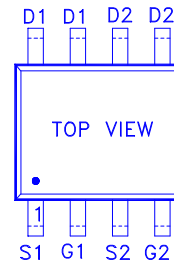
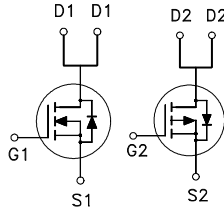




PRODUCT SUMMARY

	$V_{(BR)DSS}$	$R_{DS(ON)}$	I_D
N-Channel	30	21mΩ	8A
P-Channel	-30	34mΩ	-6A



G : GATE
D : DRAIN
S : SOURCE

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

PARAMETERS/TEST CONDITIONS		SYMBOL	N-Channel	P-Channel	UNITS
Drain-Source Voltage		V_{DS}	30	-30	V
Gate-Source Voltage		V_{GS}	±20	±20	V
Continuous Drain Current	$T_A = 25\text{ }^\circ\text{C}$	I_D	8	-6	A
	$T_A = 70\text{ }^\circ\text{C}$		6	-5	
Pulsed Drain Current ¹		I_{DM}	36	-27	
Avalanche Current		I_{AS}	26	-27	
Avalanche Energy	L = 0.1mH	E_{AS}	35	38	mJ
Power Dissipation	$T_A = 25\text{ }^\circ\text{C}$	P_D	2		W
	$T_A = 70\text{ }^\circ\text{C}$		1.3		
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	$R_{\theta JA}$		62.5	$^\circ\text{C} / \text{W}$

¹Pulse width limited by maximum junction temperature.

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	$V_{(BR)DSS}$	$V_{GS} = 0\text{V}, I_D = 250\mu\text{A}$	N-Ch	30		V	
		$V_{GS} = 0\text{V}, I_D = -250\mu\text{A}$	P-Ch	-30			
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu\text{A}$	N-Ch	1	1.7		2.5
		$V_{DS} = V_{GS}, I_D = -250\mu\text{A}$	P-Ch	-1	-1.6		-2.5

Gate-Body Leakage	I_{GSS}	$V_{DS} = 0V, V_{GS} = \pm 20V$	N-Ch			± 100	nA
		$V_{DS} = 0V, V_{GS} = \pm 20V$	P-Ch			± 100	
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = 24V, V_{GS} = 0V$	N-Ch			1	μA
		$V_{DS} = -24V, V_{GS} = 0V$	P-Ch			-1	
		$V_{DS} = 20V, V_{GS} = 0V, T_J = 55^\circ C$	N-Ch			10	
		$V_{DS} = -20V, V_{GS} = 0V, T_J = 55^\circ C$	P-Ch			-10	
On-State Drain Current ¹	$I_{D(ON)}$	$V_{DS} = 5V, V_{GS} = 10V$	N-Ch	36			A
		$V_{DS} = -5V, V_{GS} = -10V$	P-Ch	-27			
Drain-Source On-State esistance ¹	$R_{DS(ON)}$	$V_{GS} = 4.5V, I_D = 6A$	N-Ch		19	31	m Ω
		$V_{GS} = -4.5V, I_D = -5A$	P-Ch		40	56	
		$V_{GS} = 10V, I_D = 7A$	N-Ch		14	21	
		$V_{GS} = -10V, I_D = -6A$	P-Ch		28	34	
Forward Transconductance ¹	g_{fs}	$V_{DS} = 10V, I_D = 5A$	N-Ch		14		S
		$V_{DS} = -10V, I_D = -5A$	P-Ch		8		

