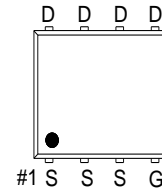
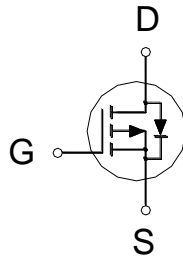


PRODUCT SUMMARY

$V_{(BR)DSS}$	$R_{DS(ON)}$	I_D
-20V	9.5mΩ	-34A



G : GATE
D : DRAIN
S : SOURCE



ABSOLUTE MAXIMUM RATINGS (T_A = 25 °C Unless Otherwise Noted)

PARAMETERS/TEST CONDITIONS		SYMBOL	LIMITS	UNITS
Drain-Source Voltage		V_{DS}	-20	V
Gate-Source Voltage		V_{GS}	±8	V
Continuous Drain Current ³	T _C = 25 °C	I_D	-34	A
	T _C = 100 °C		-21	
	T _A = 25 °C		-12	
	T _A = 70 °C		-9.8	
Pulsed Drain Current ¹		I_{DM}	-100	
Avalanche Current		I_{AS}	-39	
Avalanche Energy	L = 0.1mH	E_{AS}	76	mJ
Power Dissipation	T _C = 25 °C	P_D	17.8	W
	T _C = 100 °C		7	
	T _A = 25 °C		2.3	
	T _A = 70 °C		1.5	
Junction & Storage Temperature Range		T _j , T _{stg}	-55 to 150	°C

THERMAL RESISTANCE RATINGS

THERMAL RESISTANCE	SYMBOL	TYPICAL	MAXIMUM	UNITS
Junction-to-Ambient ²	$R_{θJA}$		54	°C / W
Junction-to-Case	$R_{θJC}$		7	

¹Pulse width limited by maximum junction temperature.

²The value of $R_{θJA}$ is measured with the device mounted on 1in² FR-4 board with 2oz. Copper, in a still air environment with T_A =25°C.

³Package limitation current is 22A

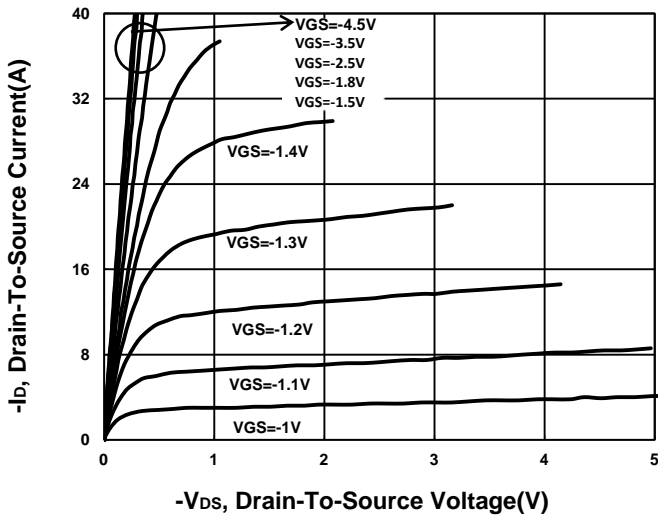
ELECTRICAL CHARACTERISTICS (T_J = 25 °C, Unless Otherwise Noted)

