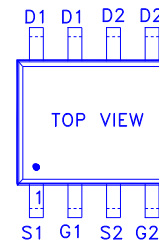
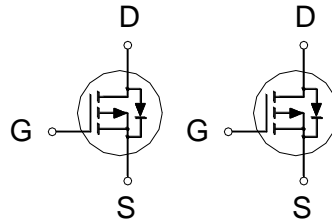


PRODUCT SUMMARY

$V_{(BR)DSS}$	$R_{DS(ON)}$	I_D
-30V	22mΩ	-8A



G : GATE
D : DRAIN
S : SOURCE

ABSOLUTE MAXIMUM RATINGS (T_A = 25 °C Unless Otherwise Noted)

PARAMETERS/TEST CONDITIONS		SYMBOL	LIMITS	UNITS
Drain-Source Voltage		V_{DS}	-30	V
Gate-Source Voltage		V_{GS}	±25	V
Continuous Drain Current	T _A = 25 °C	I_D	-8	A
	T _A = 70 °C		-6	
Pulsed Drain Current ¹		I_{DM}	-40	
Avalanche Current		I_{AS}	-30	
Avalanche Energy	L = 0.1mH	E_{AS}	45	mJ
Power Dissipation	T _A = 25 °C	P_D	2	W
	T _A = 70 °C		1.28	
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	R _{θJA}		62.5	°C / W

¹Pulse width limited by maximum junction temperature.

ELECTRICAL CHARACTERISTICS (T_A = 25 °C, Unless Otherwise Noted)

