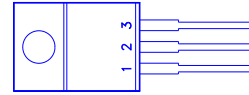
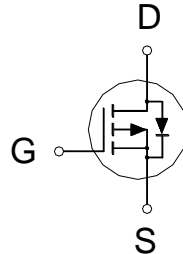




PRODUCT SUMMARY

$V_{(BR)DSS}$	$R_{DS(ON)}$	I_D
-60V	35mΩ	-20A



- 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}	-60	V
Gate-Source Voltage		V_{GS}	±25	V
Continuous Drain Current ²	$T_C = 25\text{ °C}$	I_D	-21	A
	$T_C = 100\text{ °C}$		-13	
Pulsed Drain Current ¹		I_{DM}	-64	
Avalanche Current		I_{AS}	-28	
Avalanche Energy	$L = 0.1\text{mH}$	E_{AS}	39	mJ
Power Dissipation	$T_C = 25\text{ °C}$	P_D	30	W
	$T_C = 100\text{ °C}$		12	
Junction & Storage Temperature Range		T_J, T_{stg}	-55 to 150	°C

THERMAL RESISTANCE RATINGS

THERMAL RESISTANCE	SYMBOL	TYPICAL	MAXIMUM	UNITS
Junction-to-Case	$R_{\theta JC}$		4.2	°C / W
Junction-to-Ambient	$R_{\theta JA}$		62.5	

¹Pulse width limited by maximum junction temperature.

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

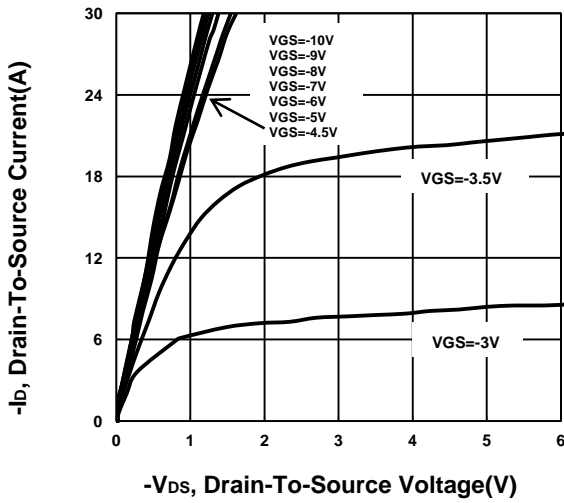
PARAMETER	SYMBOL	TEST CONDITIONS	LIMITS			UNIT
			MIN	TYP	MAX	
STATIC						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = -250\mu A$	-60			V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = -250\mu A$	-1.3	-1.8	-2.3	
Gate-Body Leakage	I_{GSS}	$V_{DS} = 0V, V_{GS} = \pm 25V$			±100	nA

Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = -48V, V_{GS} = 0V$			-1	μA
		$V_{DS} = -40V, V_{GS} = 0V, T_J = 125\text{ }^\circ C$			-10	
Drain-Source On-State Resistance ¹	$R_{DS(ON)}$	$V_{GS} = -4.5V, I_D = -15A$		45	55	$m\Omega$
		$V_{GS} = -10V, I_D = -20A$		30	35	
Forward Transconductance ¹	g_{fs}	$V_{DS} = -5V, I_D = -20A$		22		S
DYNAMIC						
Input Capacitance	C_{iss}	$V_{GS} = 0V, V_{DS} = -25V, f = 1MHz$		1444		pF
Output Capacitance	C_{oss}			143		
Reverse Transfer Capacitance	C_{rss}			95		
Gate Resistance	R_g	$V_{GS} = 0V, V_{DS} = 0V, f = 1MHz$		3.7		Ω
Total Gate Charge ²	$Q_g(V_{GS}=-10V)$	$V_{DS} = -30V, V_{GS} = -10V, I_D = -20A$		29		nC
	$Q_g(V_{GS}=-4.5V)$			15		
Gate-Source Charge ²	Q_{gs}			4.4		
Gate-Drain Charge ²	Q_{gd}			7.5		
Turn-On Delay Time ²	$t_{d(on)}$		$V_{DS} = -30V, I_D \cong -20A, V_{GS} = -10V, R_{GEN} = 6\Omega$		13	
Rise Time ²	t_r			50		
Turn-Off Delay Time ²	$t_{d(off)}$			56		
Fall Time ²	t_f			96		
SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS ($T_J = 25\text{ }^\circ C$)						
Continuous Current ³	I_S				-20	A
Forward Voltage ¹	V_{SD}	$I_F = -20A, V_{GS} = 0V$			-1.3	V
Reverse Recovery Time	t_{rr}	$I_F = -20A, di_F/dt = 100A / \mu S$		19		nS
Reverse Recovery Charge	Q_{rr}			14		nC

