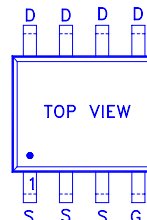
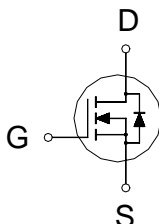


PRODUCT SUMMARY

$V_{(BR)DSS}$	$R_{DS(ON)}$	I_D
30	12.5m	10A



G : GATE
D : DRAIN
S : SOURCE

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

PARAMETERS/TEST CONDITIONS		SYMBOL	LIMITS	UNITS
Drain-Source Voltage		V_{DS}	30	V
Gate-Source Voltage		V_{GS}	± 20	V
Continuous Drain Current	$T_C = 25\text{ }^\circ\text{C}$	I_D	10	A
	$T_C = 70\text{ }^\circ\text{C}$		8	
Pulsed Drain Current ¹		I_{DM}	50	
Power Dissipation	$T_C = 25\text{ }^\circ\text{C}$	P_D	2.5	W
	$T_C = 70\text{ }^\circ\text{C}$		1.6	
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	$R_{\theta JA}$		50	$^\circ\text{C} / \text{W}$

¹Pulse width limited by maximum junction temperature.

²Duty cycle $\leq 1\%$

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

PARAMETER	SYMBOL	TEST CONDITIONS	LIMITS			UNIT
			MIN	TYP	MAX	
STATIC						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = 250\mu\text{A}$	30			V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu\text{A}$	1	1.5	2.5	
Gate-Body Leakage	I_{GSS}	$V_{DS} = 0V, V_{GS} = \pm 20V$			± 100	nA
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = 24V, V_{GS} = 0V$			1	μA
		$V_{DS} = 20V, V_{GS} = 0V, T_J = 55\text{ }^\circ\text{C}$			10	
On-State Drain Current ¹	$I_{D(ON)}$	$V_{DS} = 5V, V_{GS} = 10V$	20			A
Drain-Source On-State Resistance ¹	$R_{DS(ON)}$	$V_{GS} = 4.5V, I_D = 5A$		13	20	m
		$V_{GS} = 10V, I_D = 10A$		9.5	12.5	
Forward Transconductance ¹	g_{fs}	$V_{DS} = 15V, I_D = 10A$		38		S

DYNAMIC						
Input Capacitance	C_{iss}	$V_{GS} = 0V, V_{DS} = 15V, f = 1MHz$		3100		pF
Output Capacitance	C_{oss}			600		
Reverse Transfer Capacitance	C_{rss}			275		
Total Gate Charge ²	Q_g	$V_{DS} = 0.5V_{(BR)DSS}, V_{GS} = 10V, I_D = 10A$		43	60	nC
Gate-Source Charge ²	Q_{gs}			9.0		
Gate-Drain Charge ²	Q_{gd}			7.0		
Turn-On Delay Time ²	$t_{d(on)}$	$V_{DS} = 15V, R_L = 25$ $I_D \cong 1A, V_{GS} = 10V, R_{GEN} = 6$		15	30	nS
Rise Time ²	t_r			9	20	
Turn-Off Delay Time ²	$t_{d(off)}$			70	100	
Fall Time ²	t_f			20	80	
SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS ($T_c = 25^\circ C$)						
Continuous Current	I_S				2.3	A
Pulsed Current ³	I_{SM}				4.6	
Forward Voltage ¹	V_{SD}	$I_F = 1A, V_{GS} = 0V$			1.1	V
Reverse Recovery Time	t_{rr}	$I_F = 2.3A, di_F/dt = 100A / \mu S$		50	80	nS

