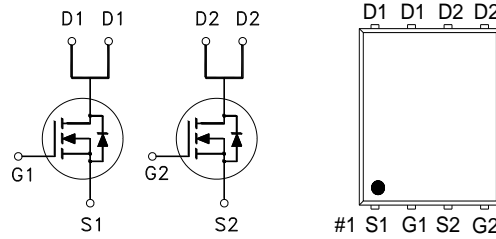


PRODUCT SUMMARY

$V_{(BR)DSS}$	$R_{DS(ON)}$	I_D
100V	85mΩ	11A



G. GATE
D. DRAIN
S. SOURCE

ABSOLUTE MAXIMUM RATINGS ($T_A = 25\text{ °C}$ 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	I_D	$T_C = 25\text{ °C}$	11	
		$T_C = 100\text{ °C}$	7.2	
Pulsed Drain Current ¹	I_{DM}	40	A	
Continuous Drain Current	I_D	$T_A = 25\text{ °C}$		2.9
		$T_A = 70\text{ °C}$		2.3
Avalanche Current	I_{AS}	8.8		
Avalanche Energy	$L = 1\text{mH}$	E_{AS}	38.7	mJ
Power Dissipation	P_D	$T_C = 25\text{ °C}$	26	W
		$T_C = 100\text{ °C}$	10	
Power Dissipation	P_D	$T_A = 25\text{ °C}$	1.7	W
		$T_A = 70\text{ °C}$	1	
Operating 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	$R_{\theta JA}$		73	°C / W
Junction-to-Case	$R_{\theta JC}$		4.8	

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 $T_A = 25\text{ °C}$.

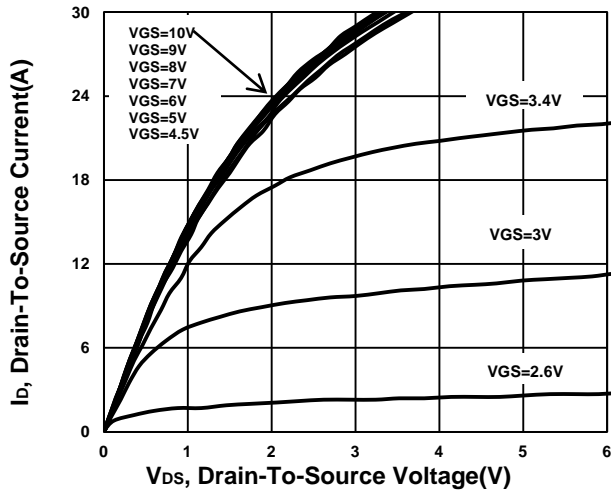
ELECTRICAL CHARACTERISTICS (T_J = 25 °C, Unless Otherwise Noted)

PARAMETER	SYMBOL	TEST CONDITIONS	LIMITS			UNIT	
			MIN	TYP	MAX		
STATIC							
Drain-Source Breakdown Voltage	V _{(BR)DSS}	V _{GS} = 0V, I _D = 250μA	100			V	
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = 250μA	1.3	1.75	2.3		
Gate-Body Leakage	I _{GSS}	V _{DS} = 0V, V _{GS} = ±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 = 55 °C			10		
Drain-Source On-State Resistance ¹	R _{DS(ON)}	V _{GS} = 4.5V, I _D = 10A		69	95	mΩ	
		V _{GS} = 10V, I _D = 11A		63	85		
Forward Transconductance ¹	g _{fs}	V _{DS} = 5V, I _D = 11A		30		S	
DYNAMIC							
Input Capacitance	C _{iss}	V _{GS} = 0V, V _{DS} = 25V, f = 1MHz	438	548	657	pF	
Output Capacitance	C _{oss}		64	80	96		
Reverse Transfer Capacitance	C _{riss}		16	28	39		
Gate Resistance	R _g	V _{GS} = 0V, V _{DS} = 0V, f = 1MHz	0.8	1.5	2.3	Ω	
Total Gate Charge ²	Q _g	V _{GS} = 10V	9.4	11.7	14	nC	
		V _{GS} = 4.5V	5.4	6.8	8.2		
Gate-Source Charge ²	Q _{gs}	V _{DS} = 50V, V _{GS} = 10V, I _D = 11A	1.3	1.6	1.9		
Gate-Drain Charge ²	Q _{gd}		2.4	4	5.6		
Turn-On Delay Time ²	t _{d(on)}		V _{DS} = 50V, I _D ≅ 11A, V _{GS} = 10V, R _{GEN} = 6Ω		10.8		
Rise Time ²	t _r				46		
Turn-Off Delay Time ²	t _{d(off)}			22			
Fall Time ²	t _f			108			
SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS (T_J = 25 °C)							
Continuous Current ³	I _S				11	A	
Forward Voltage ¹	V _{SD}	I _F = 11A, V _{GS} = 0V			1.1	V	
Reverse Recovery Time	t _{rr}	I _F = 11A, dI _F /dt = 100A / μS	14	28	4.2	nS	
Reverse Recovery Charge	Q _{rr}		18	36	54	nC	

