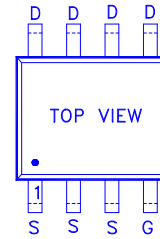
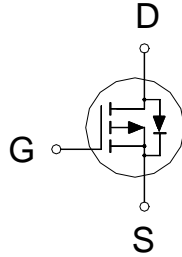


**PRODUCT SUMMARY**

$V_{(BR)DSS}$	$R_{DS(ON)}$	$I_D$
-30	20mΩ	-9A



4 :GATE  
5,6,7,8 :DRAIN  
1,2,3 :SOURCE

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

**100% UIS tested**

PARAMETERS/TEST CONDITIONS		SYMBOL	LIMITS	UNITS
Drain-Source Voltage		$V_{DS}$	-30	V
Gate-Source Voltage		$V_{GS}$	±25	V
Continuous Drain Current	$T_C = 25\text{ }^\circ\text{C}$	$I_D$	-9	A
	$T_C = 70\text{ }^\circ\text{C}$		-7	
Pulsed Drain Current <sup>1</sup>		$I_{DM}$	-50	
Avalanche Current		$I_{AS}$	-26	
Avalanche Energy	L = 0.1mH	$E_{AS}$	34	mJ
Power Dissipation	$T_C = 25\text{ }^\circ\text{C}$	$P_D$	2.5	W
	$T_C = 70\text{ }^\circ\text{C}$		1.6	
Operating Junction & Storage Temperature Range		$T_j, T_{stg}$	-55 to 150	°C

**THERMAL RESISTANCE RATINGS**

THERMAL RESISTANCE	SYMBOL	TYPICAL	MAXIMUM	UNITS
Junction-to-Case	$R_{\theta JC}$		25	°C / W
Junction-to-Ambient	$R_{\theta JA}$		50	°C / W

<sup>1</sup>Pulse width limited by maximum junction temperature.

