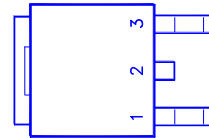
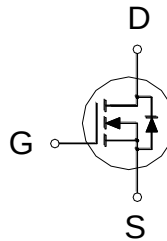




PRODUCT SUMMARY

$V_{(BR)DSS}$	$R_{DS(ON)}$	I_D
100V	4.5m Ω	123A



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}	± 20	V
Continuous Drain Current	$T_C = 25\text{ }^{\circ}\text{C}$	I_D	123	A
	$T_C = 100\text{ }^{\circ}\text{C}$		87	
Pulsed Drain Current ¹		I_{DM}	300	
Avalanche Current		I_{AS}	26	
Avalanche Energy	$L = 1\text{mH}$	E_{AS}	338	mJ
Power Dissipation	$T_C = 25\text{ }^{\circ}\text{C}$	P_D	150	W
	$T_C = 100\text{ }^{\circ}\text{C}$		75	
Operating Junction & Storage Temperature Range		T_j, T_{stg}	-55 to 175	$^{\circ}\text{C}$

THERMAL RESISTANCE RATINGS

THERMAL RESISTANCE	SYMBOL	TYPICAL	MAXIMUM	UNITS
Junction-to-Case	$R_{\theta JC}$		1	$^{\circ}\text{C} / \text{W}$
Junction-to-Ambient	$R_{\theta JA}$		62.5	$^{\circ}\text{C} / \text{W}$

¹Pulse width limited by maximum junction temperature.

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

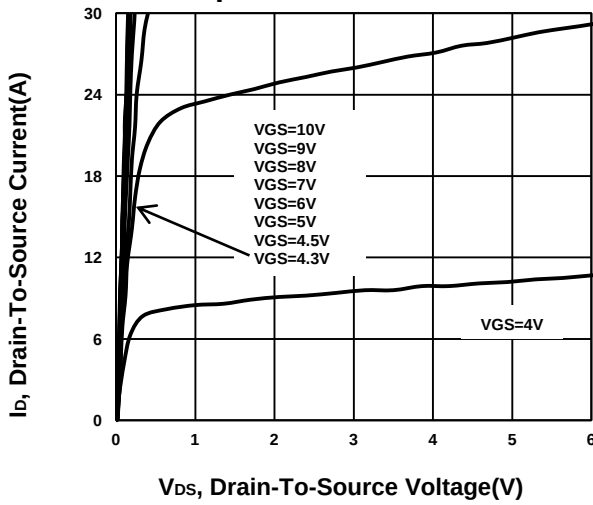
PARAMETER	SYMBOL	TEST CONDITIONS	LIMITS			UNIT
			MIN	TYP	MAX	
STATIC						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = 250\mu A$	100			V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu A$	2	2.8	4	
Gate-Body Leakage	I_{GSS}	$V_{DS} = 0V, V_{GS} = \pm 20V$			± 100	nA
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = 100V, V_{GS} = 0V$			1	μA
		$V_{DS} = 100V, V_{GS} = 0V, T_J = 55\text{ }^{\circ}C$			10	

Drain-Source On-State Resistance ¹	R _{DS(ON)}	V _{GS} = 10V, I _D = 20A		3.9	4.5	mΩ
Forward Transconductance ¹	g _{fs}	V _{DS} = 10V, I _D = 20A		58		S
DYNAMIC						
Input Capacitance	C _{iss}	V _{GS} = 0V, V _{DS} = 50V, f = 1MHz		4263		pF
Output Capacitance	C _{oss}			771		
Reverse Transfer Capacitance	C _{rss}			7.3		
Gate Resistance	R _g	V _{GS} = 0V, V _{DS} = 0V ,f = 1MHz		0.9		Ω
Total Gate Charge ²	Q _g	V _{DS} = 50V, V _{GS} = 10V, I _D = 20A		76		nC
Gate-Source Charge ²	Q _{gs}			17		
Gate-Drain Charge ²	Q _{gd}			23		
Turn-On Delay Time ²	t _{d(on)}	V _{DD} = 50V I _D ≅ 20A, V _{GS} = 10V, R _{GEN} = 6Ω		27		nS
Rise Time ²	t _r			72		
Turn-Off Delay Time ²	t _{d(off)}			71		
Fall Time ²	t _f			88		
SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS (T _J = 25 °C)						
Continuous Current	I _S				123	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 / μS		61		nS
Reverse Recovery Charge	Q _{rr}			100		nC

