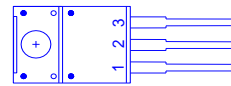
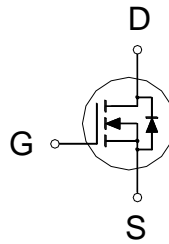




PRODUCT SUMMARY

$V_{(BR)DSS}$	$R_{DS(ON)}$	I_D
650V	0.77 Ω	10A



1. GATE
2. DRAIN
3. SOURCE

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

PARAMETERS/TEST CONDITIONS		SYMBOL	LIMITS	UNITS
Drain-Source Voltage		V_{DS}	650	V
Gate-Source Voltage		V_{GS}	± 30	V
Continuous Drain Current ²	$T_C = 25^\circ\text{C}$	I_D	10	A
	$T_C = 100^\circ\text{C}$		6	
Pulsed Drain Current ¹		I_{DM}	35	
Avalanche Current ³		I_{AS}	5	
Avalanche Energy ³		E_{AS}	125	mJ
Power Dissipation	$T_C = 25^\circ\text{C}$	P_D	48	W
	$T_C = 100^\circ\text{C}$		19	
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-Case	$R_{\theta JC}$		2.6	$^\circ\text{C} / \text{W}$
Junction-to-Ambient	$R_{\theta JA}$		62.5	$^\circ\text{C} / \text{W}$

¹Pulse width limited by maximum junction temperature.

²Ensure that the channel temperature does not exceed 150°C .

³ $V_{DD} = 50\text{V}$, $L = 10\text{mH}$, starting $T_j = 25^\circ\text{C}$.

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

PARAMETER	SYMBOL	TEST CONDITIONS	LIMITS			UNIT
			MIN	TYP	MAX	
STATIC						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS} = 0\text{V}, I_D = 250\mu\text{A}$	650			V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu\text{A}$	2	2.8	4	
Gate-Body Leakage	I_{GSS}	$V_{DS} = 0\text{V}, V_{GS} = \pm 30\text{V}$			± 100	nA

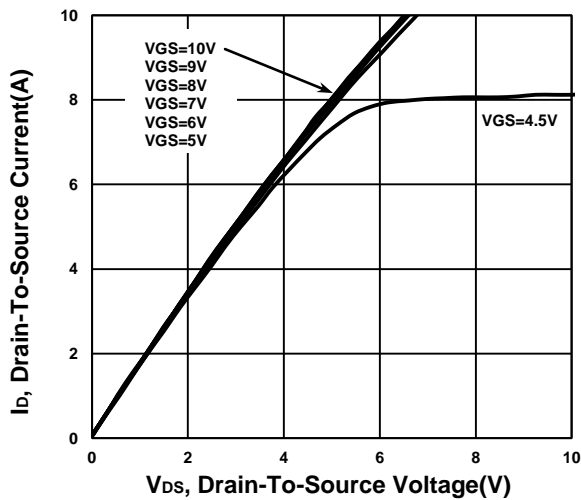
Gate Voltage Drain Current	I_{DSS}	$V_{DS} = 650V, V_{GS} = 0V, T_C = 25\text{ }^\circ\text{C}$			1	μA
		$V_{DS} = 520V, V_{GS} = 0V, T_C = 100\text{ }^\circ\text{C}$			10	
Drain-Source On-State Resistance ¹	$R_{DS(ON)}$	$V_{GS} = 10V, I_D = 5A$		0.55	0.77	Ω
Forward Transconductance ¹	g_{fs}	$V_{DS} = 10V, I_D = 5A$		18		S
DYNAMIC						
Input Capacitance	C_{iss}	$V_{GS} = 0V, V_{DS} = 25V, f = 1\text{MHz}$		2017		pF
Output Capacitance	C_{oss}			167		
Reverse Transfer Capacitance	C_{rss}			9		
Total Gate Charge ²	Q_g	$V_{DD} = 520V, I_D = 10A, V_{GS} = 10V$		44		nC
Gate-Source Charge ²	Q_{gs}			13		
Gate-Drain Charge ²	Q_{gd}			8.5		
Turn-On Delay Time ²	$t_{d(on)}$	$V_{DD} = 325V, I_D = 10A, R_G = 25\Omega$		33		nS
Rise Time ²	t_r			38		
Turn-Off Delay Time ²	$t_{d(off)}$			136		
Fall Time ²	t_f			71		
SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS ($T_J = 25\text{ }^\circ\text{C}$)						
Continuous Current ³	I_S				10	A
Forward Voltage ¹	V_{SD}	$I_F = 10A, V_{GS} = 0V$			1	V
Reverse Recovery Time	t_{rr}	$I_F = 10A, di_F/dt = 100A / \mu\text{S}$		451		nS
Reverse Recovery Charge	Q_{rr}			5.8		μC

¹Pulse test : Pulse Width $\leq 380\text{ }\mu\text{sec}$, Duty Cycle $\leq 2\%$.