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

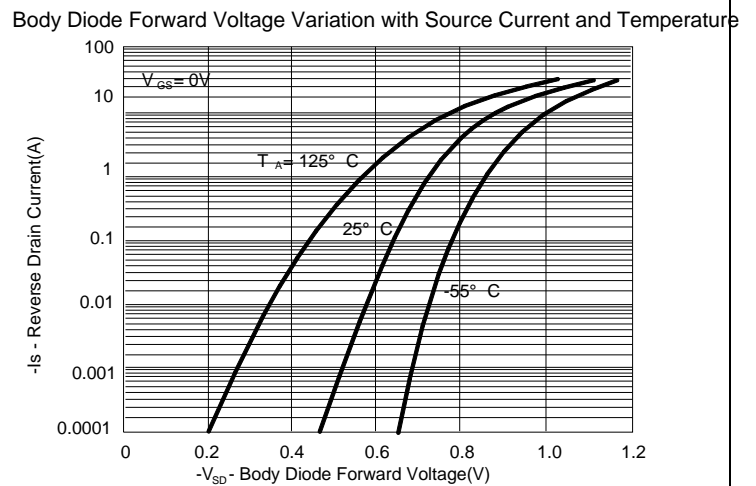
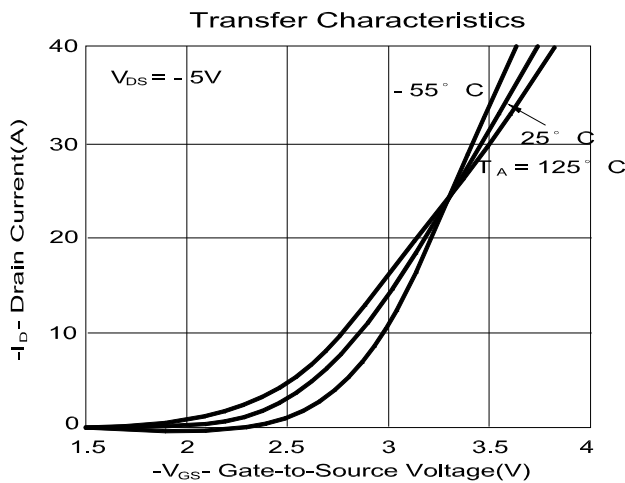
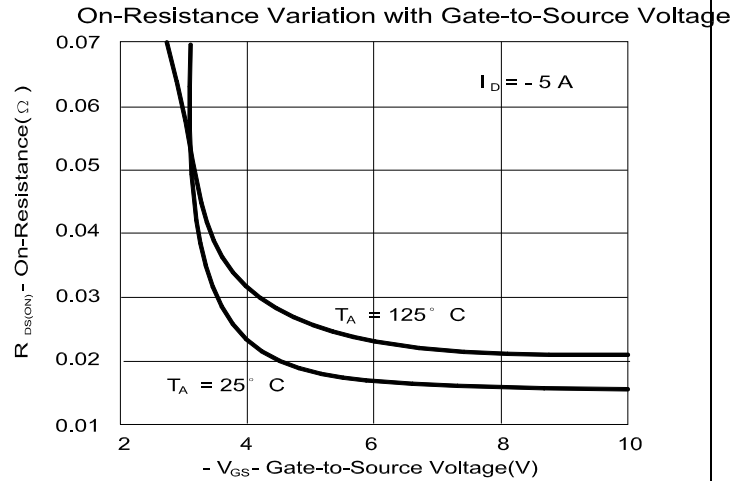
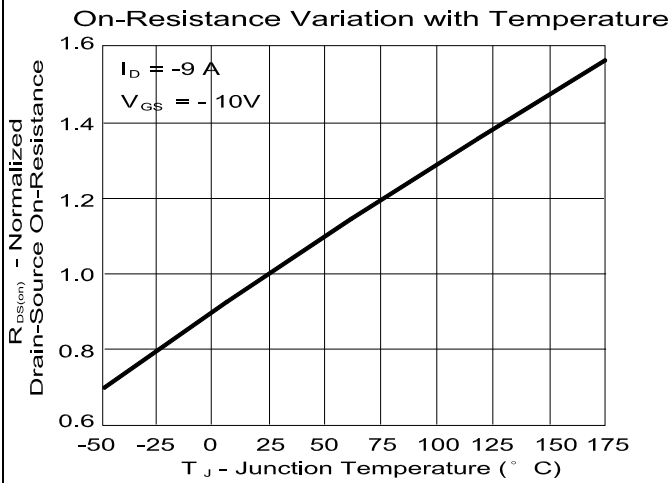
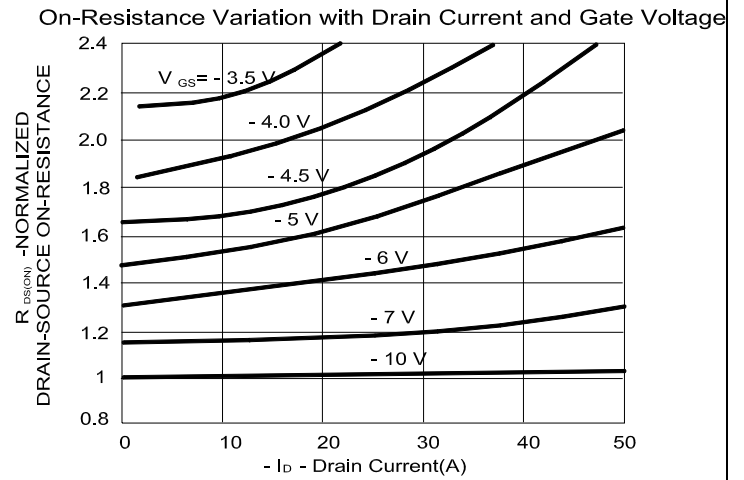
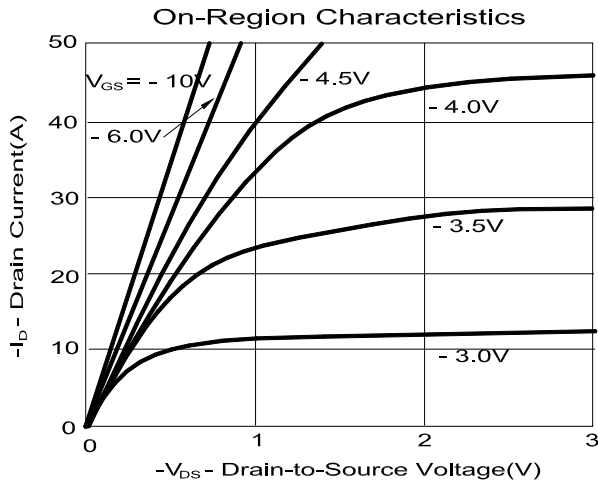
PARAMETER	SYMBOL	TEST CONDITIONS	LIMITS			UNIT
			MIN	TYP	MAX	
<b>STATIC</b>						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = -250\mu A$	-30			V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = -250\mu A$	-1	-1.5	-3	
Gate-Body Leakage	$I_{GSS}$	$V_{DS} = 0V, V_{GS} = \pm 25V$			±100	nA
Zero Gate Voltage Drain Current	$I_{DSS}$	$V_{DS} = -24V, V_{GS} = 0V$			-1	μA
		$V_{DS} = -20V, V_{GS} = 0V, T_J = 125\text{ }^\circ\text{C}$			-10	
On-State Drain Current <sup>1</sup>	$I_{D(ON)}$	$V_{DS} = -5V, V_{GS} = -10V$	9			A
Drain-Source On-State Resistance <sup>1</sup>	$R_{DS(ON)}$	$V_{GS} = -4.5V, I_D = -7A$		25	35	mΩ
		$V_{GS} = -10V, I_D = -9A$		15	20	