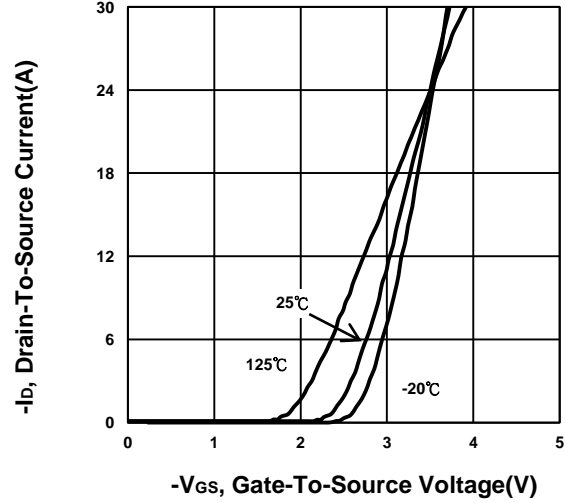
¹Pulse test : Pulse Width $\leq 300\ \mu sec$, Duty Cycle $\leq 2\%$.

²Independent of operating temperature.

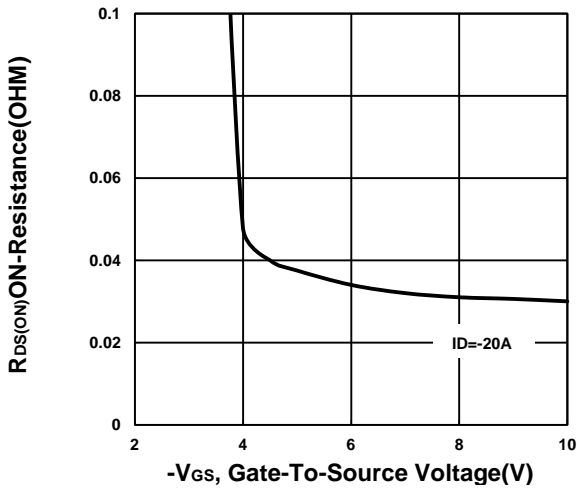
Output Characteristics



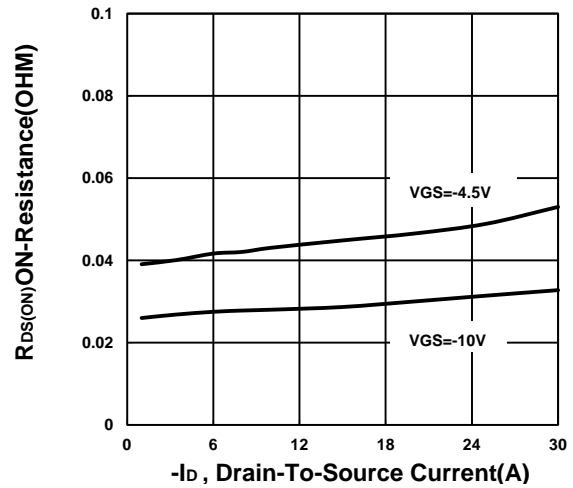
Transfer Characteristics



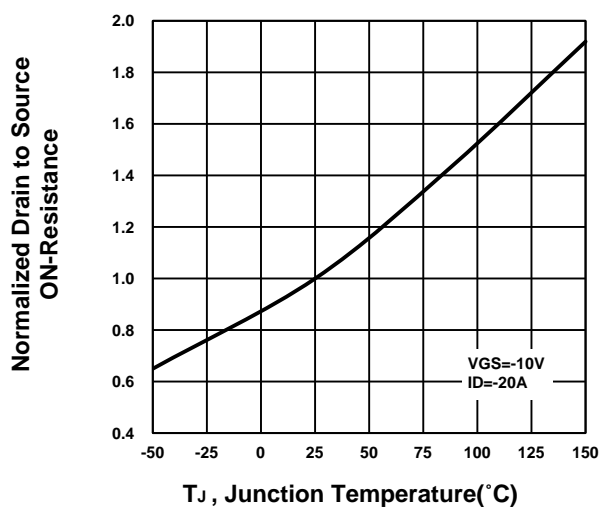
On-Resistance VS Gate-To-Source Voltage



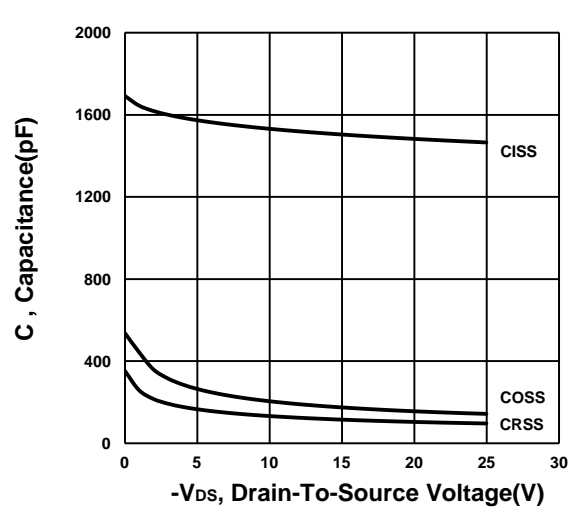