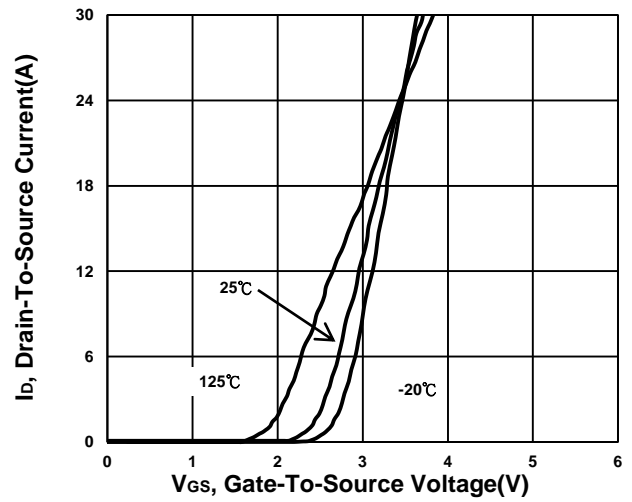
¹Pulse test : Pulse Width ≤ 300 μsec, Duty Cycle ≤ 2%.

²Independent of operating temperature.

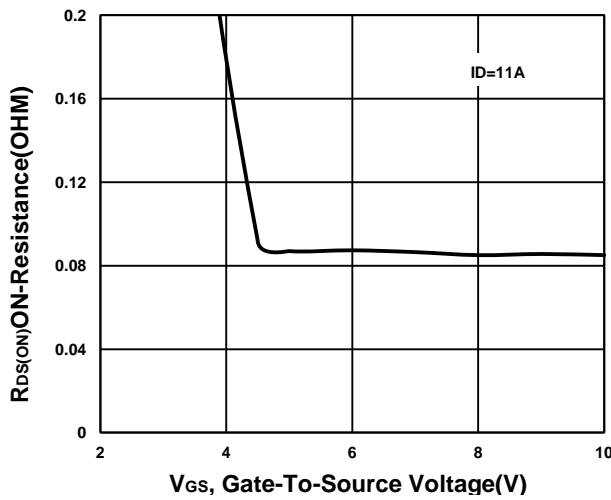
Output Characteristics



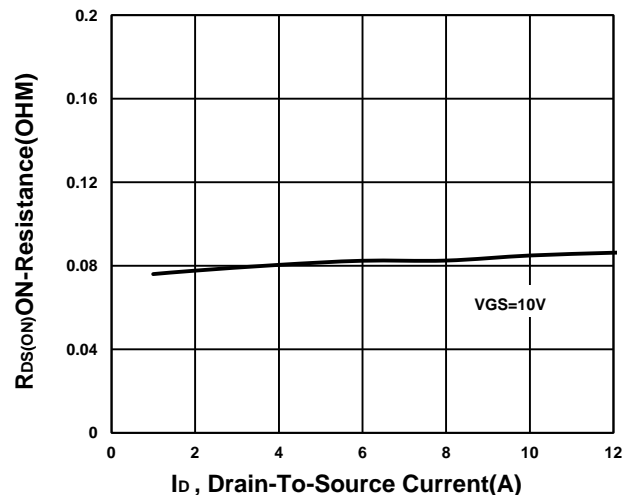
Transfer Characteristics



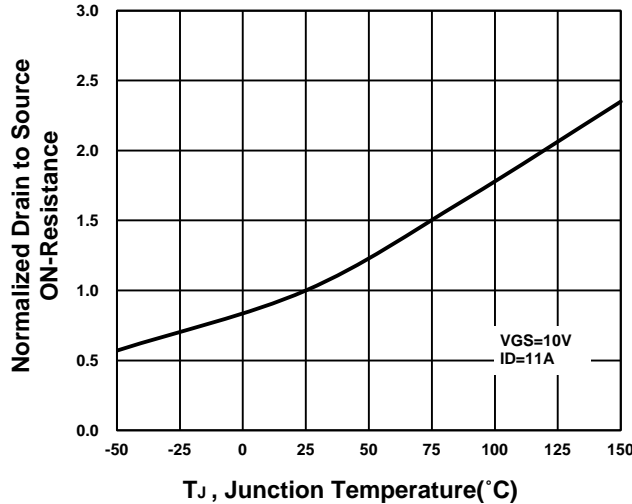
On-Resistance VS Gate-To-Source Voltage



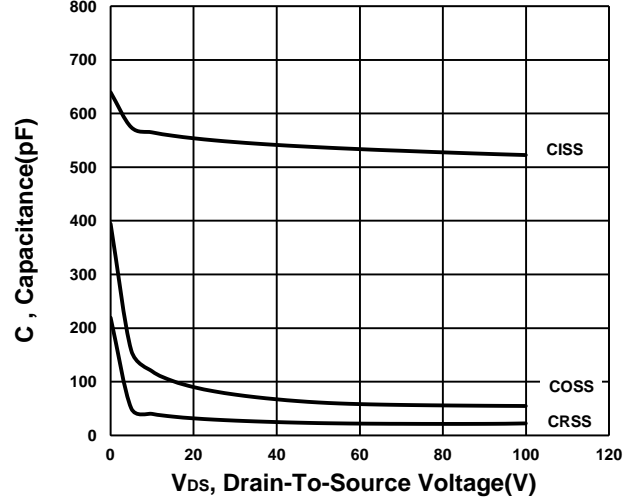
