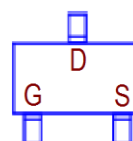
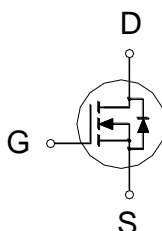


PRODUCT SUMMARY

$V_{(BR)DSS}$	$R_{DS(ON)}$	I_D
30	32mΩ	6A



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}	30	V
Gate-Source Voltage		V_{GS}	±12	V
Continuous Drain Current ²	$T_A = 25\text{ °C}$	I_D	6	A
	$T_A = 70\text{ °C}$		5	
Pulsed Drain Current ^{1,2}		I_{DM}	30	
Power Dissipation	$T_A = 25\text{ °C}$	P_D	1.25	W
	$T_A = 70\text{ °C}$		0.8	
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 ³	$R_{\theta JA}$		100	°C/W

¹Pulse width limited by maximum junction temperature.

²Limited only by maximum temperature allowed.

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

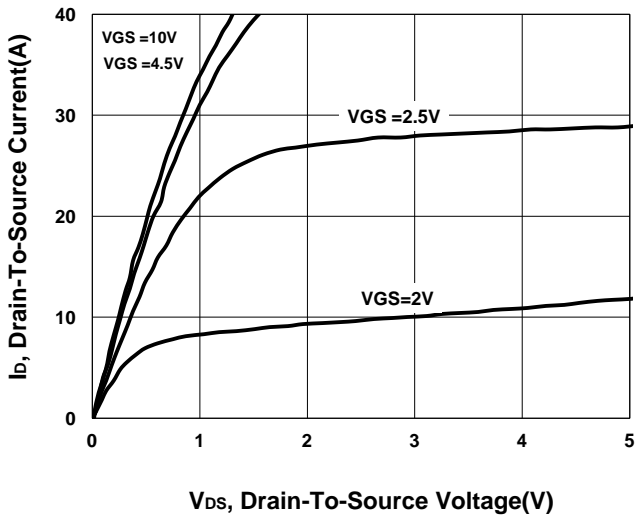
PARAMETER	SYMBOL	TEST CONDITIONS	LIMITS			UNIT
			MIN	TYP	MAX	
STATIC						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = 250\mu A$	30			V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu A$	0.45	0.7	1.2	
Gate-Body Leakage	I_{GSS}	$V_{DS} = 0V, V_{GS} = \pm 12V$			±100	nA
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = 24V, V_{GS} = 0V$			1	μA
		$V_{DS} = 20V, V_{GS} = 0V, T_J = 55\text{ °C}$			10	
On-State Drain Current ¹	$I_{D(ON)}$	$V_{DS} = 5V, V_{GS} = 4.5V$	30			A
Drain-Source On-State Resistance ¹	$R_{DS(ON)}$	$V_{GS} = 2.5V, I_D = 4A$		32	52	mΩ
		$V_{GS} = 4.5V, I_D = 5A$		24	32	
		$V_{GS} = 10V, I_D = 6A$		22	28	
Forward Transconductance ¹	g_{fs}	$V_{DS} = 5V, I_D = 5A$		33		S

DYNAMIC						
Input Capacitance	C_{iss}	$V_{GS} = 0V, V_{DS} = 15V, f = 1MHz$		620		pF
Output Capacitance	C_{oss}			69		
Reverse Transfer Capacitance	C_{rss}			62		
Total Gate Charge ²	Q_g	$V_{DS} = 15V, V_{GS} = 4.5V, I_D = 5A$		8		nC
Gate-Source Charge ²	Q_{gs}			1.5		
Gate-Drain Charge ²	Q_{gd}			3		
Turn-On Delay Time ²	$t_{d(on)}$	$V_{DS} = 15V, I_D \cong 5A, V_{GS} = 4.5V, R_{GS} = 6\Omega$		4.5		nS
Rise Time ²	t_r			4		
Turn-Off Delay Time ²	$t_{d(off)}$			37		
Fall Time ²	t_f			6		
SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS ($T_J = 25^\circ C$)						
Continuous Current	I_S				6	A
Forward Voltage ¹	V_{SD}	$I_F = 1.3A, V_{GS} = 0V$			1.3	V
Reverse Recovery Time	t_{rr}	$I_F = 6A, dI_F/dt = 100 A/\mu s$		10.5		nS
Reverse Recovery Charge	Q_{rr}			2.1		μC

