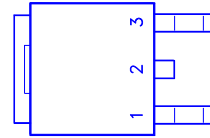
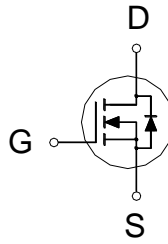




PRODUCT SUMMARY

$V_{(BR)DSS}$	$R_{DS(ON)}$	I_D
100V	4.2m Ω	127A



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	127	A
	$T_C = 100\text{ }^\circ\text{C}$		90	
Pulsed Drain Current ¹		I_{DM}	370	
Avalanche Current		I_{AS}	20	
Avalanche Energy	L = 1mH	E_{AS}	200	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)

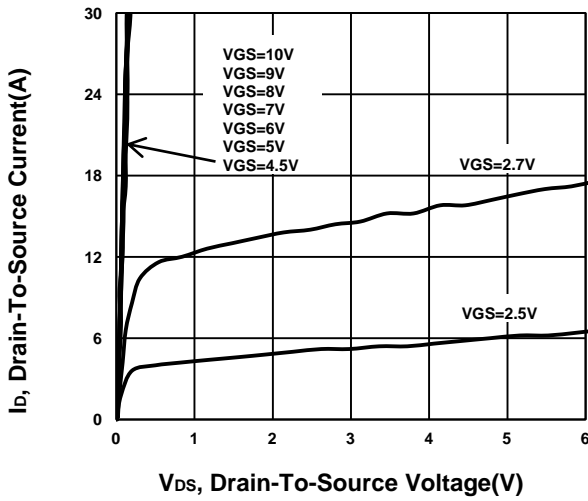
PARAMETER	SYMBOL	TEST CONDITIONS	LIMITS			UNIT
			MIN	TYP	MAX	
STATIC						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = 250\mu\text{A}$	100			V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu\text{A}$	1	1.7	3	
Gate-Body Leakage	I_{GSS}	$V_{DS} = 0V, V_{GS} = \pm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

Drain-Source On-State Resistance ¹	$R_{DS(ON)}$	$V_{GS} = 10V, I_D = 20A$	3.5	4.2	mΩ
		$V_{GS} = 4.5V, I_D = 20A$	4.9	5.6	
Forward Transconductance ¹	g_{fs}	$V_{DS} = 10V, I_D = 20A$	56		S
DYNAMIC					
Input Capacitance	C_{iss}	$V_{GS} = 0V, V_{DS} = 50V, f = 1MHz$	4241		pF
Output Capacitance	C_{oss}		765		
Reverse Transfer Capacitance	C_{rss}		10		
Gate Resistance	R_g	$V_{GS} = 0V, V_{DS} = 0V, f = 1MHz$	0.9		Ω
Total Gate Charge ²	Q_g	$V_{DS} = 50V, V_{GS} = 10V, I_D = 20A$	90		nC
Gate-Source Charge ²	Q_{gs}		11		
Gate-Drain Charge ²	Q_{gd}		27		
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			104	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

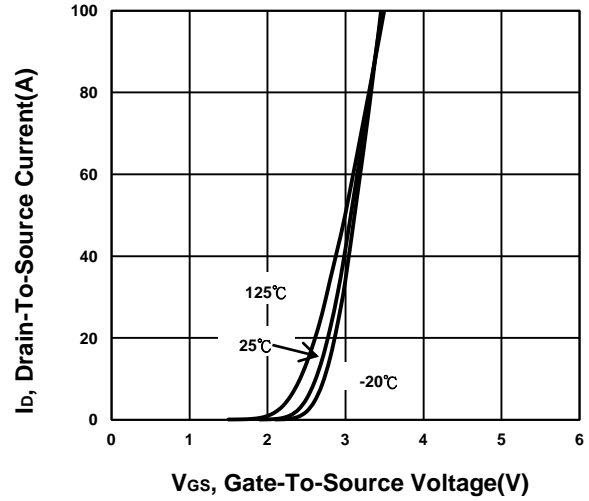
¹Pulse test : Pulse Width ≤ 300 μsec, Duty Cycle ≤ 2%.

²Independent of operating temperature.

