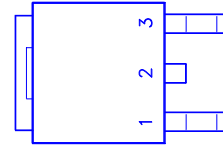
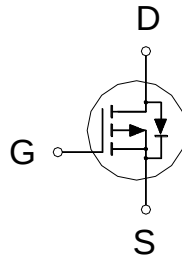


PRODUCT SUMMARY

$V_{(BR)DSS}$	$R_{DS(ON)}$	I_D
-100V	75m Ω	-20A



1. GATE
2. DRAIN
3. SOURCE

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	-20	A
	$T_C = 100\text{ }^{\circ}\text{C}$		-12	
Pulsed Drain Current ¹		I_{DM}	-74	
Avalanche Current		I_{AS}	-15	
Avalanche Energy	$L = 1\text{mH}$	E_{AS}	112	mJ
Power Dissipation	$T_C = 25\text{ }^{\circ}\text{C}$	P_D	63	W
	$T_C = 100\text{ }^{\circ}\text{C}$		25	
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-Ambient ²	Steady-State	$R_{\theta JA}$		62.5	
Junction-to-Case	Steady-State	$R_{\theta JC}$		2	

¹Pulse width limited by maximum junction temperature.

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

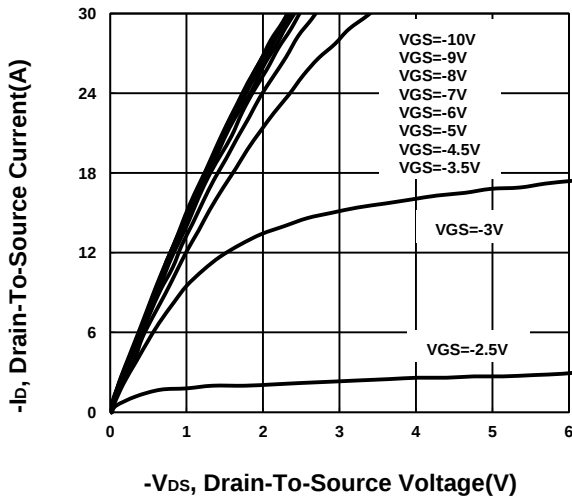
PARAMETER	SYMBOL	TEST CONDITIONS	LIMITS			UNIT
			MIN	TYP	MAX	
STATIC						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = -250\mu A$	-100			V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = -250\mu A$	-1.3	-1.8	-2.3	
Gate-Body Leakage	I_{GSS}	$V_{DS} = 0V, V_{GS} = \pm 25V$			± 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 °C			-10	
Drain-Source On-State Resistance ¹	R _{DS(ON)}	V _{GS} = -4.5V, I _D = -10A		64	85	mΩ
		V _{GS} = -10V, I _D = -10A		58	75	
Forward Transconductance ¹	g _{fs}	V _{DS} = -5V, I _D = -10A		35		S
DYNAMIC						
Input Capacitance	C _{iSS}	V _{GS} = 0V, V _{DS} = -50V, f = 1MHz		2326		pF
Output Capacitance	C _{oSS}			118		
Reverse Transfer Capacitance	C _{rSS}			83		
Gate Resistance	R _g	V _{GS} =0V, V _{DS} = 0V, f = 1MHz		8		Ω
Total Gate Charge ²	Q _g (V _{GS} =-10V)	V _{DS} = -50V , V _{GS} = -10V, I _D = -10A		48		nC
	Q _g (V _{GS} =-4.5V)			25		
Gate-Source Charge ²	Q _{gs}			6.4		
Gate-Drain Charge ²	Q _{gd}			12		
Turn-On Delay Time ²	t _{d(on)}	V _{DS} = -50V , I _D ≅ -10A, V _{GS} = -10V, R _{GEN} =6 Ω		9.4		nS
Rise Time ²	t _r			31		
Turn-Off Delay Time ²	t _{d(off)}			117		
Fall Time ²	t _f			76		
SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS (T _J = 25 °C)						
Continuous Current	I _S				-20	A
Forward Voltage ¹	V _{SD}	I _F = -10A, V _{GS} = 0V			-1.2	V
Reverse Recovery Time	t _{rr}	I _F = -10A, dI _F /dt = 100A / μS		45		nS
Reverse Recovery Charge	Q _{rr}			45		nC

