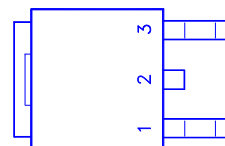
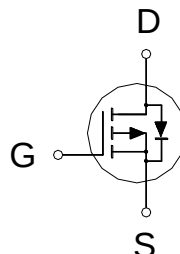



PRODUCT SUMMARY

$V_{(BR)DSS}$	$R_{DS(ON)}$	I_D
-100V	59m Ω	-27A



1. GATE
2. DRAIN
3. SOURCE

Features

- Pb-Free, Halogen Free and RoHS compliant.
- Low $R_{DS(on)}$ to Minimize Conduction Losses.
- Ohmic Region Good $R_{DS(on)}$ Ratio.
- Optimized Gate Charge to Minimize Switching Losses.

Applications

- Protection Circuits Applications.
- Logic/Load Switch Circuits Applications.

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

PARAMETERS/TEST CONDITIONS		SYMBOL	LIMITS	UNITS
Drain-Source Voltage		V_{DS}	-100	V
Gate-Source Voltage		V_{GS}	± 25	V
Continuous Drain Current	$T_C = 25\text{ }^{\circ}\text{C}$	I_D	-27	A
	$T_C = 100\text{ }^{\circ}\text{C}$		-17	
Pulsed Drain Current ¹		I_{DM}	-103	
Avalanche Current		I_{AS}	-18	
Avalanche Energy	$L = 1\text{mH}$	E_{AS}	162	mJ
Power Dissipation	$T_C = 25\text{ }^{\circ}\text{C}$	P_D	89	W
	$T_C = 100\text{ }^{\circ}\text{C}$		36	
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	$R_{\theta JC}$		1.4	$^{\circ}\text{C} / \text{W}$
Junction-to-Ambient	$R_{\theta JA}$		62.5	

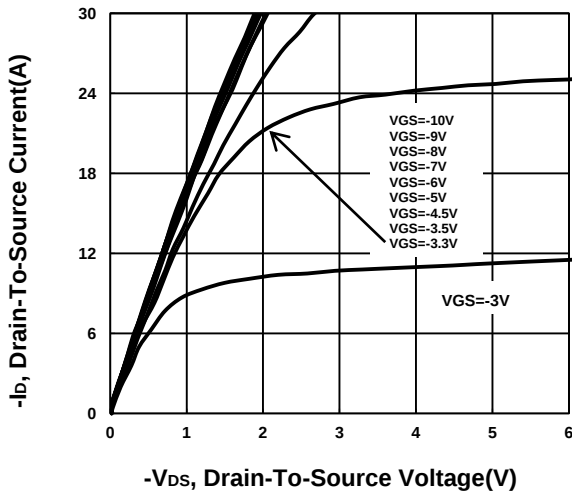
¹Pulse width limited by maximum junction temperature.

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

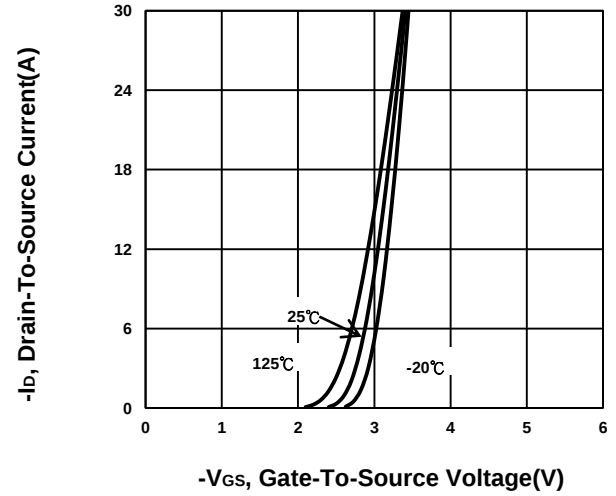
PARAMETER	SYMBOL	TEST CONDITIONS	LIMITS			UNIT
			MIN	TYP	MAX	
STATIC						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = -250\mu A$	-100			V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = -250\mu A$	-1	-2	-3	
Gate-Body Leakage	I_{GSS}	$V_{DS} = 0V, V_{GS} = \pm 25V$			± 100	nA
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = -100V, V_{GS} = 0V$			-1	μA
		$V_{DS} = -100V, V_{GS} = 0V, T_J = 55\text{ }^{\circ}C$			-10	
Drain-Source On-State Resistance ¹	$R_{DS(ON)}$	$V_{GS} = -4.5V, I_D = -10A$		54	69	$m\Omega$
		$V_{GS} = -10V, I_D = -15A$		50	59	
Forward Transconductance ¹	g_{fs}	$V_{DS} = -5V, I_D = -15A$		47		S
DYNAMIC						
Input Capacitance	C_{iss}	$V_{GS} = 0V, V_{DS} = -50V, f = 1MHz$		3876		pF
Output Capacitance	C_{oss}			157		
Reverse Transfer Capacitance	C_{rss}			109		
Gate Resistance	R_g	$V_{GS} = 0V, V_{DS} = 0V, f = 1MHz$		3		Ω
Total Gate Charge ²	$Q_g (V_{GS} = -10V)$	$V_{DS} = -50V, V_{GS} = -10V, I_D = -15A$		75		nC
	$Q_g (V_{GS} = -4.5V)$			37		
Gate-Source Charge ²	Q_{gs}			12		
Gate-Drain Charge ²	Q_{gd}			16		
Turn-On Delay Time ²	$t_{d(on)}$	$V_{DS} = -50V, I_D \cong -15A, V_{GS} = -10V, R_{GEN} = 6\Omega$		17		nS
Rise Time ²	t_r			46		
Turn-Off Delay Time ²	$t_{d(off)}$			112		
Fall Time ²	t_f			90		
SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS ($T_J = 25\text{ }^{\circ}C$)						
Continuous Current	I_S				-27	A
Forward Voltage ¹	V_{SD}	$I_F = -15A, V_{GS} = 0V$			-1.2	V
Reverse Recovery Time	t_{rr}	$I_F = -15A, dI_F/dt = 100A / \mu S$		45		nS
Reverse Recovery Charge	Q_{rr}			71		nC

