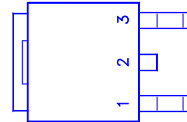
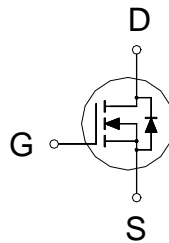




**PRODUCT SUMMARY**

$V_{(BR)DSS}$	$R_{DS(ON)}$	$I_D$
80V	9mΩ	69A



1.GATE  
2.DRAIN  
3.SOURCE

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

PARAMETERS/TEST CONDITIONS	SYMBOL	LIMITS	UNITS
Gate-Source Voltage	$V_{GS}$	±20	V
Continuous Drain Current <sup>3</sup>	$I_D$	$T_C = 25\text{ °C}$	69
		$T_C = 100\text{ °C}$	44
Pulsed Drain Current <sup>1,2</sup>	$I_{DM}$	160	A
Avalanche Current	$I_{AS}$	49	
Avalanche Energy	$E_{AS}$	120	mJ
Power Dissipation	$P_D$	$T_C = 25\text{ °C}$	96
		$T_C = 100\text{ °C}$	38
Operating Junction & Storage Temperature Range	$T_j, T_{stg}$	-55 to 150	°C

**THERMAL RESISTANCE RATINGS**

THERMAL RESISTANCE	SYMBOL	TYPICAL	MAXIMUM	UNITS
Junction-to-Case	$R_{\theta JC}$		1.3	°C / W
Junction-to-Ambient	$R_{\theta JA}$		62.5	°C / W

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

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

<sup>3</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	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = 250\mu A$	80			V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu A$	2	3	4	V
Gate-Body Leakage	$I_{GSS}$	$V_{DS} = 0V, V_{GS} = \pm 20V$			±100	nA
Zero Gate Voltage Drain Current	$I_{DSS}$	$V_{DS} = 64V, V_{GS} = 0V$			1	μA
		$V_{DS} = 60V, V_{GS} = 0V, T_J = 125\text{ °C}$			10	

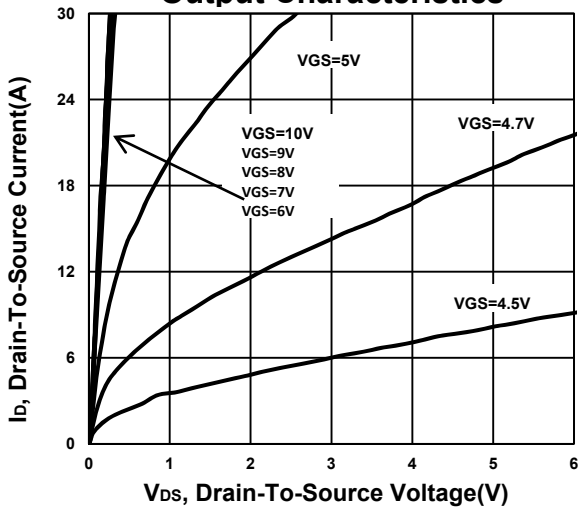
Drain-Source On-State Resistance <sup>1</sup>	$R_{DS(ON)}$	$V_{GS} = 7V, I_D = 15A$	8.4	12	$m\Omega$
		$V_{GS} = 10V, I_D = 20A$	7.7	9	$m\Omega$
Forward Transconductance <sup>1</sup>	$g_{fs}$	$V_{DS} = 10V, I_D = 20A$	57		S
<b>DYNAMIC</b>					
Input Capacitance	$C_{iss}$	$V_{GS} = 0V, V_{DS} = 25V, f = 1MHz$	2853		pF
Output Capacitance	$C_{oss}$		355		
Reverse Transfer Capacitance	$C_{rss}$		199		
Gate Resistance	$R_g$	$V_{GS} = 0V, V_{DS} = 0V, f = 1MHz$	0.9		$\Omega$
Total Gate Charge <sup>2</sup>	$Q_g$	$V_{DS} = 40V, V_{GS} = 10V, I_D = 20A$	55		nC
Gate-Source Charge <sup>2</sup>	$Q_{gs}$		15		
Gate-Drain Charge <sup>2</sup>	$Q_{gd}$		19		
Turn-On Delay Time <sup>2</sup>	$t_{d(on)}$	$V_{DD} = 40V, I_D \cong 20A, V_{GS} = 10V, R_{GEN} = 6\Omega$	37		nS
Rise Time <sup>2</sup>	$t_r$		45		
Turn-Off Delay Time <sup>2</sup>	$t_{d(off)}$		61		
Fall Time <sup>2</sup>	$t_f$		42		
<b>SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS (<math>T_J = 25^\circ C</math>)</b>					
Continuous Current <sup>3</sup>	$I_S$			68	A
Forward Voltage <sup>1</sup>	$V_{SD}$	$I_F = 20A, V_{GS} = 0V$		1.4	V
Reverse Recovery Time	$t_{rr}$	$I_F = 20A, di_F/dt = 100A / \mu S$	34		nS
Reverse Recovery Charge	$Q_{rr}$		37		nC