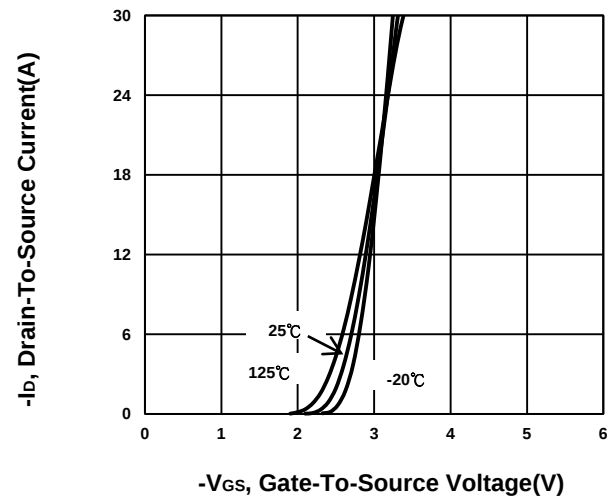
¹Pulse test : Pulse Width $\leq 300 \mu sec$, Duty Cycle $\leq 2\%$.

²Independent of operating temperature.

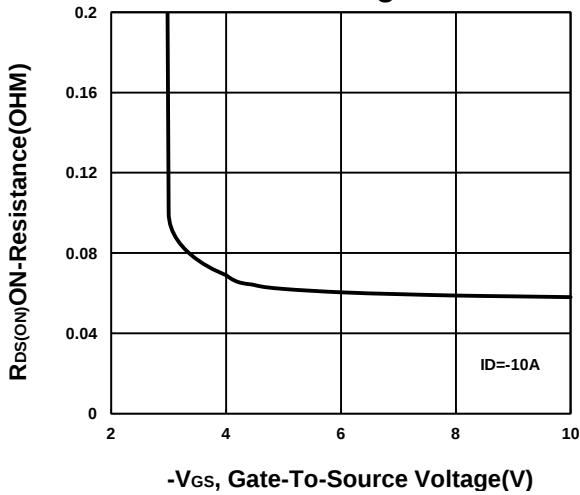
Output Characteristics



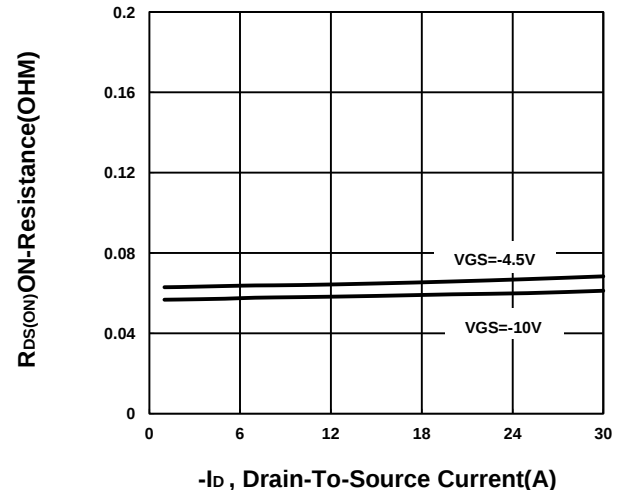
Transfer Characteristics



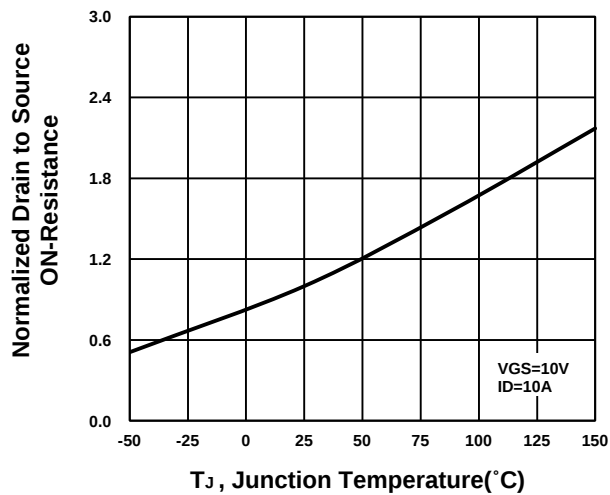
On-Resistance VS Gate-To-Source Voltage



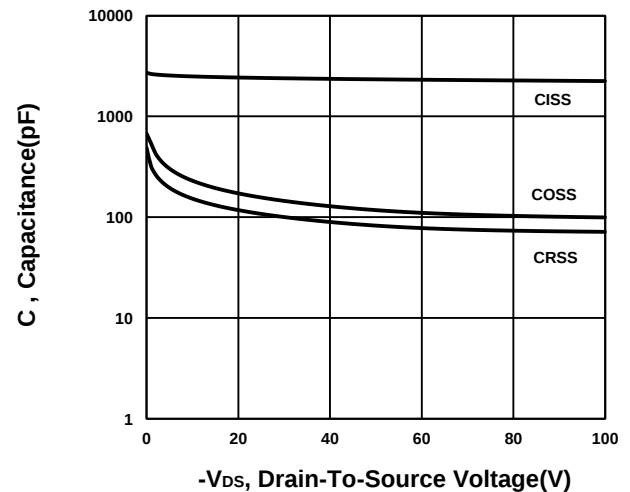
