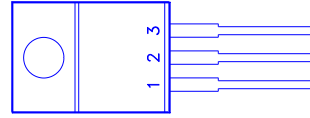
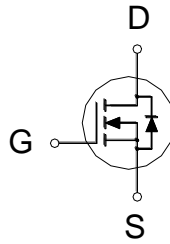




**PRODUCT SUMMARY**

$V_{(BR)DSS}$	$R_{DS(ON)}$	$I_D$
110V	16m $\Omega$	51A



1.GATE  
2.DRAIN  
3.SOURCE

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

PARAMETERS/TEST CONDITIONS	SYMBOL	LIMITS	UNITS
Gate-Source Voltage	$V_{GS}$	$\pm 20$	V
Continuous Drain Current <sup>2</sup>	$I_D$	$T_C = 25\text{ }^\circ\text{C}$	51
		$T_C = 100\text{ }^\circ\text{C}$	32
Pulsed Drain Current <sup>1,2</sup>	$I_{DM}$	150	A
Avalanche Current	$I_{AS}$	12	
Avalanche Energy	$E_{AS}$	72	mJ
Power Dissipation	$P_D$	$T_C = 25\text{ }^\circ\text{C}$	96
		$T_C = 100\text{ }^\circ\text{C}$	38
Operating 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-Case	$R_{\theta JC}$		1.3	$^\circ\text{C} / \text{W}$
Junction-to-Ambient	$R_{\theta JA}$		62.5	$^\circ\text{C} / \text{W}$

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

<sup>2</sup>Limited only by maximum temperature allowed.

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

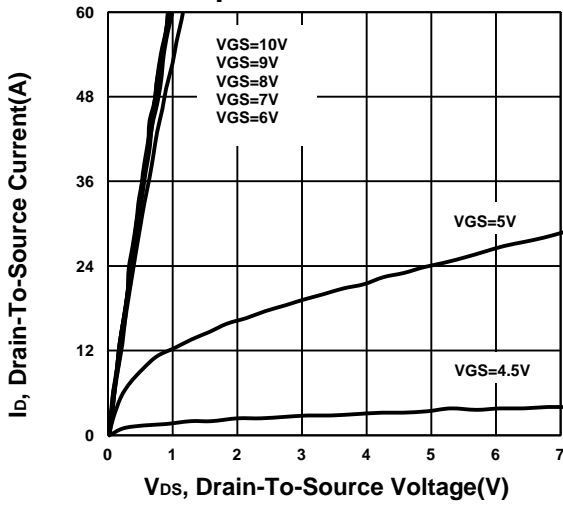
PARAMETER	SYMBOL	TEST CONDITIONS	LIMITS			UNIT
			MIN	TYP	MAX	
<b>STATIC</b>						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS} = 0\text{V}, I_D = 250\mu\text{A}$	110			V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu\text{A}$	2	3.2	4	V
Gate-Body Leakage	$I_{GSS}$	$V_{DS} = 0\text{V}, V_{GS} = \pm 20\text{V}$			$\pm 100$	nA
Zero Gate Voltage Drain Current	$I_{DSS}$	$V_{DS} = 88\text{V}, V_{GS} = 0\text{V}$			1	$\mu\text{A}$
		$V_{DS} = 80\text{V}, V_{GS} = 0\text{V}, T_J = 125\text{ }^\circ\text{C}$			10	