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

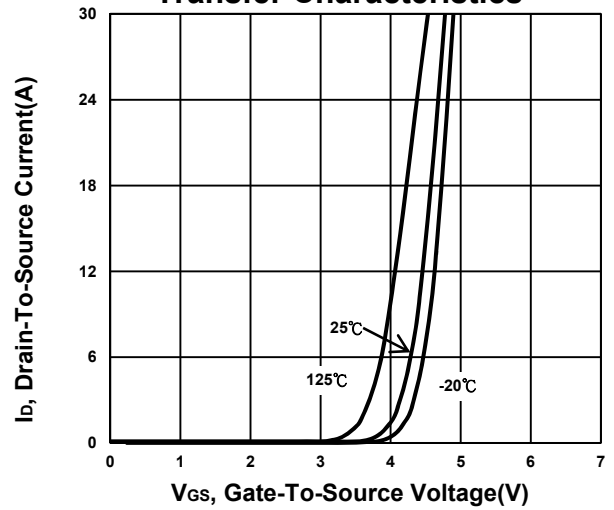
<sup>2</sup>Independent of operating temperature.

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

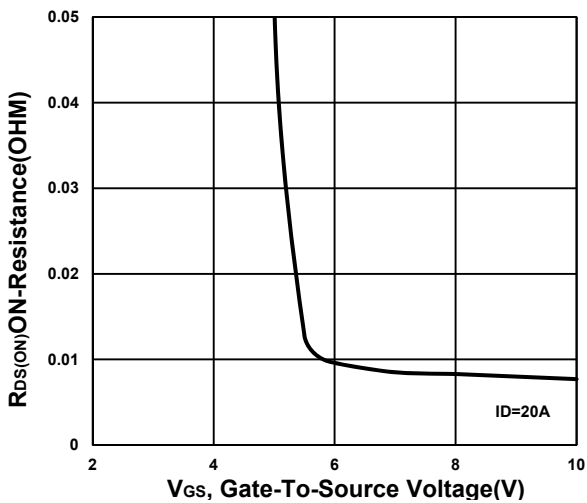
**Output Characteristics**



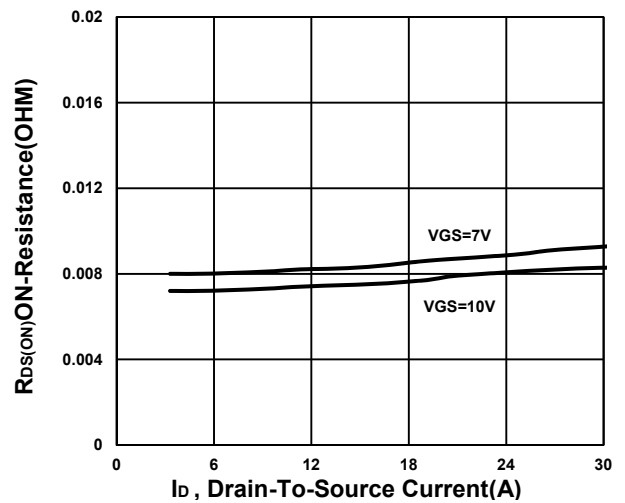
**Transfer Characteristics**



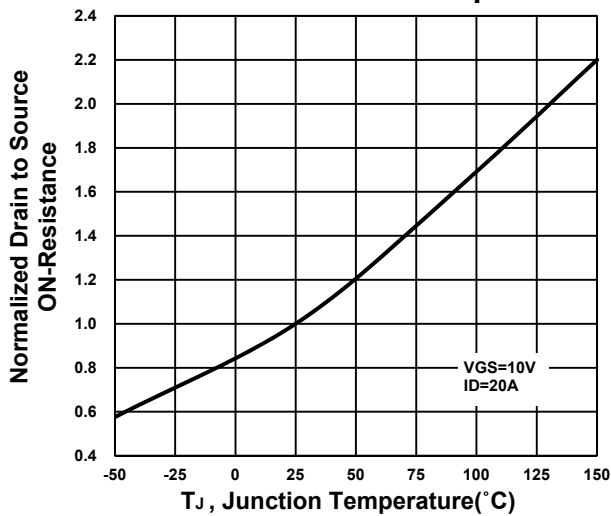
**On-Resistance VS Gate-To-Source**



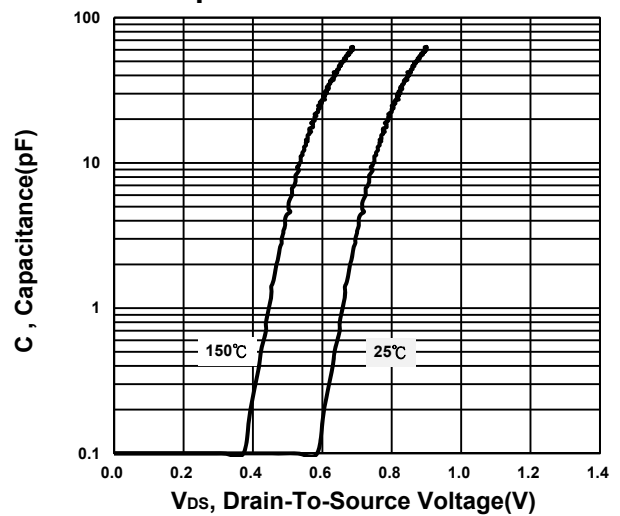
