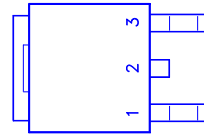
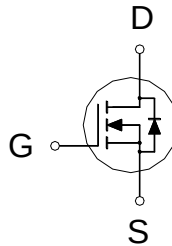


PRODUCT SUMMARY

$V_{(BR)DSS}$	$R_{DS(ON)}$	I_D
650V	600m Ω	7A



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	7	A
	$T_C = 100^\circ\text{C}$		4	
Pulsed Drain Current ¹		I_{DM}	20	
Avalanche Current ³		I_{AS}	1.7	
Avalanche Energy ³		E_{AS}	108	mJ
Power Dissipation	$T_C = 25^\circ\text{C}$	P_D	63	W
	$T_C = 100^\circ\text{C}$		25	
Operating Junction & Storage Temperature Range		T_j, T_{stg}	-55 to 150	$^\circ\text{C}$

THERMAL RESISTANCE RATINGS

THERMAL RESISTANCE	SYMBOL	TYPICAL	MAXIMUM	UNITS
Junction-to-Case	$R_{\theta JC}$		2	$^\circ\text{C} / \text{W}$
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 .

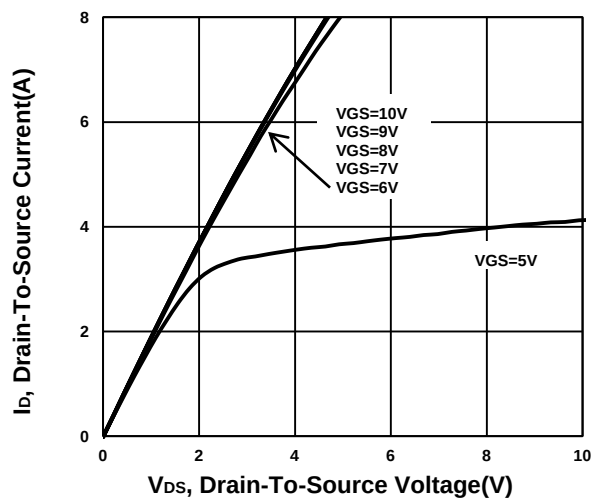
³ $V_{DD} = 50\text{V}$, $L = 75\text{mH}$, starting $T_j = 25^\circ\text{C}$.

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

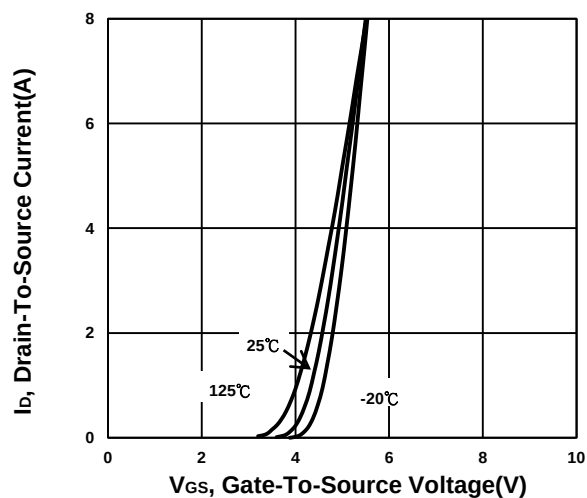
PARAMETER	SYMBOL	TEST CONDITIONS	LIMITS			UNITS
			MIN	TYP	MAX	
STATIC						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = 250\mu A$	650			V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu A$	2	3.2	4	
Gate-Body Leakage	I_{GSS}	$V_{DS} = 0V, V_{GS} = \pm 30V$			± 100	nA
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = 650V, V_{GS} = 0V$			1	μA
		$V_{DS} = 520V, V_{GS} = 0V, T_J = 100^\circ C$			10	
Drain-Source On-State Resistance ¹	$R_{DS(ON)}$	$V_{GS} = 10V, I_D = 3.5 A$		520	600	m Ω
Forward Transconductance ¹	g_{fs}	$V_{DS} = 15V, I_D = 3.5A$		7		S
DYNAMIC						
Input Capacitance	C_{iss}	$V_{GS} = 0V, V_{DS} = 100V, f = 250KHz$		537		pF
Output Capacitance	C_{oss}			35		
Reverse Transfer Capacitance	C_{rss}			5		
Gate Resistance	R_g	$V_{GS} = 0V, V_{DS} = 0V, f = 1MHz$		20		Ω
Total Gate Charge ²	Q_g	$V_{DS} = 520V, V_{GS} = 10V, I_D = 3.5A$		18		nC
Gate-Source Charge ²	Q_{gs}			3.3		
Gate-Drain Charge ²	Q_{gd}			8.4		
Turn-On Delay Time ²	$t_{d(on)}$	$V_{DD} = 325V,$ $I_D \cong 3.5A, V_{GS} = 10V, R_{GEN} = 25\Omega$		12		nS
Rise Time ²	t_r			26		
Turn-Off Delay Time ²	$t_{d(off)}$			67		
Fall Time ²	t_f			52		
SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS ($T_J = 25^\circ C$)						
Continuous Current	I_S				7	A
Forward Voltage ¹	V_{SD}	$I_F = 7A, V_{GS} = 0V$			1.2	V
Reverse Recovery Time	t_{rr}	$I_F = 3.5A, dI_F/dt = 100A/\mu s$		216		nS
Reverse Recovery Charge	Q_{rr}			1.8		μC