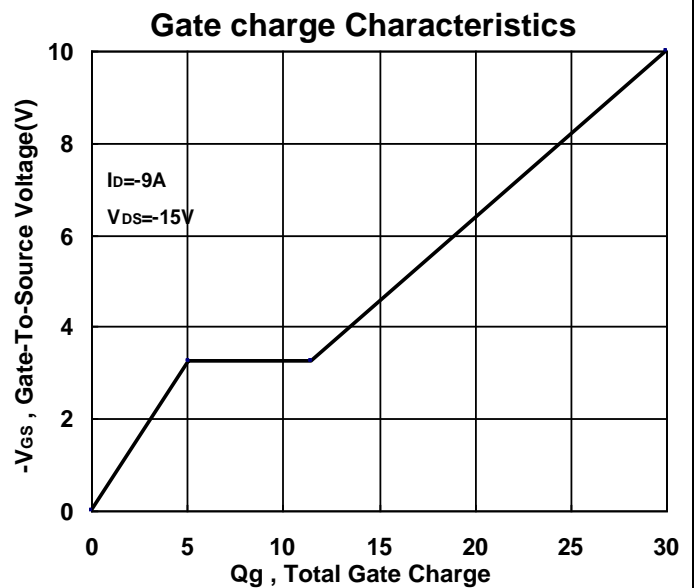
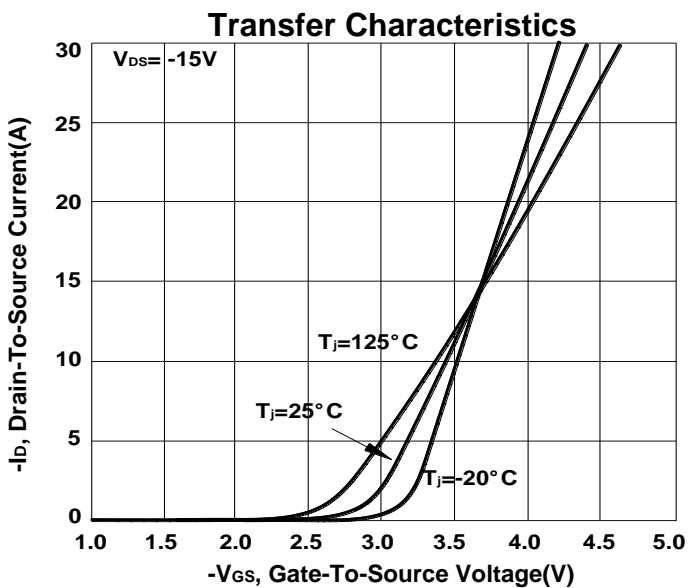
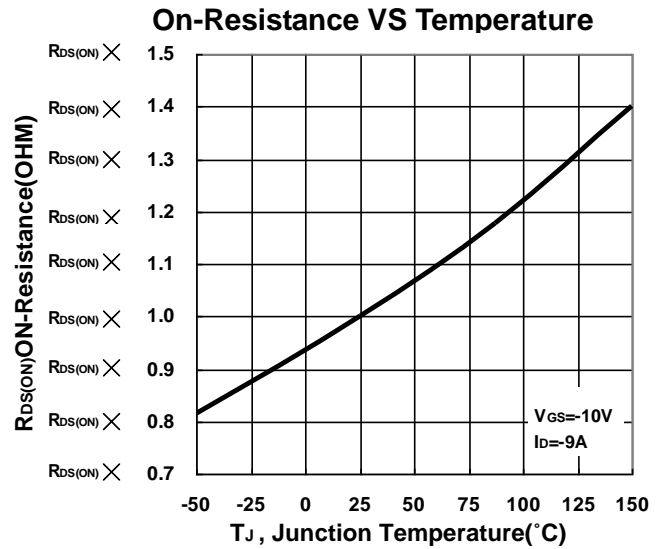
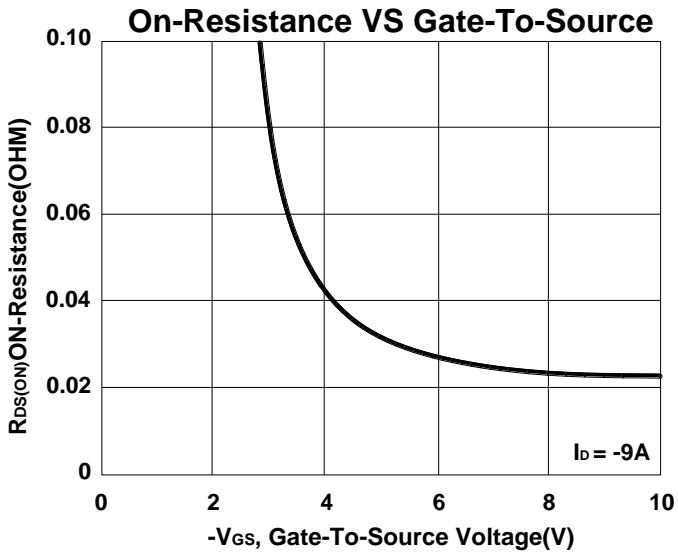
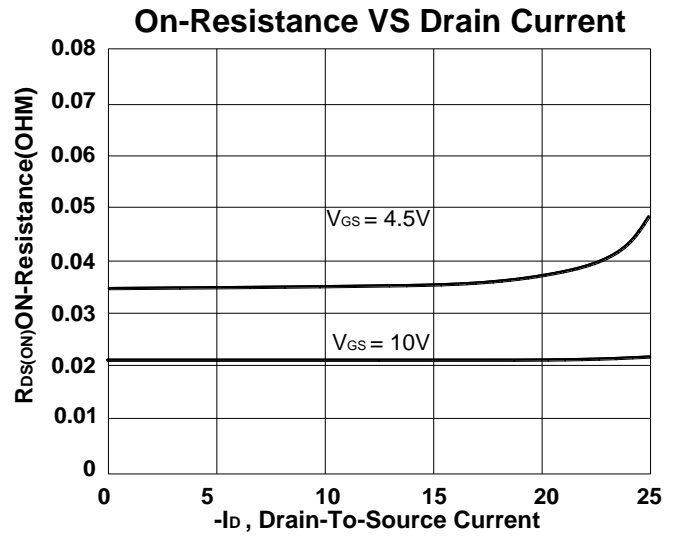
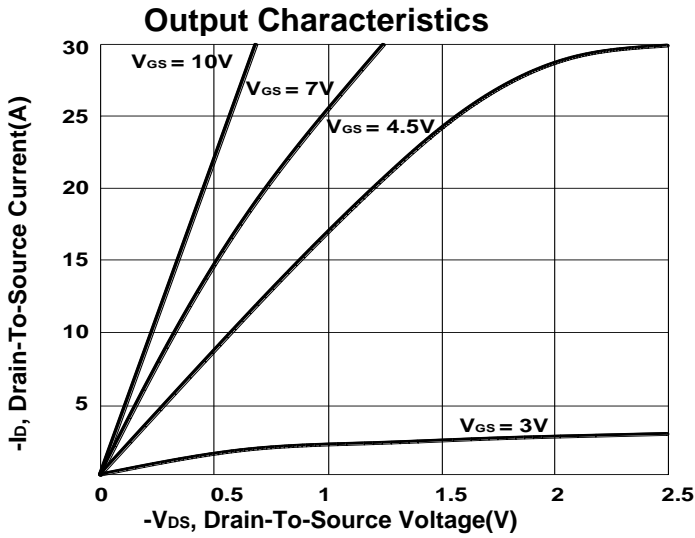
PARAMETER	SYMBOL	TEST CONDITIONS	LIMITS			UNIT
			MIN	TYP	MAX	
STATIC						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = -250\mu A$	-30			V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = -250\mu A$	-1	-1.5	-3	
Gate-Body Leakage	I_{GSS}	$V_{DS} = 0V, V_{GS} = \pm 25V$			±100	nA
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = -24V, V_{GS} = 0V$			-1	μA
		$V_{DS} = -20V, V_{GS} = 0V, T_J = 125\text{ °C}$			-10	
Drain-Source On-State Resistance ¹	$R_{DS(ON)}$	$V_{GS} = -4.5V, I_D = -7A$		29	34	mΩ
		$V_{GS} = -10V, I_D = -9A$		20	22	
Forward Transconductance ¹	g_{fs}	$V_{DS} = -5V, I_D = -9A$		20		S