On-Resistance VS Drain Current



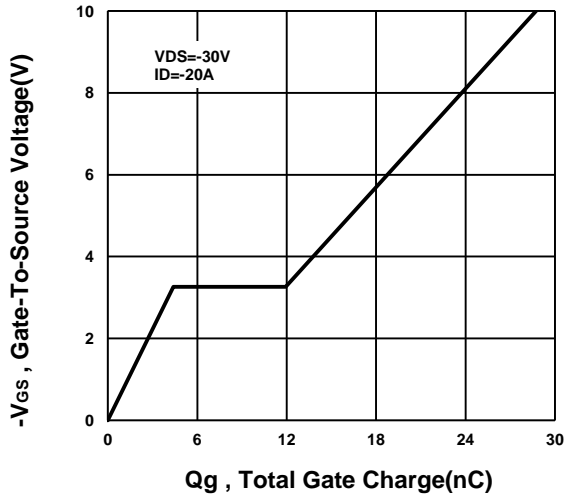
On-Resistance VS Temperature



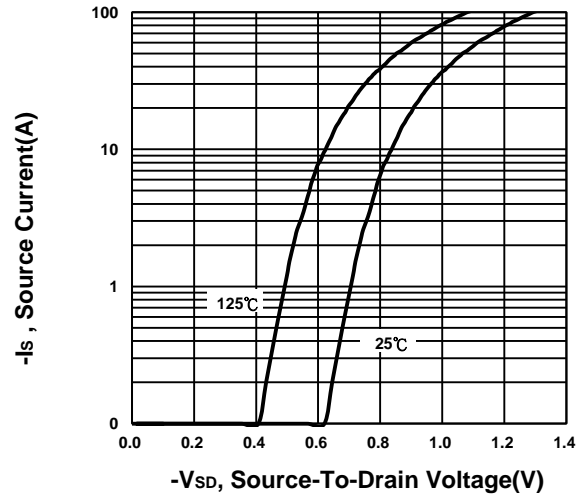
Capacitance Characteristic



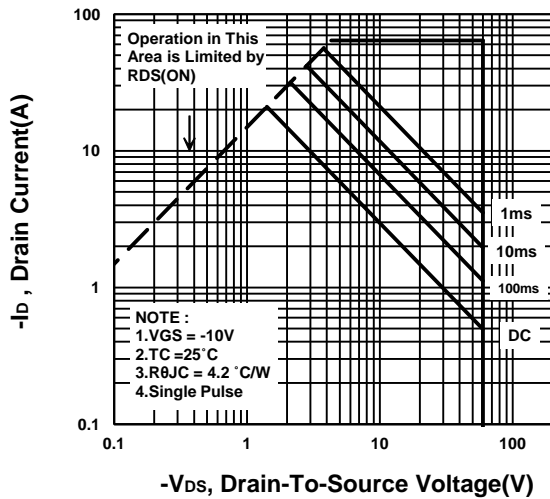
Gate charge Characteristics



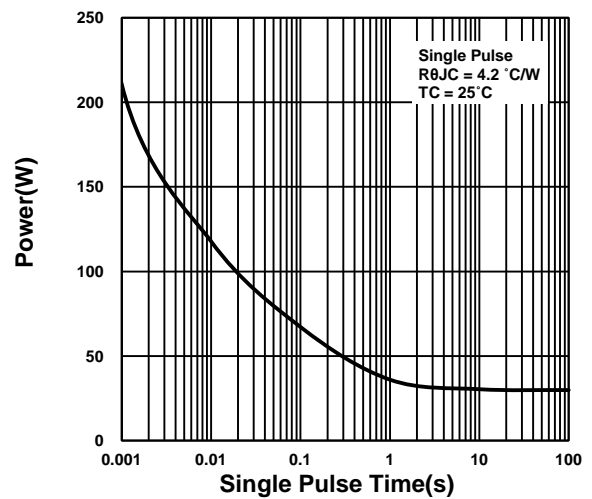
Source-Drain Diode Forward Voltage



Safe Operating Area



Single Pulse Maximum Power Dissipation



Transient Thermal Response Curve

