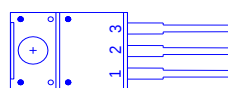
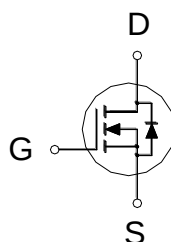


PRODUCT SUMMARY

$V_{(BR)DSS}$	$R_{DS(ON)}$	I_D
500V	0.88Ω	9A



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}	500	V
Gate-Source Voltage		V_{GS}	± 30	V
Continuous Drain Current ²	$T_C = 25^\circ\text{C}$	I_D	9	A
	$T_C = 100^\circ\text{C}$		5.7	
Pulsed Drain Current ¹		I_{DM}	36	
Avalanche Current ³		I_{AS}	4	
Avalanche Energy ³		EAS	80	mJ
Power Dissipation	$T_C = 25^\circ\text{C}$	P_D	37	W
	$T_C = 100^\circ\text{C}$		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	$^\circ\text{C} / \text{W}$

¹Pulse width limited by maximum junction temperature.

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

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

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

PARAMETER	SYMBOL	TEST CONDITIONS	LIMITS			UNIT
			MIN	TYP	MAX	
STATIC						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = 250\mu A$	500			V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu A$	2	3	4	
Gate-Body Leakage	I_{GSS}	$V_{DS} = 0V, V_{GS} = \pm 30V$			± 100	nA
Gate Voltage Drain Current	I_{DSS}	$V_{DS} = 500V, V_{GS} = 0V, T_C = 25^\circ C$			1	μA
		$V_{DS} = 400V, V_{GS} = 0V, T_C = 100^\circ C$			10	

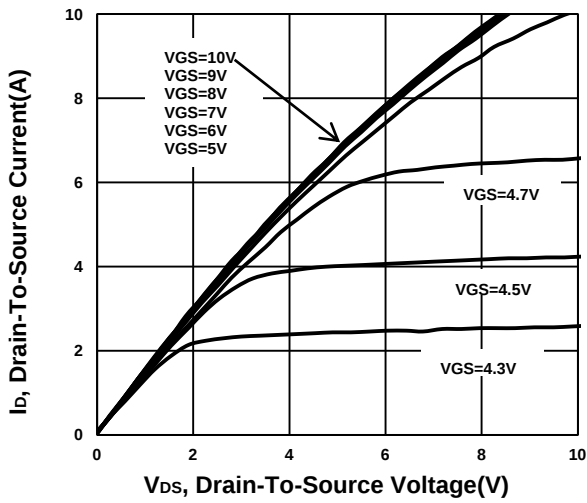
Drain-Source On-State Resistance ¹	R _{DS(ON)}	V _{GS} = 10V, I _D = 4.5A		0.67	0.88	Ω
Forward Transconductance ¹	g _{fs}	V _{DS} = 10V, I _D = 4.5A		12		S
DYNAMIC						
Input Capacitance	C _{iss}	V _{GS} = 0V, V _{DS} = 25V, f = 1MHz		935		pF
Output Capacitance	C _{oss}			108		
Reverse Transfer Capacitance	C _{rss}			16		
Total Gate Charge ²	Q _g	V _{DD} = 400V, I _D =9A, V _{GS} = 10V		28		nC
Gate-Source Charge ²	Q _{gs}			4.5		
Gate-Drain Charge ²	Q _{gd}			12		
Turn-On Delay Time ²	t _{d(on)}	V _{DD} = 300V, I _D =9A, R _G = 6Ω		28		nS
Rise Time ²	t _r			40		
Turn-Off Delay Time ²	t _{d(off)}			100		
Fall Time ²	t _f			51		
SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS (T _J = 25 °C)						
Continuous Current ³	I _S				9	A
Forward Voltage ¹	V _{SD}	I _F = 9A, V _{GS} = 0V			1	V
Reverse Recovery Time	t _{rr}	I _F = 9A, dI _F /dt = 100A / μS		318		nS
Reverse Recovery Charge	Q _{rr}			2.7		uC

¹Pulse test : Pulse Width $\leq 380 \mu sec$, Duty Cycle $\leq 2\%$.