DYNAMIC							
Input Capacitance	C_{iss}	N-Channel	N-Ch		659		pF
			P-Ch		983		
Output Capacitance	C_{oss}	$V_{GS} = 0V, V_{DS} = 10V, f = 1MHz$	N-Ch		218		pF
			P-Ch		216		
Reverse Transfer Capacitance	C_{rss}	$V_{GS} = 0V, V_{DS} = -10V, f = 1MHz$	N-Ch		138		pF
			P-Ch		157		
Total Gate Charge ²	Q_g	N-Channel	N-Ch		16		nC
			P-Ch		21		
Gate-Source Charge ²	Q_{gs}	$V_{DS} = 0.5V_{(BR)DSS}, V_{GS} = 10V,$ $I_D = 7A$	N-Ch		2		nC
			P-Ch		3		
Gate-Drain Charge ²	Q_{gd}	$V_{DS} = 0.5V_{(BR)DSS}, V_{GS} = -10V,$ $I_D = -6A$	N-Ch		5		nC
			P-Ch		4		

Turn-On Delay Time ²	$t_{d(on)}$	N-Channel	N-Ch		9		nS
			P-Ch		10		
Rise Time ²	t_r	$V_{DS} = 15V$	N-Ch		11		
		$I_D \cong 1A, V_{GS} = 10V, R_{GEN} = 6\Omega$	P-Ch		15		
Turn-Off Delay Time ²	$t_{d(off)}$	P-Channel	N-Ch		18		
			P-Ch		68		
Fall Time ²	t_f	$V_{DS} = -15V,$	N-Ch		20		
		$I_D \cong -1A, V_{GS} = -10V, R_{GEN} = 6\Omega$	P-Ch		34		