PARAMETER	SYMBOL	TEST CONDITIONS	LIMITS			UNIT	
			MIN	TYP	MAX		
STATIC							
Drain-Source Breakdown Voltage	V _{(BR)DSS}	V _{GS} = 0V, I _D = -250μA	-20			V	
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = -250μA	-0.3	-0.6	-1		
Gate-Body Leakage	I _{GSS}	V _{DS} = 0V, V _{GS} = ±8V			±100	nA	
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = -16V, V _{GS} = 0V			-1	μA	
		V _{DS} = -10V, V _{GS} = 0V, T _J = 55 °C			-10		
Drain-Source On-State Resistance ¹	R _{DS(ON)}	V _{GS} = -4.5V, I _D = -12A		7.3	9.5	mΩ	
		V _{GS} = -2.5V, I _D = -12A		8.8	12.5		
		V _{GS} = -1.8V, I _D = -11A		11	18		
Forward Transconductance ¹	g _{fs}	V _{DS} = -10V, I _D = -12A		60		S	
DYNAMIC							
Input Capacitance	C _{iss}	V _{GS} = 0V, V _{DS} = -10V, f = 1MHz		4480		pF	
Output Capacitance	C _{oss}			429			
Reverse Transfer Capacitance	C _{rss}			326			
Gate Resistance	R _g	V _{GS} = 0V, V _{DS} = 0V, f = 1MHz		4		Ω	
Total Gate Charge ²	Q _{g(VGS=-4.5V)}	V _{DS} = -10V, I _D = -12A		46		nC	
	Q _{g(VGS=-2.5V)}			26			
Gate-Source Charge ²	Q _{gs}			6.6			
Gate-Drain Charge ²	Q _{gd}			10			
Turn-On Delay Time ²	t _{d(on)}		V _{DD} = -10V I _D ≅ -12A, V _{GS} = -10V, R _{GEN} = 6Ω		32		nS
Rise Time ²	t _r				31		
Turn-Off Delay Time ²	t _{d(off)}				196		
Fall Time ²	t _f			125			
SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS (T_J = 25 °C)							
Continuous Current	I _S				-14	A	
Forward Voltage ¹	V _{SD}	I _F = -12A, V _{GS} = 0V			-1.2	V	
Reverse Recovery Time	t _{rr}	I _F = -12A, dI/dt = 100A/μs		12.8		nS	
Reverse Recovery Charge	Q _{rr}			4.5		nC	

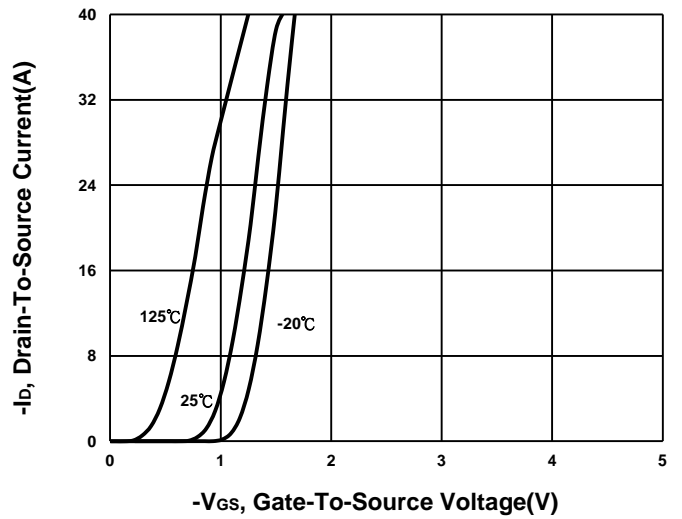
¹Pulse test : Pulse Width ≤ 300 μsec, Duty Cycle ≤ 2%.

²Independent of operating temperature.