On-Resistance VS Drain Current



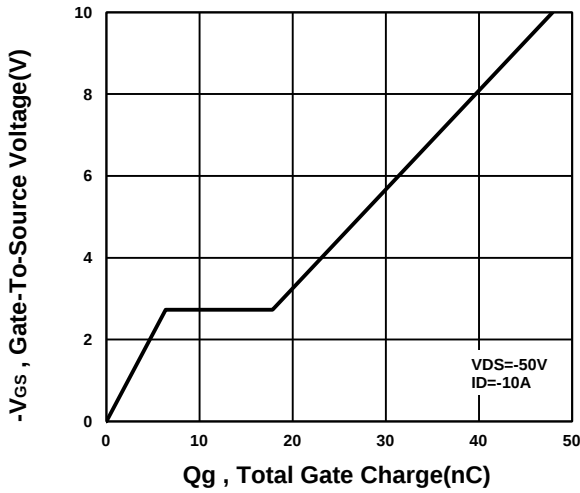
On-Resistance VS Temperature



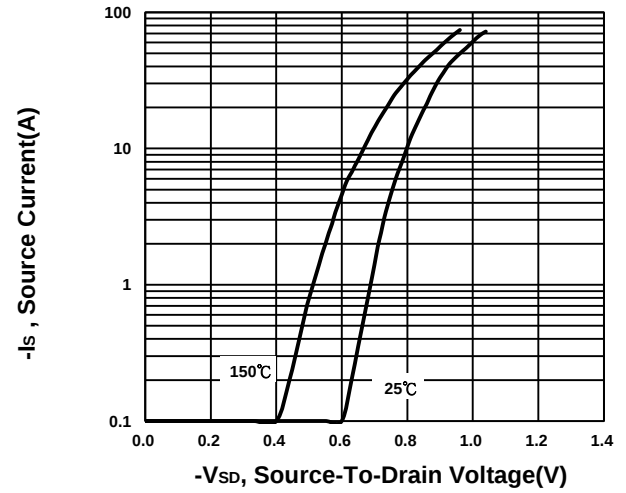
Capacitance Characteristic



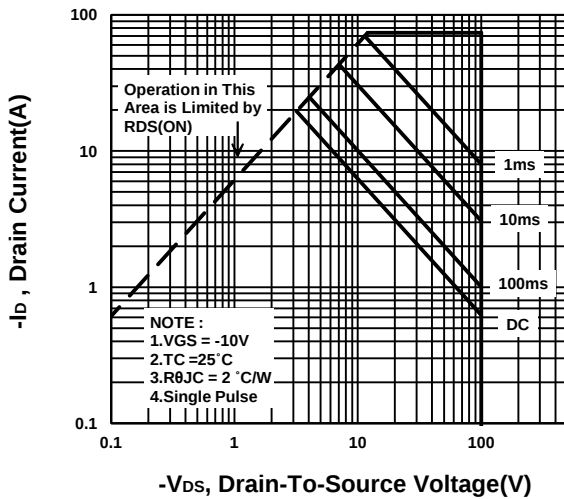
Gate charge Characteristics



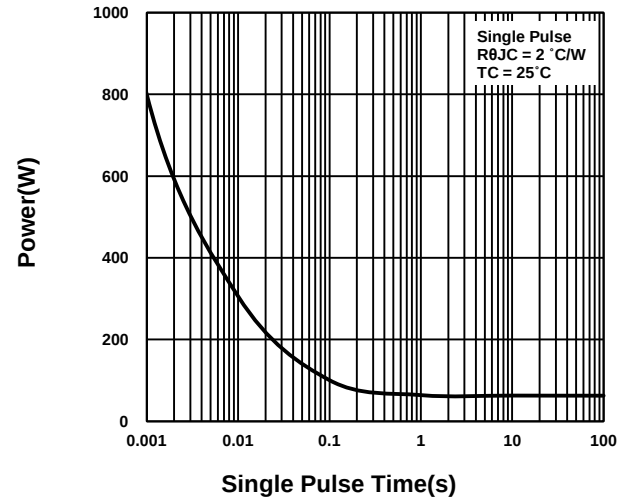
Source-Drain Diode Forward Voltage



Safe Operating Area



Single Pulse Maximum Power Dissipation



Transient Thermal Response Curve

