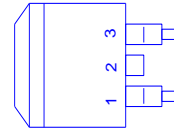
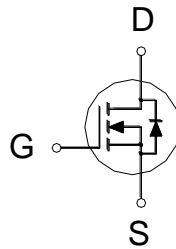


PRODUCT SUMMARY

$V_{(BR)DSS}$	$R_{DS(ON)}$	I_D
100V	2.7mΩ	180A



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}	100	V
Gate-Source Voltage		V_{GS}	±20	V
Continuous Drain Current	$T_C = 25\text{ °C}$	I_D	180	A
	$T_C = 100\text{ °C}$		127	
Pulsed Drain Current ¹		I_{DM}	500	
Avalanche Current		I_{AS}	37.9	
Avalanche Energy	$L = 1\text{mH}$	E_{AS}	718	mJ
Power Dissipation	$T_C = 25\text{ °C}$	P_D	187	W
	$T_C = 100\text{ °C}$		93	
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	$R_{\theta JC}$		0.8	°C / W
Junction-to-Ambient	$R_{\theta JA}$		50	

¹Pulse width limited by maximum junction temperature.

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

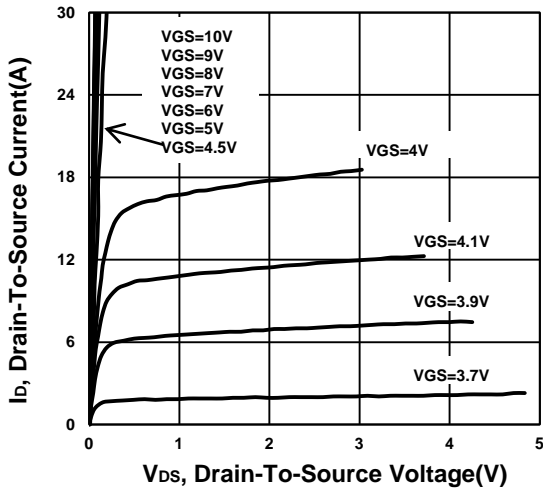
PARAMETER	SYMBOL	TEST CONDITIONS	LIMITS			UNITS
			MIN	TYP	MAX	
STATIC						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = 250\mu A$	100			V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu A$	2	2.8	4	V
Gate-Body Leakage	I_{GSS}	$V_{DS} = 0V, V_{GS} = \pm 20V$			±100	nA
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = 100V, V_{GS} = 0V$			1	μA
		$V_{DS} = 100V, V_{GS} = 0V, T_J = 125\text{ °C}$			100	

Drain-Source On-State Resistance ¹	$R_{DS(ON)}$	$V_{GS} = 10V, I_D = 20A$	2.1	2.7	$m\Omega$
Forward Transconductance ¹	g_{fs}	$V_{DS} = 5V, I_D = 20A$	93		S
DYNAMIC					
Input Capacitance	C_{iss}	$V_{GS} = 0V, V_{DS} = 50V, f = 1MHz$	6743		pF
Output Capacitance	C_{oss}		1285		
Reverse Transfer Capacitance	C_{rss}		17		
Gate Resistance	R_g	$V_{GS} = 0V, V_{DS} = 0V, f = 1MHz$	0.63		Ω
Total Gate Charge ²	Q_g	$V_{GS} = 10V, V_{DS} = 50V, I_D = 20A$	126		nC
Gate-Source Charge ²	Q_{gs}		27		
Gate-Drain Charge ²	Q_{gd}		37		
Turn-On Delay Time ²	$t_{d(on)}$	$V_{DD} = 50V,$ $I_D \cong 20A, V_{GS} = 10V, R_{GEN} = 6\Omega$	34		nS
Rise Time ²	t_r		72		
Turn-Off Delay Time ²	$t_{d(off)}$		105		
Fall Time ²	t_f		93		
SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS ($T_J = 25^\circ C$)					
Continuous Current	I_S			150	A
Forward Voltage ¹	V_{SD}	$I_F = 20A, V_{GS} = 0V$		1.2	V
Reverse Recovery Time	t_{rr}	$I_F = 20A, di_F/dt = 100A/\mu s$		75	nS
Reverse Recovery Charge	Q_{rr}			139	nC