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

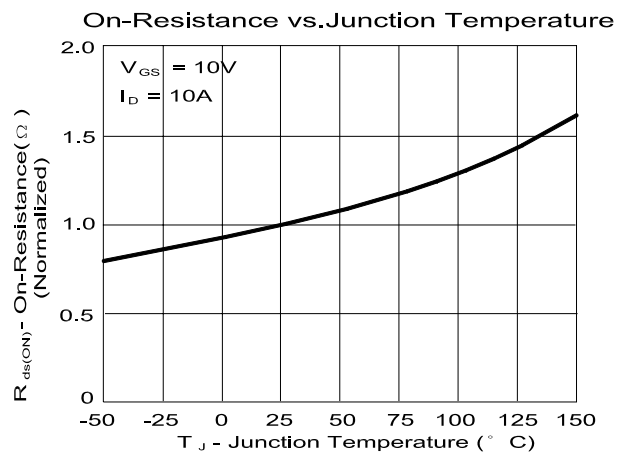
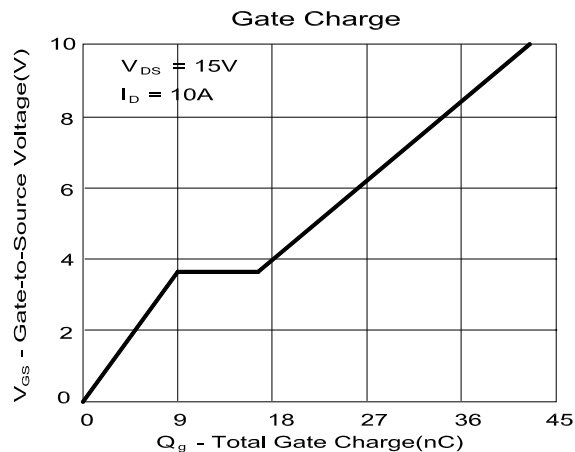
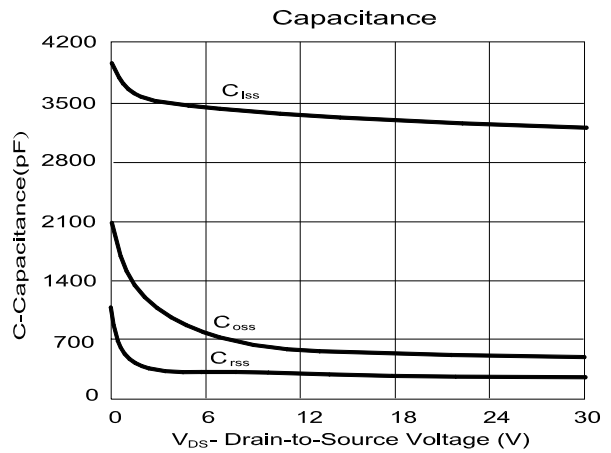
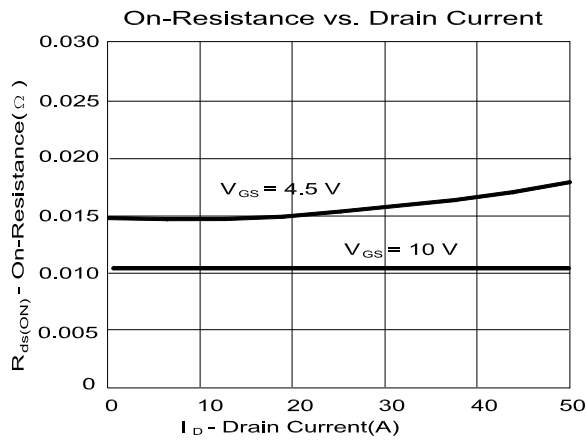
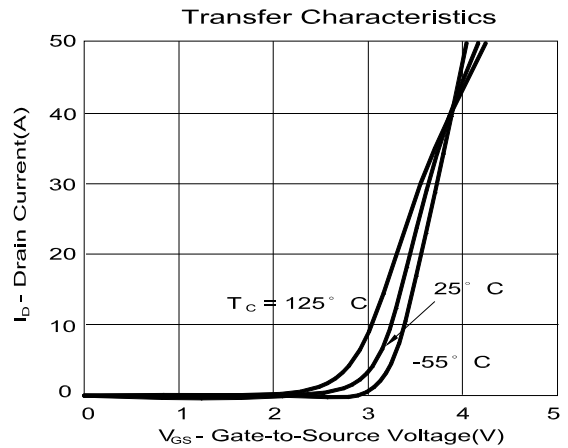
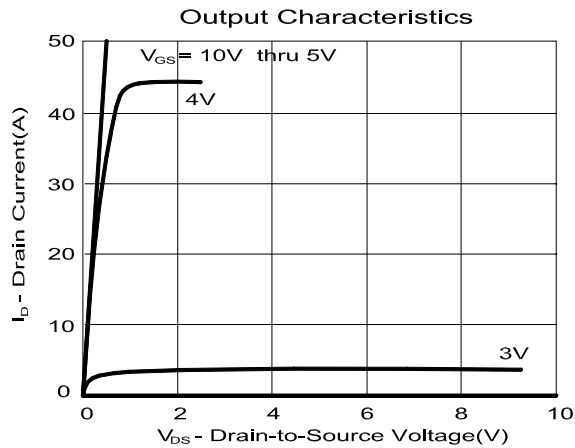
²Independent of operating temperature.

