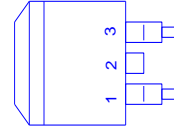
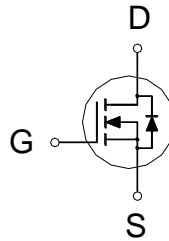




PRODUCT SUMMARY

$V_{(BR)DSS}$	$R_{DS(ON)}$	I_D
100V	4.2mΩ	134A



- 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	$T_C = 25\text{ °C}$	I_D	134	A
	$T_C = 100\text{ °C}$		94	
Pulsed Drain Current ¹		I_{DM}	370	
Avalanche Current		I_{AS}	20	
Avalanche Energy	$L = 1\text{mH}$	E_{AS}	200	mJ
Power Dissipation	$T_C = 25\text{ °C}$	P_D	166	W
	$T_C = 100\text{ °C}$		83	
Operating Junction & Storage Temperature Range		T_j, T_{stg}	-55 to 175	°C

THERMAL RESISTANCE RATINGS

THERMAL RESISTANCE	SYMBOL	TYPICAL	MAXIMUM	UNITS
Junction-to-Case	$R_{\theta JC}$		0.9	°C / W
Junction-to-Ambient	$R_{\theta JA}$		62.5	°C / W

¹Pulse width limited by maximum junction temperature.

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

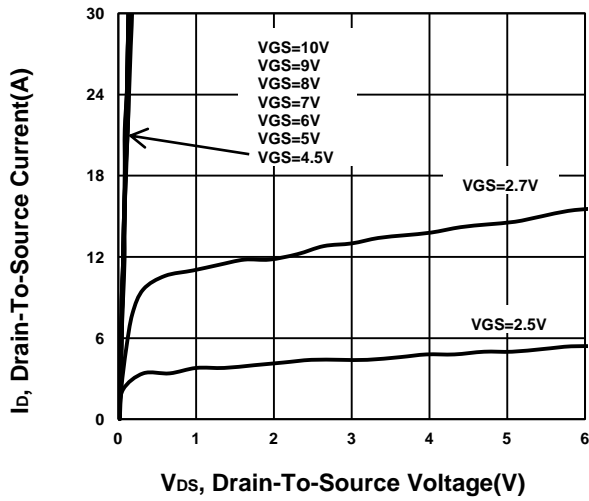
PARAMETER	SYMBOL	TEST CONDITIONS	LIMITS			UNIT
			MIN	TYP	MAX	
STATIC						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = 250\mu A$	100			V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu A$	1	1.7	3	
Gate-Body Leakage	I_{GSS}	$V_{DS} = 0V, V_{GS} = \pm 20V$			±100	nA
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = 100V, V_{GS} = 0V$			1	μA
		$V_{DS} = 100V, V_{GS} = 0V, T_J = 55\text{ °C}$			10	

Drain-Source On-State Resistance ¹	$R_{DS(ON)}$	$V_{GS} = 10V, I_D = 20A$	3.4	4.2	mΩ
		$V_{GS} = 4.5V, I_D = 20A$	4.7	5.6	
Forward Transconductance ¹	g_{fs}	$V_{DS} = 10V, I_D = 20A$	68		S
DYNAMIC					
Input Capacitance	C_{iss}	$V_{GS} = 0V, V_{DS} = 50V, f = 1MHz$	4242		pF
Output Capacitance	C_{oss}		744		
Reverse Transfer Capacitance	C_{rss}		9		
Gate Resistance	R_g	$V_{GS} = 0V, V_{DS} = 0V, f = 1MHz$	1		Ω
Total Gate Charge ²	Q_g	$V_{DS} = 50V, V_{GS} = 10V, I_D = 20A$	88		nC
Gate-Source Charge ²	Q_{gs}		9.8		
Gate-Drain Charge ²	Q_{gd}		25		
Turn-On Delay Time ²	$t_{d(on)}$	$V_{DD} = 50V, I_D \cong 20A, V_{GS} = 10V, R_{GEN} = 6\Omega$	21		nS
Rise Time ²	t_r		63		
Turn-Off Delay Time ²	$t_{d(off)}$		109		
Fall Time ²	t_f		133		
SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS (T_J = 25 °C)					
Continuous Current	I_S			131	A
Forward Voltage ¹	V_{SD}	$I_F = 20A, V_{GS} = 0V$		1.2	V
Reverse Recovery Time	t_{rr}	$I_F = 20A, di_F/dt = 100A / \mu S$	61		nS
Reverse Recovery Charge	Q_{rr}		88		nC