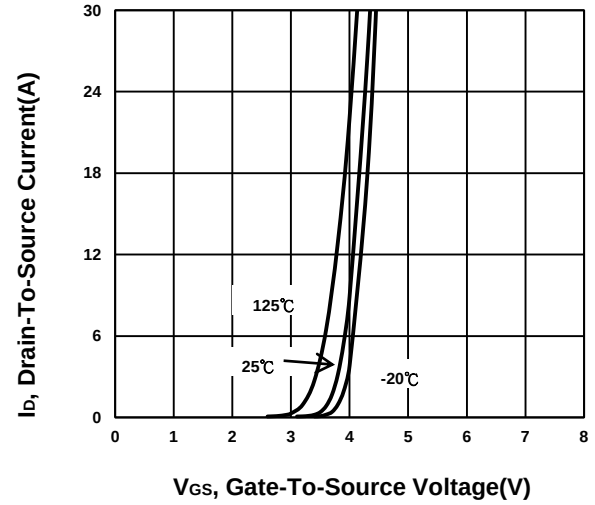
¹Pulse test : Pulse Width $\leq 300 \mu sec$, Duty Cycle $\leq 2\%$.

²Independent of operating temperature.

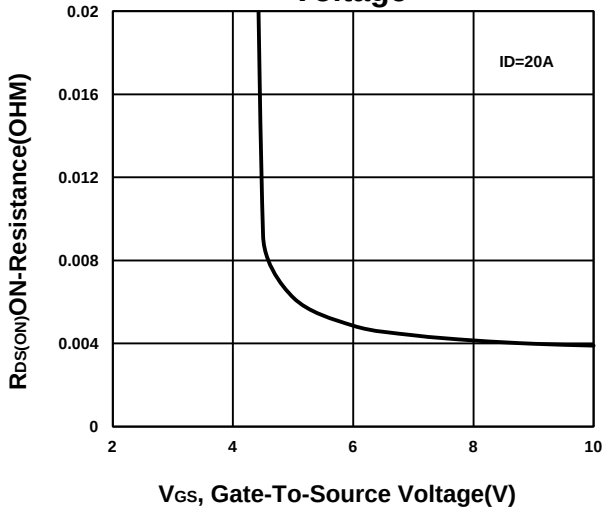
Output Characteristics



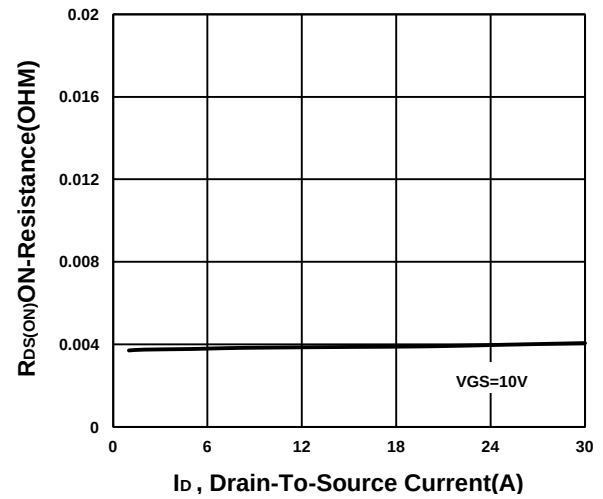
Transfer Characteristics



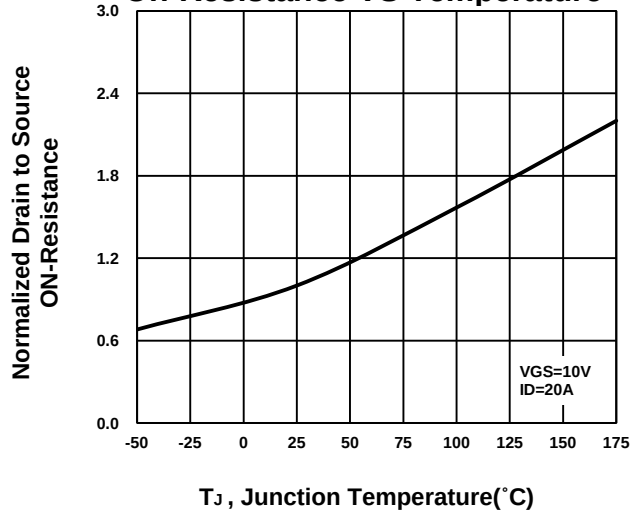
On-Resistance VS Gate-To-Source Voltage



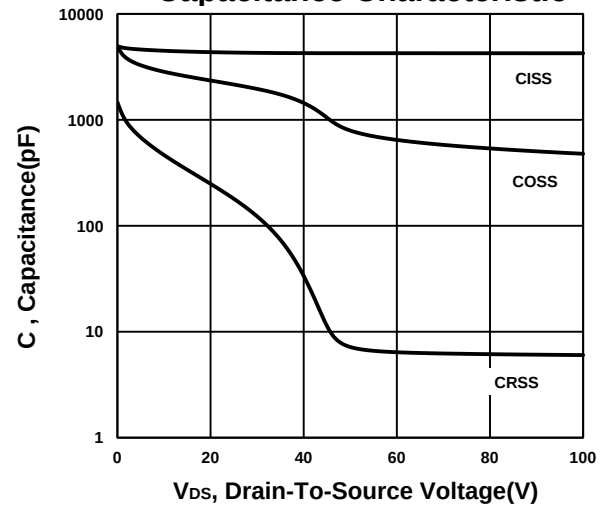