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

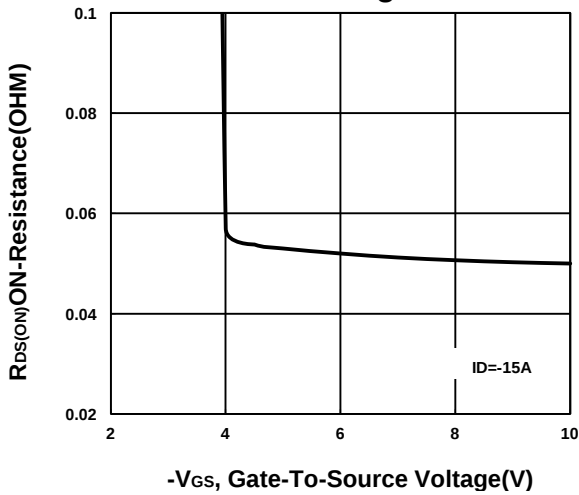
Output Characteristics



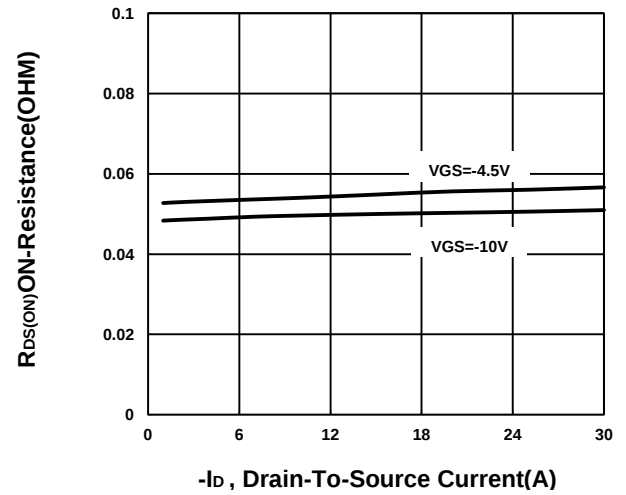
Transfer Characteristics



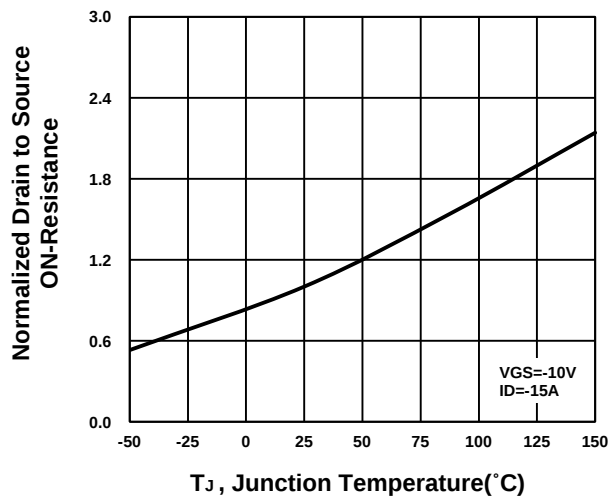
On-Resistance VS Gate-To-Source Voltage



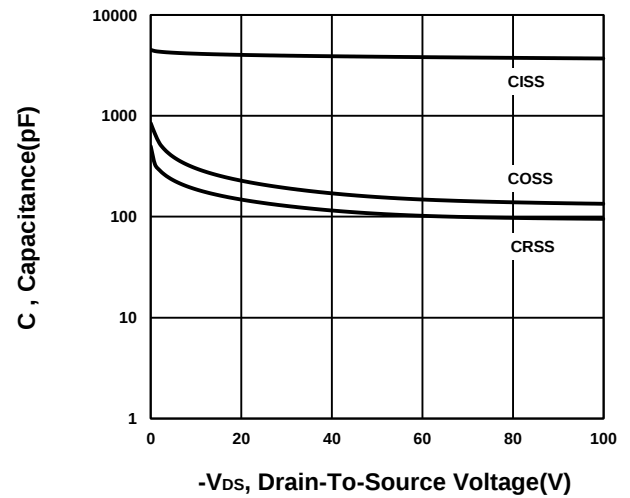
On-Resistance VS Drain Current



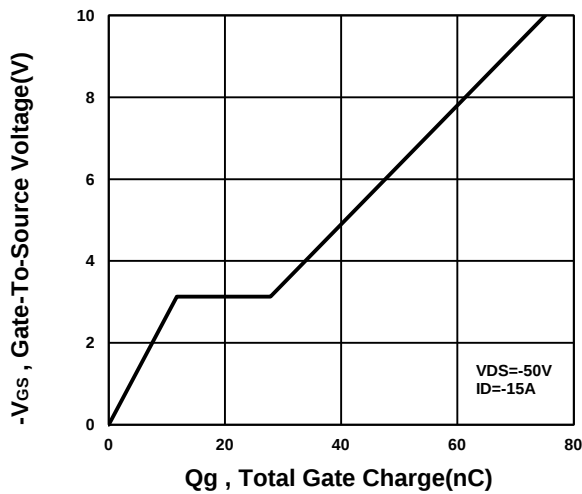