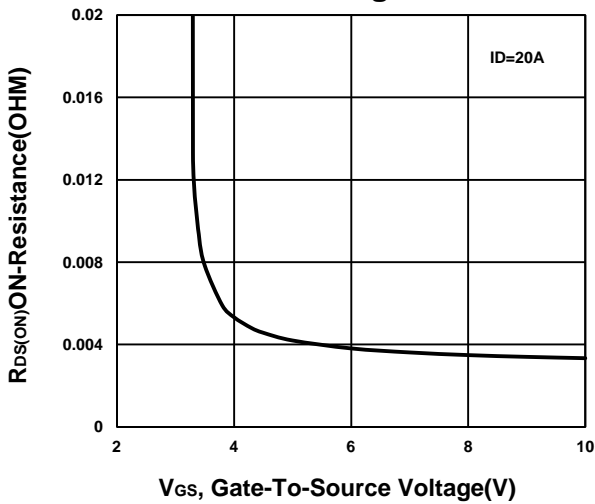
Output Characteristics



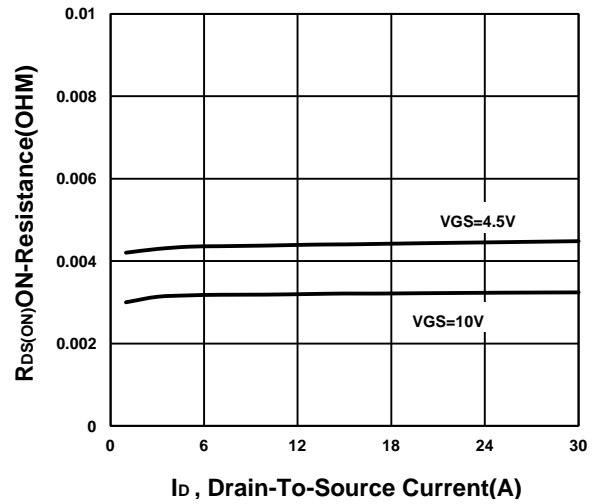
Transfer Characteristics



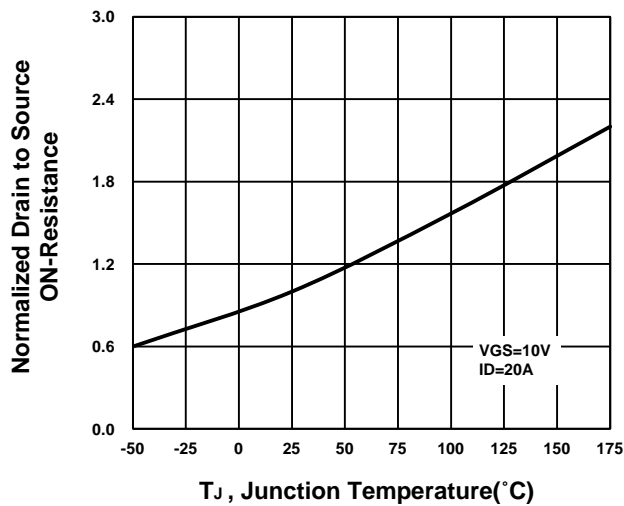
On-Resistance VS Gate-To-Source Voltage



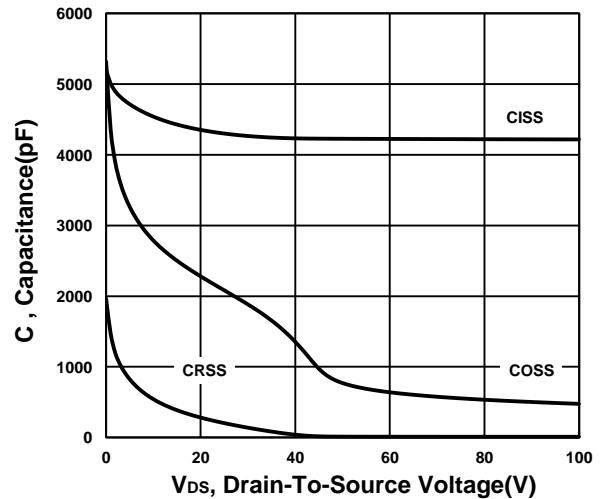
On-Resistance VS Drain Current



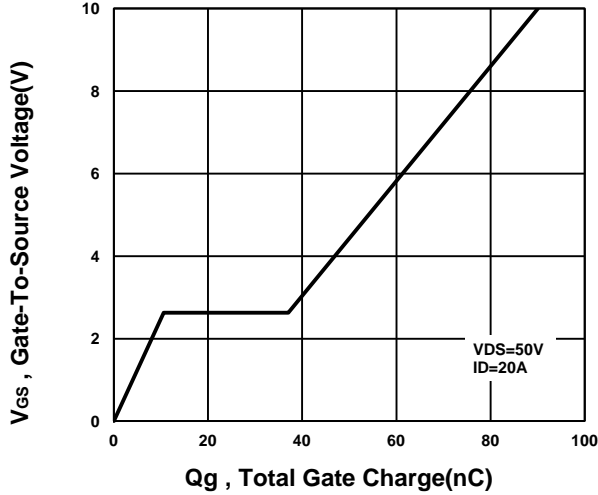
