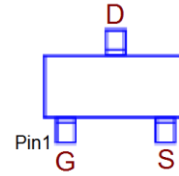
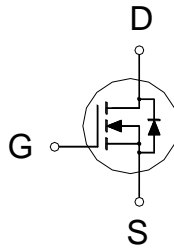




PRODUCT SUMMARY

$V_{(BR)DSS}$	$R_{DS(ON)}$	I_D
20V	40m Ω	3.3A



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	3.3	A
	$T_A = 70\text{ }^\circ\text{C}$		2.7	
Pulsed Drain Current ¹		I_{DM}	12	
Power Dissipation	$T_A = 25\text{ }^\circ\text{C}$	P_D	0.7	W
	$T_A = 70\text{ }^\circ\text{C}$		0.4	
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	$R_{\theta JA}$		170	$^\circ\text{C/W}$

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, in a still air environment with $T_A = 25\text{ }^\circ\text{C}$.

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

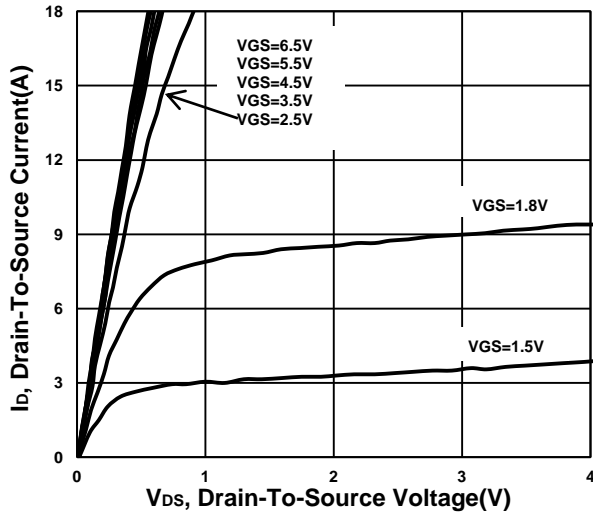
PARAMETER	SYMBOL	TEST CONDITIONS	LIMITS			UNIT
			MIN	TYP	MAX	
STATIC						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = 250\mu A$	20			V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu A$	0.5	0.7	1	
Gate-Body Leakage	I_{GSS}	$V_{DS} = 0V, V_{GS} = \pm 8V$			± 100	nA
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = 16V, V_{GS} = 0V$			1	μA
		$V_{DS} = 10V, V_{GS} = 0V, T_J = 55\text{ }^\circ\text{C}$			10	
Drain-Source On-State Resistance ¹	$R_{DS(ON)}$	$V_{GS} = 1.8V, I_D = 2.5A$		55	80	m Ω
		$V_{GS} = 2.5V, I_D = 2.8A$		36	50	
		$V_{GS} = 4.5V, I_D = 3A$		29	40	
Forward Transconductance ¹	g_{fs}	$V_{DS} = 5V, I_D = 3A$		16		S

DYNAMIC						
Input Capacitance	C_{iss}	$V_{GS} = 0V, V_{DS} = 10V, f = 1MHz$		331		pF
Output Capacitance	C_{oss}			56		
Reverse Transfer Capacitance	C_{rss}			44		
Total Gate Charge ²	Q_g	$V_{DS} = 10V, V_{GS} = 4.5V, I_D = 3A$		5		nC
Gate-Source Charge ²	Q_{gs}			0.6		
Gate-Drain Charge ²	Q_{gd}			1.7		
Turn-On Delay Time ²	$t_{d(on)}$	$V_{DD} = 10V, I_D \cong 3A, V_{GEN} = 4.5V, R_G = 6\Omega$		30		nS
Rise Time ²	t_r			30		
Turn-Off Delay Time ²	$t_{d(off)}$			90		
Fall Time ²	t_f			31		
SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS ($T_J = 25\text{ }^\circ\text{C}$)						
Continuous Current	I_S				0.7	A
Forward Voltage ¹	V_{SD}	$I_F = 3A, V_{GS} = 0V$			1	V
Reverse Recovery Time	t_{rr}	$I_F = 3A, di_F/dt = 100A / \mu S$		10		nS
Reverse Recovery Charge	Q_{rr}				2	

