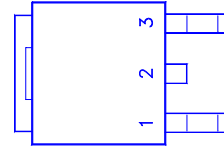
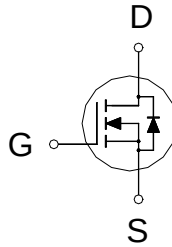




PRODUCT SUMMARY

$V_{(BR)DSS}$	$R_{DS(ON)}$	I_D
650V	10.6 Ω	1A



1. GATE
2. DRAIN
3. SOURCE

ABSOLUTE MAXIMUM RATINGS ($T_A = 25\text{ }^{\circ}\text{C}$ 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	$T_C = 25\text{ }^{\circ}\text{C}$	I_D	1	A
	$T_C = 100\text{ }^{\circ}\text{C}$		0.7	
Pulsed Drain Current ^{1, 2}		I_{DM}	3	
Avalanche Current ³		I_{AS}	0.5	
Avalanche Energy ³		E_{AS}	1.25	mJ
Power Dissipation	$T_C = 25\text{ }^{\circ}\text{C}$	P_D	37	W
	$T_C = 100\text{ }^{\circ}\text{C}$		15	
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	$R_{\theta JC}$		3.3	$^{\circ}\text{C} / \text{W}$
Junction-to-Ambient	$R_{\theta JA}$		62.5	

¹Pulse width limited by maximum junction temperature.

²Limited only by maximum temperature allowed

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

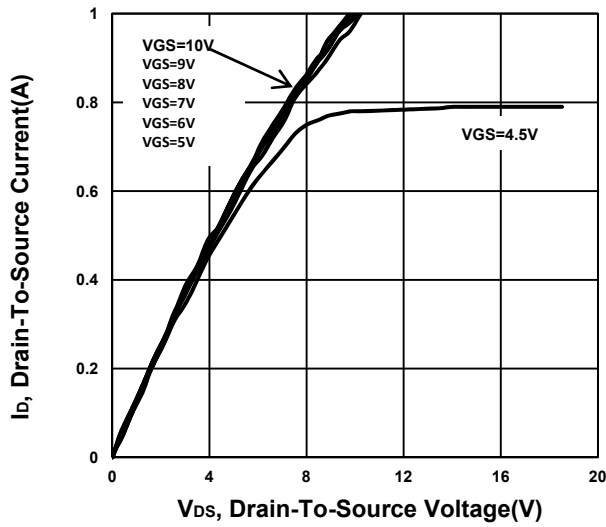
ELECTRICAL CHARACTERISTICS ($T_J = 25\text{ }^{\circ}\text{C}$, Unless Otherwise Noted)

PARAMETER	SYMBOL	TEST CONDITIONS	LIMITS			UNIT
			MIN	TYP	MAX	
STATIC						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = 250\mu A$	650			V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu A$	2	3.1	4	
Gate-Body Leakage	I_{GSS}	$V_{DS} = 0V, V_{GS} = \pm 30V$			± 100	nA
Gate Voltage Drain Current	I_{DSS}	$V_{DS} = 650V, V_{GS} = 0V, T_C = 25\text{ }^{\circ}C$			1	μA
		$V_{DS} = 520V, V_{GS} = 0V, T_C = 100\text{ }^{\circ}C$			10	

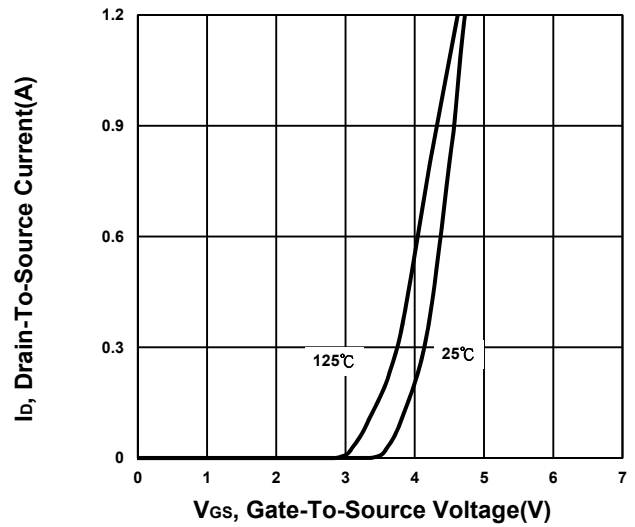
Drain-Source On-State Resistance ¹	R _{DS(ON)}	V _{GS} = 10V, I _D = 0.5A		8.7	10.6	Ω
Forward Transconductance ¹	g _{fs}	V _{DS} = 15V, I _D = 0.5A		2		S
DYNAMIC						
Input Capacitance	C _{iss}	V _{GS} = 0V, V _{DS} = 25V, f = 1MHz		154		pF
Output Capacitance	C _{oss}			30		
Reverse Transfer Capacitance	C _{rss}			5		
Total Gate Charge ²	Q _g	V _{DD} = 520V, I _D = 1A, V _{GS} = 10V		3.5		nC
Gate-Source Charge ²	Q _{gs}			0.7		
Gate-Drain Charge ²	Q _{gd}			0.8		
Turn-On Delay Time ²	t _{d(on)}	V _{GS} = 10V , V _{DD} = 325V, I _D = 1A, R _G = 25Ω		12		nS
Rise Time ²	t _r			26		
Turn-Off Delay Time ²	t _{d(off)}			25		
Fall Time ²	t _f			26		
SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS (T _J = 25 °C)						
Continuous Current ³	I _S				1	A
Forward Voltage ¹	V _{SD}	I _F = 1A, V _{GS} = 0V			1	V
Reverse Recovery Time	t _{rr}	I _F = 1A, dI _F /dt = 100A / μS		249		nS
Reverse Recovery Charge	Q _{rr}			0.63		uC