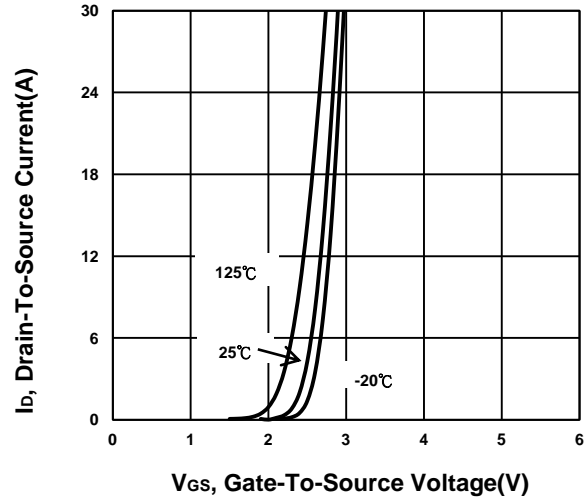
¹Pulse test : Pulse Width ≤ 300 μsec, Duty Cycle ≤ 2%.

²Independent of operating temperature.

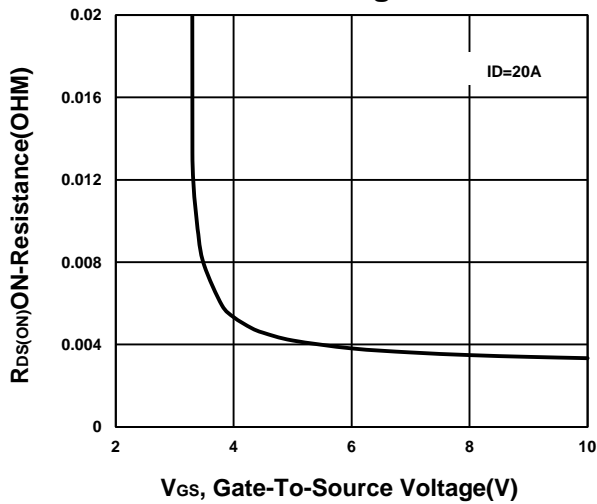
Output Characteristics



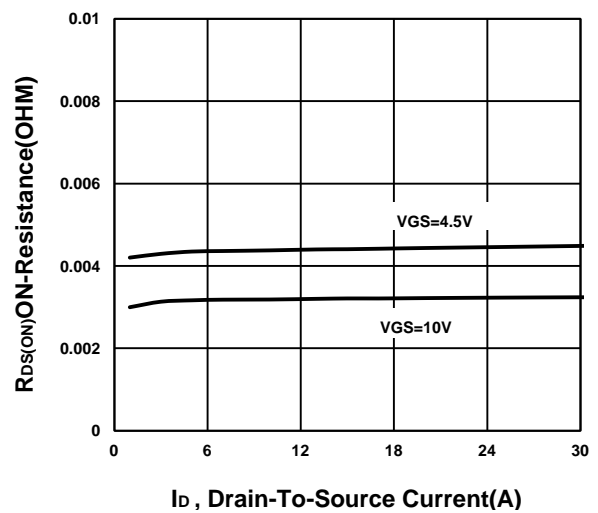
Transfer Characteristics



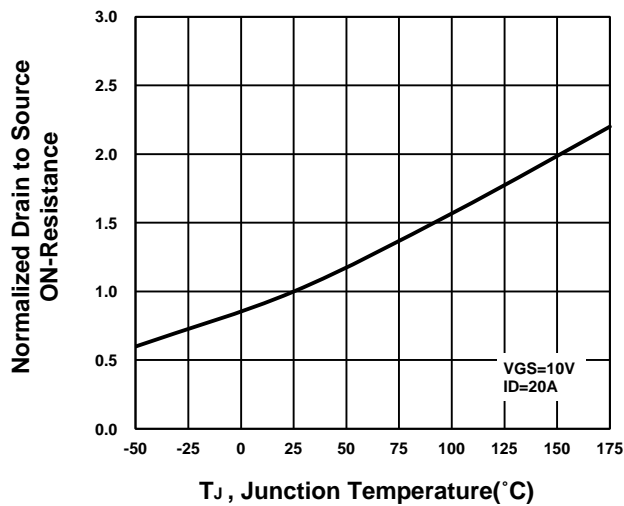
On-Resistance VS Gate-To-Source Voltage



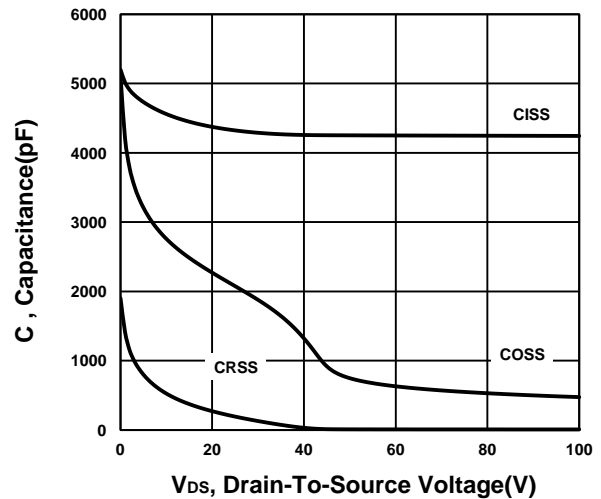
