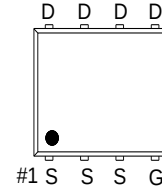
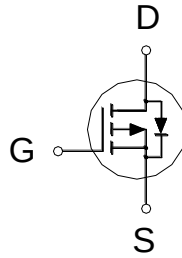


PRODUCT SUMMARY

$V_{(BR)DSS}$	$R_{DS(ON)}$	I_D
-30V	9m Ω	-33A



ABSOLUTE MAXIMUM RATINGS ($T_A = 25\text{ }^{\circ}\text{C}$ Unless Otherwise Noted)

PARAMETERS/TEST CONDITIONS		SYMBOL	LIMITS	UNITS
Drain-Source Voltage		V_{DS}	-30	V
Gate-Source Voltage		V_{GS}	± 25	V
Continuous Drain Current ³	$T_C = 25\text{ }^{\circ}\text{C}$	I_D	-33	A
	$T_C = 100\text{ }^{\circ}\text{C}$		-20	
	$T_A = 25\text{ }^{\circ}\text{C}$		-12	
	$T_A = 70\text{ }^{\circ}\text{C}$		-9.3	
Pulsed Drain Current ¹		I_{DM}	-100	
Avalanche Current		I_{AS}	-34	
Avalanche Energy	$L = 0.1\text{mH}$	E_{AS}	57.8	mJ
Power Dissipation	$T_C = 25\text{ }^{\circ}\text{C}$	P_D	16.7	W
	$T_C = 100\text{ }^{\circ}\text{C}$		6.7	
	$T_A = 25\text{ }^{\circ}\text{C}$		2	
	$T_A = 70\text{ }^{\circ}\text{C}$		1.3	
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 ²	$R_{\theta JA}$		60	$^{\circ}\text{C} / \text{W}$
Junction-to-Case	$R_{\theta JC}$		7.5	

¹Pulse width limited by maximum junction temperature.

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

³Package limitation current is 22A

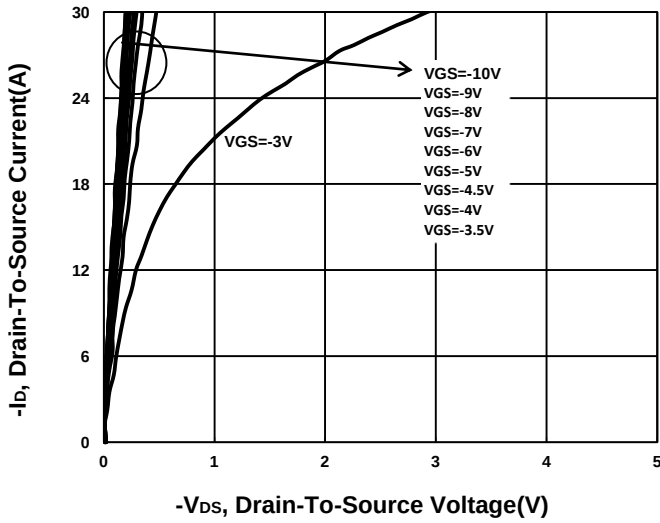
ELECTRICAL CHARACTERISTICS ($T_J = 25\text{ }^\circ\text{C}$, Unless Otherwise Noted)