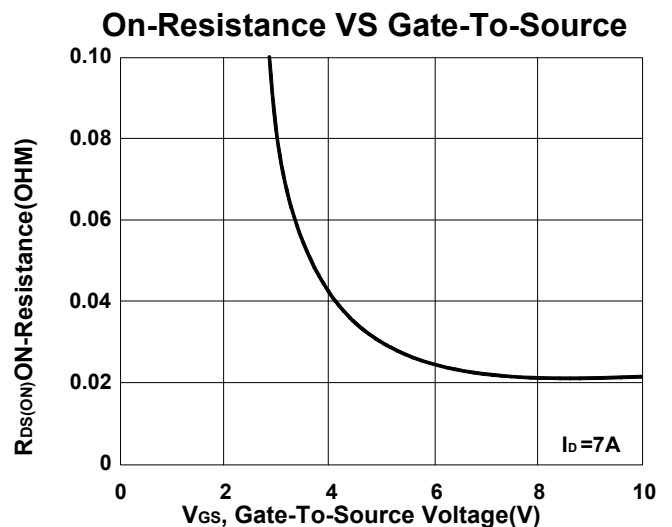
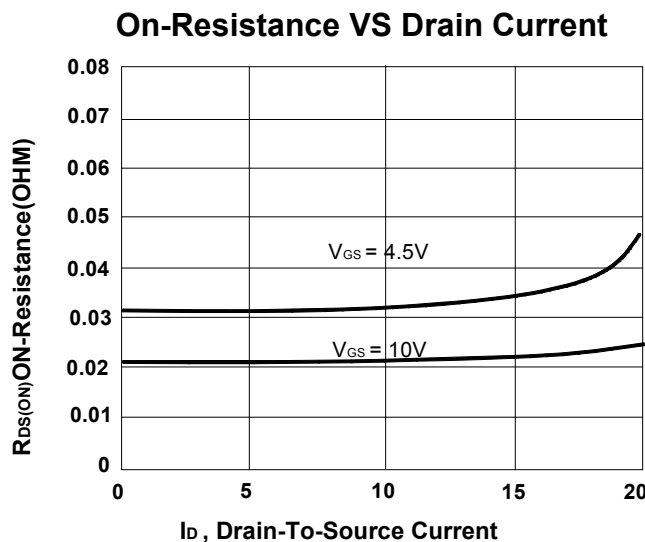
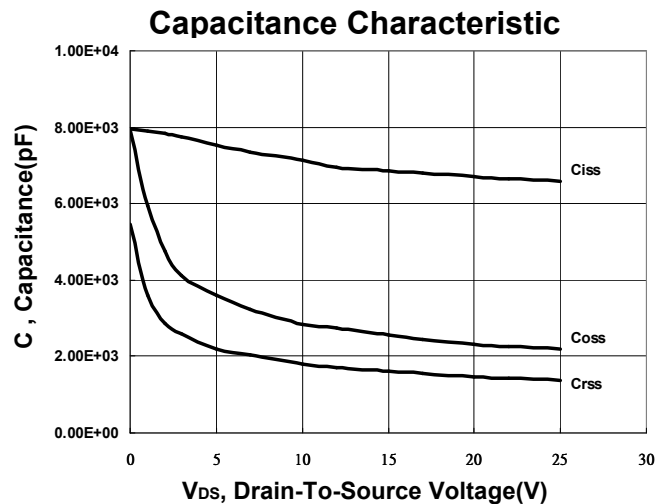
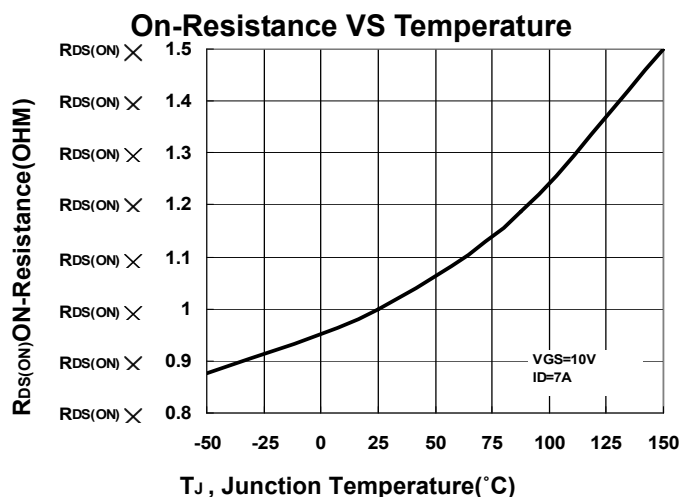
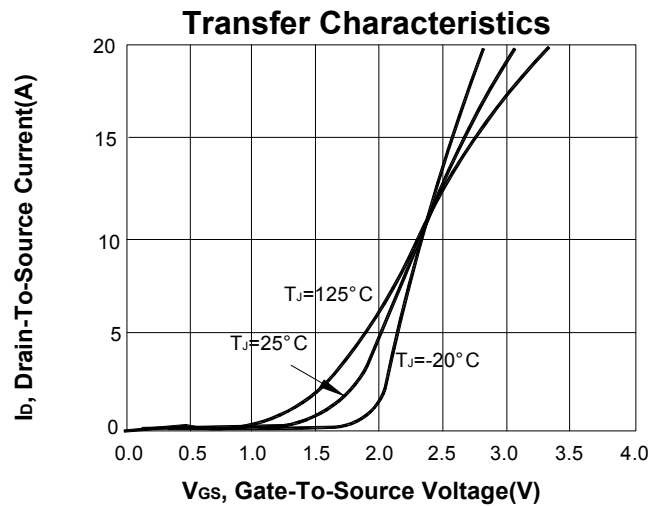
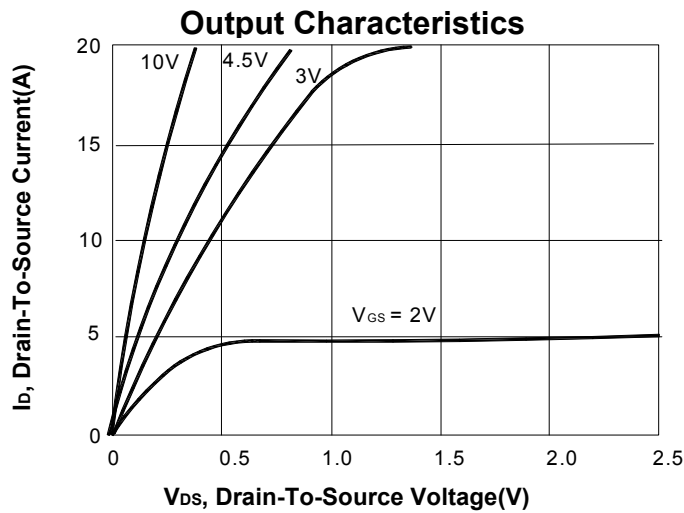
SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS (T_J = 25 °C)