On-Resistance VS Drain Current



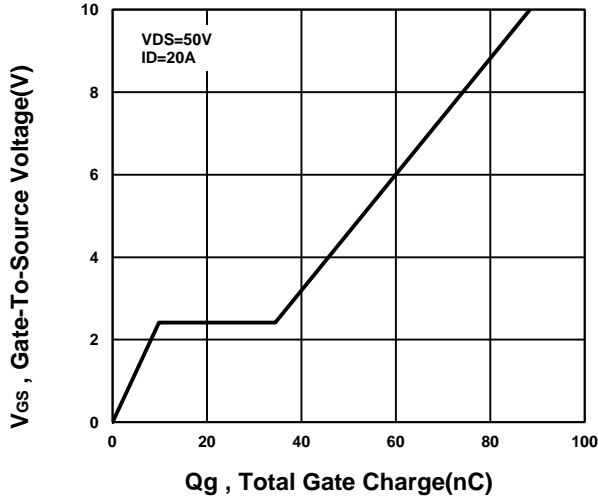
On-Resistance VS Temperature



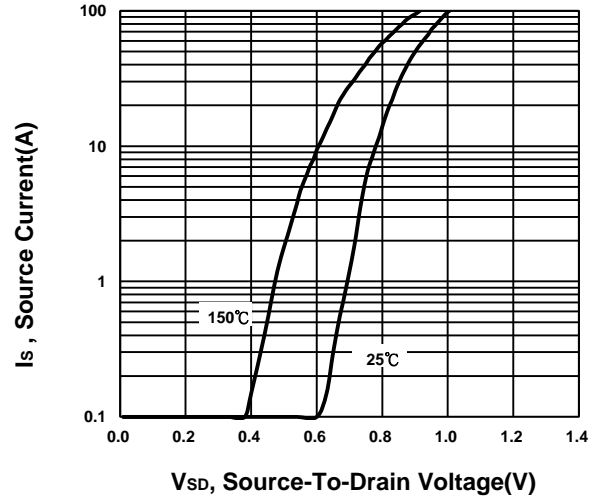
Capacitance Characteristic



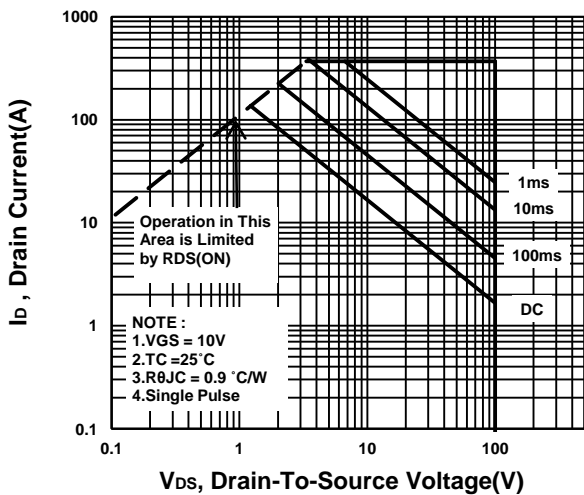
Gate charge Characteristics



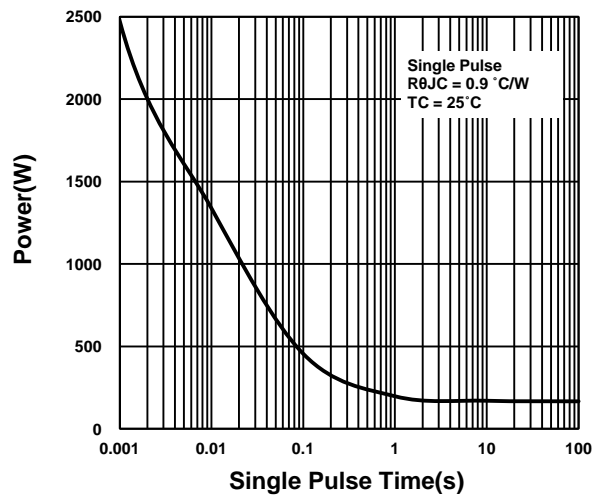
Source-Drain Diode Forward Voltage



Safe Operating Area



Single Pulse Maximum Power Dissipation



Transient Thermal Response Curve

