	$Q_{rr}$			8		nC

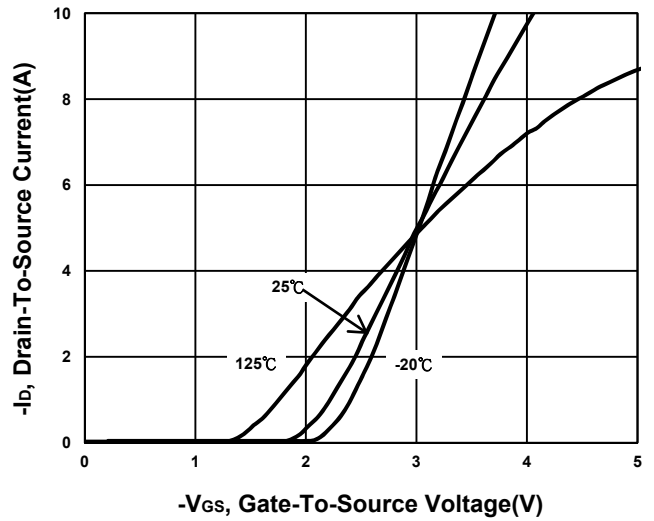
<sup>1</sup>Pulse test : Pulse Width ≤ 300 μsec, Duty Cycle ≤ 2%.