Continuous Current	I_S		N-Ch			2	A
			P-Ch			-2	
Forward Voltage ¹	V_{SD}	$I_F = 5A, V_{GS} = 0V$	N-Ch			1	V
		$I_F = -5A, V_{GS} = 0V$	P-Ch			-1	
Reverse Recovery Time	t_{rr}	$I_F = 5A, di_F/dt = 100A / \mu S$	N-Ch			15.5	nS
		$I_F = -5A, di_F/dt = 100A / \mu S$	P-Ch			15.5	
Reverse Recovery Charge	Q_{rr}		N-Ch			7.9	nC
			P-Ch			7.9	

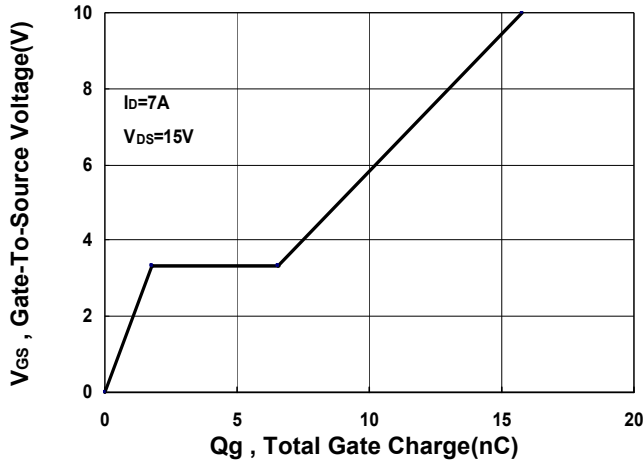
¹Pulse test : Pulse Width ≤ 300 μsec, Duty Cycle ≤ 2%.

²Independent of operating temperature.

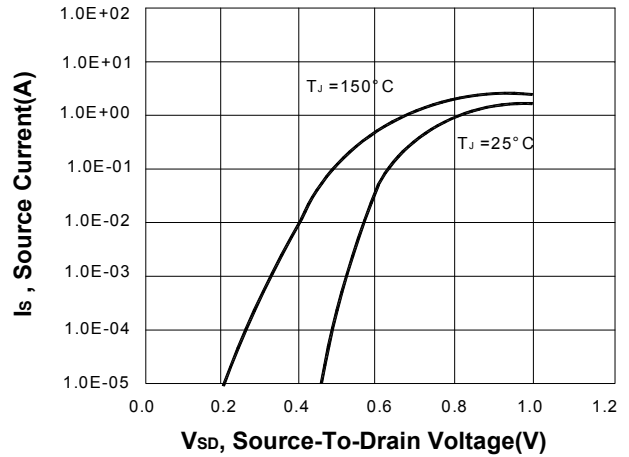
**TYPICAL PERFORMANCE CHARACTERISTICS
N-CHANNEL**



