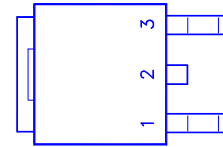
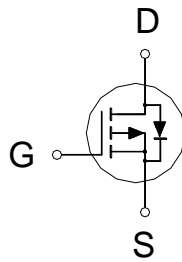


**PRODUCT SUMMARY**

$V_{(BR)DSS}$	$R_{DS(ON)}$	$I_D$
-30V	8mΩ	-71A



- 1. GATE
- 2. DRAIN
- 3. 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		$V_{GS}$	±25	V
Continuous Drain Current <sup>2</sup>	$T_C = 25\text{ °C}$	$I_D$	-71	A
	$T_C = 100\text{ °C}$		-45	
Pulsed Drain Current <sup>1</sup>		$I_{DM}$	-160	
Avalanche Current		$I_{AS}$	-58	
Avalanche Energy	$L = 0.03\text{mH}$	$E_{AS}$	50.4	mJ
Power Dissipation	$T_C = 25\text{ °C}$	$P_D$	73	W
	$T_C = 100\text{ °C}$		29	
Junction & Storage Temperature Range		$T_J, T_{stg}$	-55 to 150	°C

**THERMAL RESISTANCE RATINGS**

THERMAL RESISTANCE	SYMBOL	TYPICAL	MAXIMUM	UNITS
Junction-to-Case	$R_{\theta JC}$		1.7	°C / W
Junction-to-Ambient	$R_{\theta JA}$		62.5	

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

<sup>2</sup>Package limitation current is -55A.

**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	-1.6	-3	
Gate-Body Leakage	$I_{GSS}$	$V_{DS} = 0V, V_{GS} = \pm 25V$			±100	nA
Zero Gate Voltage Drain Current	$I_{DSS}$	$V_{DS} = -24V, V_{GS} = 0V$			-1	μA
		$V_{DS} = -20V, V_{GS} = 0V, T_J = 125\text{ °C}$			-10	

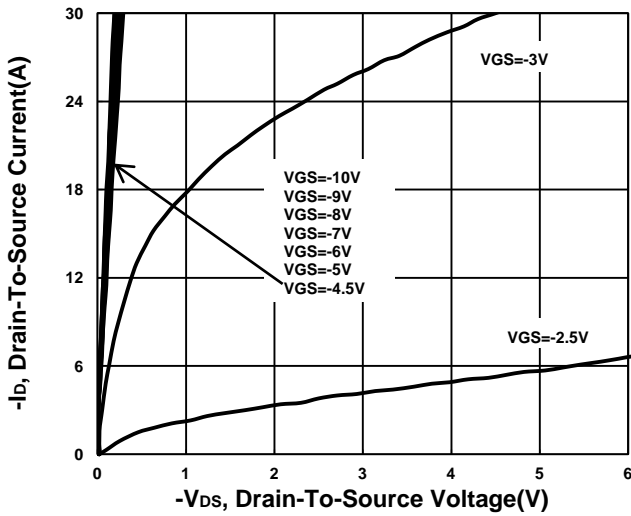
Drain-Source On-State Resistance <sup>1</sup>	$R_{DS(ON)}$	$V_{GS} = -10V, I_D = -20A$	6.5	8	mΩ
		$V_{GS} = -4.5V, I_D = -20A$	9.6	14	
Forward Transconductance <sup>1</sup>	$g_{fs}$	$V_{DS} = -5V, I_D = -20A$	49		S
<b>DYNAMIC</b>					
Input Capacitance	$C_{iss}$	$V_{GS} = 0V, V_{DS} = -15V, f = 1MHz$	2464		pF
Output Capacitance	$C_{oss}$		374		
Reverse Transfer Capacitance	$C_{rss}$		271		
Gate Resistance	$R_g$	$V_{GS} = 0V, V_{DS} = 0V, f = 1MHz$	3.8		Ω
Total Gate Charge <sup>2</sup>	$Q_g(V_{GS}=-10V)$	$V_{DS} = -15V, I_D = -20A$	55		nC
	$Q_g(V_{GS}=-4.5V)$		27		
Gate-Source Charge <sup>2</sup>	$Q_{gs}$		8.3		
Gate-Drain Charge <sup>2</sup>	$Q_{gd}$		11		
Turn-On Delay Time <sup>2</sup>	$t_{d(on)}$		$V_{DS} = -15V, I_D \cong -20A, V_{GS} = -10V, R_{GEN} = 6\Omega$	15	
Rise Time <sup>2</sup>	$t_r$	20			
Turn-Off Delay Time <sup>2</sup>	$t_{d(off)}$	41			
Fall Time <sup>2</sup>	$t_f$	23			
<b>SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS (T<sub>J</sub> = 25 °C)</b>					
Continuous Current <sup>3</sup>	$I_S$			-56	A
Forward Voltage <sup>1</sup>	$V_{SD}$	$I_F = -20A, V_{GS} = 0V$		-1.3	V
Reverse Recovery Time	$t_{rr}$	$I_F = -20A, di_F/dt = 100A / \mu S$	26		nS
Reverse Recovery Charge	$Q_{rr}$		13		nC

