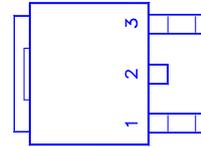
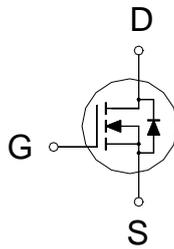




PRODUCT SUMMARY

$V_{(BR)DSS}$	$R_{DS(ON)}$	I_D
100V	37mΩ	25A



- 1. GATE
- 2. DRAIN
- 3. 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	$T_C = 25\text{ °C}$	I_D	25	A
	$T_C = 100\text{ °C}$		16	
Pulsed Drain Current ¹		I_{DM}	75	
Avalanche Current ²		I_{AS}	16	
Avalanche Energy ²		E_{AS}	128	mJ
Power Dissipation	$T_C = 25\text{ °C}$	P_D	50	W
	$T_C = 100\text{ °C}$		20	
Junction & Storage Temperature Range		T_J, T_{stg}	-55 to 150	°C

THERMAL RESISTANCE RATINGS

THERMAL RESISTANCE	SYMBOL	TYPICAL	MAXIMUM	UNITS
Junction-to-Case	$R_{\theta JC}$		2.5	°C / W

¹Pulse width limited by maximum junction temperature.

²Starting $T_j = 25\text{ °C}$, $L = 1\text{mH}$, $V_{DD} = 50\text{V}$

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

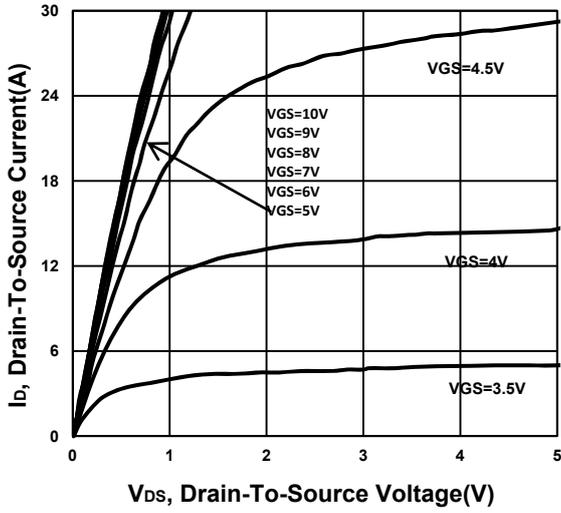
PARAMETER	SYMBOL	TEST CONDITIONS	LIMITS			UNIT
			MIN	TYP	MAX	
STATIC						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS} = 0\text{V}, I_D = 250\mu\text{A}$	100			V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu\text{A}$	1	2	3	
Gate-Body Leakage	I_{GSS}	$V_{DS} = 0\text{V}, V_{GS} = \pm 20\text{V}$			±100	nA
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = 80\text{V}, V_{GS} = 0\text{V}$			1	μA
		$V_{DS} = 80\text{V}, V_{GS} = 0\text{V}, T_J = 125\text{ °C}$			10	
Drain-Source On-State Resistance ¹	$R_{DS(ON)}$	$V_{GS} = 4.5\text{V}, I_D = 10\text{A}$		35	48	mΩ
	$R_{DS(ON)}$	$V_{GS} = 10\text{V}, I_D = 10\text{A}$		28	37	mΩ
Forward Transconductance ¹	g_{fs}	$V_{DS} = 10\text{V}, I_D = 10\text{A}$		23		S

DYNAMIC						
Input Capacitance	C_{iss}	$V_{GS} = 0V, V_{DS} = 25V, f = 1MHz$		996		pF
Output Capacitance	C_{oss}			127		
Reverse Transfer Capacitance	C_{rss}			53		
Total Gate Charge ²	Q_g	$V_{DS} = 50V, I_D = 10A$ $V_{GS} = 10V$		25		nC
Gate-Source Charge ²	Q_{gs}			3.9		
Gate-Drain Charge ²	Q_{gd}			8		
Turn-On Delay Time ²	$t_{d(on)}$	$V_{DD} = 50V$ $I_D \cong 10A, V_{GS} = 10V, R_{GS} = 6\Omega$		29		nS
Rise Time ²	t_r			2		
Turn-Off Delay Time ²	$t_{d(off)}$			39		
Fall Time ²	t_f			15		
SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS ($T_J = 25\text{ }^\circ\text{C}$)						
Continuous Current	I_S				25	A
Forward Voltage ¹	V_{SD}	$I_F = 10A, V_{GS} = 0V$			1.2	V
Reverse Recovery Time	t_{rr}	$I_F = 10A, di_F/dt = 100A / \mu S$		36		nS
Reverse Recovery Charge	Q_{rr}			52		nC