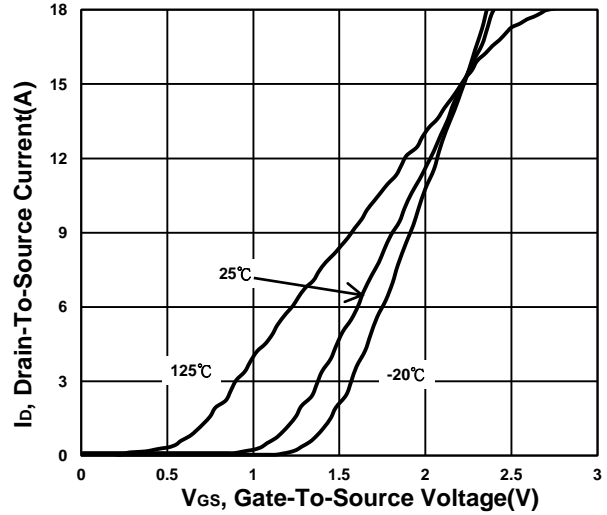
¹Pulse test : Pulse Width $\leq 300\ \mu\text{sec}$, Duty Cycle $\leq 2\%$.

²Independent of operating temperature.

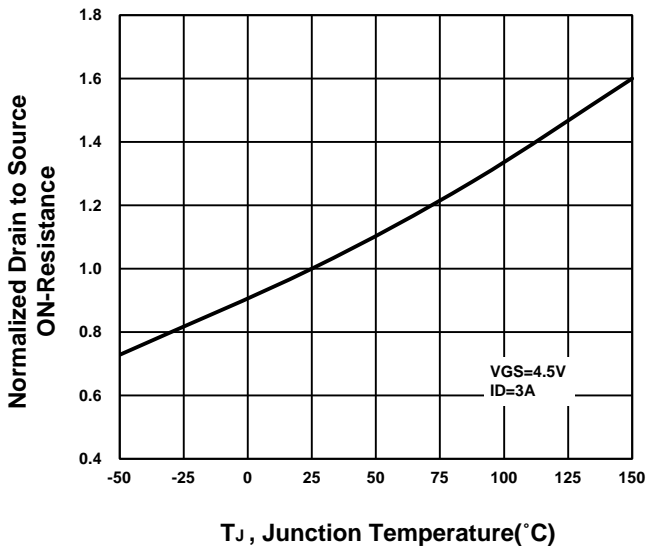
Output Characteristics



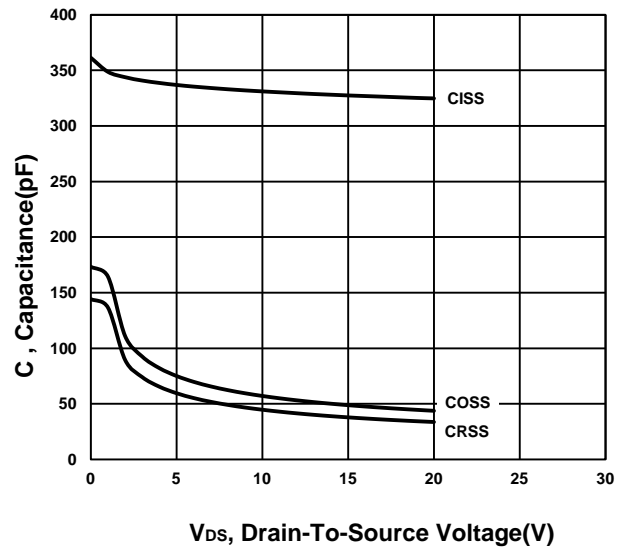
Transfer Characteristics



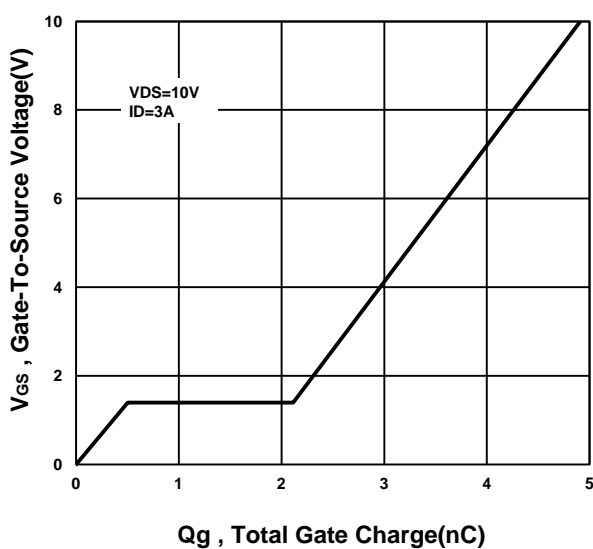
