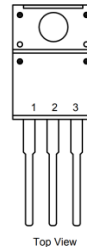
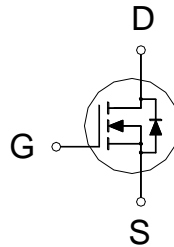




PRODUCT SUMMARY

$V_{(BR)DSS}$	$R_{DS(ON)}$	I_D
650V	115mΩ	30A



- 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}	650	V
Gate-Source Voltage		V_{GS}	±30	V
Continuous Drain Current ²	$T_C = 25^\circ\text{C}$	I_D	30	A
	$T_C = 100^\circ\text{C}$		19	
Pulsed Drain Current ¹		I_{DM}	60	
Avalanche Current ³		I_{AS}	4.2	
Avalanche Energy ³		E_{AS}	662	mJ
Power Dissipation	$T_C = 25^\circ\text{C}$	P_D	42	W
	$T_C = 100^\circ\text{C}$		17	
Operating Junction & Storage Temperature Range		T_j, T_{stg}	-55 to 150	°C

THERMAL RESISTANCE RATINGS

THERMAL RESISTANCE	SYMBOL	TYPICAL	MAXIMUM	UNITS
Junction-to-Case	$R_{\theta JC}$		3	°C / W
Junction-to-Ambient	$R_{\theta JA}$		62.5	

¹Pulse width limited by maximum junction temperature.

²Ensure that the channel temperature does not exceed 150°C.

³ $V_{DD} = 50\text{V}$, $L = 75\text{mH}$, starting $T_j = 25^\circ\text{C}$.

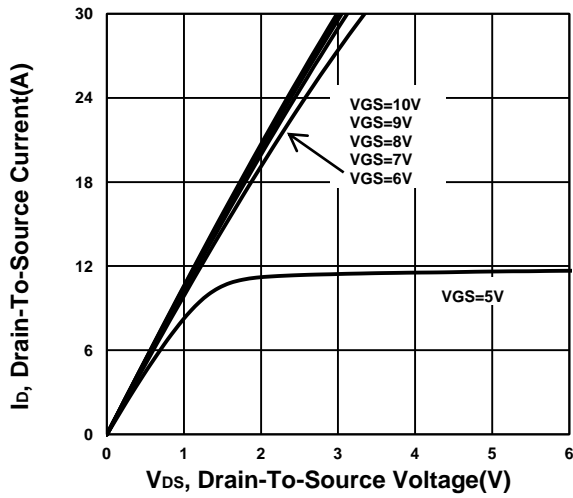
ELECTRICAL CHARACTERISTICS (T_J = 25 ° C, Unless Otherwise Noted)

PARAMETER	SYMBOL	TEST CONDITIONS	LIMITS			UNITS
			MIN	TYP	MAX	
STATIC						
Drain-Source Breakdown Voltage	V _{(BR)DSS}	V _{GS} = 0V, I _D = 250μA	650			V
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = 250μA	2	3.2	4	
Gate-Body Leakage	I _{GSS}	V _{DS} = 0V, V _{GS} = ±30V			±100	nA
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = 650V, V _{GS} = 0V			1	μA
		V _{DS} = 520V, V _{GS} = 0V, T _J = 100 ° C			10	
Drain-Source On-State Resistance ¹	R _{DS(ON)}	V _{GS} = 10V, I _D = 15A		92	115	mΩ
Forward Transconductance ¹	g _{fs}	V _{DS} = 10V, I _D = 15A		27		S
DYNAMIC						
Input Capacitance	C _{iss}	V _{GS} = 0V, V _{DS} = 100V, f = 250KHz		2287		pF
Output Capacitance	C _{oss}			128		
Reverse Transfer Capacitance	C _{rss}			2.4		
Gate Resistance	R _g	V _{GS} = 0V, V _{DS} = 0V, f = 1MHz		3.6		Ω
Total Gate Charge ²	Q _g	V _{DS} = 520V, V _{GS} = 10V, I _D = 15 A		63		nC
Gate-Source Charge ²	Q _{gs}			13		
Gate-Drain Charge ²	Q _{gd}			26		
Turn-On Delay Time ²	t _{d(on)}	V _{DD} = 325V, I _D ≅ 15A, V _{GS} = 10V, R _{GEN} = 25Ω		42		nS
Rise Time ²	t _r			50		
Turn-Off Delay Time ²	t _{d(off)}			225		
Fall Time ²	t _f			57		
SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS (T_J = 25 ° C)						
Continuous Current	I _S				30	A
Forward Voltage ¹	V _{SD}	I _F = 30A, V _{GS} = 0V			1.2	V
Reverse Recovery Time	t _{rr}	I _F = 10A, di _F /dt = 100A/μs		381		nS
Reverse Recovery Charge	Q _{rr}				5.5	

