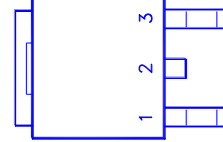
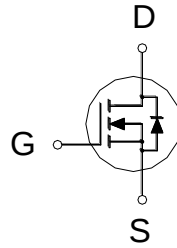


PRODUCT SUMMARY

$V_{(BR)DSS}$	$R_{DS(ON)}$	I_D
100V	105m Ω	15A



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}	100	V
Gate-Source Voltage		V_{GS}	± 20	V
Continuous Drain Current	$T_C = 25^\circ\text{C}$	I_D	15	A
	$T_C = 100^\circ\text{C}$		9.2	
Pulsed Drain Current ¹		I_{DM}	20	
Avalanche Current		I_{AS}	5.4	
Avalanche Energy	$L = 1\text{mH}$	E_{AS}	14.8	mJ
Power Dissipation	$T_C = 25^\circ\text{C}$	P_D	50	W
	$T_C = 100^\circ\text{C}$		20	
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-Ambient	$R_{\theta JA}$		62.5	$^\circ\text{C} / \text{W}$
Junction-to-Case	$R_{\theta JC}$		2.5	

¹Pulse width limited by maximum junction temperature.

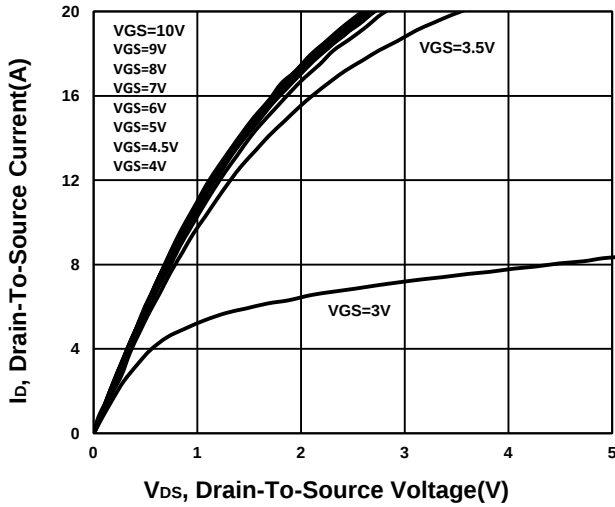
ELECTRICAL CHARACTERISTICS ($T_J = 25^\circ\text{C}$, Unless Otherwise Noted)

PARAMETER	SYMBOL	TEST CONDITIONS	LIMITS			UNIT
			MIN	TYP	MAX	
STATIC						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = 250\mu A$	100			V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu A$	1	1.8	3	
Gate-Body Leakage	I_{GSS}	$V_{DS} = 0V, V_{GS} = \pm 20V$			± 100	nA
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = 80V, V_{GS} = 0V$			1	μA
		$V_{DS} = 80V, V_{GS} = 0V, T_J = 125^\circ C$			10	
Drain-Source On-State Resistance ¹	$R_{DS(ON)}$	$V_{GS} = 4.5V, I_D = 6A$		81	120	$m\Omega$
		$V_{GS} = 10V, I_D = 6A$		77	105	