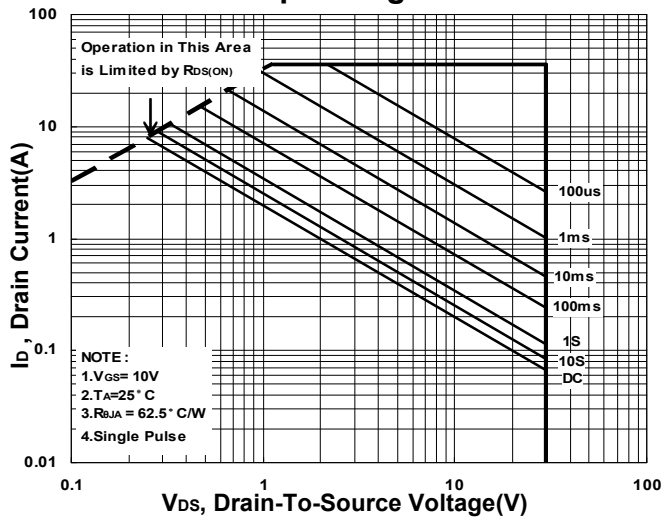
Gate charge Characteristics



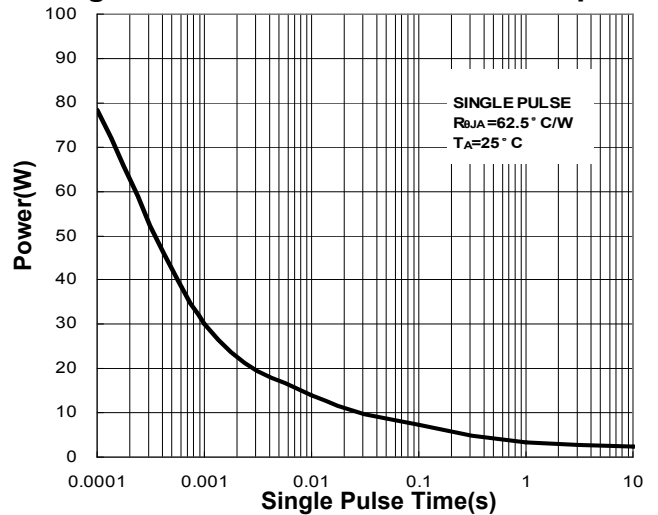
Source-Drain Diode Forward Voltage