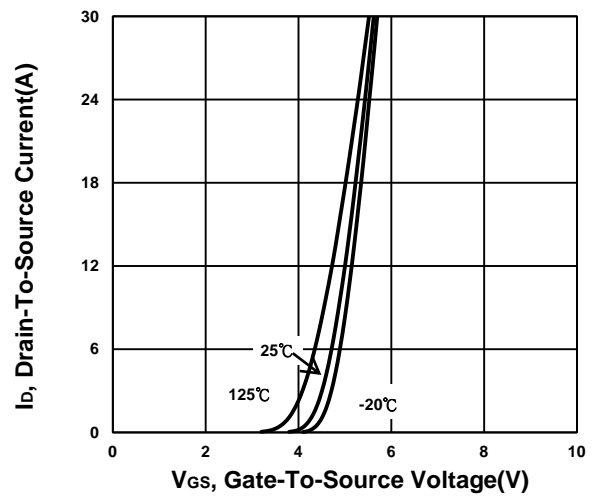
¹Pulse test : Pulse Width ≤ 300 μsec, Duty Cycle ≤ 2%.

²Independent of operating temperature.

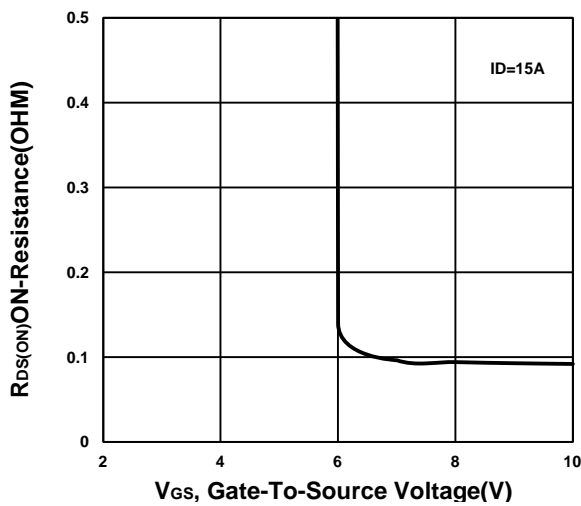
Output Characteristics



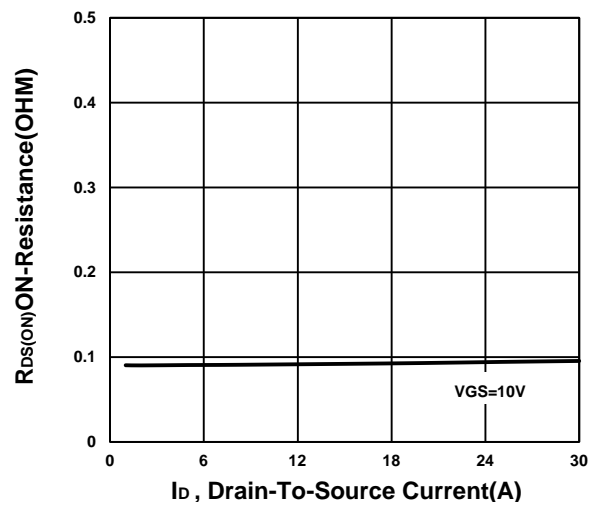
Transfer Characteristics



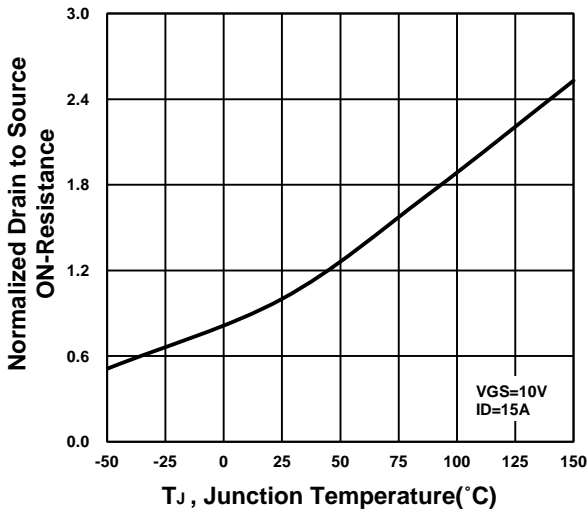
On-Resistance VS Gate-To-Source Voltage



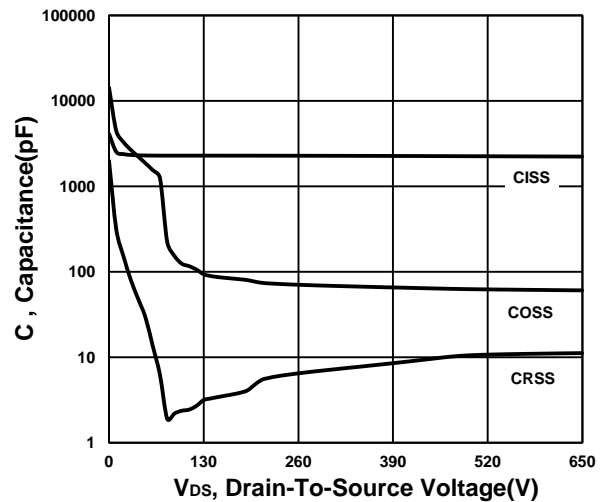