Drain-Source On-State Resistance <sup>1</sup>	$R_{DS(ON)}$	$V_{GS} = 7V, I_D = 15A$		14	21	mΩ
		$V_{GS} = 10V, I_D = 20A$		13	16	
Forward Transconductance <sup>1</sup>	$g_{fs}$	$V_{DS} = 10V, I_D = 20A$		80		S
<b>DYNAMIC</b>						
Input Capacitance	$C_{iss}$	$V_{GS} = 0V, V_{DS} = 25V, f = 1MHz$		3009		pF
Output Capacitance	$C_{oss}$			258		
Reverse Transfer Capacitance	$C_{rss}$			152		
Gate Resistance	$R_g$	$V_{GS} = 0V, V_{DS} = 0V, f = 1MHz$		0.81		Ω
Total Gate Charge <sup>2</sup>	$Q_g$	$V_{DS} = 55V, V_{GS} = 10V, I_D = 20A$		57		nC
Gate-Source Charge <sup>2</sup>	$Q_{gs}$			15.8		
Gate-Drain Charge <sup>2</sup>	$Q_{gd}$			20		
Turn-On Delay Time <sup>2</sup>	$t_{d(on)}$	$V_{DD} = 55V, I_D \cong 20A, V_{GS} = 10V, R_{GEN} = 6\Omega$		47		nS
Rise Time <sup>2</sup>	$t_r$			88		
Turn-Off Delay Time <sup>2</sup>	$t_{d(off)}$			86		
Fall Time <sup>2</sup>	$t_f$			83		
<b>SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS (T<sub>J</sub> = 25 °C)</b>						
Continuous Current	$I_S$				51	A
Forward Voltage <sup>1</sup>	$V_{SD}$	$I_F = 20A, V_{GS} = 0V$			1.2	V
Reverse Recovery Time	$t_{rr}$	$I_F = 20A, dI_F/dt = 100A / \mu S$		37		nS
Reverse Recovery Charge	$Q_{rr}$			50		nC

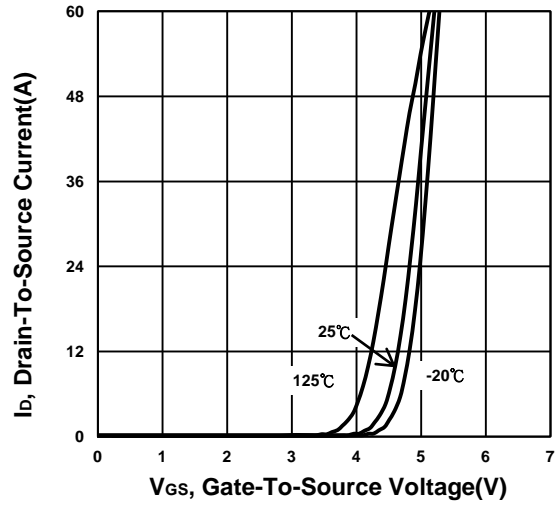
<sup>1</sup>Pulse test : Pulse Width ≤ 300 μsec, Duty Cycle ≤ 2%.

