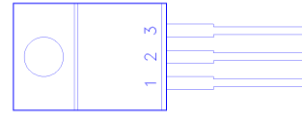
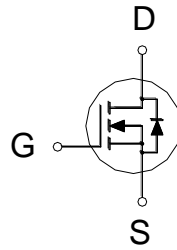


PRODUCT SUMMARY

$V_{(BR)DSS}$	$R_{DS(ON)}$	I_D
60V	10mΩ	61A



1: GATE
2: DRAIN
3: SOURCE

ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ Unless Otherwise Noted)

PARAMETERS/TEST CONDITIONS		SYMBOL	LIMITS	UNITS
Drain-Source Voltage		V_{DS}	60	V
Gate-Source Voltage		V_{GS}	±20	V
Continuous Drain Current ²	$T_C = 25^\circ\text{C}$	I_D	61	A
	$T_C = 100^\circ\text{C}$		39	
Pulsed Drain Current ¹		I_{DM}	150	
Avalanche Current		I_{AS}	39	
Avalanche Energy	$L = 0.1\text{mH}$	E_{AS}	77	mJ
Power Dissipation	$T_C = 25^\circ\text{C}$	P_D	83	W
	$T_C = 100^\circ\text{C}$		33	
Junction & Storage Temperature Range		T_J, T_{stg}	-55 to 150	°C

THERMAL RESISTANCE RATINGS

THERMAL RESISTANCE	SYMBOL	TYPICAL	MAXIMUM	UNITS
Junction-to-Ambient	$R_{\theta JA}$		62.5	°C / W
Junction-to-Case	$R_{\theta JC}$		1.5	

¹Pulse width limited by maximum junction temperature.

²Package limitation current is 30A.

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

PARAMETER	SYMBOL	TEST CONDITIONS	LIMITS			UNIT
			MIN	TYP	MAX	
STATIC						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = 250\mu\text{A}$	60			V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu\text{A}$	1.3	1.7	2.3	
Gate-Body Leakage	I_{GSS}	$V_{DS} = 0V, V_{GS} = \pm 20V$			±100	nA
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = 48V, V_{GS} = 0V$			1	μA
		$V_{DS} = 40V, V_{GS} = 0V, T_J = 125^\circ\text{C}$			10	
Drain-Source On-State Resistance ¹	$R_{DS(ON)}$	$V_{GS} = 4.5V, I_D = 20A$		8.2	13	mΩ
		$V_{GS} = 10V, I_D = 20A$		6.8	10	

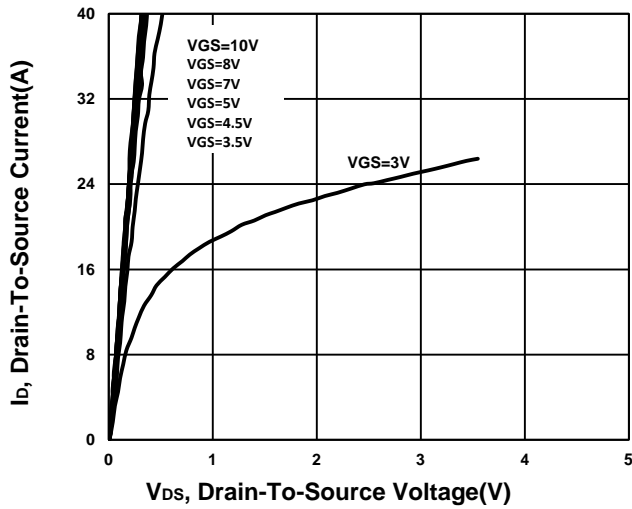
Forward Transconductance ¹	g_{fs}	$V_{DS} = 10V, I_D = 20A$		60		S
DYNAMIC						
Input Capacitance	C_{iss}	$V_{GS} = 0V, V_{DS} = 25V, f = 1MHz$		1853		pF
Output Capacitance	C_{oss}			224		
Reverse Transfer Capacitance	C_{rss}			142		
Gate Resistance	R_g	$V_{GS} = 0V, V_{DS} = 0V, f = 1MHz$		0.8		Ω
Total Gate Charge ²	$Q_{g(VGS=10V)}$	$V_{DS} = 30V, I_D = 20A$		42.2		nC
	$Q_{g(VGS=4.5V)}$			23.1		
Gate-Source Charge ²	Q_{gs}			5.6		
Gate-Drain Charge ²	Q_{gd}			12.8		
Turn-On Delay Time ²	$t_{d(on)}$		$V_{DS} = 30V, I_D \cong 20A,$ $V_{GS} = 10V, R_{GEN} = 6\Omega$		30	
Rise Time ²	t_r			29		
Turn-Off Delay Time ²	$t_{d(off)}$			50		
Fall Time ²	t_f			33		
SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS (T_J = 25 ° C)						
Continuous Current ³	I_S			61		A
Forward Voltage ¹	V_{SD}	$I_F = 20A, V_{GS} = 0V$		1.3		V
Diode Reverse Recovery Time	t_{rr}	$I_F = 20A, di/dt = 100A/\mu s$		29		nS
Diode Reverse Recovery Charge	Q_{rr}			27		uC