On-Resistance VS Drain Current



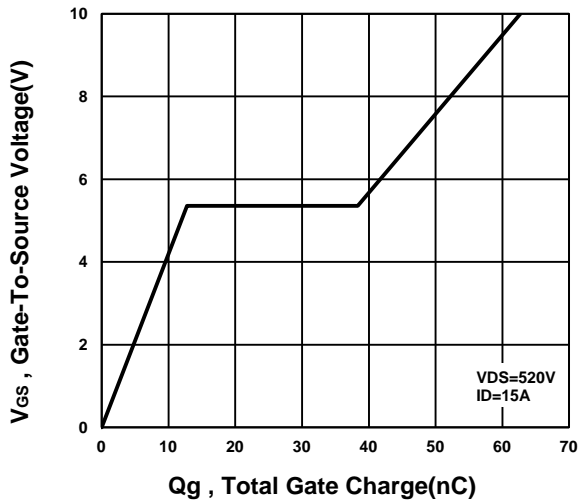
On-Resistance VS Temperature



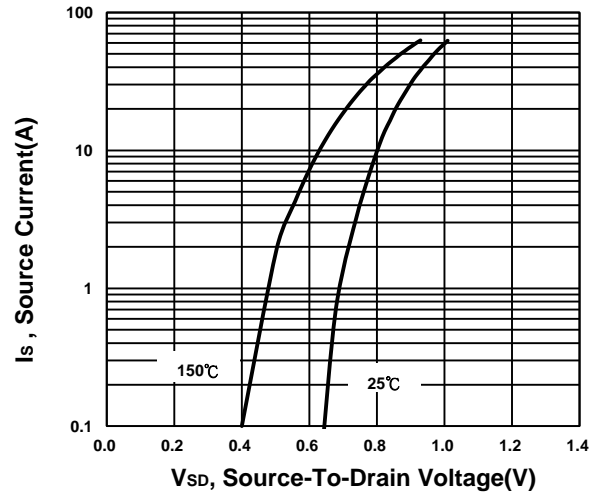
Capacitance Characteristic



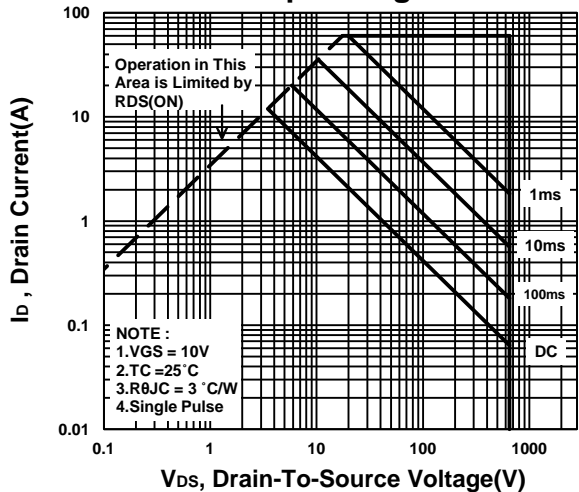
Gate charge Characteristics



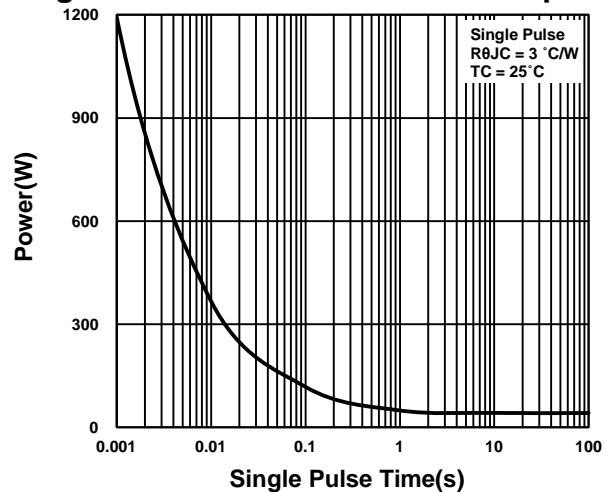
Source-Drain Diode Forward Voltage



Safe Operating Area



Single Pulse Maximum Power Dissipation



Transient Thermal Response Curve