¹Pulse test : Pulse Width $\leq 300\mu s$, Duty Cycle $\leq 2\%$.²Independent of operating temperature.

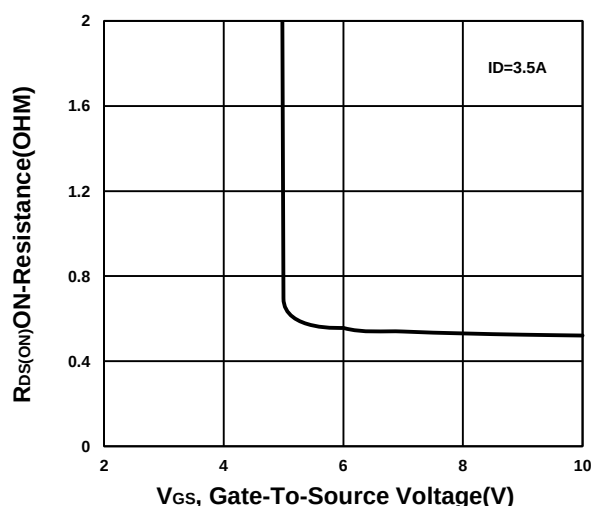
Output Characteristics



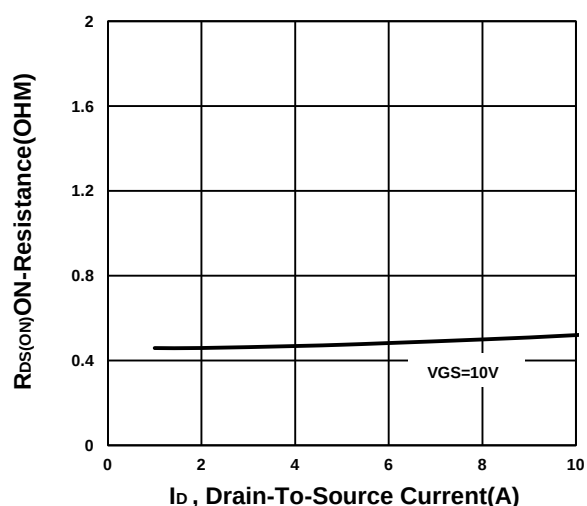
Transfer Characteristics



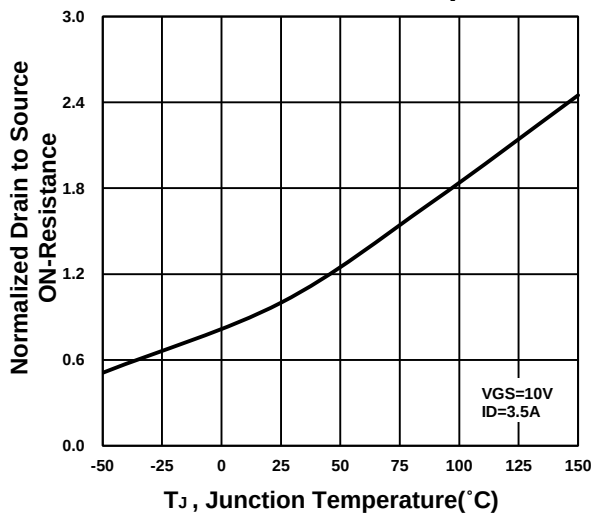
On-Resistance VS Gate-To-Source Voltage



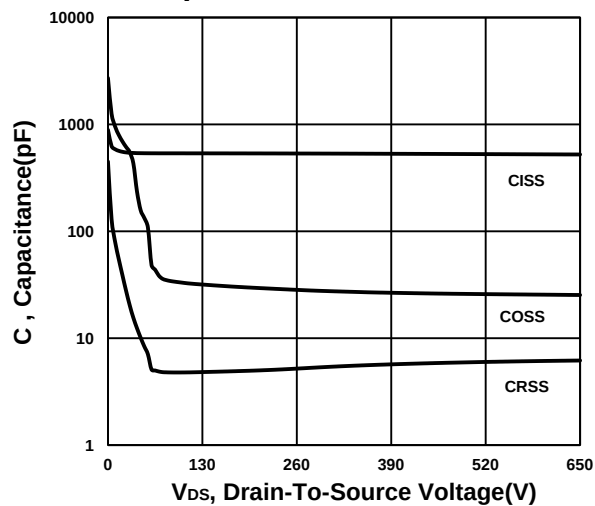
On-Resistance VS Drain Current