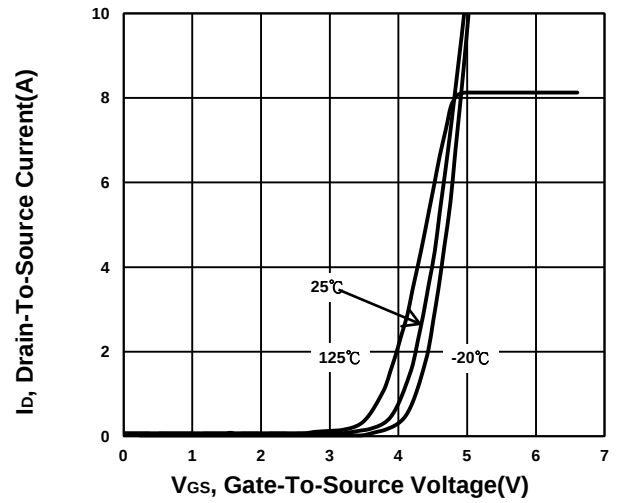
²Independent of operating temperature.

³Pulse width limited by maximum junction temperature.

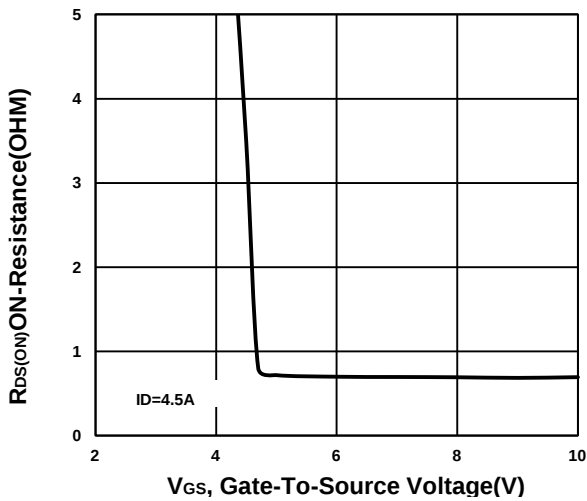
Output Characteristics



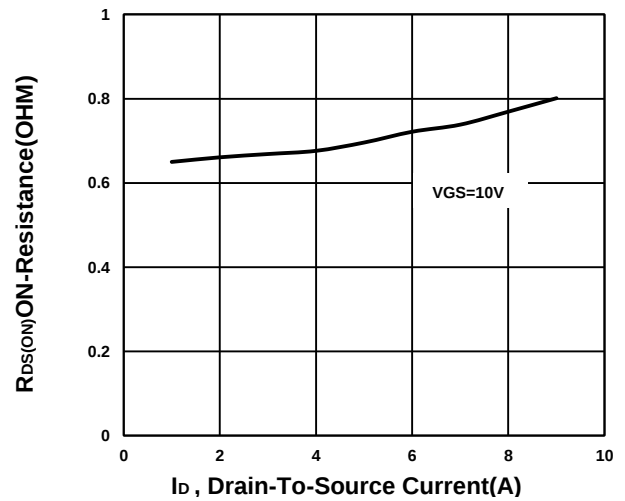
Transfer Characteristics



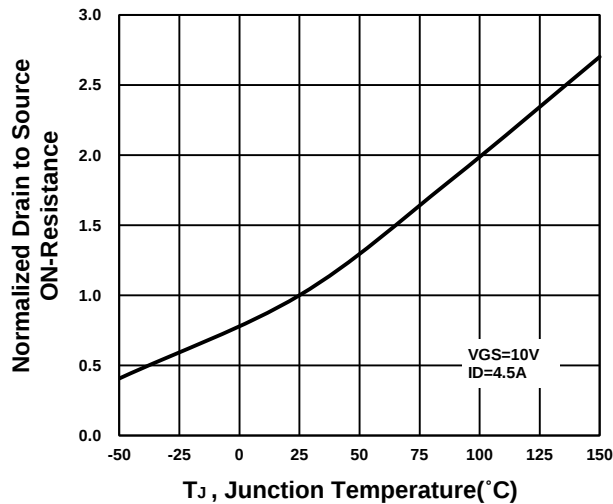
On-Resistance VS Gate-To-Source



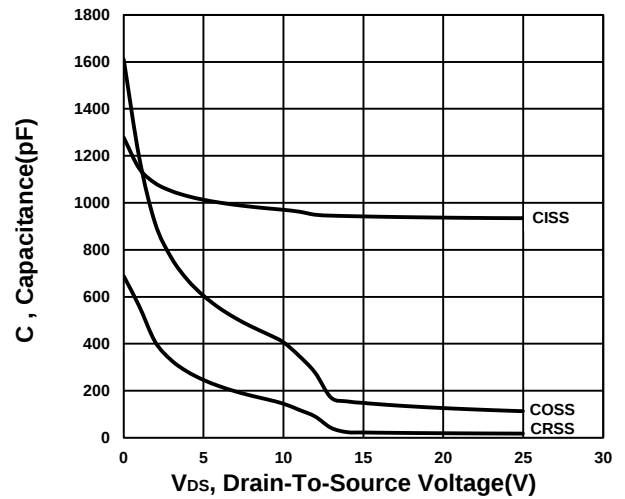
On-Resistance VS Drain Current



