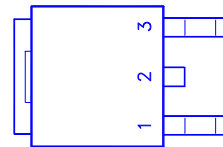
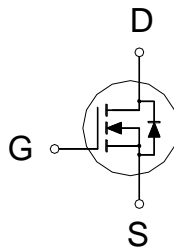




PRODUCT SUMMARY

$V_{(BR)DSS}$	$R_{DS(ON)}$	I_D
700V	1.5Ω	7A



- 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}	700	V
Gate-Source Voltage		V_{GS}	±30	V
Continuous Drain Current ²	$T_C = 25\text{ °C}$	I_D	7	A
	$T_C = 100\text{ °C}$		4.4	
Pulsed Drain Current ^{1, 2}		I_{DM}	20	
Avalanche Current ³		I_{AS}	2.2	
Avalanche Energy ³		E_{AS}	24	mJ
Power Dissipation	$T_C = 25\text{ °C}$	P_D	96	W
	$T_C = 100\text{ °C}$		38	
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	$R_{\theta JC}$		1.3	°C / W
Junction-to-Ambient	$R_{\theta JA}$		62.5	

¹Pulse width limited by maximum junction temperature.

²Limited only by maximum temperature allowed

³ $V_{DD} = 50V$, $L = 10mH$,starting $T_J = 25\text{ °C}$

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

PARAMETER	SYMBOL	TEST CONDITIONS	LIMITS			UNIT
			MIN	TYP	MAX	
STATIC						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = 250\mu A$	700			V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu A$	2	2.9	4	V
Gate-Body Leakage	I_{GSS}	$V_{DS} = 0V, V_{GS} = \pm 30V$			±100	nA
Gate Voltage Drain Current	I_{DSS}	$V_{DS} = 700V, V_{GS} = 0V, T_C = 25\text{ °C}$			1	μA
		$V_{DS} = 560V, V_{GS} = 0V, T_C = 100\text{ °C}$			10	

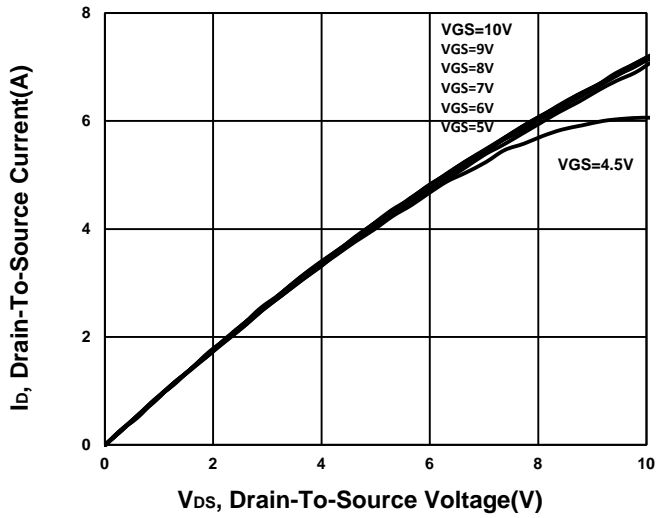
Drain-Source On-State Resistance ¹	$R_{DS(ON)}$	$V_{GS} = 10V, I_D = 3.5A$		1.2	1.5	Ω
Forward Transconductance ¹	g_{fs}	$V_{DS} = 10V, I_D = 3.5A$		10		S
DYNAMIC						
Input Capacitance	C_{iss}	$V_{GS} = 0V, V_{DS} = 25V, f = 1MHz$	978	1223	1468	pF
Output Capacitance	C_{oss}		84	106	127	
Reverse Transfer Capacitance	C_{rss}		5	9	13	
Gate Resistance	R_g	$f = 1MHz$	1	2.2	5	Ω
Total Gate Charge ²	Q_g	$V_{DD} = 560V, I_D = 7A, V_{GS} = 10V$	22	28	34	nC
Gate-Source Charge ²	Q_{gs}		4	5	6	
Gate-Drain Charge ²	Q_{gd}		6	10	14	
Turn-On Delay Time ²	$t_{d(on)}$	$V_{GS} = 10V, V_{DD} = 350V, I_D = 7A, R_G = 25\Omega$		35		nS
Rise Time ²	t_r			75		
Turn-Off Delay Time ²	$t_{d(off)}$			80		
Fall Time ²	t_f			57		
SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS ($T_J = 25\text{ }^\circ\text{C}$)						
Continuous Current ³	I_S				7	A
Forward Voltage ¹	V_{SD}	$I_F = 7A, V_{GS} = 0V$			1	V
Reverse Recovery Time	t_{rr}	$I_F = 7A, di_F/dt = 100A / \mu S$	200	400	600	nS
Reverse Recovery Charge	Q_{rr}		2	4	6	uC

