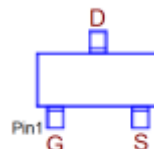
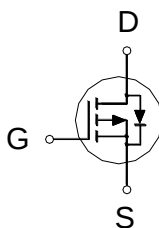



PRODUCT SUMMARY

$V_{(BR)DSS}$	$R_{DS(ON)}$	I_D
-20V	40m Ω	-4A



G. GATE
D. DRAIN
S. SOURCE

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

PARAMETERS/TEST CONDITIONS		SYMBOL	LIMITS	UNITS
Gate-Source Voltage		V_{GS}	± 8	V
Continuous Drain Current	$T_A = 25\text{ }^{\circ}\text{C}$	I_D	-4	A
	$T_A = 70\text{ }^{\circ}\text{C}$		-3	
Pulsed Drain Current ¹		I_{DM}	-21	
Power Dissipation	$T_A = 25\text{ }^{\circ}\text{C}$	P_D	0.9	W
	$T_A = 70\text{ }^{\circ}\text{C}$		0.6	
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	$R_{\theta JA}$		126	$^{\circ}\text{C/W}$

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.

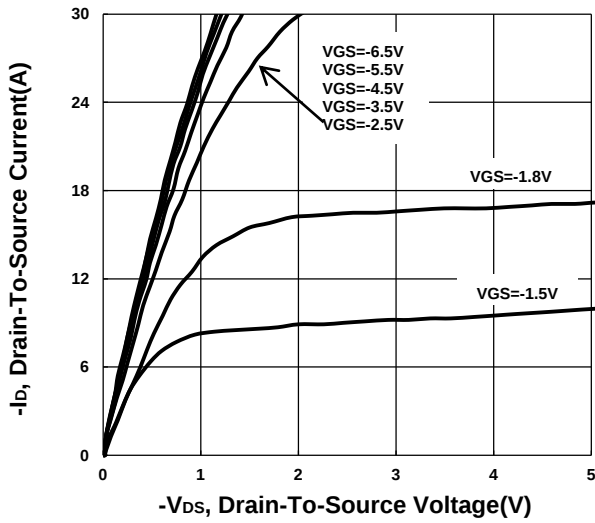
ELECTRICAL CHARACTERISTICS ($T_j = 25\text{ }^{\circ}\text{C}$, Unless Otherwise Noted)

PARAMETER	SYMBOL	TEST CONDITIONS	LIMITS			UNIT
			MIN	TYP	MAX	
STATIC						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = -250\mu A$	-20			V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = -250\mu A$	-0.3	-0.6	-1	
Gate-Body Leakage	I_{GSS}	$V_{DS} = 0V, V_{GS} = \pm 8V$			± 100	nA
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = -16V, V_{GS} = 0V$			-1	μA
		$V_{DS} = -10V, V_{GS} = 0V, T_J = 55\text{ }^{\circ}C$			-10	
Drain-Source On-State Resistance ¹	$R_{DS(ON)}$	$V_{GS} = -1.5V, I_D = -1A$		67	100	m Ω
		$V_{GS} = -1.8V, I_D = -2A$		50	71	
		$V_{GS} = -2.5V, I_D = -3.5A$		40	55	
		$V_{GS} = -4.5V, I_D = -3.5A$		33	40	

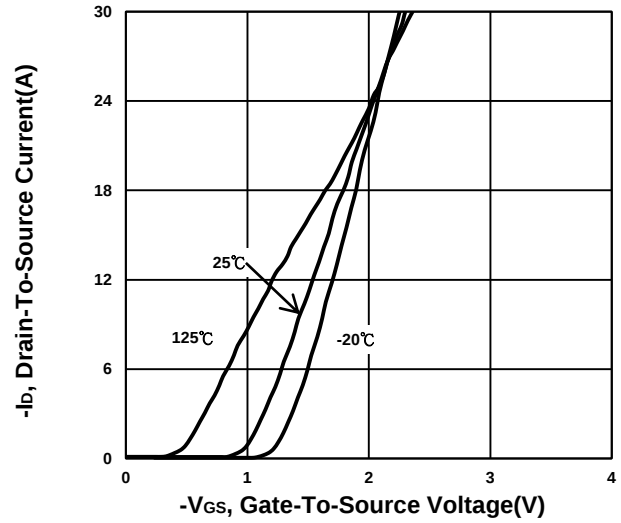
Forward Transconductance ¹	g_{fs}	$V_{DS} = -5V, I_D = -3.5A$		17		S
DYNAMIC						
Input Capacitance	C_{iss}	$V_{GS} = 0V, V_{DS} = -10V, f = 1MHz$		1157		pF
Output Capacitance	C_{oss}			106		
Reverse Transfer Capacitance	C_{rss}			76		
Total Gate Charge ²	Q_g	$V_{DS} = -10V, V_{GS} = -4.5V,$ $I_D = -3.5A$		11.9		nC
Gate-Source Charge ²	Q_{gs}			1.6		
Gate-Drain Charge ²	Q_{gd}			2.5		
Turn-On Delay Time ²	$t_{d(on)}$	$V_{DD} = -10V, V_{GS} = -4.5V$ $I_D \cong -3.5A, R_G = 6\Omega$		22		nS
Rise Time ²	t_r			20		
Turn-Off Delay Time ²	$t_{d(off)}$			59		
Fall Time ²	t_f			13		
SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS (T _j = 25 °C)						
Continuous Current	I_S				-0.6	A
Forward Voltage ¹	V_{SD}	$I_F = -3.5A, V_{GS} = 0V$			-1.3	V
Reverse Recovery Time	t_{rr}	$I_F = -3.5A, dl_F/dt = 100A / \mu S$		11.4		nS
Reverse Recovery Charge	Q_{rr}			2.9		nC