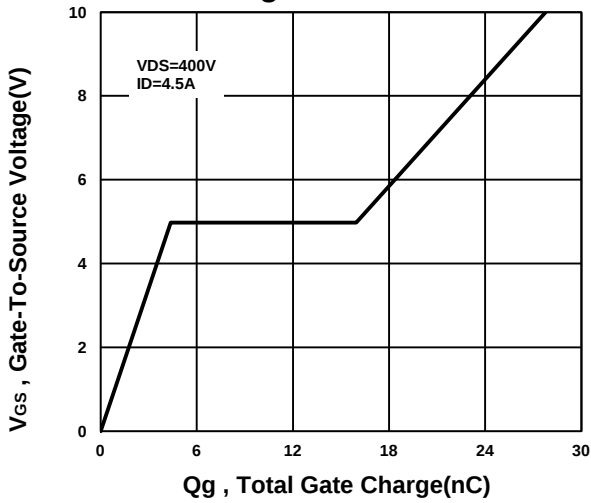
On-Resistance VS Temperature



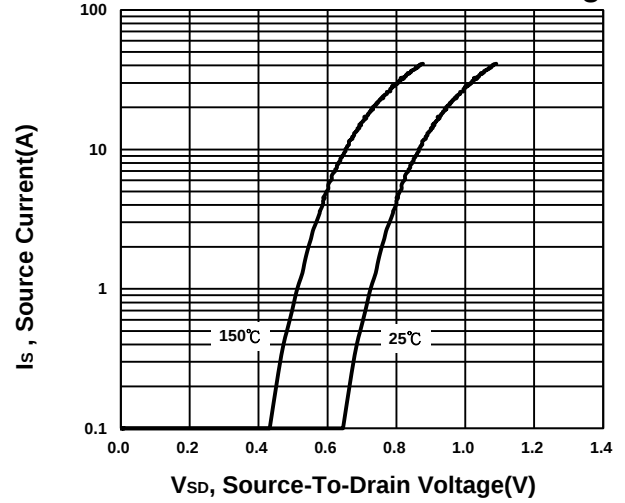
Capacitance Characteristic



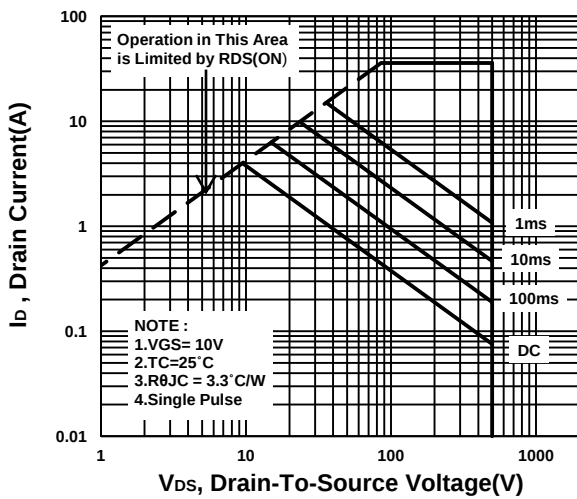
Gate charge Characteristics



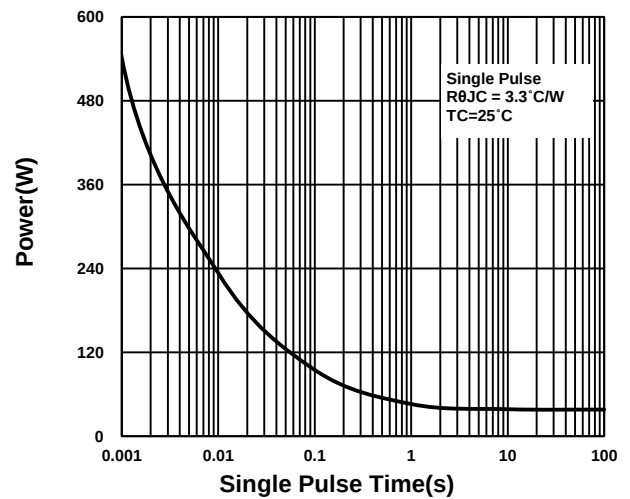
Source-Drain Diode Forward Voltage



Safe Operating Area



Single Pulse Maximum Power Dissipation



Transient Thermal Response Curve