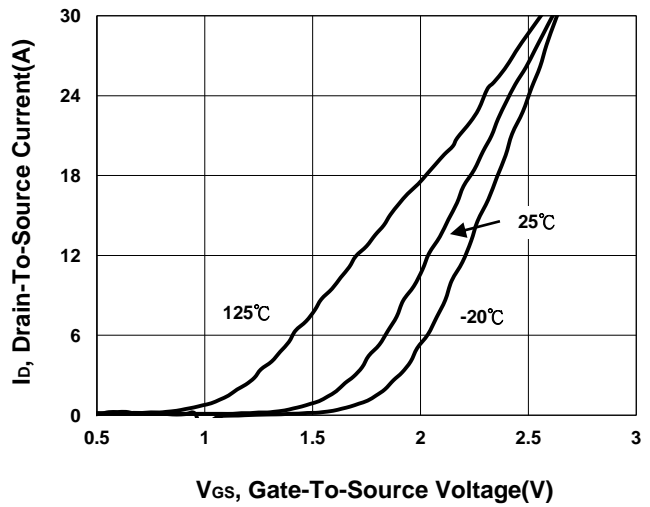
¹Pulse test : Pulse Width $\leq 300 \mu sec$, Duty Cycle $\leq 2\%$.

²Independent of operating temperature.