On-Resistance VS Temperature



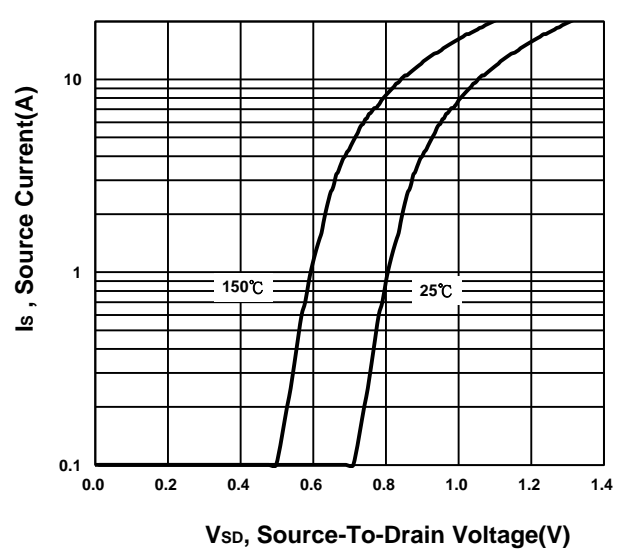
Capacitance Characteristic



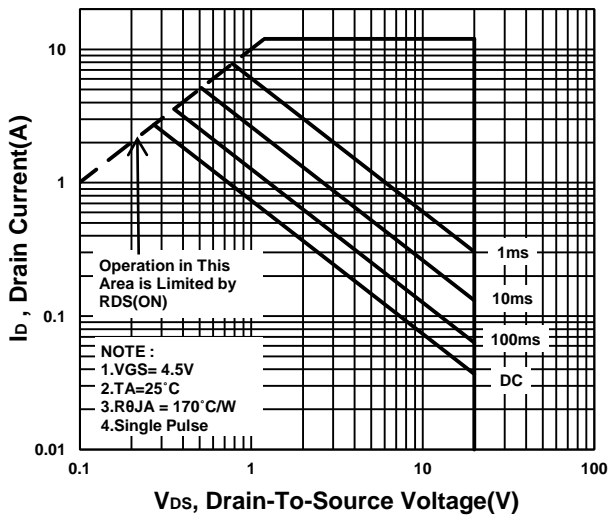
Gate charge Characteristics



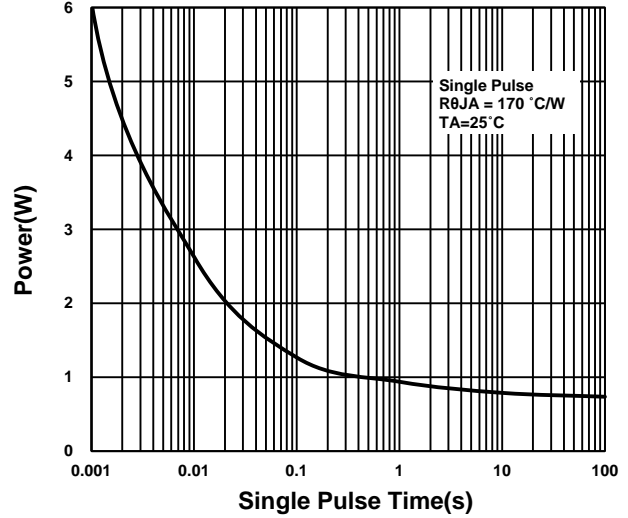
Source-Drain Diode Forward Voltage



Safe Operating Area



Single Pulse Maximum Power Dissipation



Transient Thermal Response Curve