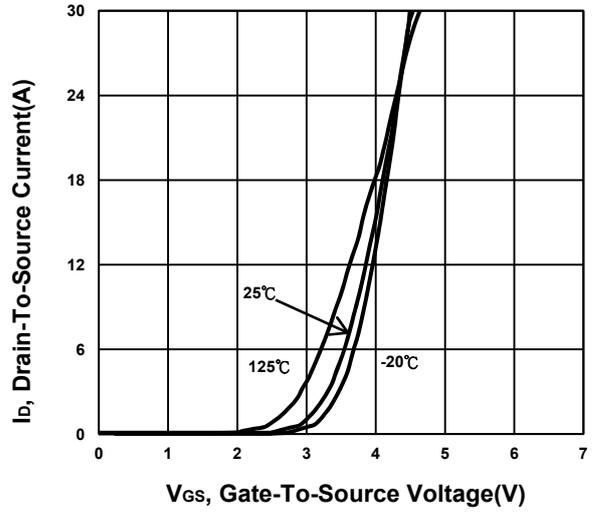
¹Pulse test : Pulse Width $\leq 300\ \mu\text{sec}$, Duty Cycle $\leq 2\%$.

²Independent of operating temperature.

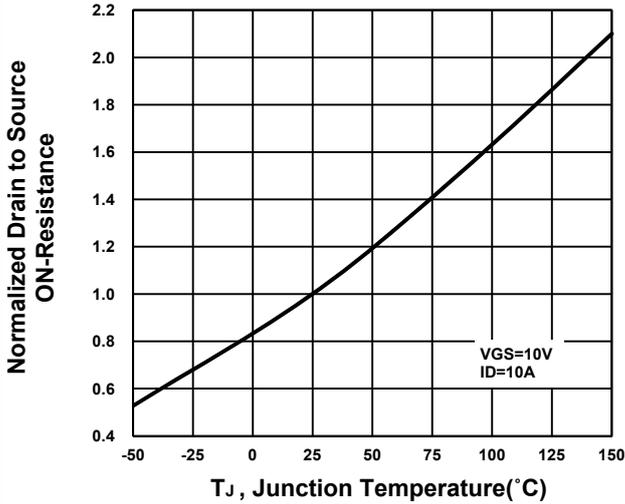
Output Characteristics



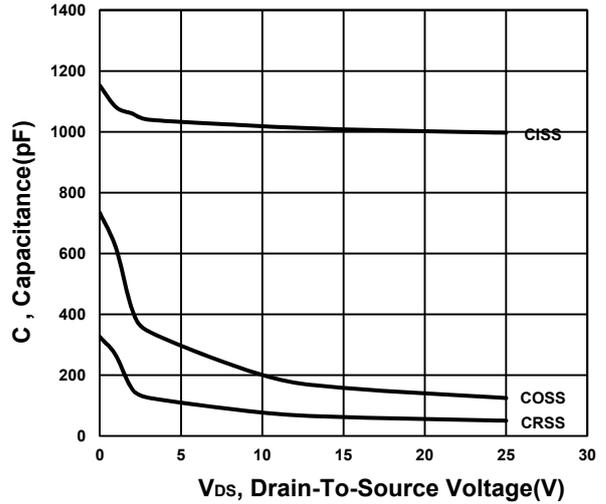
Transfer Characteristics



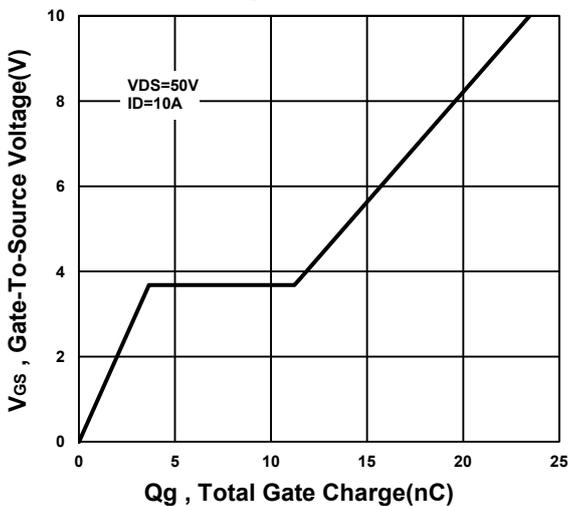