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

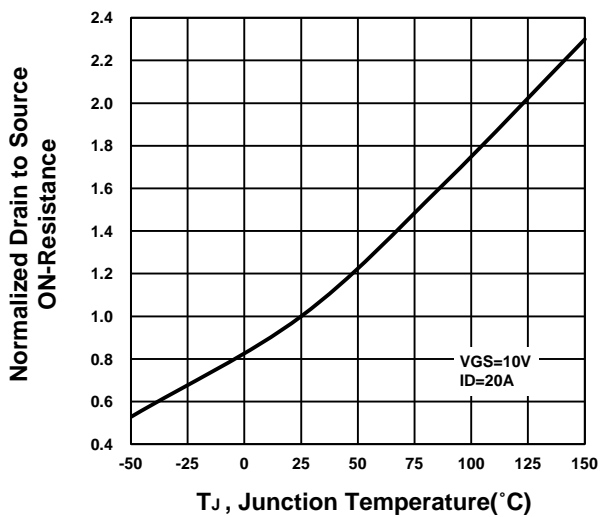
**Output Characteristics**



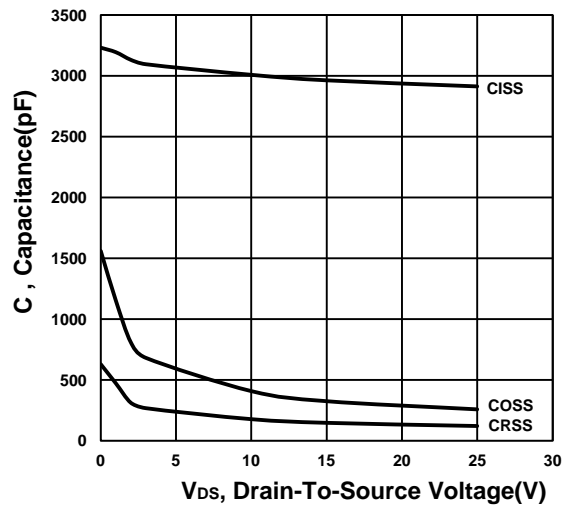
**Transfer Characteristics**



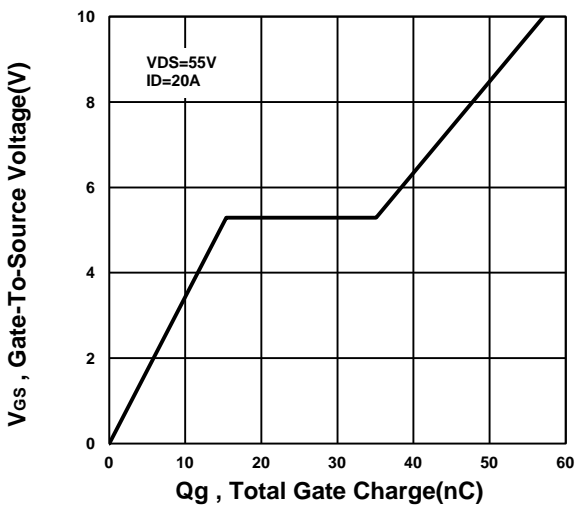
**On-Resistance VS Temperature**



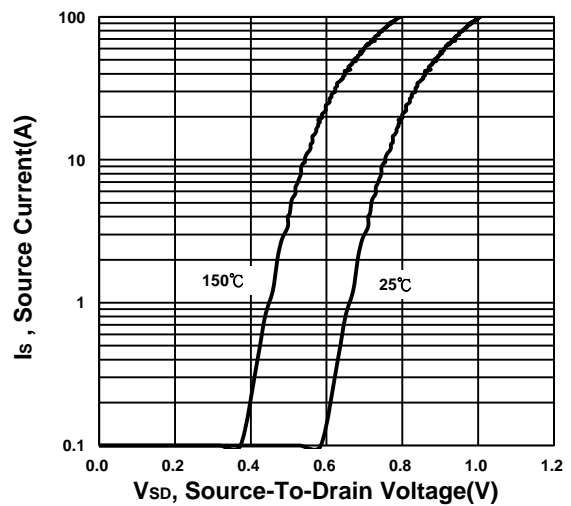
**Capacitance Characteristic**



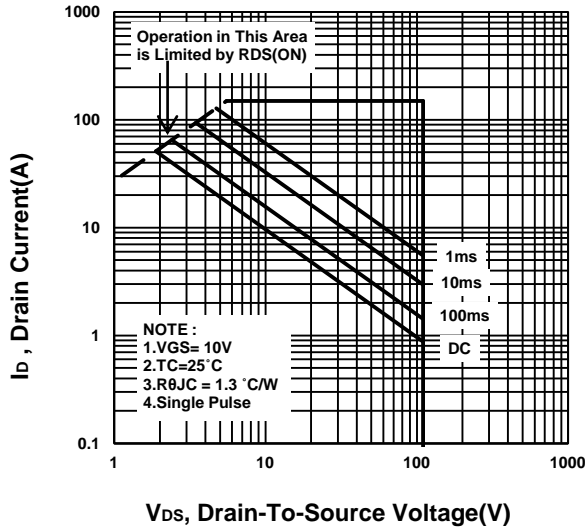
**Gate charge Characteristics**



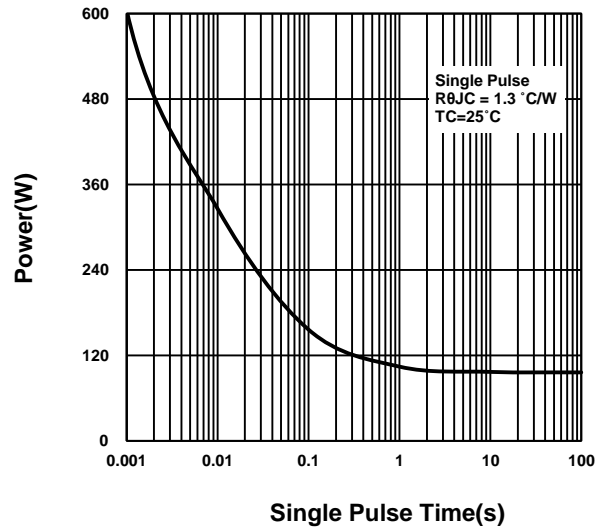
**Source-Drain Diode Forward Voltage**



**Safe Operating Area**



**Single Pulse Maximum Power Dissipation**



**Transient Thermal Response Curve**