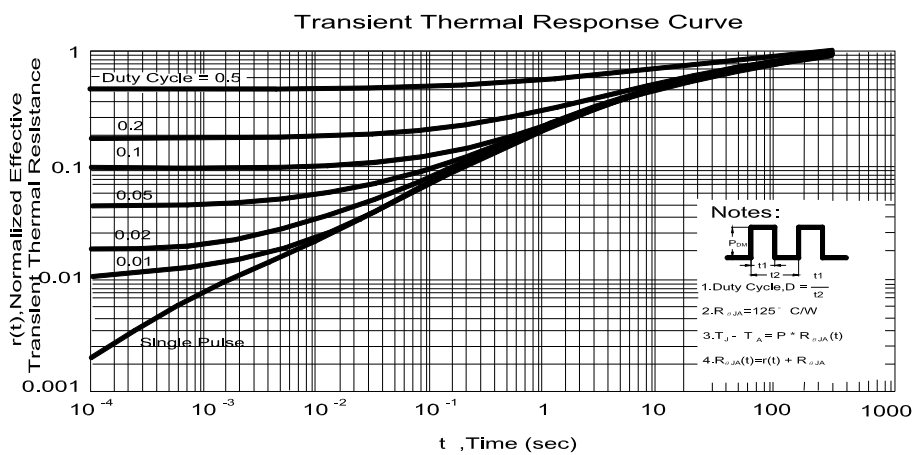
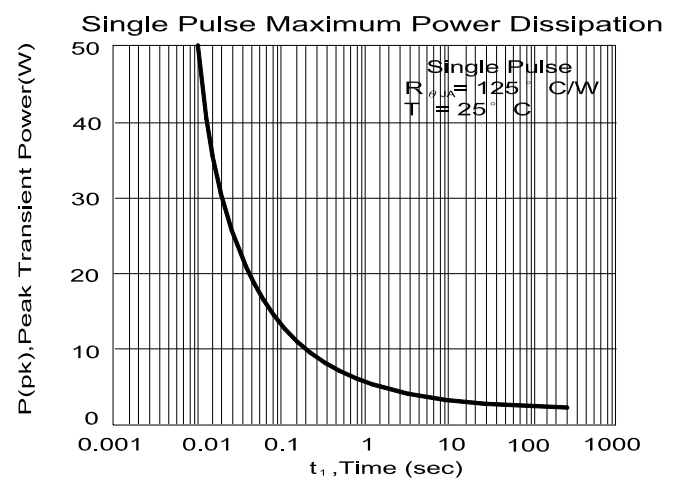
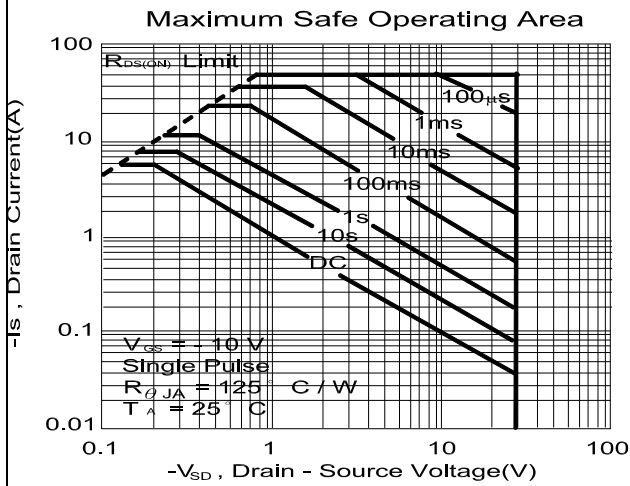
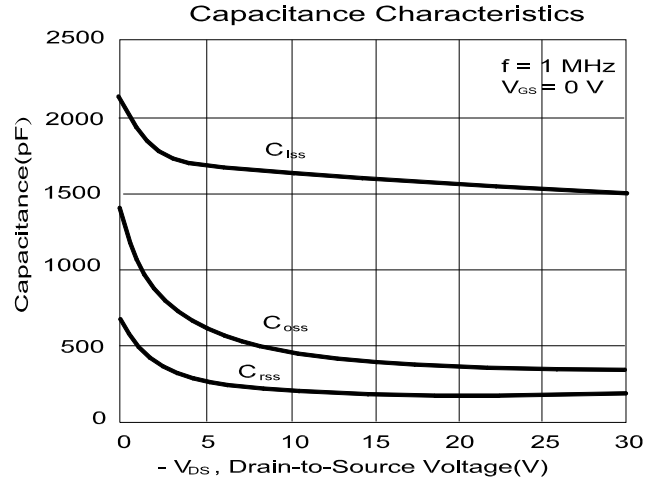
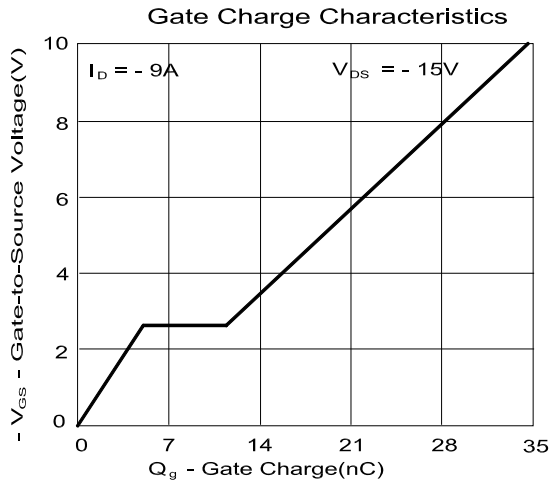
Forward Transconductance <sup>1</sup>	$g_{fs}$	$V_{DS} = -10V, I_D = -9A$		24		S
<b>DYNAMIC</b>						
Input Capacitance	$C_{iss}$	$V_{GS} = 0V, V_{DS} = -15V, f = 1MHz$		1610		pF
Output Capacitance	$C_{oss}$			410		
Reverse Transfer Capacitance	$C_{rss}$			200		
Gate Resistance	$R_g$	$V_{GS} = 15mV, V_{DS} = 0V, f = 1MHz$		3.7		$\Omega$
Total Gate Charge <sup>2</sup>	$Q_g$	$V_{DS} = 0.5V_{(BR)DSS}, V_{GS} = -10V, I_D = -9A$		31.4		nC
Gate-Source Charge <sup>2</sup>	$Q_{gs}$			4.5		
Gate-Drain Charge <sup>2</sup>	$Q_{gd}$			8.2		
Turn-On Delay Time <sup>2</sup>	$t_{d(on)}$	$V_{DS} = -15V, R_L = 1\Omega, I_D \cong -1A, V_{GS} = -10V, R_{GS} = 6\Omega$		5.7		nS
Rise Time <sup>2</sup>	$t_r$			10		
Turn-Off Delay Time <sup>2</sup>	$t_{d(off)}$			18		
Fall Time <sup>2</sup>	$t_f$			5		
<b>SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS (<math>T_C = 25^\circ C</math>)</b>						
Continuous Current	$I_S$				-2.1	A
Forward Voltage <sup>1</sup>	$V_{SD}$	$I_F = -1A, V_{GS} = 0V$			-1.2	V