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

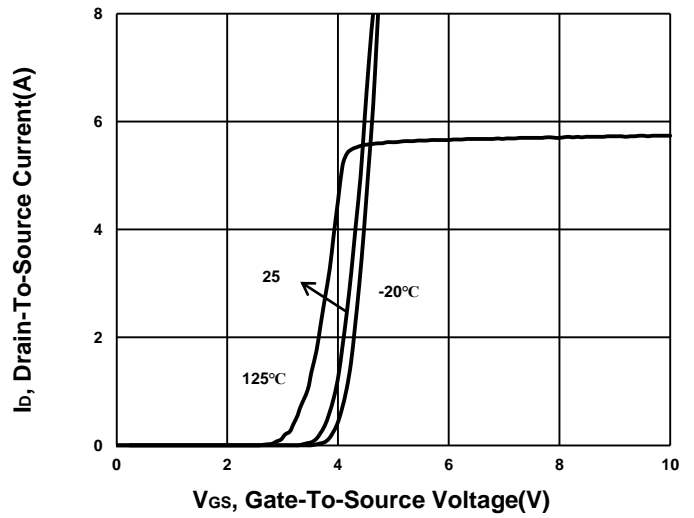
²Independent of operating temperature.

³Pulse width limited by maximum junction temperature.

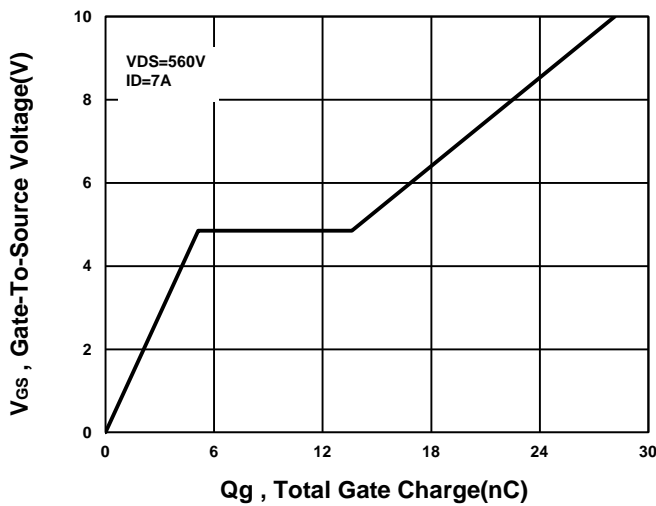
Output Characteristics



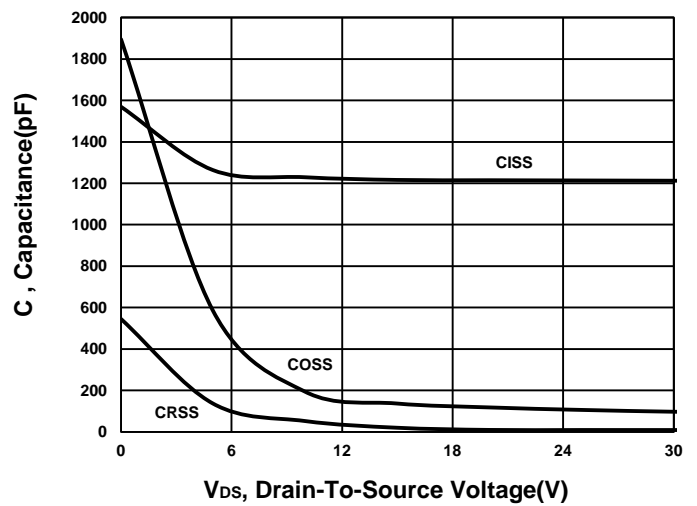