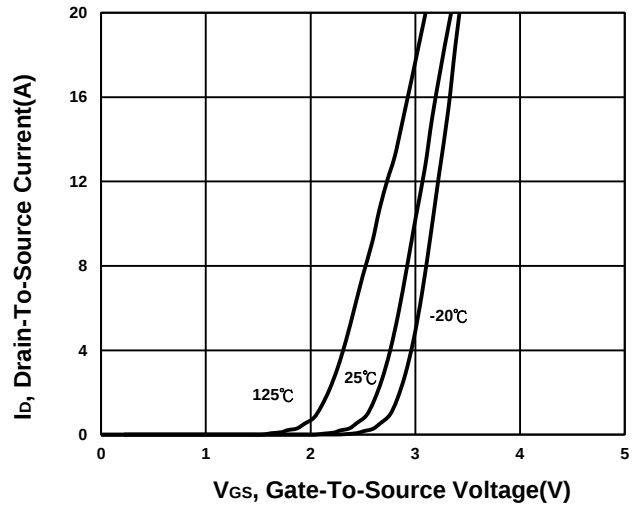
Forward Transconductance ¹	g_{fs}	$V_{DS} = 10V, I_D = 6A$		20		S
DYNAMIC						
Input Capacitance	C_{iss}	$V_{GS} = 0V, V_{DS} = 25V, f = 1MHz$		592		pF
Output Capacitance	C_{oss}			52		
Reverse Transfer Capacitance	C_{rss}			30		
Gate Resistance	R_g	$V_{GS} = 0V, V_{DS} = 0V, f = 1MHz$		1.3		Ω
Total Gate Charge ²	$Q_{g(VGS=10V)}$	$V_{DS} = 50V, I_D = 6A$		13.9		nC
	$Q_{g(VGS=4.5V)}$			8		
Gate-Source Charge ²	Q_{gs}			2		
Gate-Drain Charge ²	Q_{gd}			4.7		
Turn-On Delay Time ²	$t_{d(on)}$	$V_{DS} = 50V, I_D \cong 6A, V_{GS} = 10V, R_{GEN} = 6\Omega$		18		nS
Rise Time ²	t_r			15		
Turn-Off Delay Time ²	$t_{d(off)}$			51		
Fall Time ²	t_f			15		
SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS (T _J = 25 ° C)						
Continuous Current	I_S				15	A
Forward Voltage ¹	V_{SD}	$I_F = 6A, V_{GS} = 0V$			1.4	V
Diode Reverse Recovery Time	t_{rr}	$I_F = 6A, dI/dt=100A/\mu s$		25		nS
Diode Reverse Recovery Charge	Q_{rr}			25		nC