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

<sup>2</sup>Independent of operating temperature.

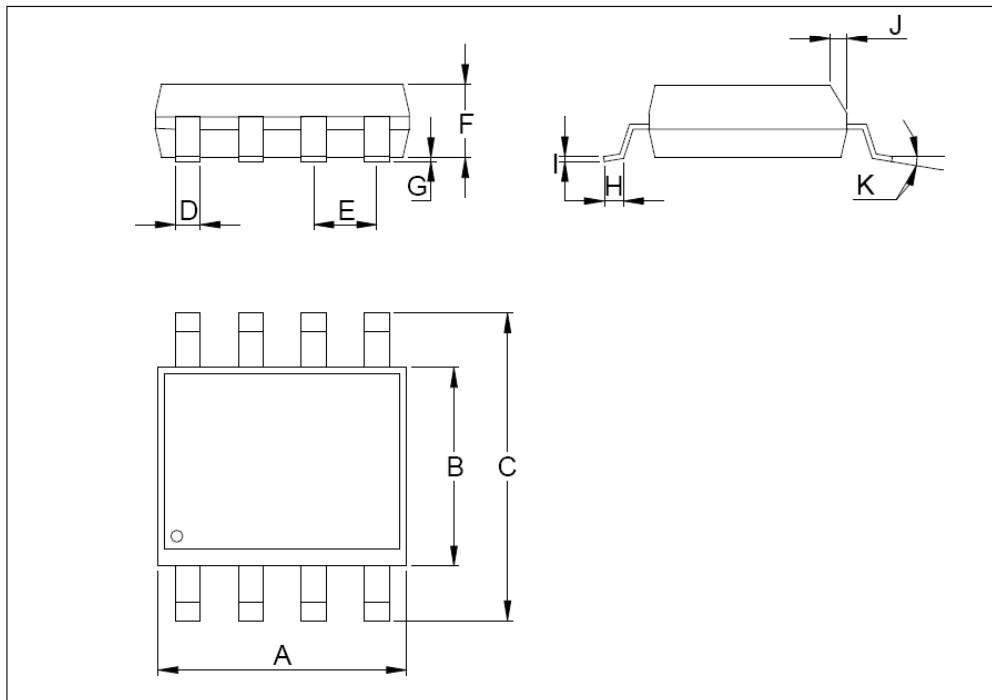
**REMARK: THE PRODUCT MARKED WITH "P2003EVG", DATE CODE or LOT #**





**SOIC-8(D) MECHANICAL DATA**

Dimension	mm			Dimension	mm		
	Min.	Typ.	Max.		Min.	Typ.	Max.
A	4.8	4.9	5.0	H	0.4	0.715	0.83
B	3.8	3.9	4.0	I	0.19	0.22	0.25
C	5.8	6.0	6.2	J	0.25	0.375	0.5
D	0.33	0.445	0.51	K	0°	4°	8°
E		1.27		L			
F	1.25	1.375	1.62	M			
G	0.1	0.175	0.25	N			



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