¹Pulse test : Pulse Width $\leq 300 \mu sec$, Duty Cycle $\leq 2\%$.²Independent of operating temperature.³Pulse width limited by maximum junction temperature.

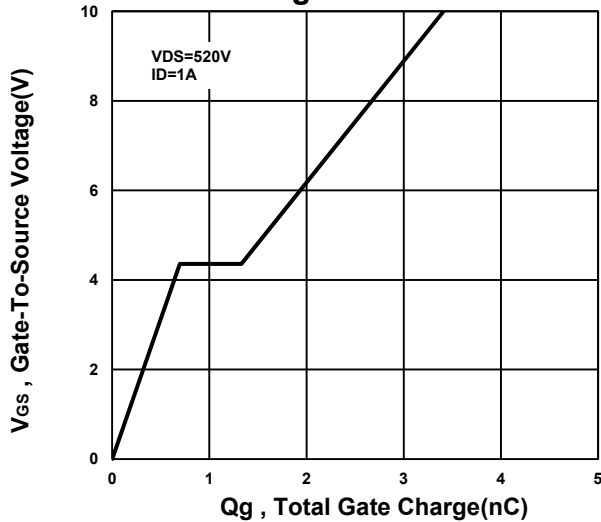
Output Characteristics



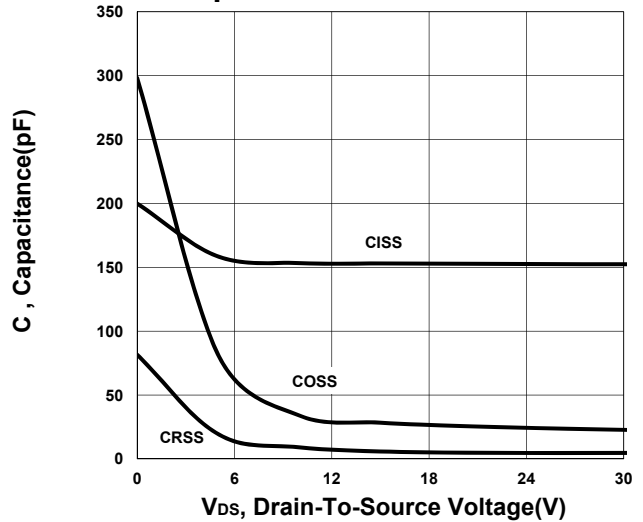
Transfer Characteristics



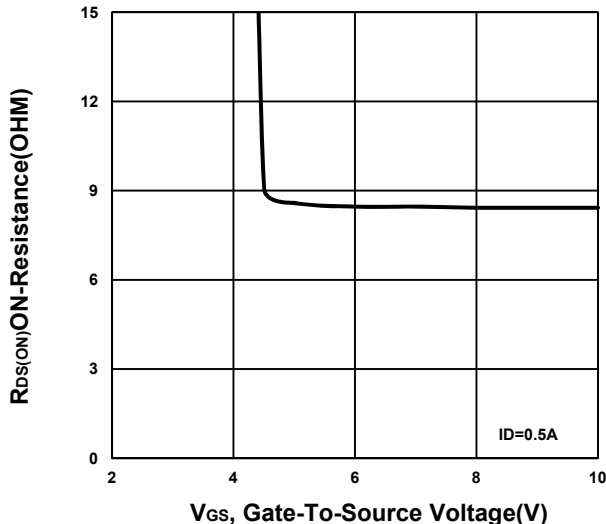
Gate charge Characteristics



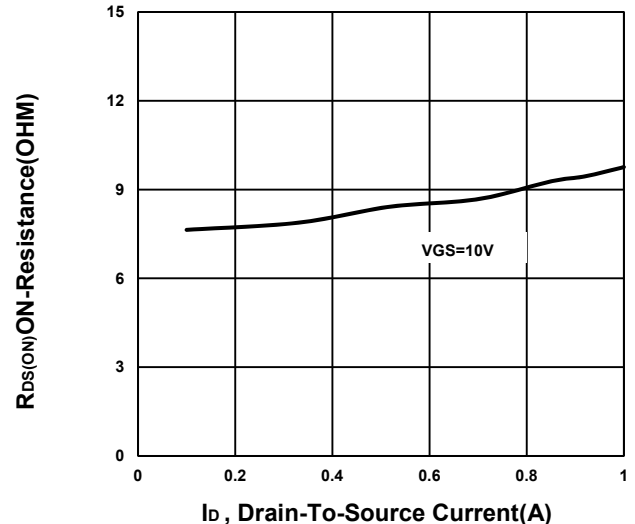