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

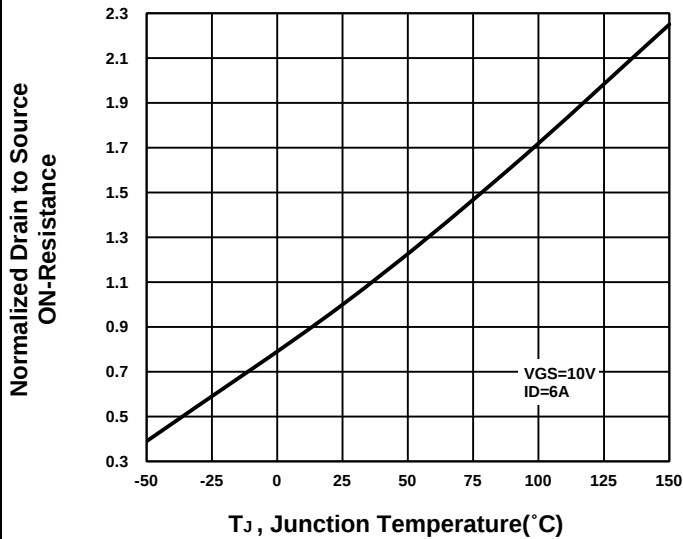
Output Characteristics



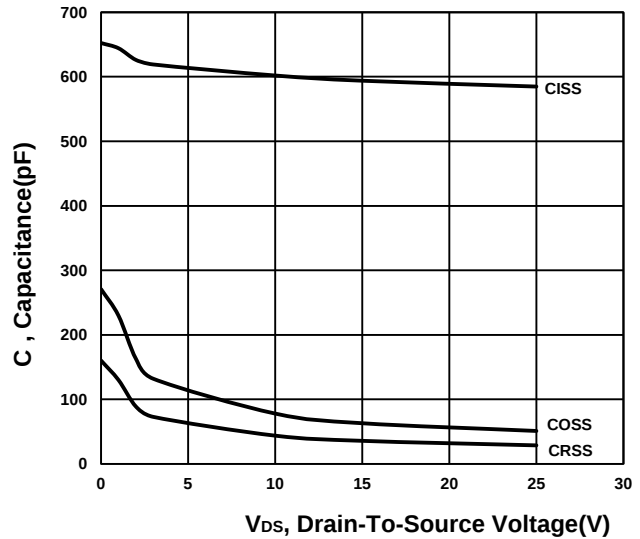
Transfer Characteristics



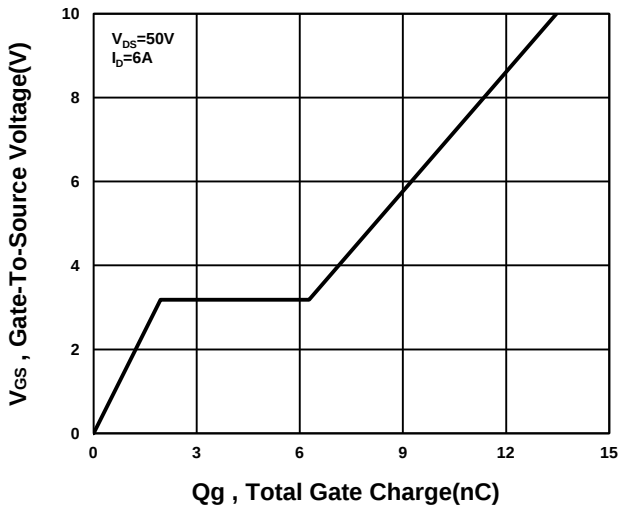
On-Resistance VS Temperature



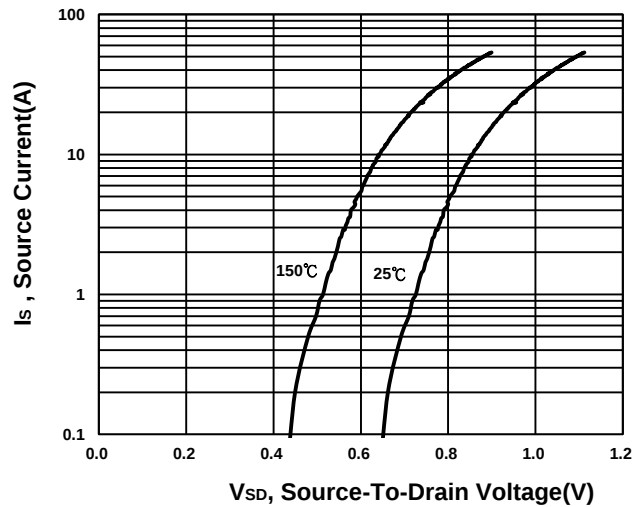
Capacitance Characteristic



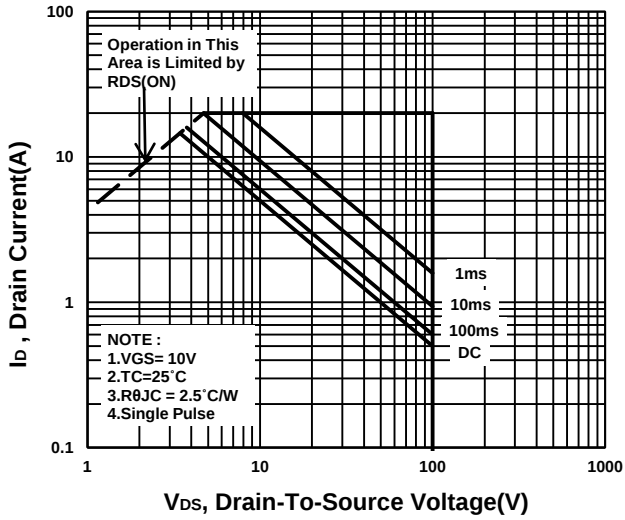
Gate charge Characteristics



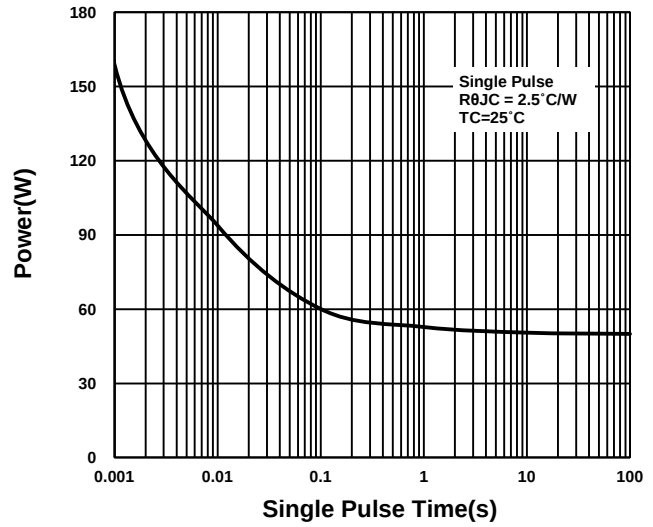
Source-Drain Diode Forward Voltage



Safe Operating Area



Single Pulse Maximum Power Dissipation



Transient Thermal Response Curve