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

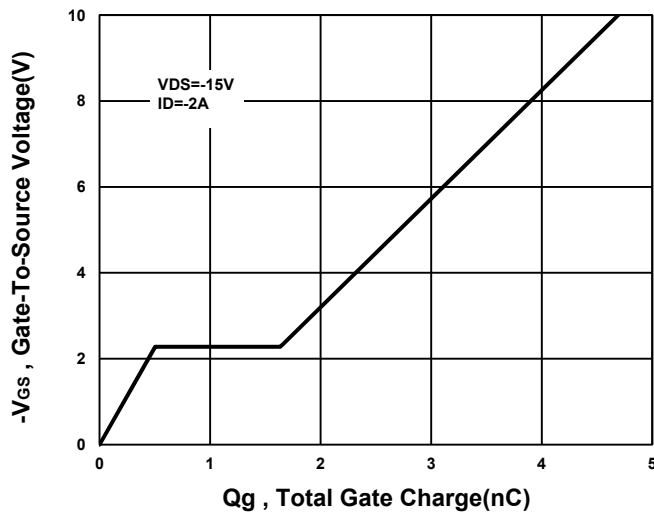
**Output Characteristics**



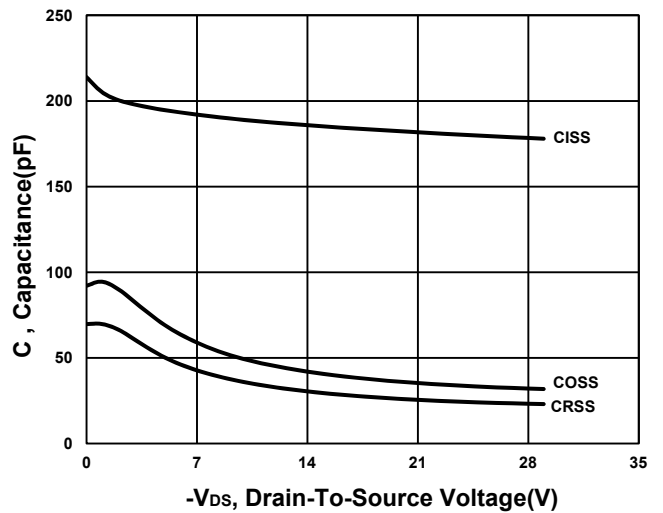
**Transfer Characteristics**



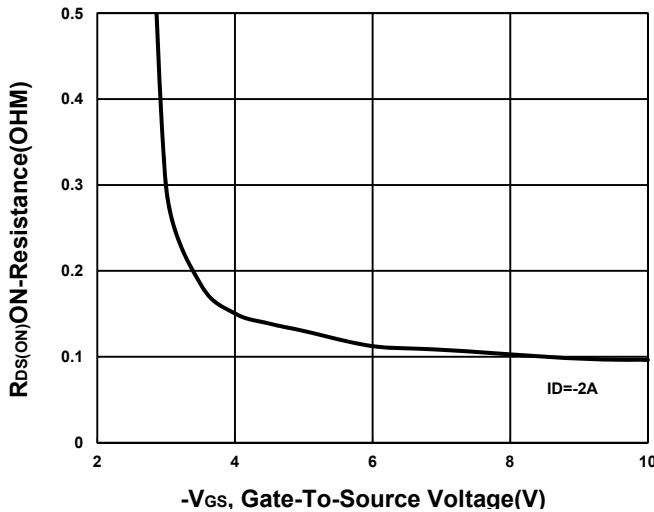
**Gate charge Characteristics**



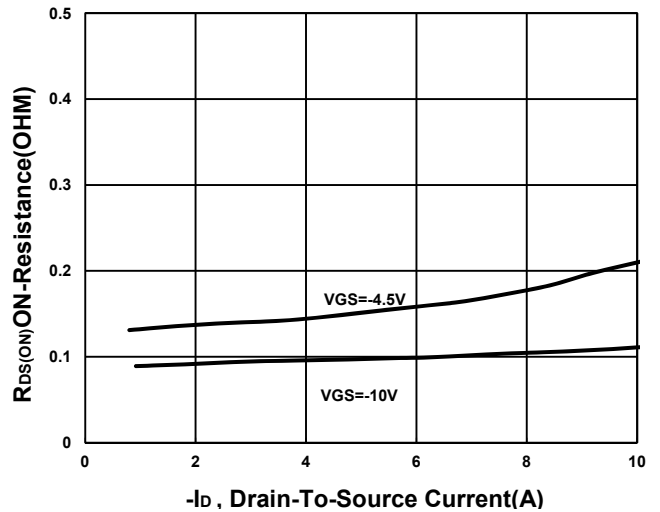
**Capacitance Characteristic**



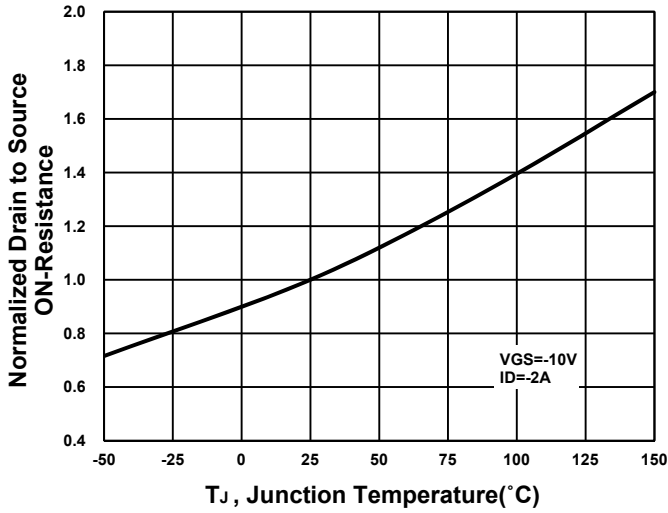
**On-Resistance VS Gate-To-Source**



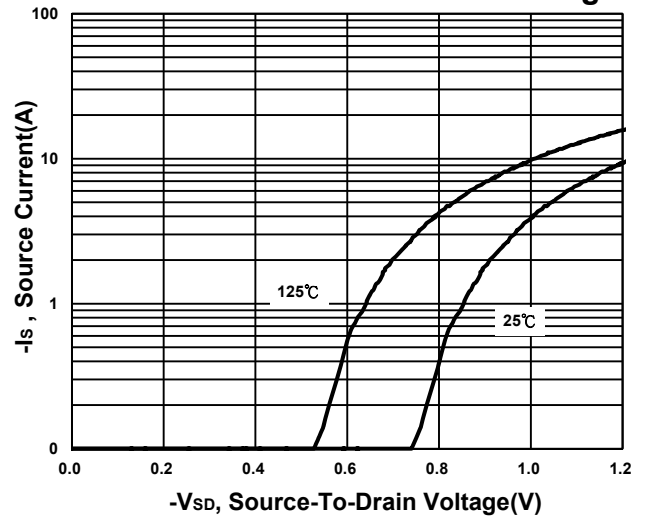
**On-Resistance VS Drain Current**



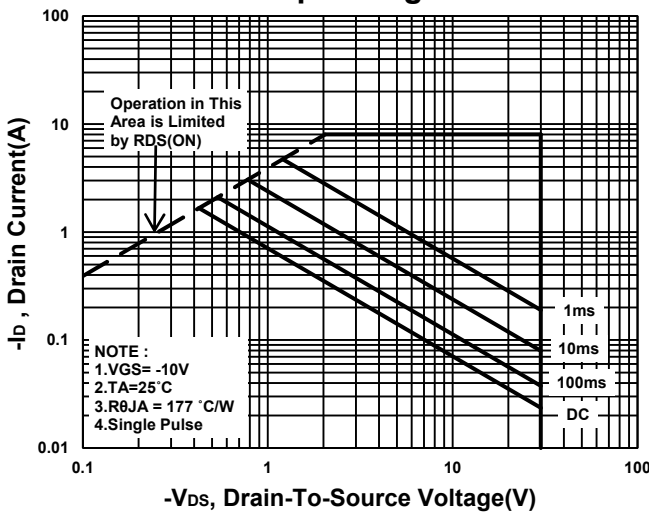
**On-Resistance VS Temperature**



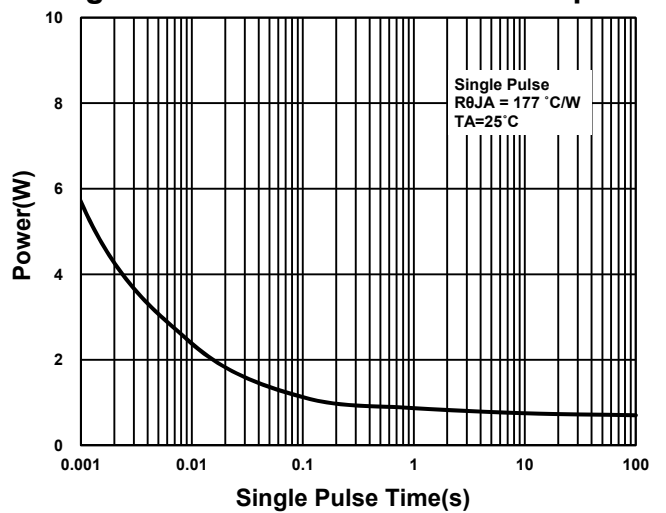
**Source-Drain Diode Forward Voltage**



**Safe Operating Area**



**Single Pulse Maximum Power Dissipation**



**Transient Thermal Response Curve**