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

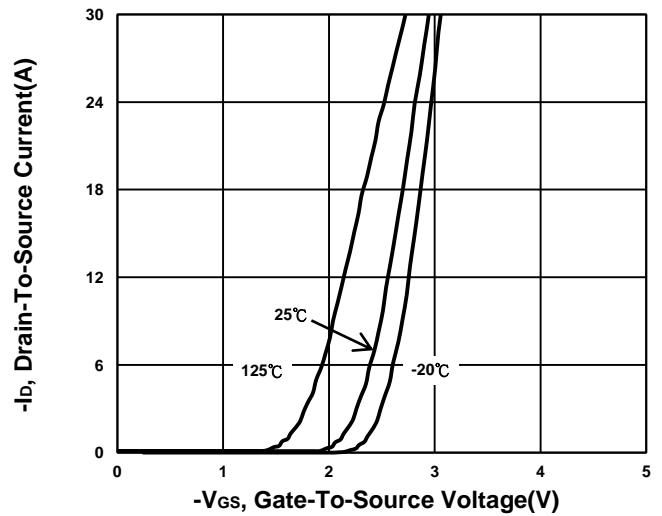
<sup>2</sup>Independent of operating temperature.

<sup>3</sup>Package limitation current is -55A.

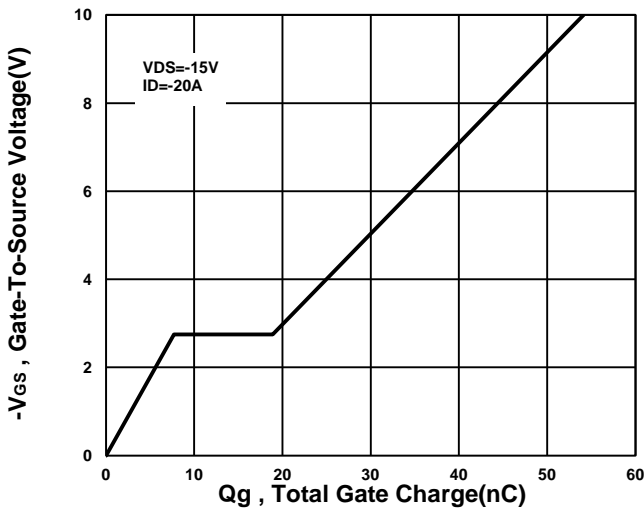
**Output Characteristics**



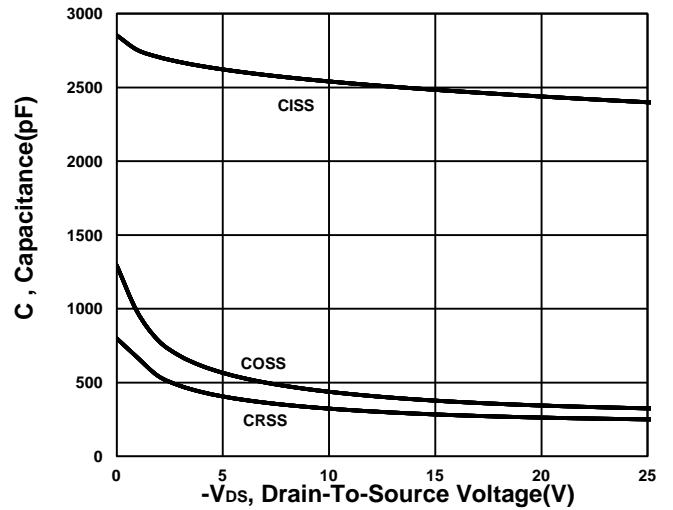