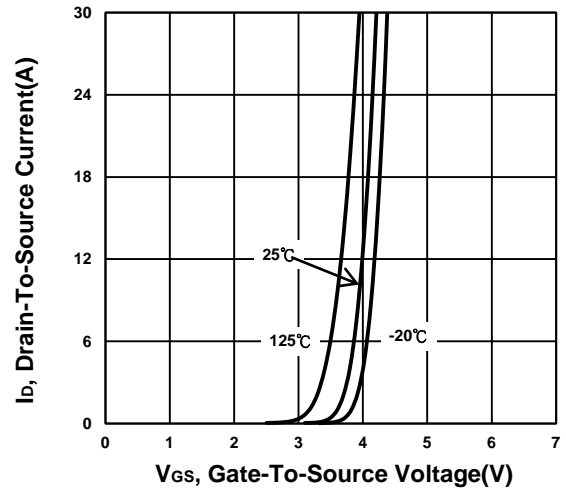
¹Pulse test : Pulse Width $\leq 300 \mu sec$, Duty Cycle $\leq 2\%$.

²Independent of operating temperature.

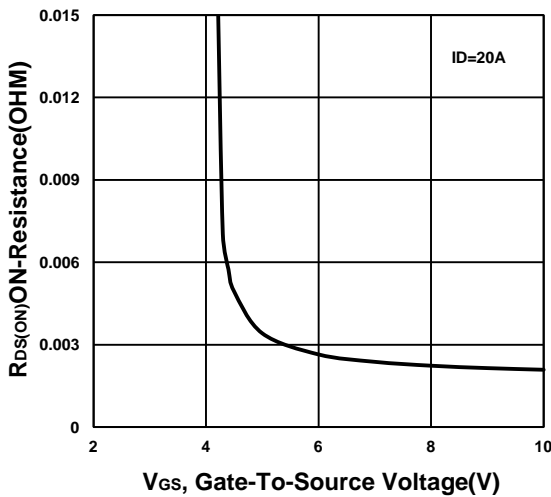
Output Characteristics



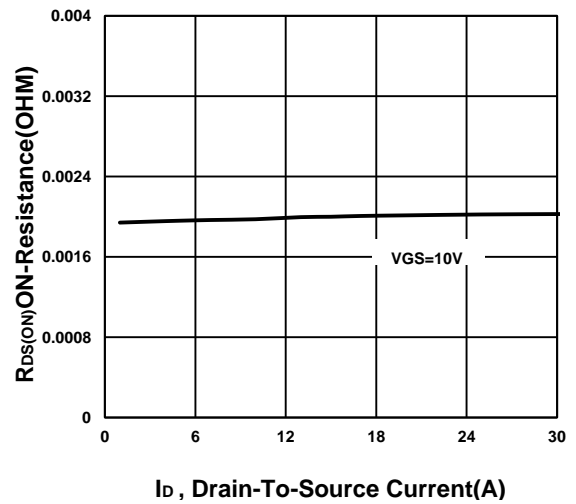
Transfer Characteristics



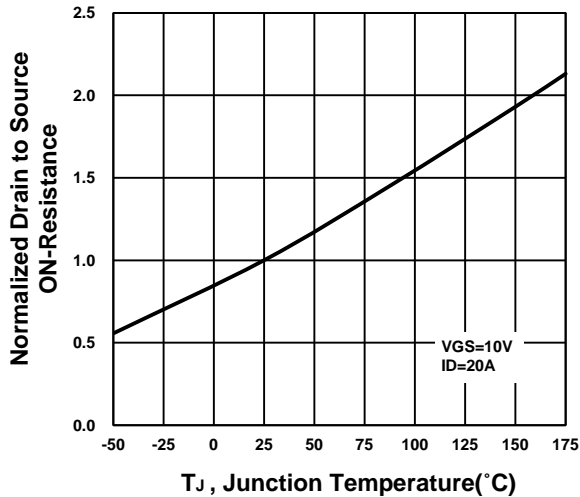
On-Resistance VS Gate-To-Source Voltage



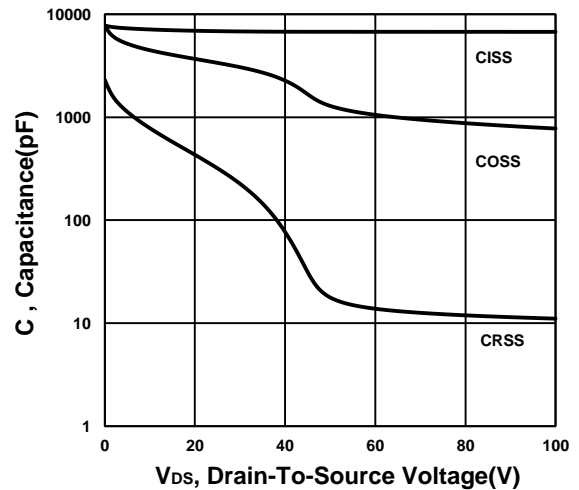