On-Resistance VS Temperature



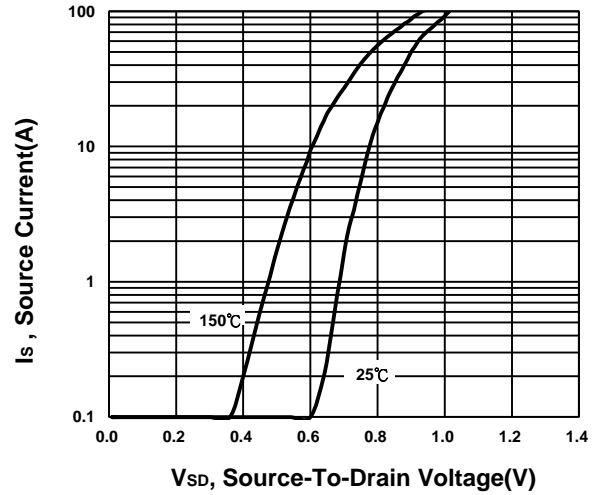
Capacitance Characteristic



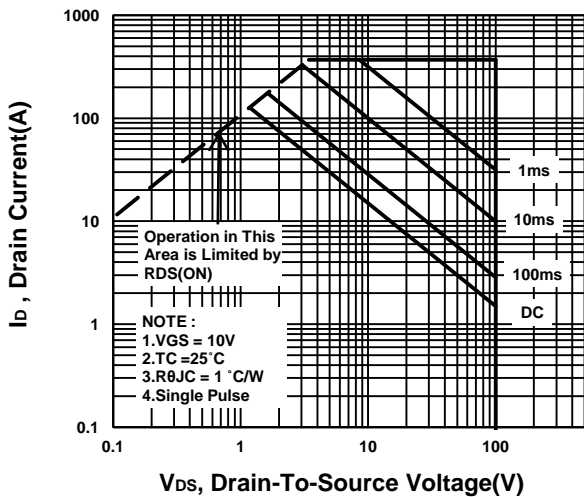
Gate charge Characteristics



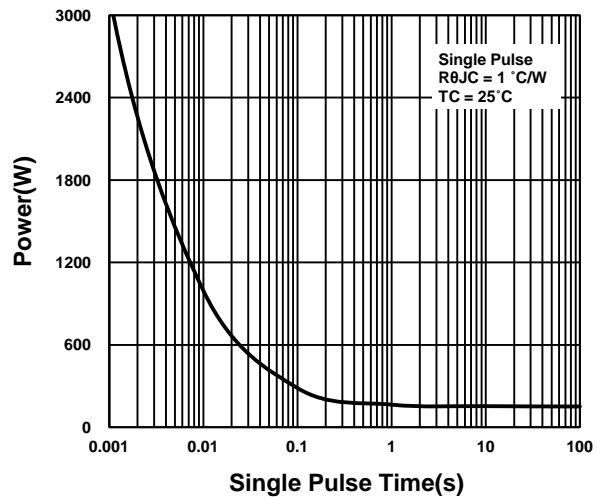
Source-Drain Diode Forward Voltage



Safe Operating Area



Single Pulse Maximum Power Dissipation



Transient Thermal Response Curve