Capacitance Characteristic



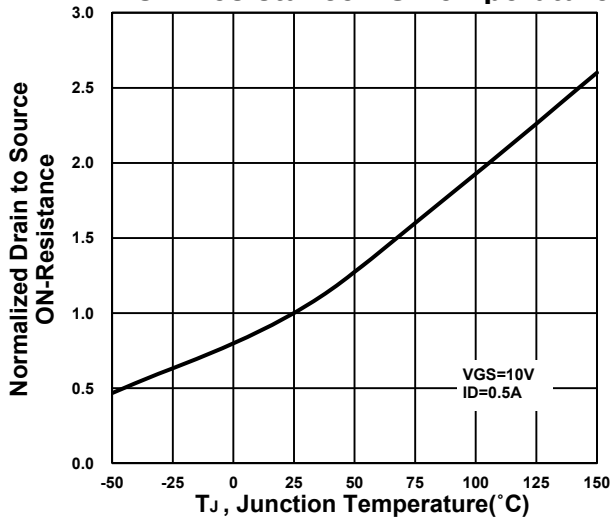
On-Resistance VS Gate-To-Source



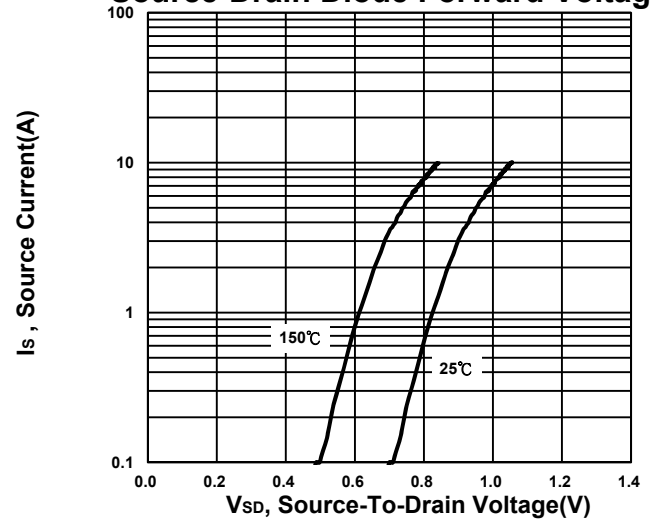
On-Resistance VS Drain Current



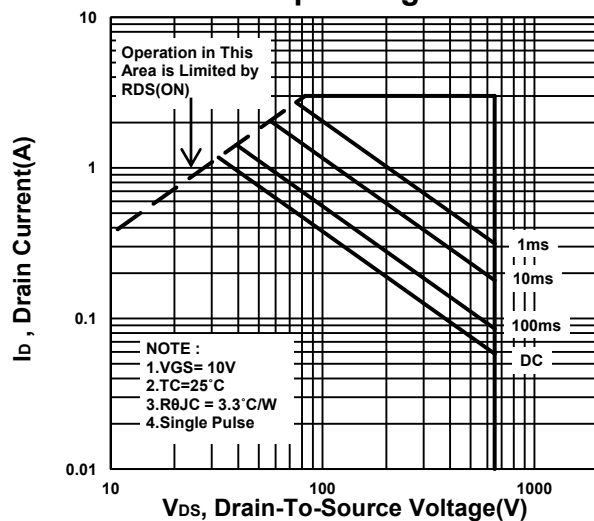
On-Resistance VS Temperature



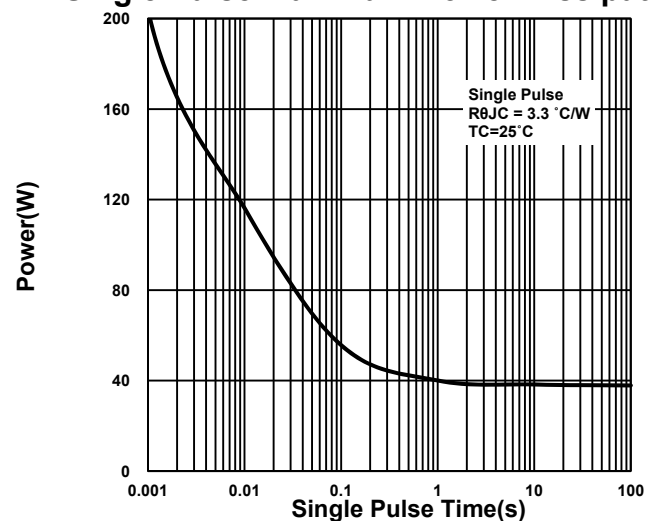
Source-Drain Diode Forward Voltage



Safe Operating Area



Single Pulse Maximum Power Dissipation



Transient Thermal Response Curve