**Transfer Characteristics**



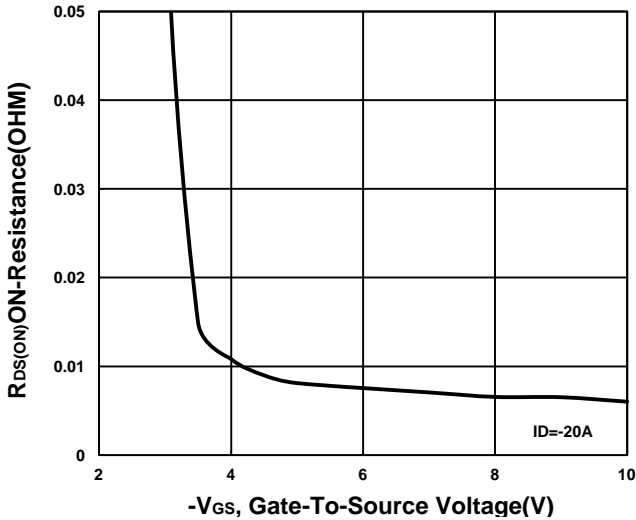
**Gate charge Characteristics**



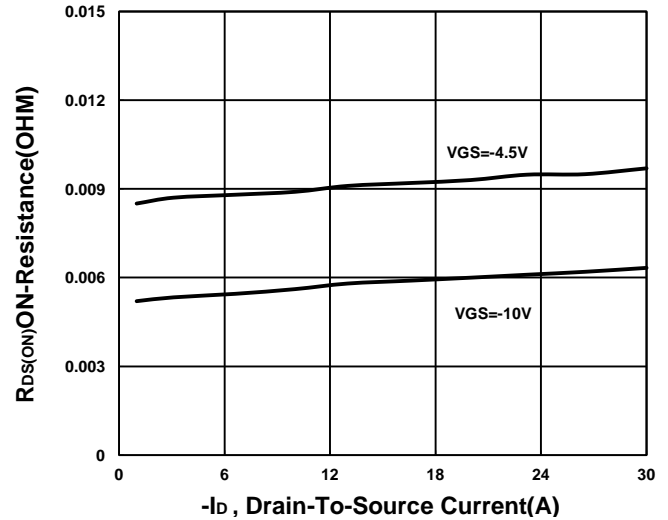
**Capacitance Characteristic**



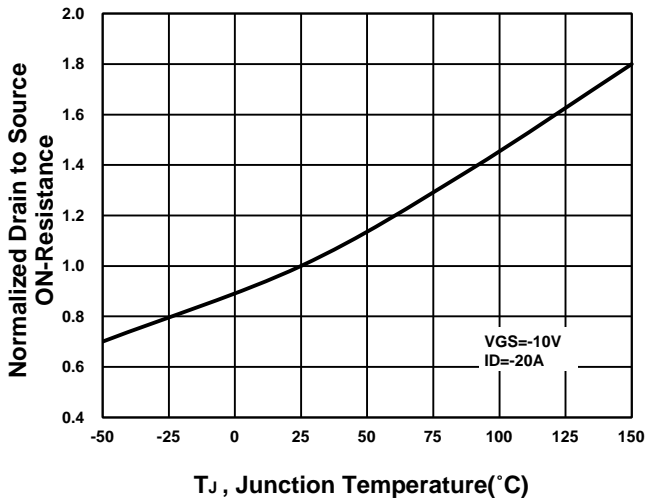
**On-Resistance VS Gate-To-Source**



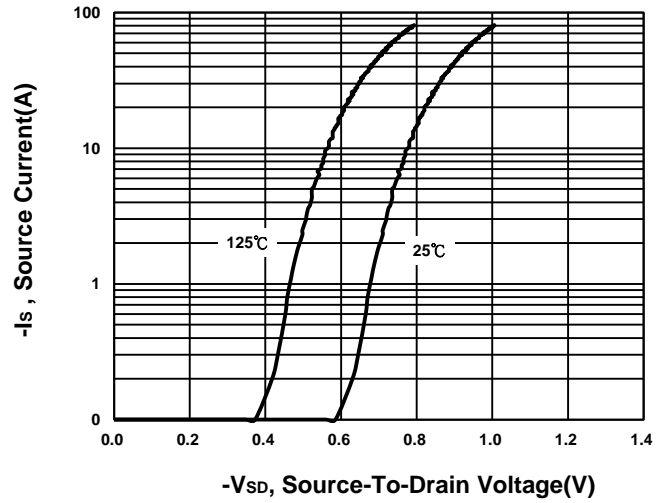