PARAMETER	SYMBOL	TEST CONDITIONS	LIMITS			UNIT
			MIN	TYP	MAX	
STATIC						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = -250\mu A$	-30			V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = -250\mu A$	-1	-1.6	-3	
Gate-Body Leakage	I_{GSS}	$V_{DS} = 0V, V_{GS} = \pm 25V$			± 100	nA
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = -24V, V_{GS} = 0V$			-1	μA
		$V_{DS} = -20V, V_{GS} = 0V, T_J = 55\text{ }^{\circ}C$			-10	
Drain-Source On-State Resistance ¹	$R_{DS(ON)}$	$V_{GS} = -10V, I_D = -12A$		6.9	9	$m\Omega$
		$V_{GS} = -4.5V, I_D = -12A$		9.9	16	
Forward Transconductance ¹	g_{fs}	$V_{DS} = -10V, I_D = -12A$		35		S
DYNAMIC						
Input Capacitance	C_{iss}	$V_{GS} = 0V, V_{DS} = -15V, f = 1MHz$		2464		pF
Output Capacitance	C_{oss}			374		
Reverse Transfer Capacitance	C_{rss}			271		
Gate Resistance	R_g	$V_{GS} = 0V, V_{DS} = 0V, f = 1MHz$		4		Ω
Total Gate Charge ²	$Q_{g(VGS=-10V)}$	$V_{DS} = -15V, I_D = -12A$		56		nC
	$Q_{g(VGS=-4.5V)}$			28		
Gate-Source Charge ²	Q_{gs}			8		
Gate-Drain Charge ²	Q_{gd}			12		
Turn-On Delay Time ²	$t_{d(on)}$	$V_{DD} = -10V$ $I_D \cong -12A, V_{GS} = -10V, R_{GEN} = 6\Omega$		21		nS
Rise Time ²	t_r			25		
Turn-Off Delay Time ²	$t_{d(off)}$			100		
Fall Time ²	t_f			73		
SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS ($T_J = 25\text{ }^{\circ}C$)						
Continuous Current	I_S				-12.8	A
Forward Voltage ¹	V_{SD}	$I_F = -12A, V_{GS} = 0V$			-1.3	V
Reverse Recovery Time	t_{rr}	$I_F=-12A, dI/dt=100A/\mu s$		26		nS
Reverse Recovery Charge	Q_{rr}			14		nC

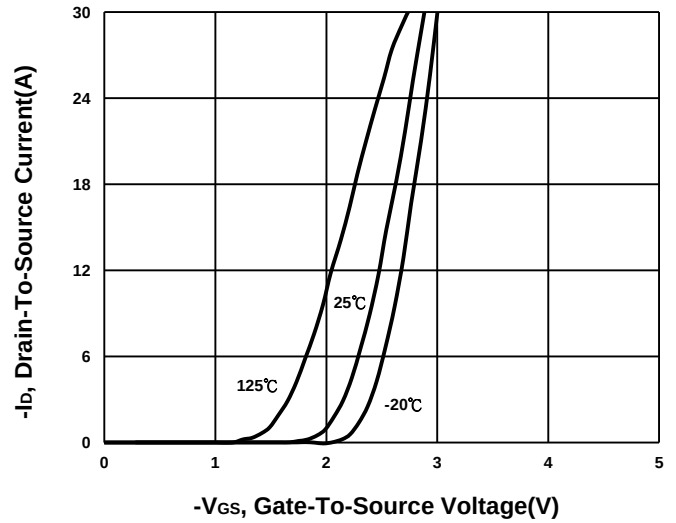
¹Pulse test : Pulse Width $\leq 300\text{ }\mu\text{sec}$, Duty Cycle $\leq 2\%$.

²Independent of operating temperature.