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

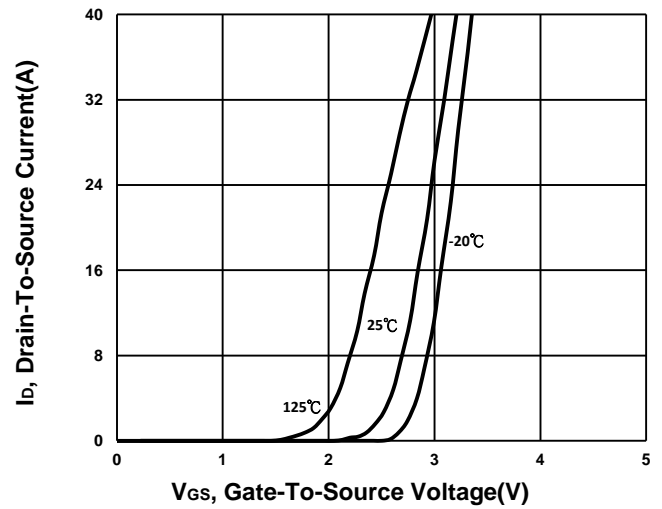
²Independent of operating temperature.

³Package limitation current is 30A

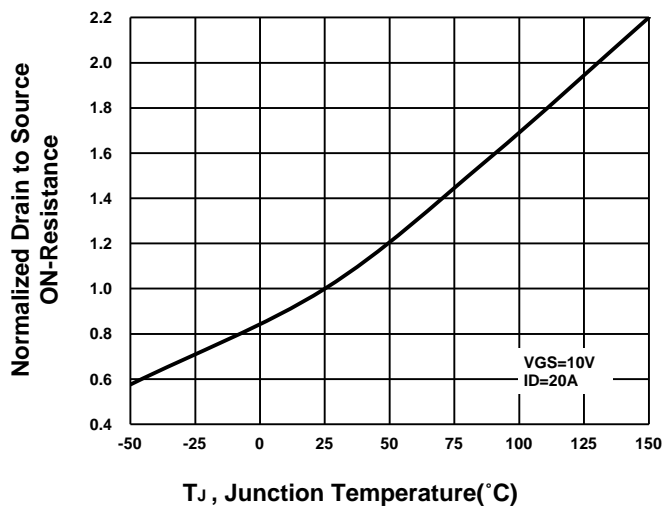
Output Characteristics



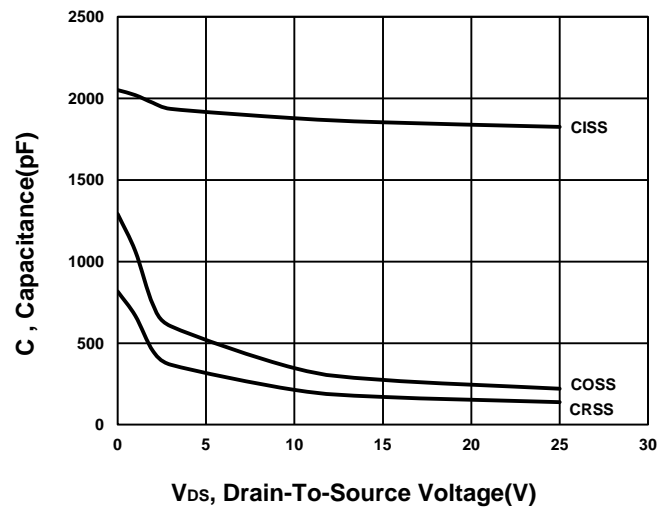
Transfer Characteristics



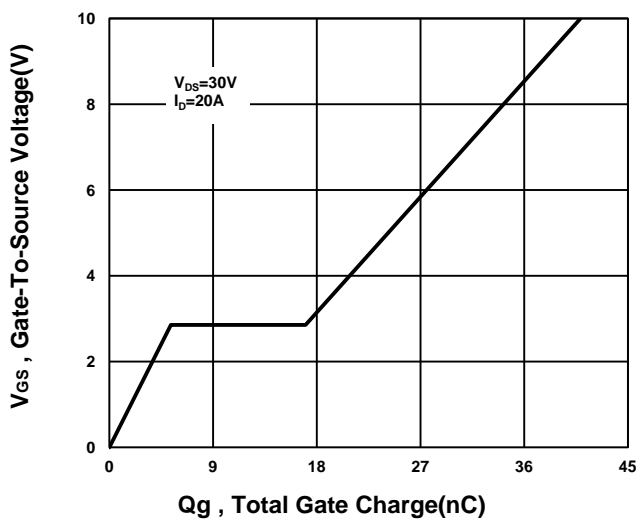