**On-Resistance VS Drain Current**



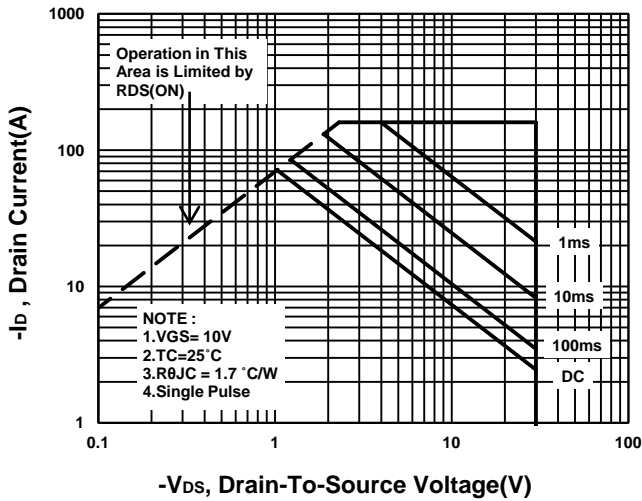
**On-Resistance VS Temperature**



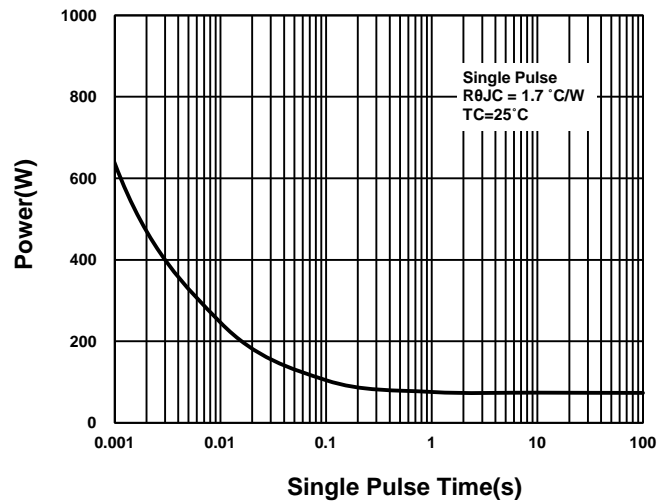
**Source-Drain Diode Forward Voltage**



**Safe Operating Area**



**Single Pulse Maximum Power Dissipation**



**Transient Thermal Response Curve**