On-Resistance VS Drain Current



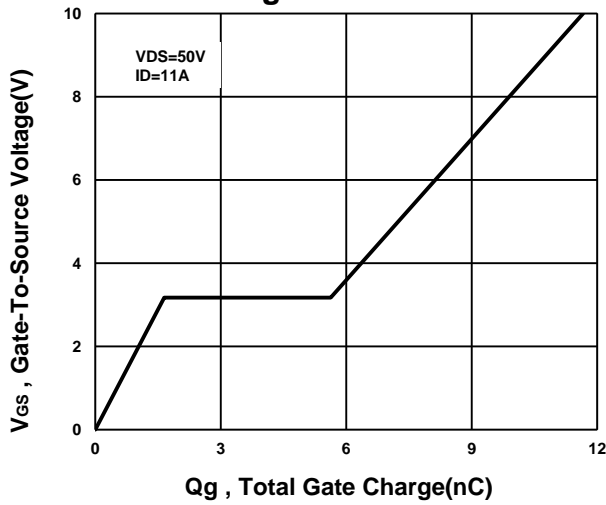
On-Resistance VS Temperature



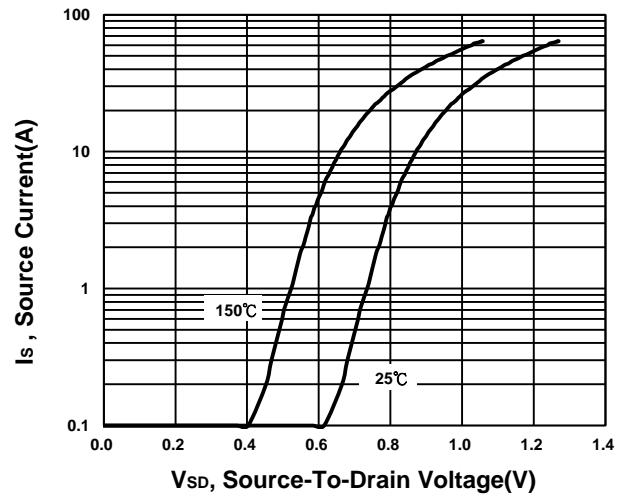
Capacitance Characteristic



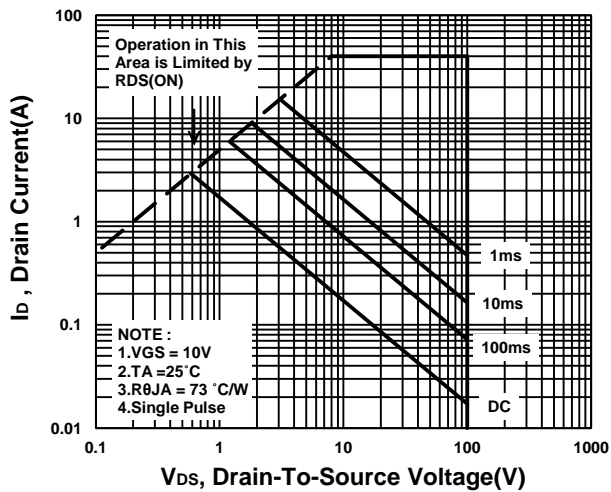
Gate charge Characteristics



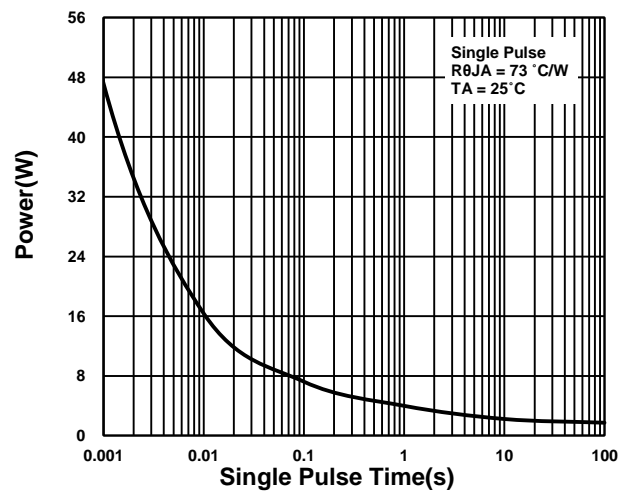
Source-Drain Diode Forward Voltage



Safe Operating Area



Single Pulse Maximum Power Dissipation



Transient Thermal Response Curve