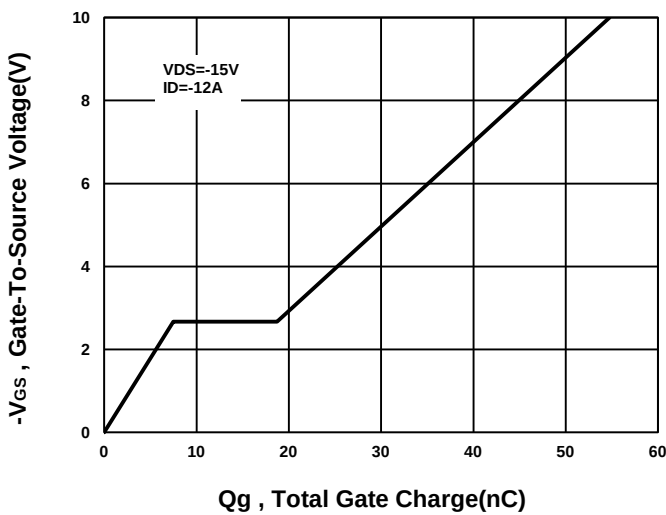
Output Characteristics



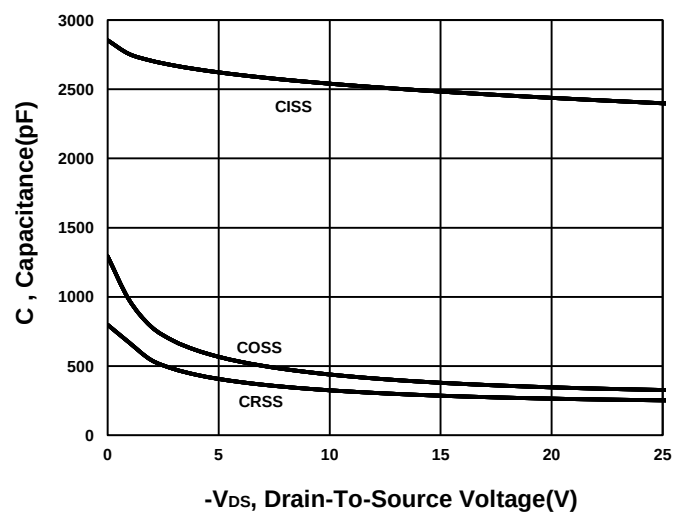
Transfer Characteristics



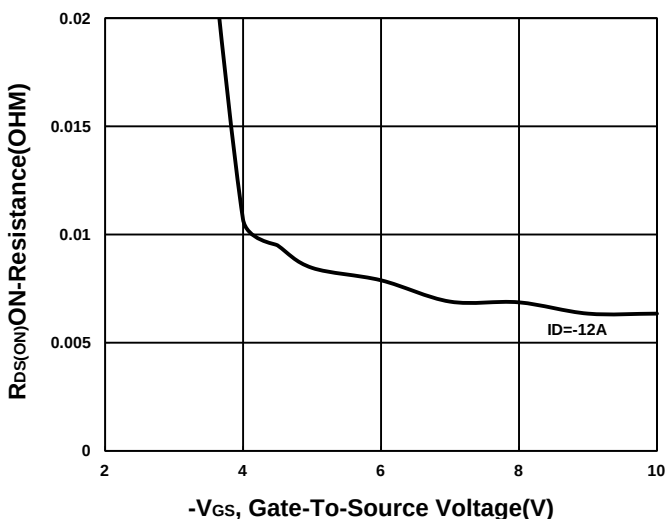
Gate charge Characteristics



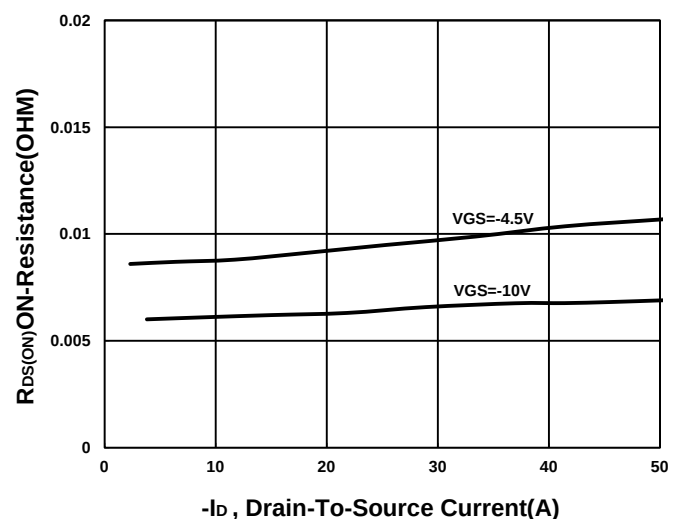
Capacitance Characteristic



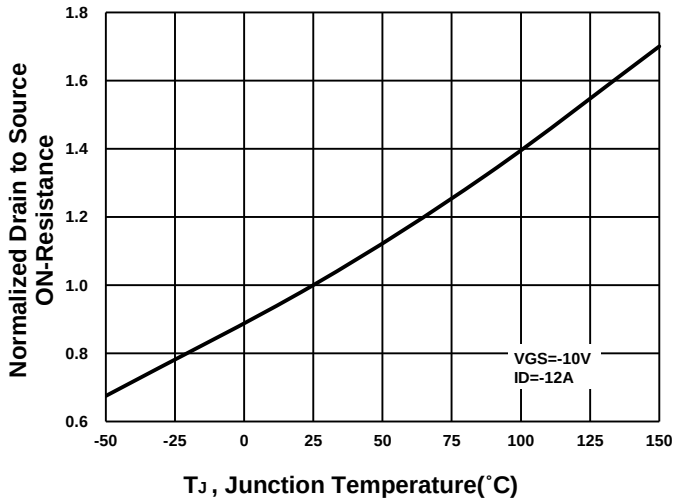
On-Resistance VS Gate-To-Source