On-Resistance VS Temperature



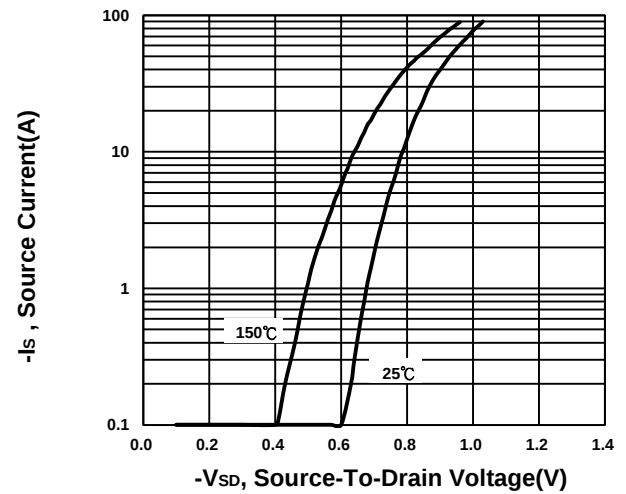
Capacitance Characteristic



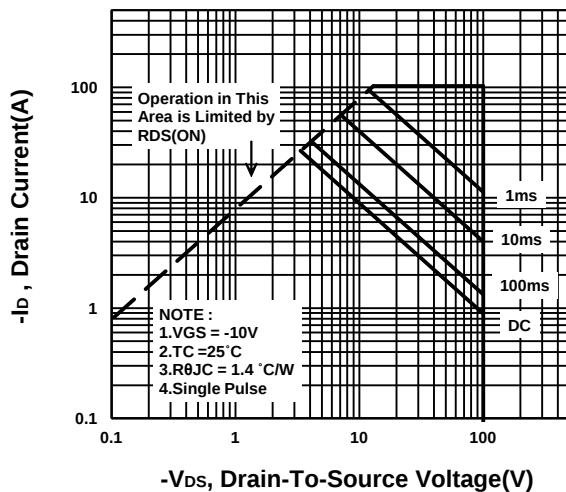
Gate charge Characteristics



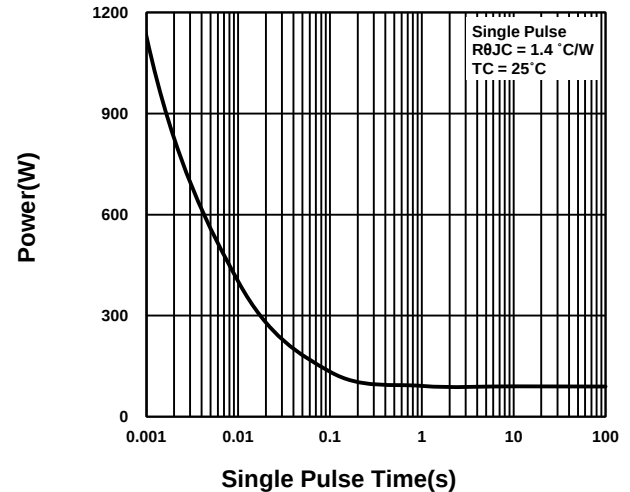
Source-Drain Diode Forward Voltage



Safe Operating Area



Single Pulse Maximum Power Dissipation



Transient Thermal Response Curve