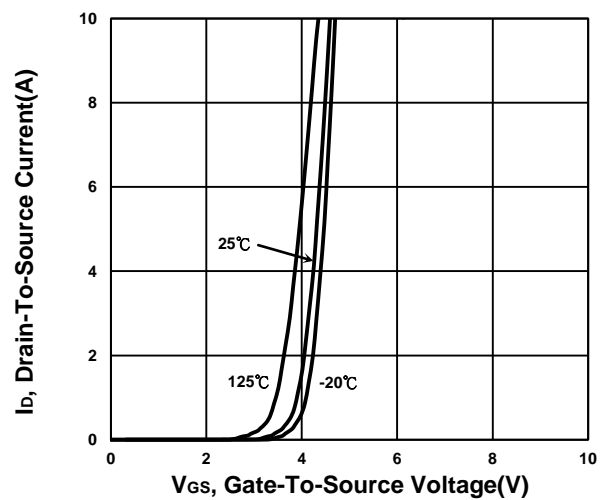
²Independent of operating temperature.

³Pulse width limited by maximum junction temperature.

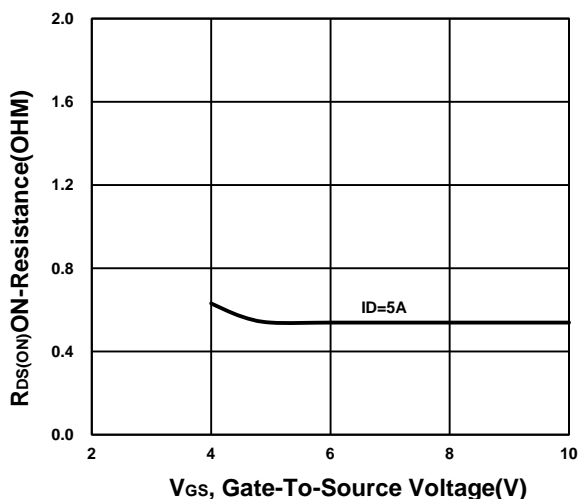
Output Characteristics



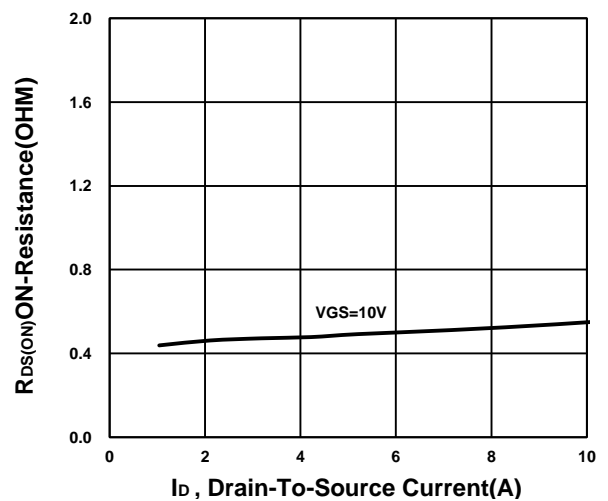
Transfer Characteristics



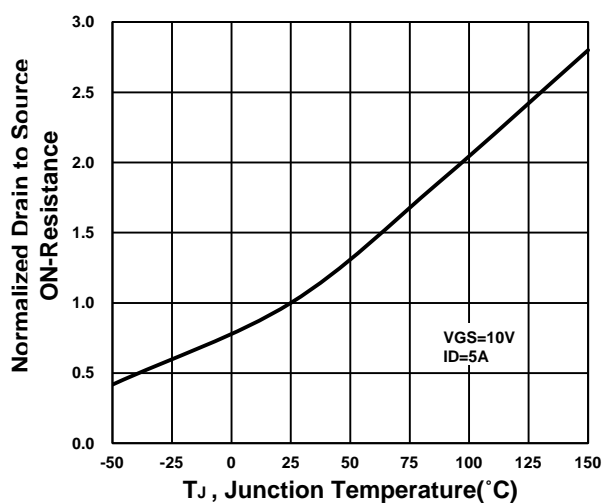
On-Resistance VS Gate-To-Source



On-Resistance VS Drain Current



On-Resistance VS Temperature



Capacitance Characteristic