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

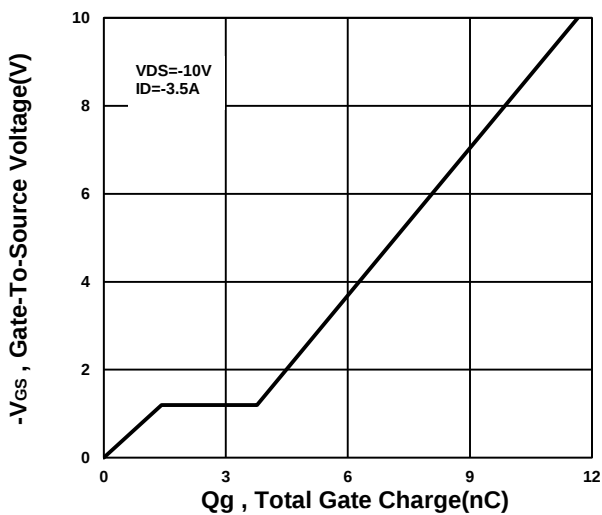
Output Characteristics



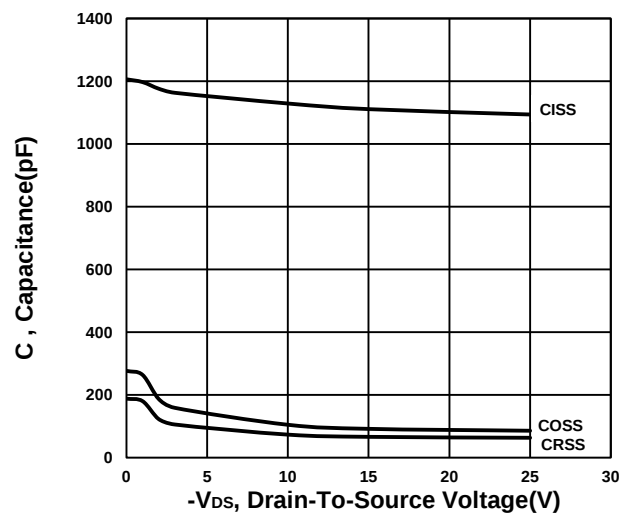
Transfer Characteristics



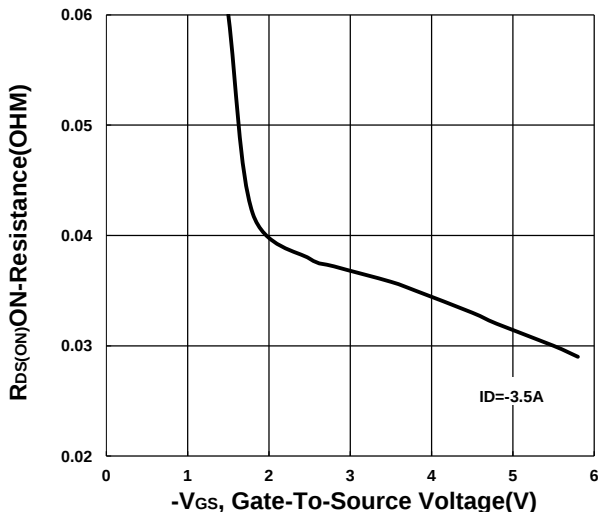
Gate charge Characteristics



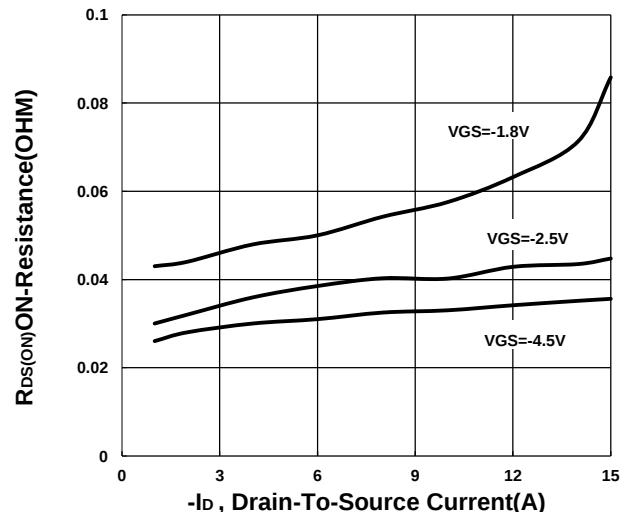
Capacitance Characteristic



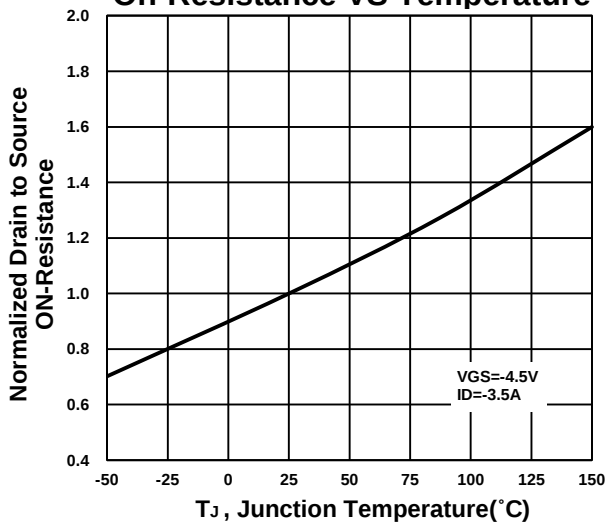