**On-Resistance VS Drain Current**



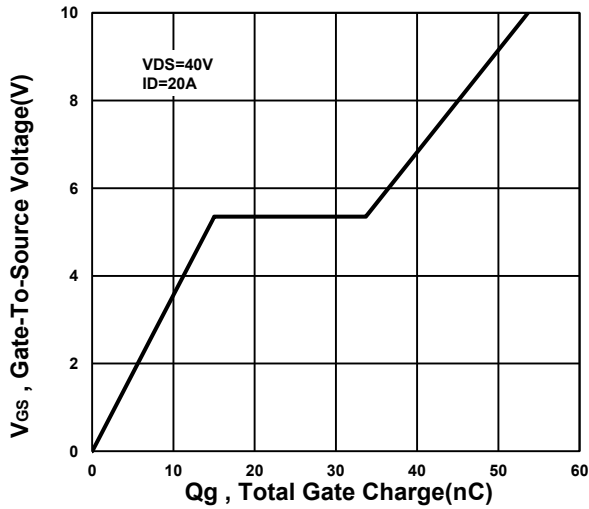
**On-Resistance VS Temperature**



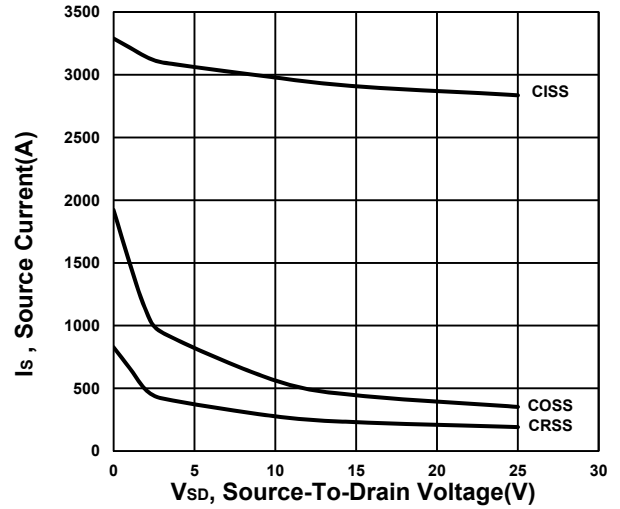
**Capacitance Characteristic**



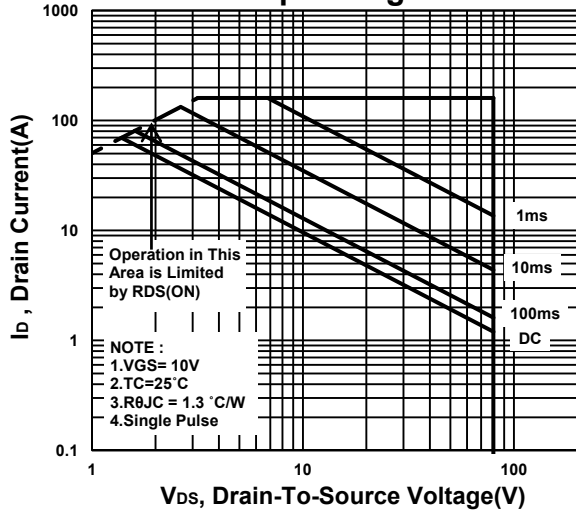
**Gate charge Characteristics**



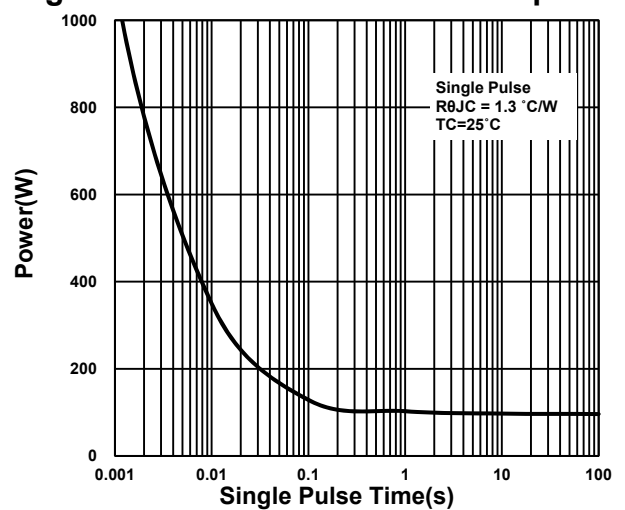
**Source-Drain Diode Forward Voltage**



**Safe Operating Area**



**Single Pulse Maximum Power Dissipation**



**Transient Thermal Response Curve**