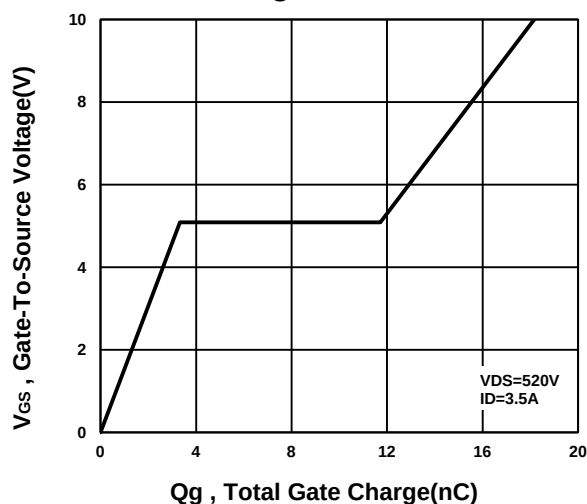
On-Resistance VS Temperature



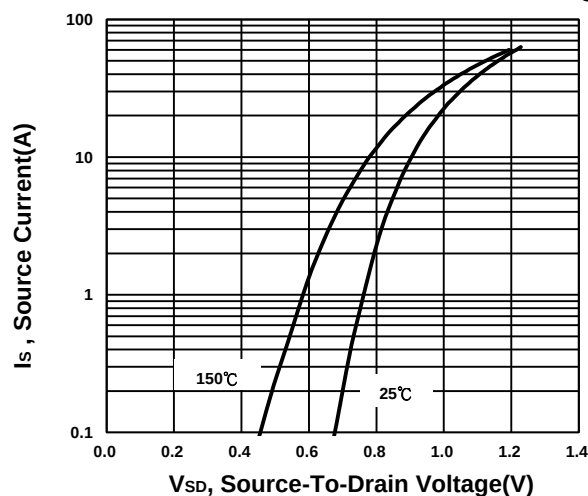
Capacitance Characteristic



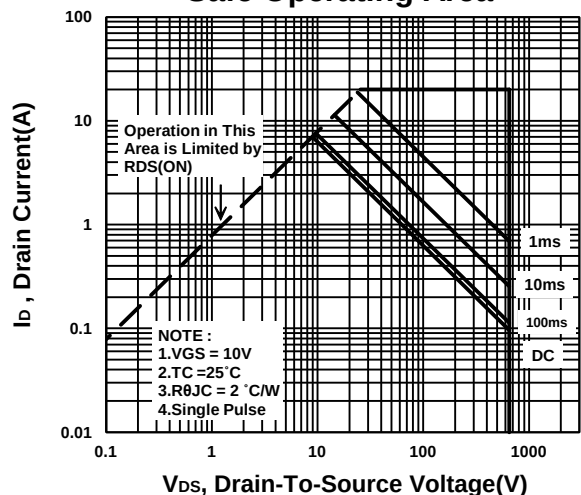
Gate charge Characteristics



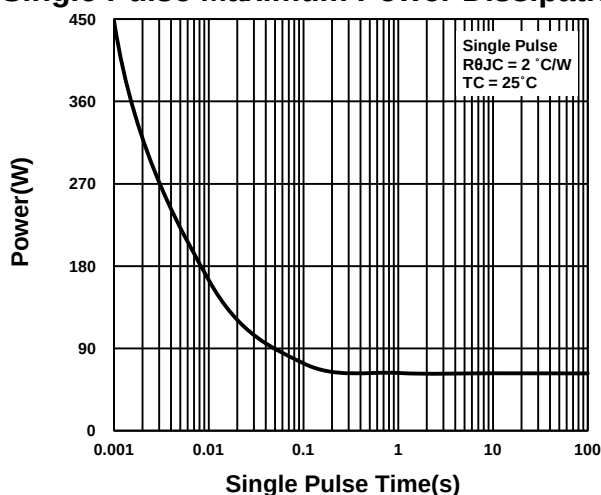
Source-Drain Diode Forward Voltage



Safe Operating Area



Single Pulse Maximum Power Dissipation



Transient Thermal Response Curve