On-Resistance VS Gate-To-Source



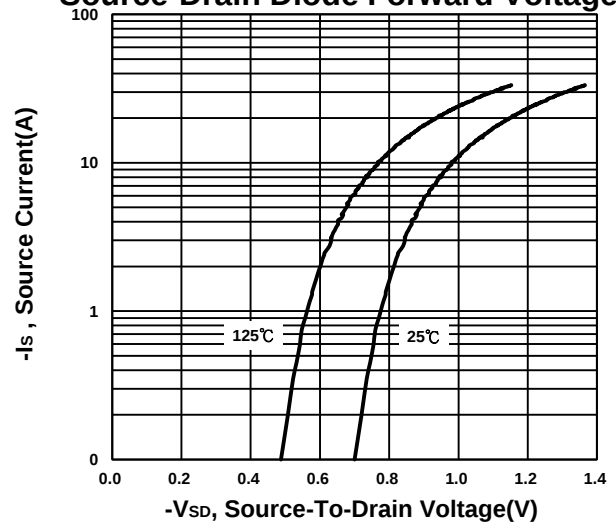
On-Resistance VS Drain Current



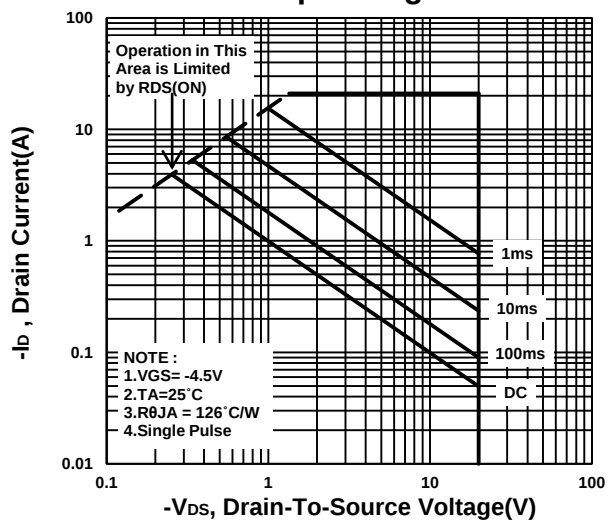
On-Resistance VS Temperature



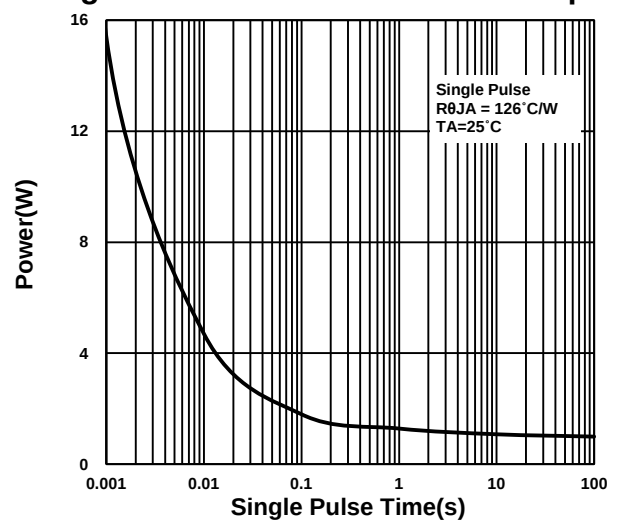
Source-Drain Diode Forward Voltage



Safe Operating Area



Single Pulse Maximum Power Dissipation



Transient Thermal Response Curve