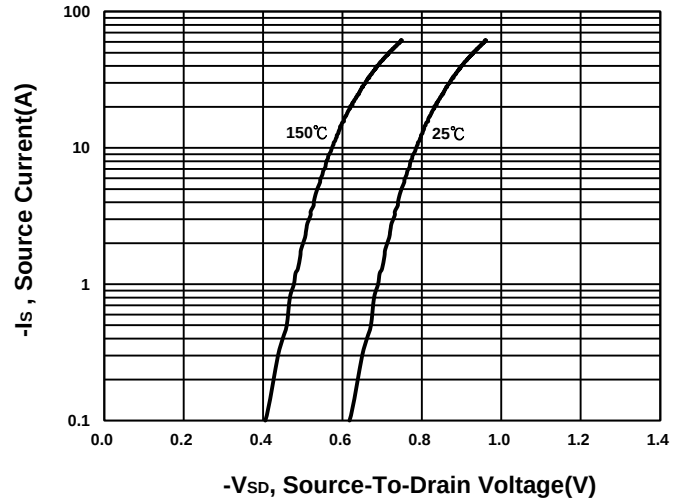
On-Resistance VS Drain Current



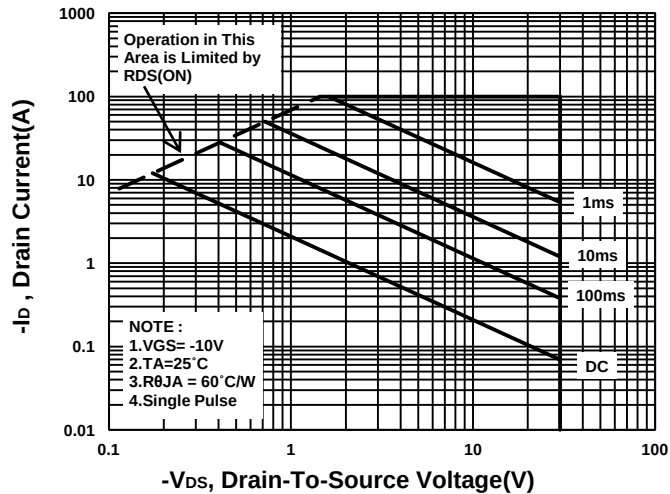
On-Resistance VS Temperature



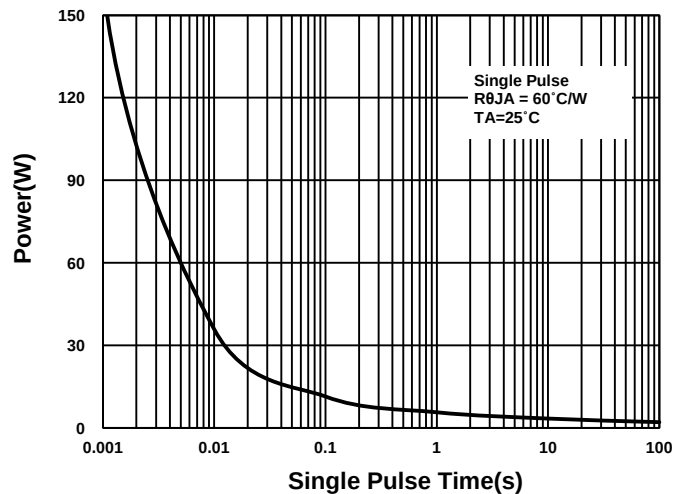
Source-Drain Diode Forward Voltage



Safe Operating Area



Single Pulse Maximum Power Dissipation



Transient Thermal Response Curve