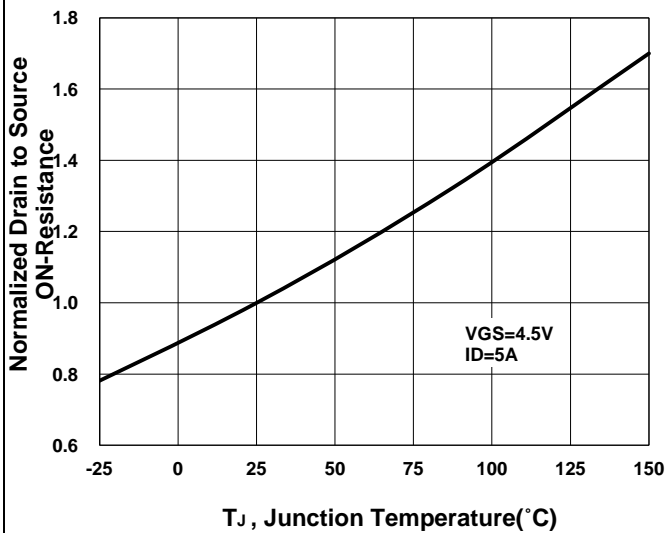
Output Characteristics



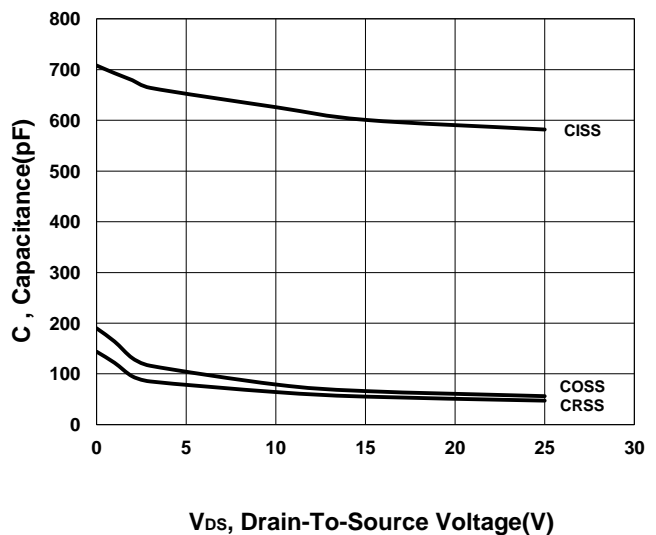
Transfer Characteristics



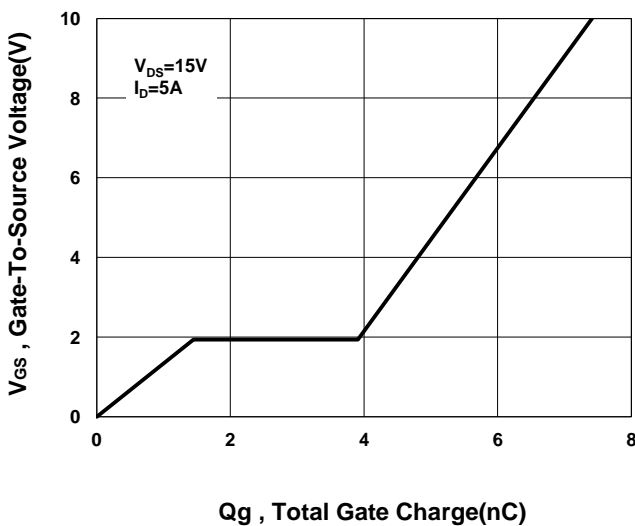
On-Resistance VS Temperature



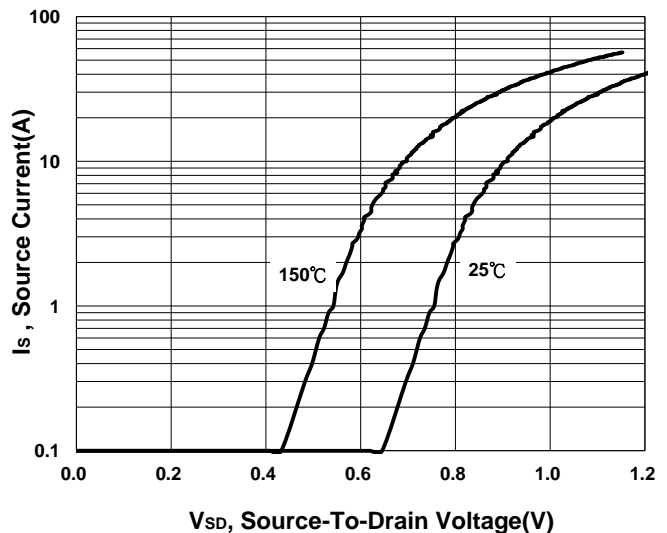
Capacitance Characteristic



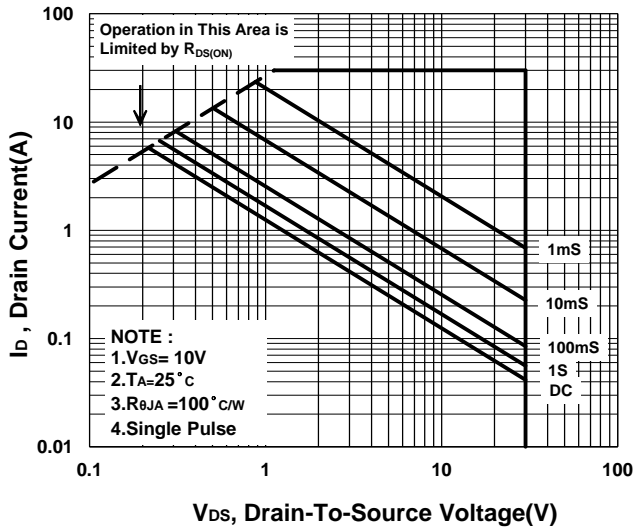
Gate charge Characteristics



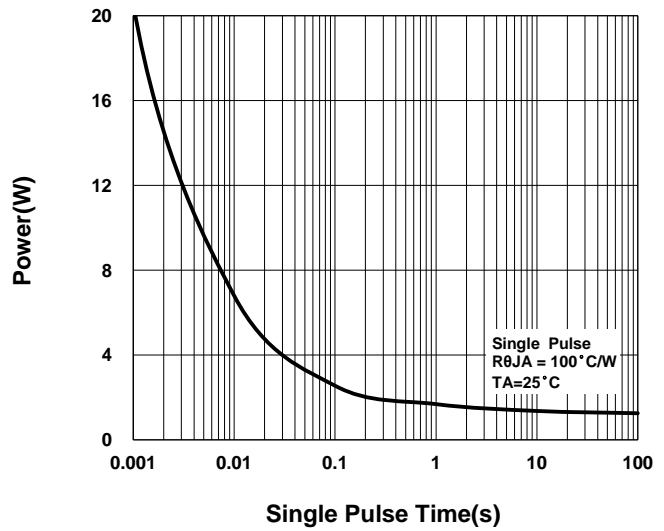
Source-Drain Diode Forward Voltage



Safe Operating Area



Single Pulse Maximum Power Dissipation



Transient Thermal Response Curve