Transfer Characteristics



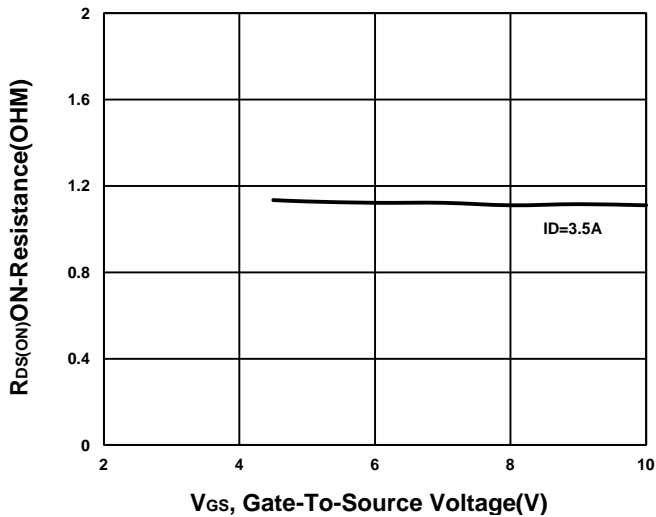
Gate charge Characteristics



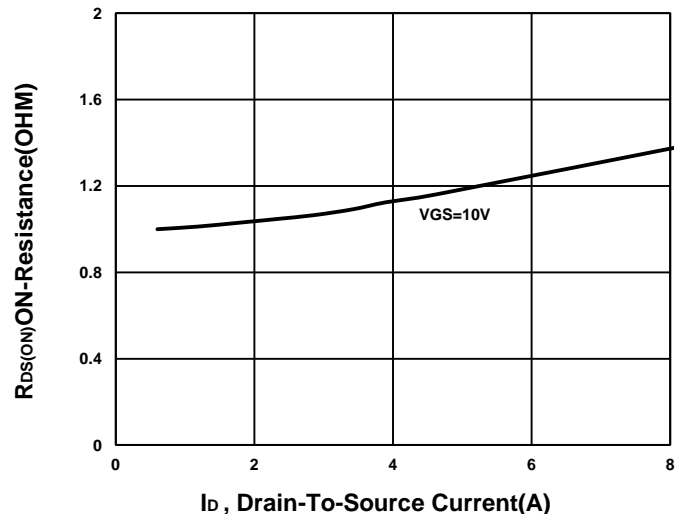
Capacitance Characteristic



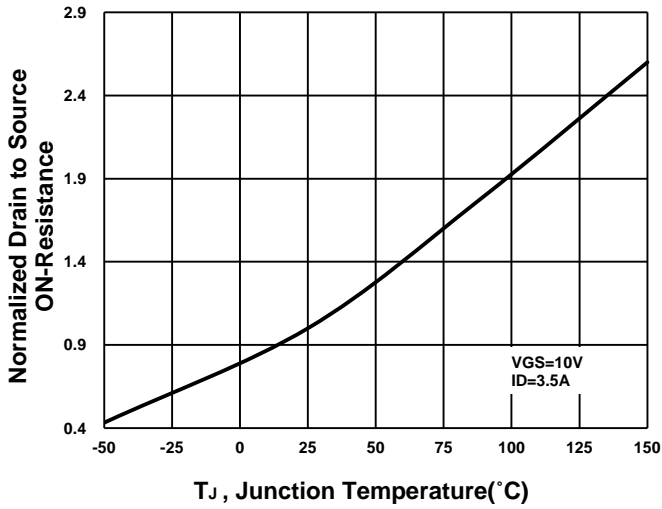
On-Resistance VS Gate-To-Source



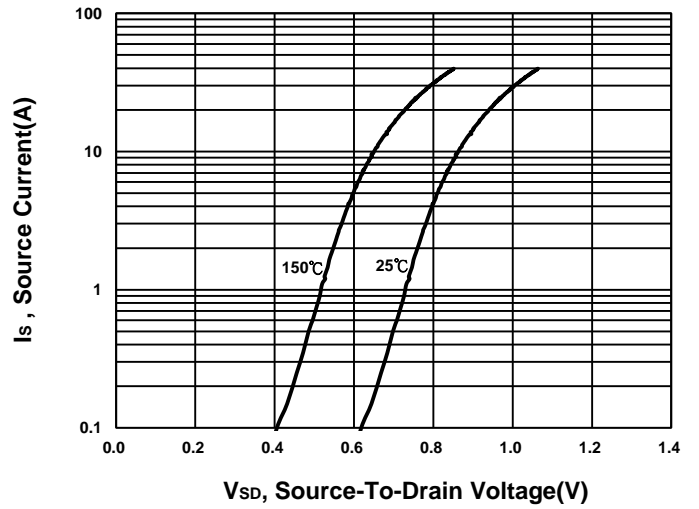