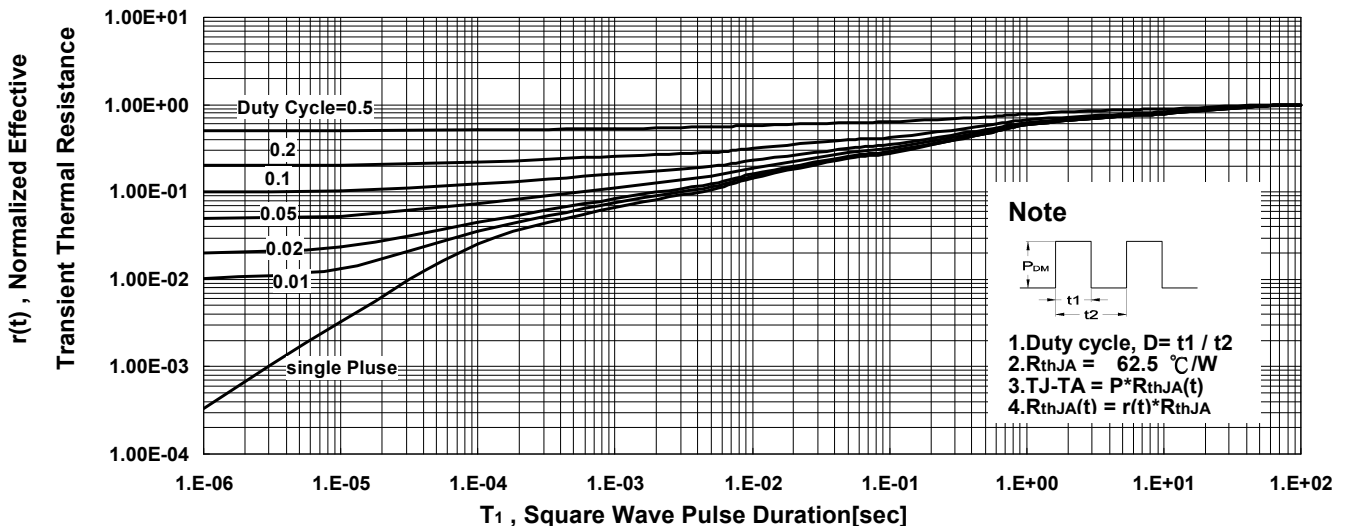
Safe Operating Area



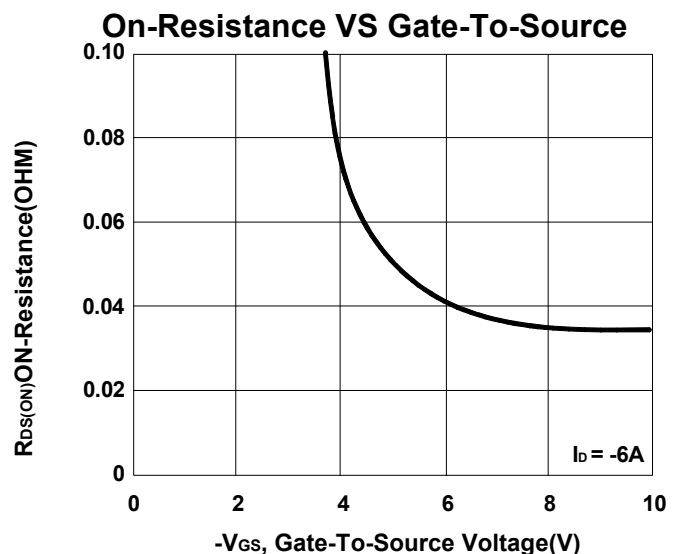
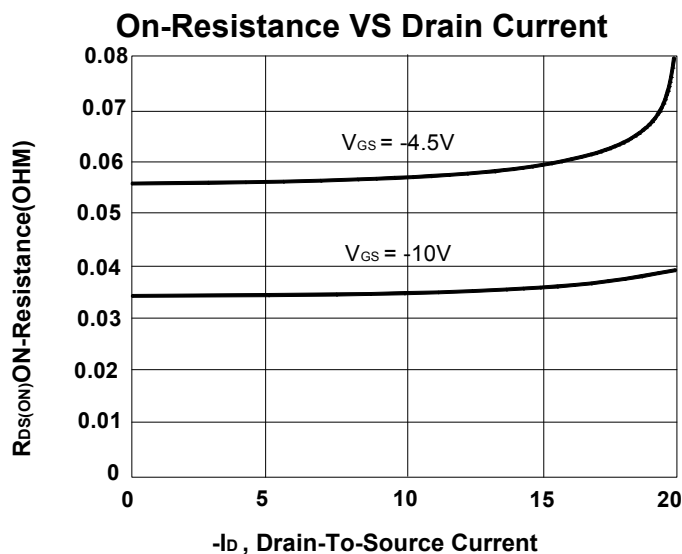
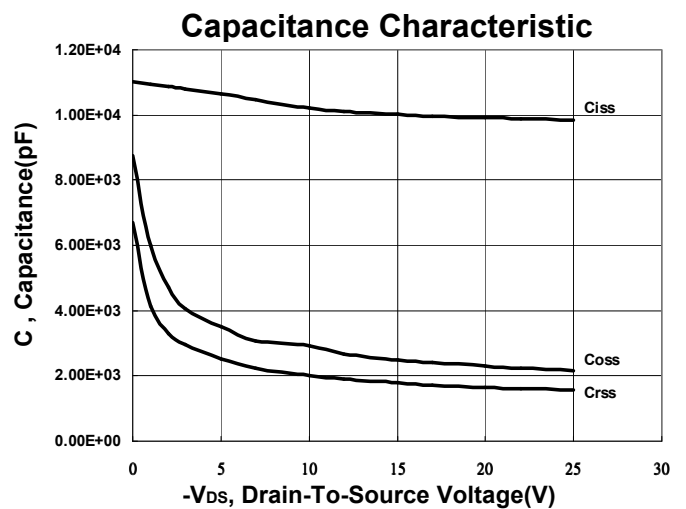