DYNAMIC						
Input Capacitance	C_{iss}	$V_{GS} = 0V, V_{DS} = -15V, f = 1MHz$		1480		pF
Output Capacitance	C_{oss}			334		
Reverse Transfer Capacitance	C_{rss}			231		
Gate Resistance	R_g	$V_{GS} = 0V, V_{DS} = 0V, f = 1MHz$		2.9		Ω
Total Gate Charge ²	Q_g	$V_{DS} = 0.5V_{(BR)DSS}, V_{GS} = -10V, I_D = -9A$	$V_{GS} = -10V$	30		nC
			$V_{GS} = -4.5V$	15		
Gate-Source Charge ²	Q_{gs}		5			
Gate-Drain Charge ²	Q_{gd}		6			
Turn-On Delay Time ²	$t_{d(on)}$	$V_{DS} = -15V, I_D \cong -9A, V_{GS} = -10V, R_{GS} = 6\Omega$		13		nS
Rise Time ²	t_r			8		
Turn-Off Delay Time ²	$t_{d(off)}$			16		
Fall Time ²	t_f			12		
SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS ($T_A = 25^\circ C$)						
Continuous Current	I_S				-2	A
Forward Voltage ¹	V_{SD}	$I_F = -9A, V_{GS} = 0V$			-1	V
Reverse Recovery Time	t_{rr}	$I_F = -9A, dI/dt = 100A/\mu s$		40		nS
Reverse Recovery Charge	Q_{rr}			26		nC

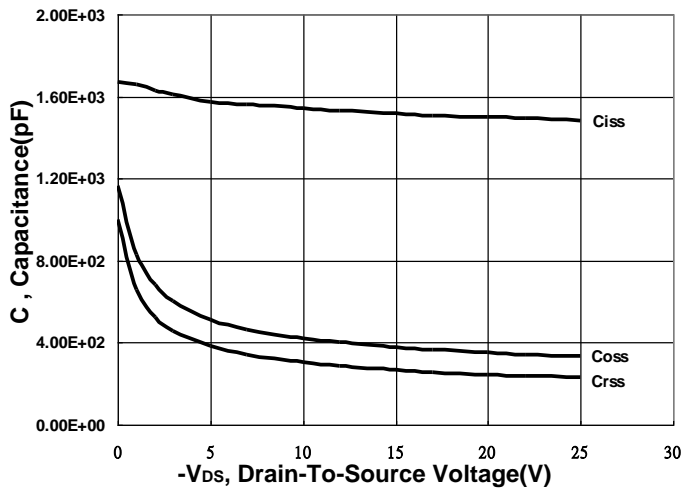
¹Pulse test : Pulse Width $\leq 300 \mu sec$, Duty Cycle $\leq 2\%$.