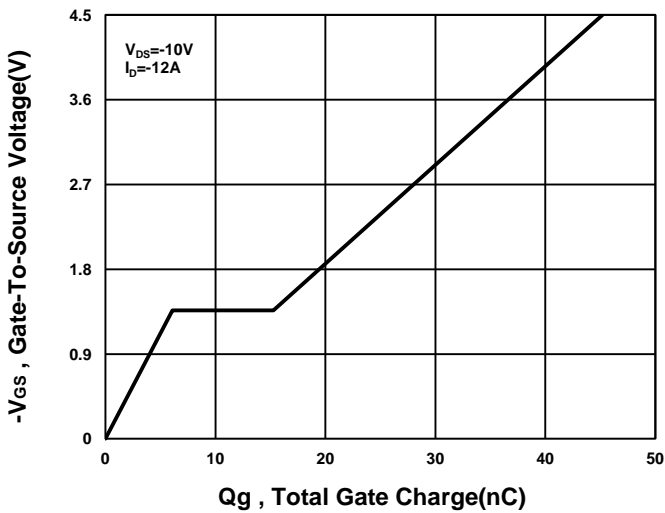
Output Characteristics



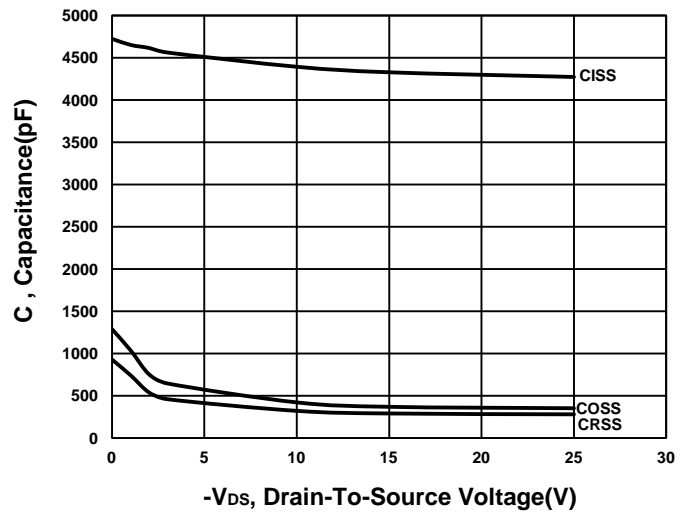
Transfer Characteristics



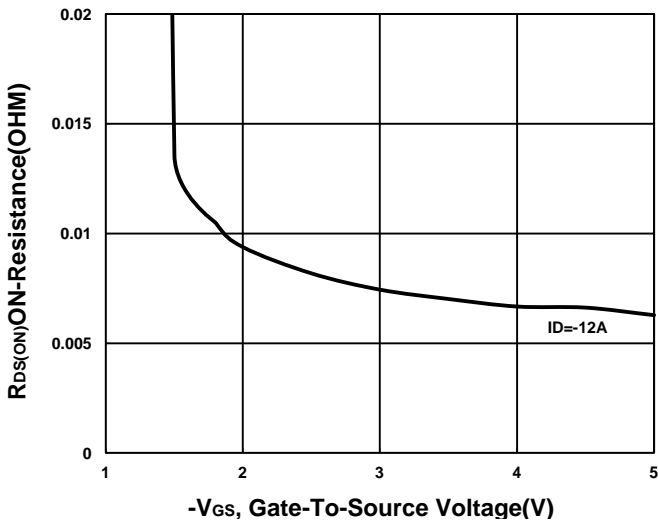
Gate charge Characteristics



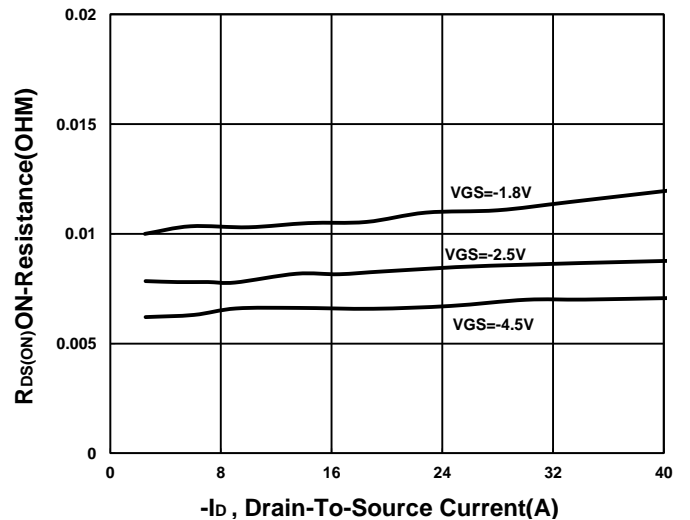
Capacitance Characteristic



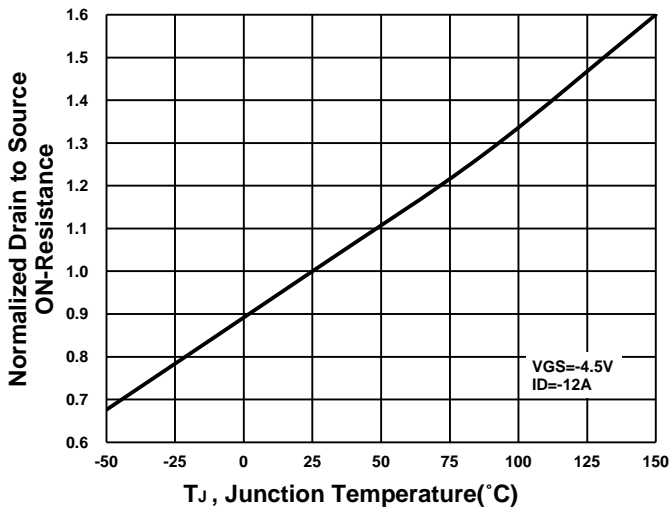
On-Resistance VS Gate-To-Source