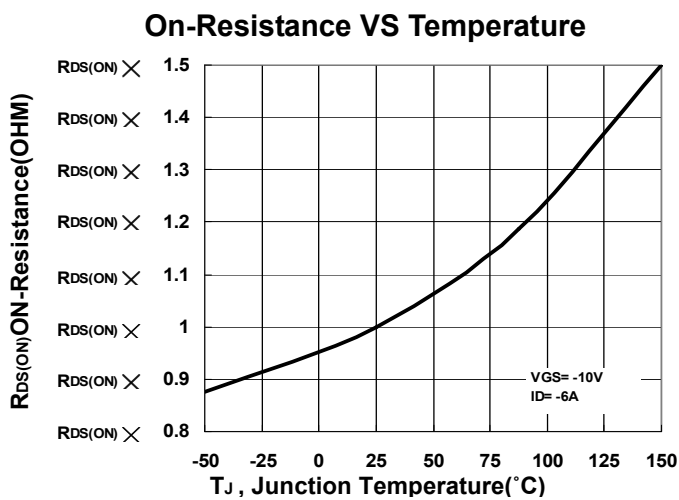
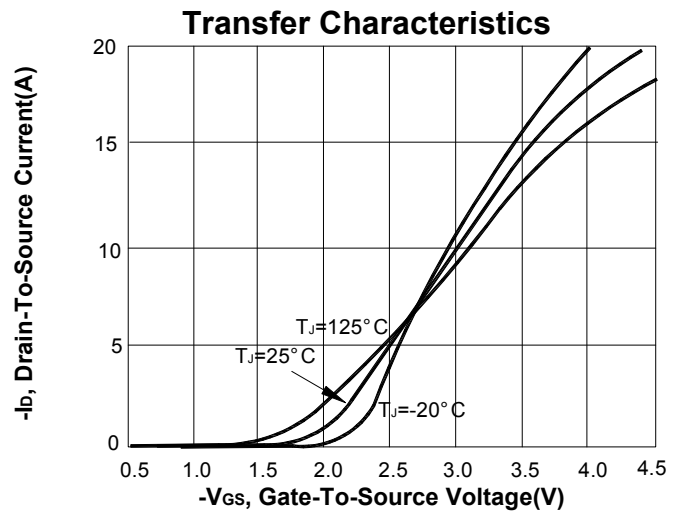
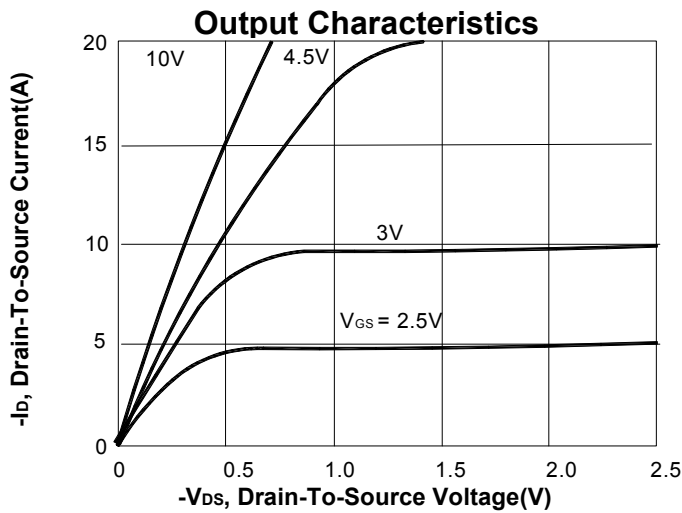
Single Pulse Maximum Power Dissipation