²Independent of operating temperature.

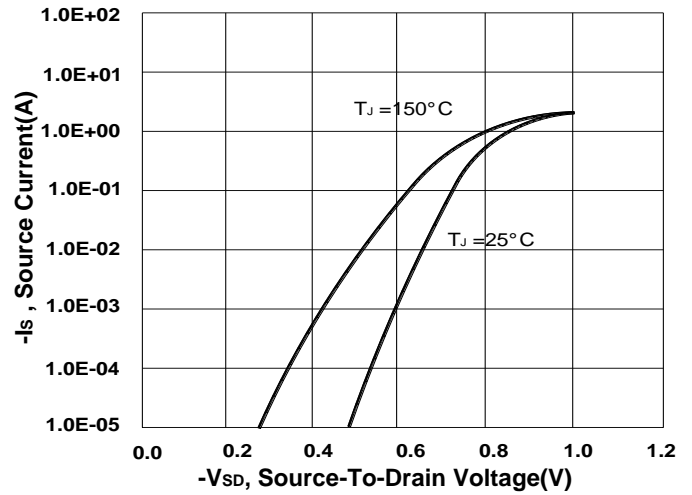
REMARK: THE PRODUCT MARKED WITH "P2003KV", DATE CODE or LOT #



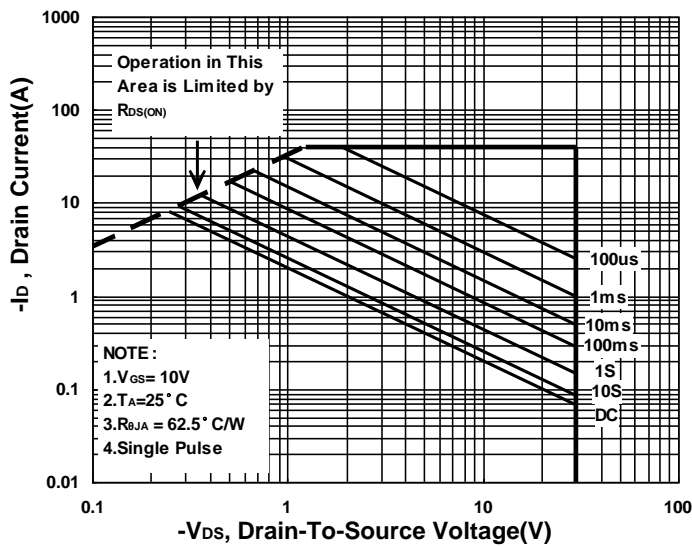
Capacitance Characteristic



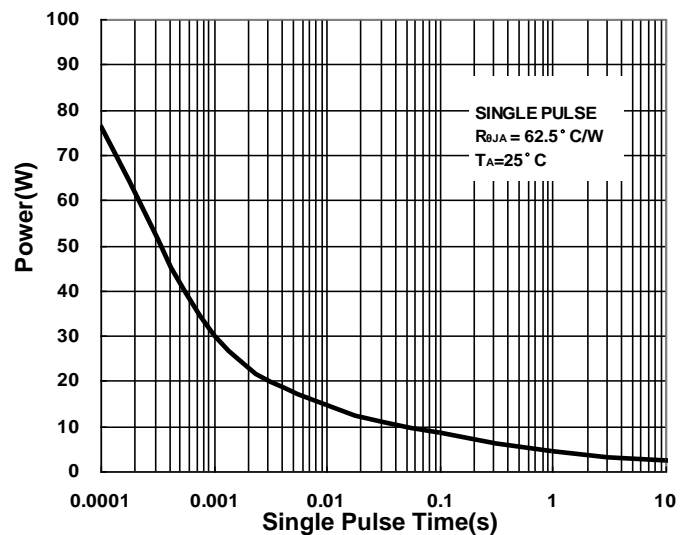
Body Diode Forward Voltage VS Source current



Safe Operating Area



Single Pulse Maximum Power Dissipation



Transient Thermal Response Curve