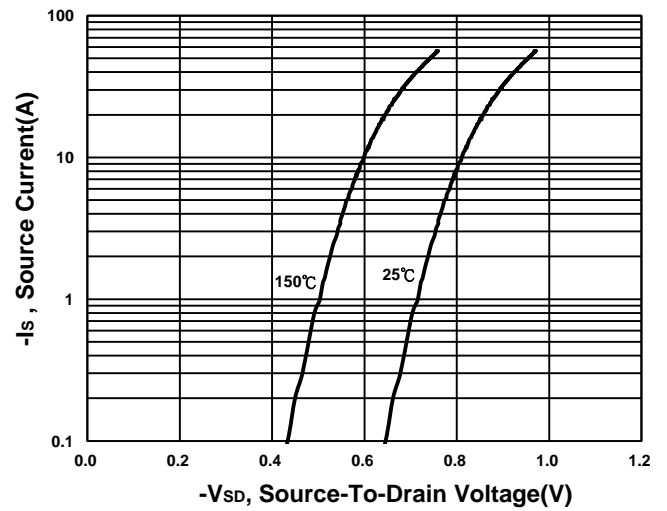
On-Resistance VS Drain Current



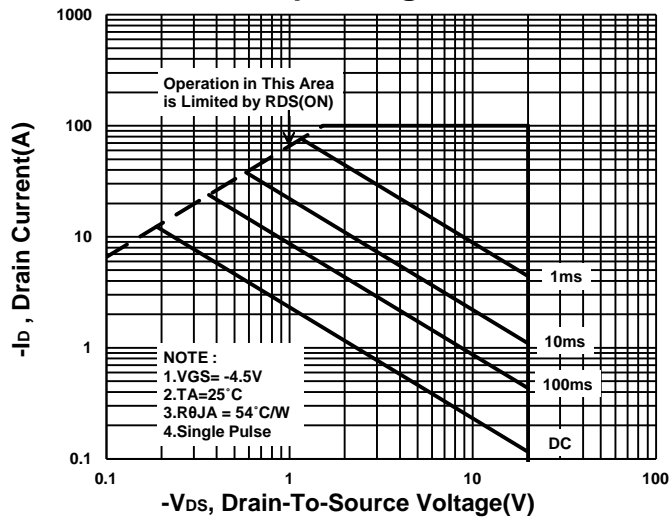
On-Resistance VS Temperature



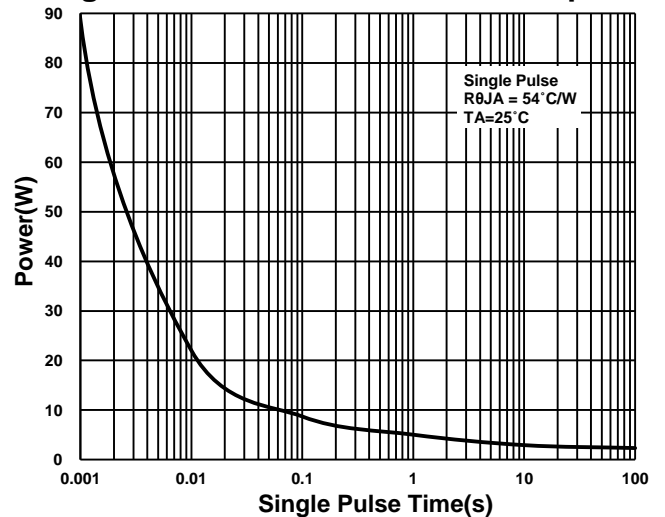
Source-Drain Diode Forward Voltage



Safe Operating Area



Single Pulse Maximum Power Dissipation



Transient Thermal Response Curve