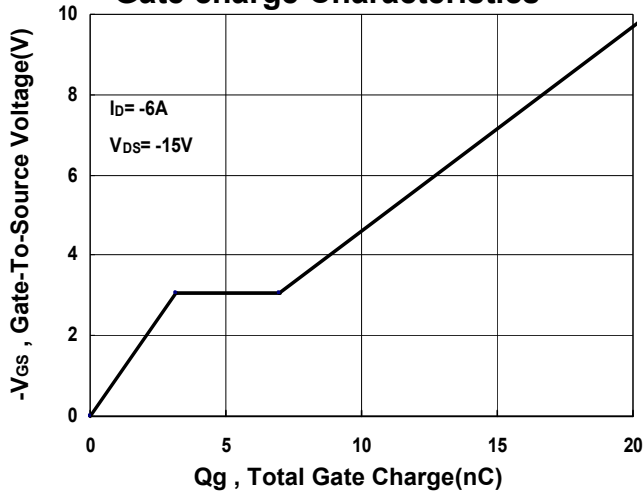
Transient Thermal Response Curve



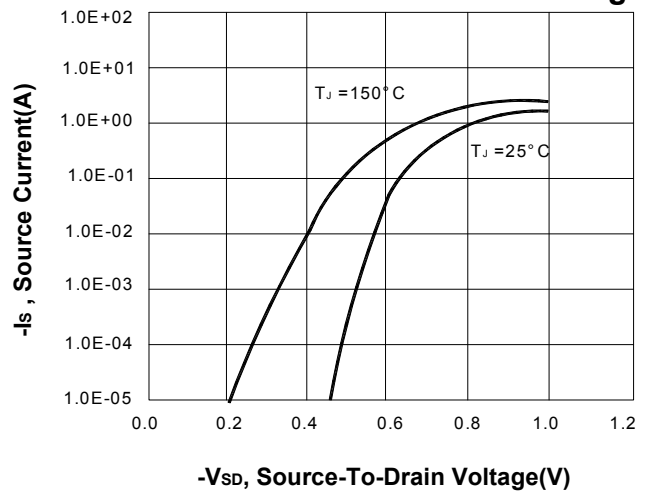
**TYPICAL PERFORMANCE CHARACTERISTICS
P-CHANNEL**



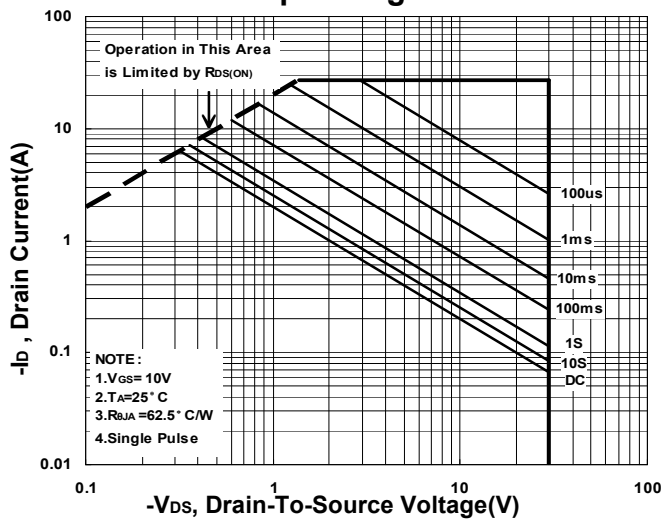
Gate charge Characteristics



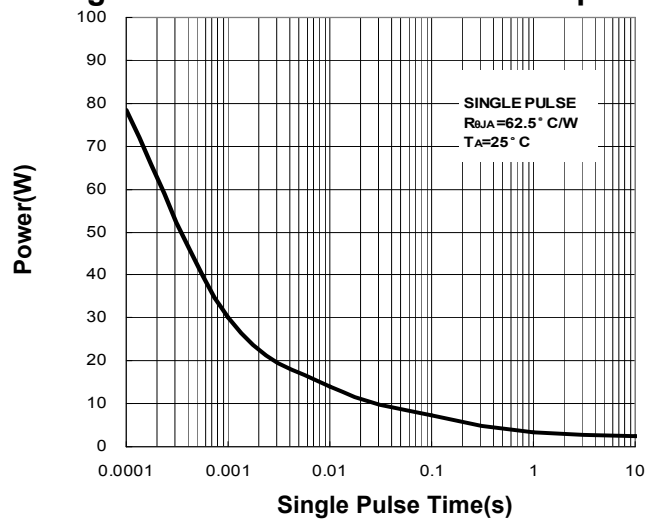
Source-Drain Diode Forward Voltage



Safe Operating Area



Single Pulse Maximum Power Dissipation



Transient Thermal Response Curve