On-Resistance VS Temperature



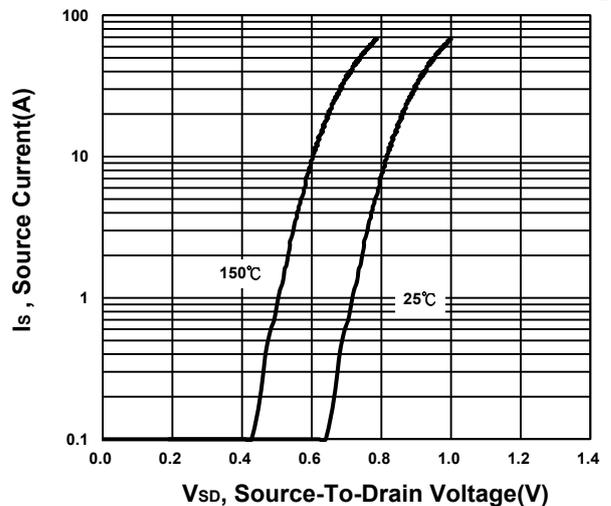
Capacitance Characteristic



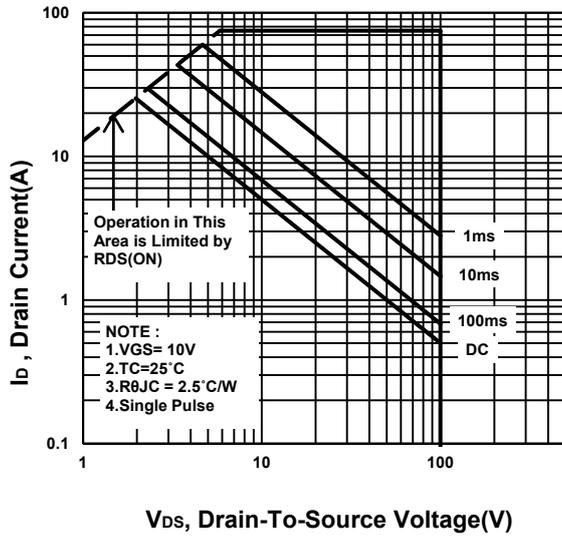
Gate charge Characteristics



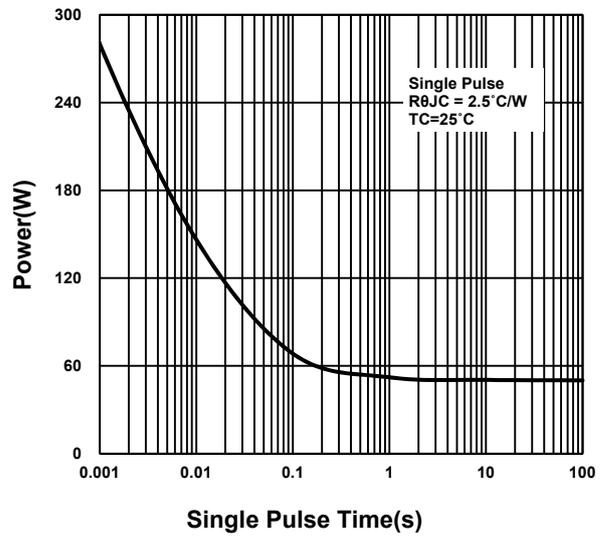
Source-Drain Diode Forward Voltage



Safe Operating Area



Single Pulse Maximum Power Dissipation



Transient Thermal Response Curve