On-Resistance VS Drain Current



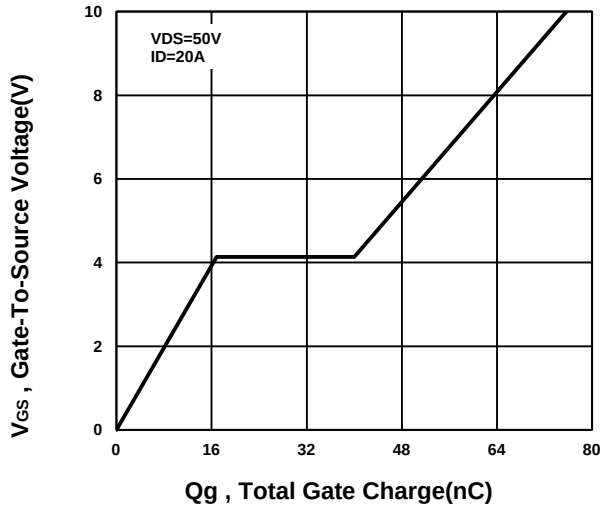
On-Resistance VS Temperature



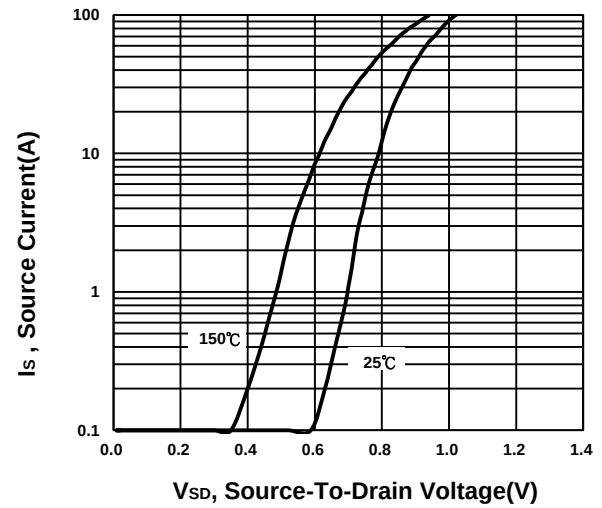
Capacitance Characteristic



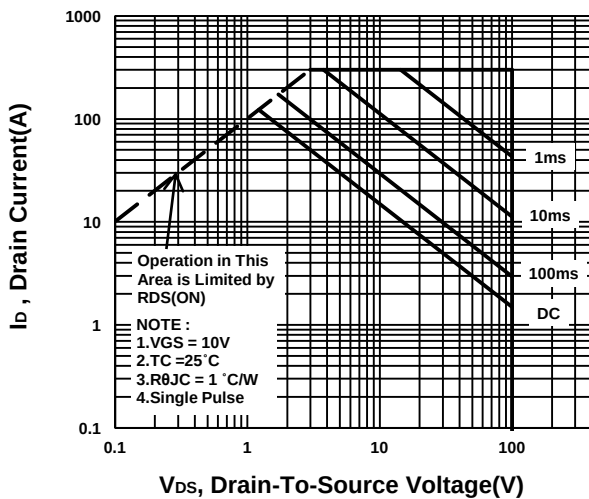
Gate charge Characteristics



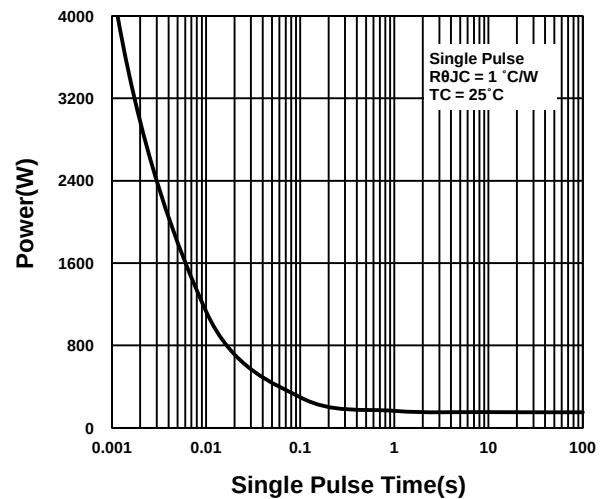
Source-Drain Diode Forward Voltage



Safe Operating Area



Single Pulse Maximum Power Dissipation



Transient Thermal Response Curve