On-Resistance VS Drain Current



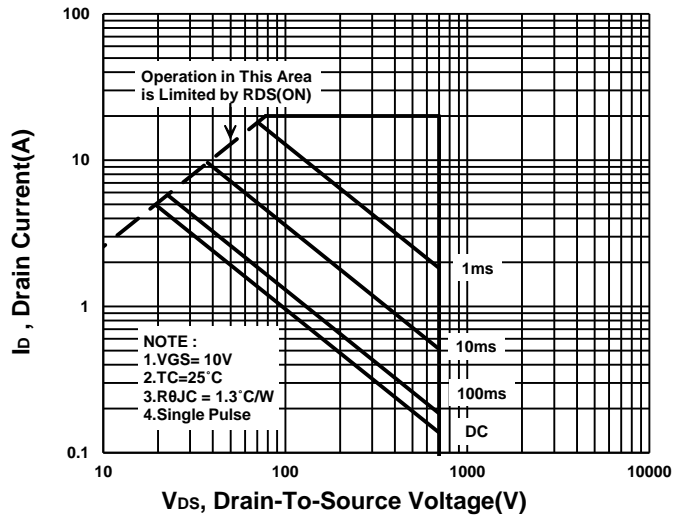
On-Resistance VS Temperature



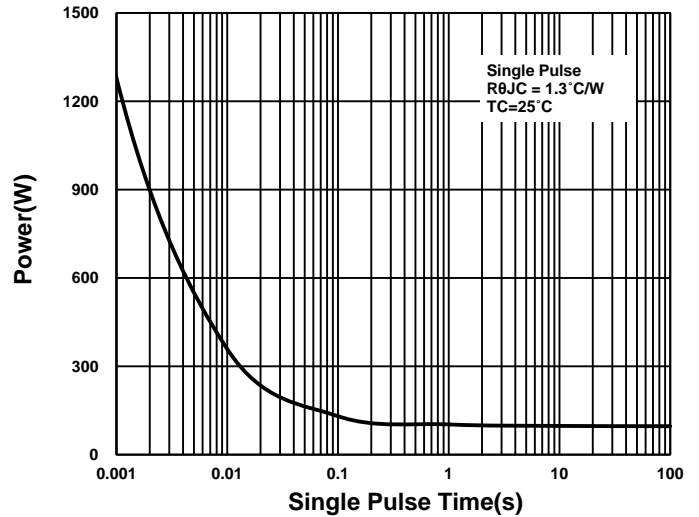
Source-Drain Diode Forward Voltage



Safe Operating Area



Single Pulse Maximum Power Dissipation



Transient Thermal Response Curve