On-Resistance VS Drain Current



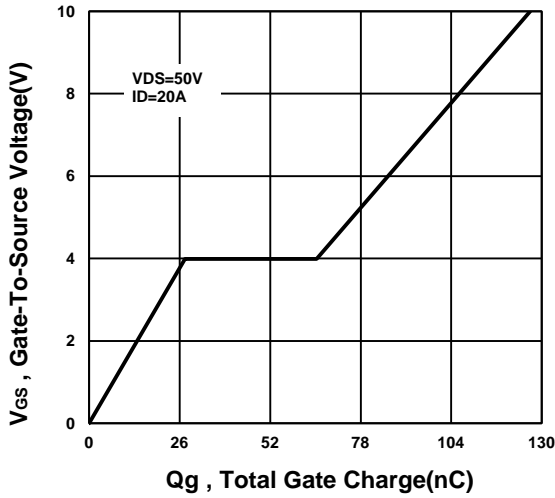
On-Resistance VS Temperature



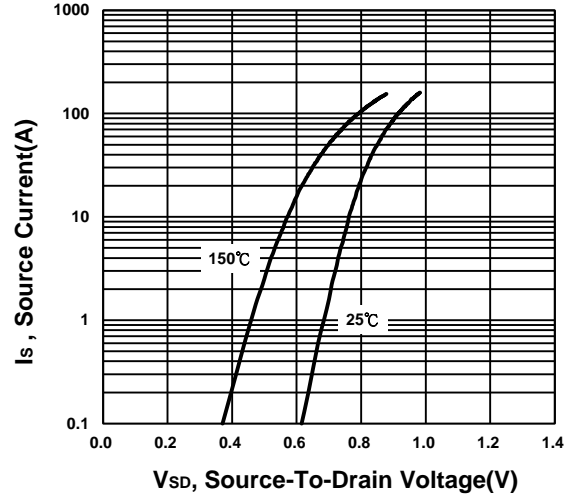
Capacitance Characteristic



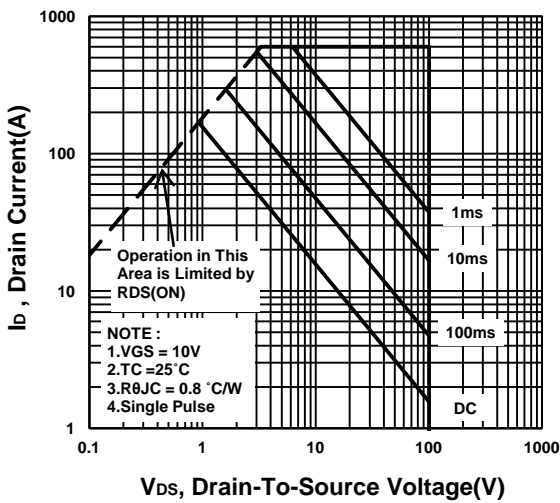
Gate charge Characteristics



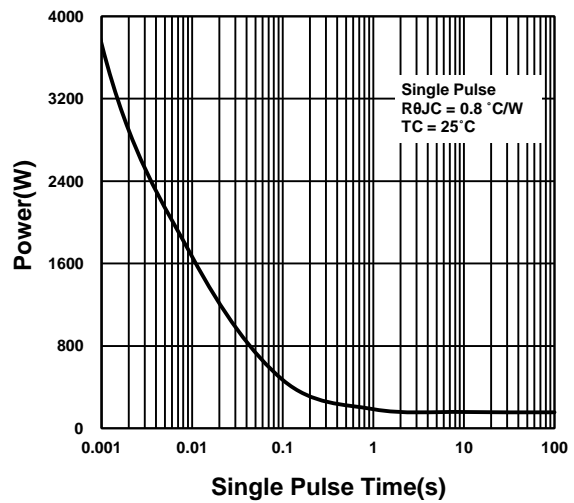
Source-Drain Diode Forward Voltage



Safe Operating Area



Single Pulse Maximum Power Dissipation



Transient Thermal Response Curve