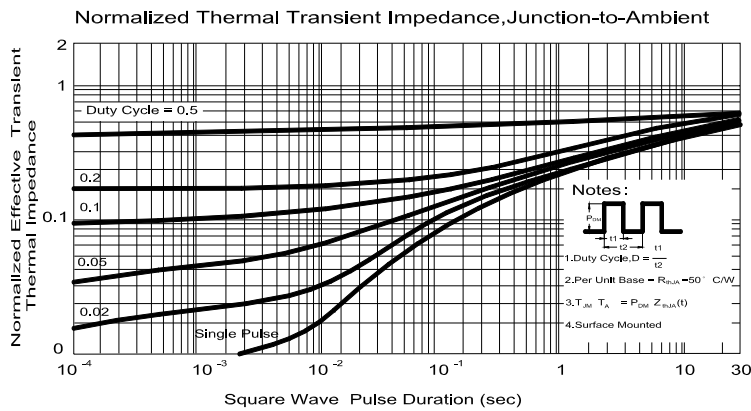
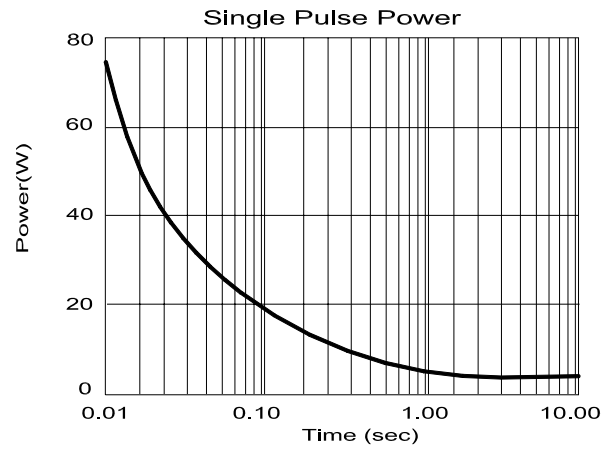
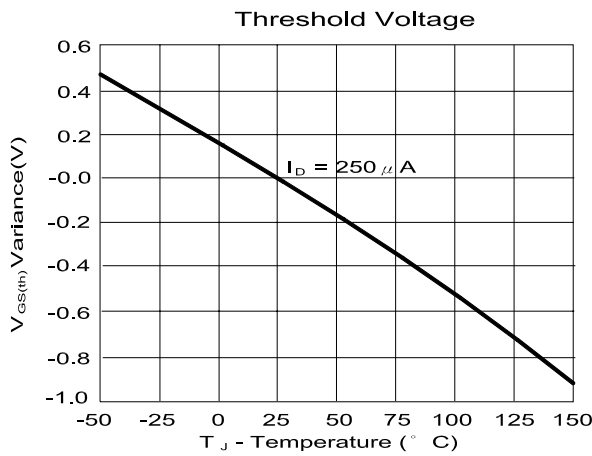
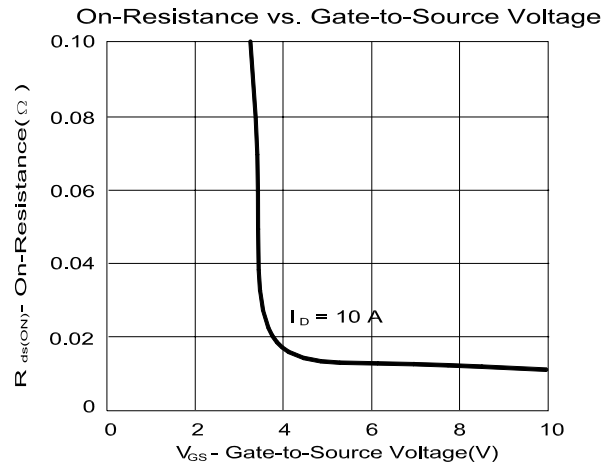
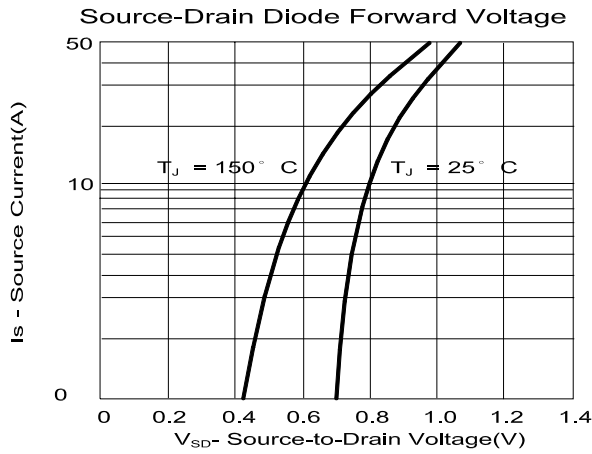
³Pulse width limited by maximum junction temperature.

REMARK: THE PRODUCT MARKED WITH "P1303BVG", DATE CODE or LOT #

Orders for parts with Lead-Free plating can be placed using the PXXXXXXG parts name.

TYPICAL PERFORMANCE CHARACTERISTICS





SOIC-8 (D) MECHANICAL DATA

Dimension	mm			Dimension	mm		
	Min.	Typ.	Max.		Min.	Typ.	Max.
A	4.8	4.9	5.0	H	0.5	0.715	0.83
B	3.8	3.9	4.0	I	0.18	0.254	0.25
C	5.8	6.0	6.2	J		0.22	
D	0.38	0.445	0.51	K	0°	4°	8°
E		1.27		L			
F	1.35	1.55	1.75	M			
G	0.1	0.175	0.25	N			