On-Resistance VS Temperature



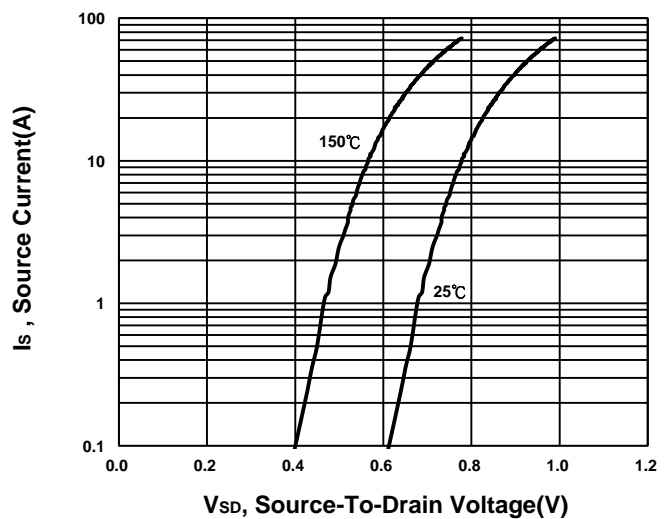
Capacitance Characteristic



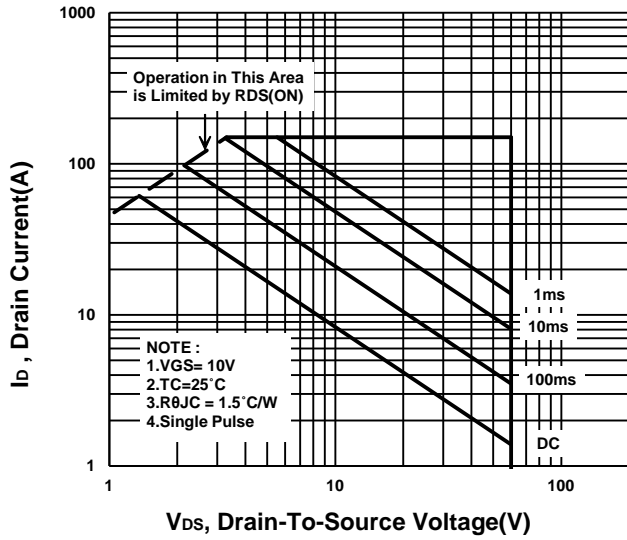
Gate charge Characteristics



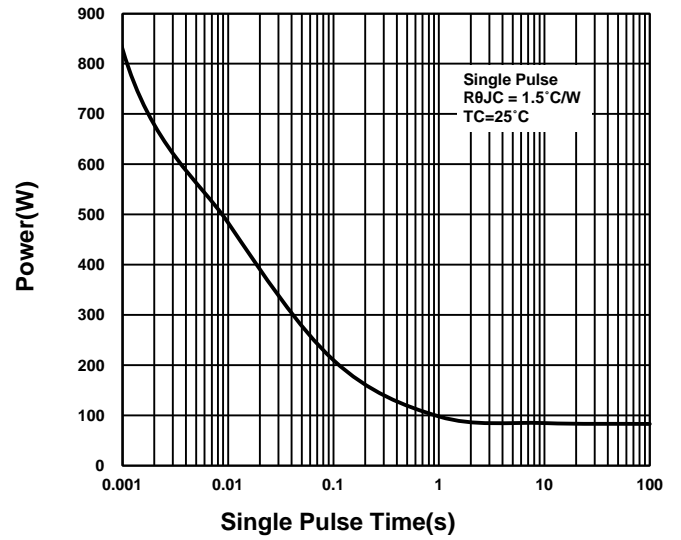
Source-Drain Diode Forward Voltage



Safe Operating Area



Single Pulse Maximum Power Dissipation



Transient Thermal Response Curve

