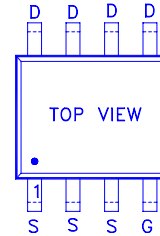
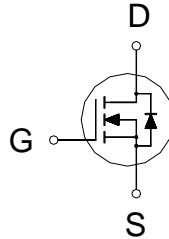


**PRODUCT SUMMARY**

$V_{(BR)DSS}$	$R_{DS(ON)}$	$I_D$
30	11m	11A



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		$V_{GS}$	$\pm 20$	V
Continuous Drain Current	$T_C = 25\text{ }^\circ\text{C}$	$I_D$	11	A
	$T_C = 90\text{ }^\circ\text{C}$		12	
Pulsed Drain Current <sup>1</sup>		$I_{DM}$	100	
Power Dissipation	$T_C = 25\text{ }^\circ\text{C}$	$P_D$	2.5	W
	$T_C = 90\text{ }^\circ\text{C}$		3.0	
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	$^\circ\text{C} / \text{W}$

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

<sup>2</sup>Duty cycle  $\leq 1\%$

**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	$V_{(BR)DSS}$	$V_{GS} = 0\text{V}, I_D = 250\mu\text{A}$	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	$I_{GSS}$	$V_{DS} = 0\text{V}, V_{GS} = \pm 20\text{V}$			$\pm 100$	nA
Zero Gate Voltage Drain Current	$I_{DSS}$	$V_{DS} = 24\text{V}, V_{GS} = 0\text{V}$			1	$\mu\text{A}$
		$V_{DS} = 20\text{V}, V_{GS} = 0\text{V}, T_J = 55\text{ }^\circ\text{C}$			10	
Drain-Source On-State Resistance <sup>1</sup>	$R_{DS(ON)}$	$V_{GS} = 4.5\text{V}, I_D = 10\text{A}$		13	16.5	m
		$V_{GS} = 10\text{V}, I_D = 11\text{A}$		9	11	
Forward Transconductance <sup>1</sup>	$g_{fs}$	$V_{DS} = 15\text{V}, I_D = 10\text{A}$		38		S

DYNAMIC						
Input Capacitance	$C_{iss}$	$V_{GS} = 0V, V_{DS} = 15V, f = 1MHz$		1800		pF
Output Capacitance	$C_{oss}$			720		
Reverse Transfer Capacitance	$C_{rss}$			15		
Total Gate Charge <sup>2</sup>	$Q_g$	$V_{DS} = 0.5V_{(BR)DSS}, V_{GS} = 10V, I_D = 10A$		17	26	nC
Gate-Source Charge <sup>2</sup>	$Q_{gs}$			3.4		
Gate-Drain Charge <sup>2</sup>	$Q_{gd}$			5.1		
Turn-On Delay Time <sup>2</sup>	$t_{d(on)}$	$V_{DS} = 15V, R_L = 25$ $I_D \cong 1A, V_{GS} = 10V, R_{GEN} = 6$		8.6		nS
Rise Time <sup>2</sup>	$t_r$			21		
Turn-Off Delay Time <sup>2</sup>	$t_{d(off)}$			43		
Fall Time <sup>2</sup>	$t_f$			10		
SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS ( $T_C = 25^\circ C$ )						
Continuous Current	$I_S$				2.5	A
Pulsed Current <sup>3</sup>	$I_{SM}$				5	
Forward Voltage <sup>1</sup>	$V_{SD}$	$I_F = 1A, V_{GS} = 0V$			1.1	V
Reverse Recovery Time	$t_{rr}$	$I_F = 2.3A, di_F/dt = 100A / \mu S$		50	80	nS

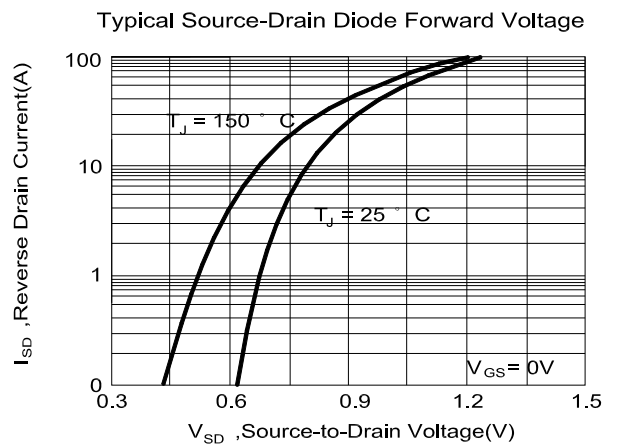
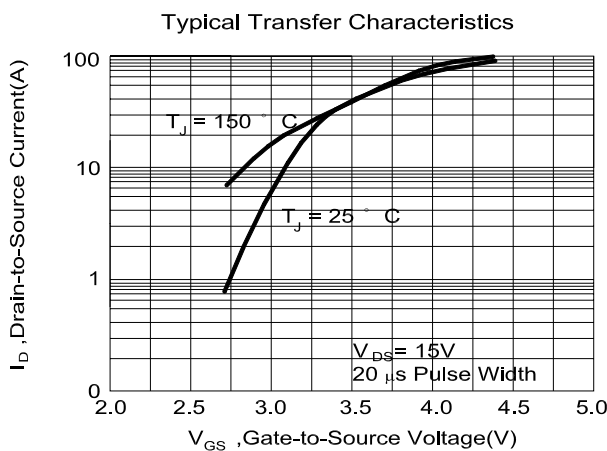
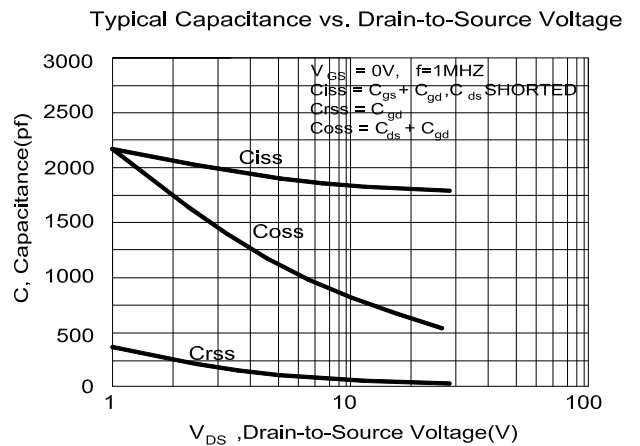
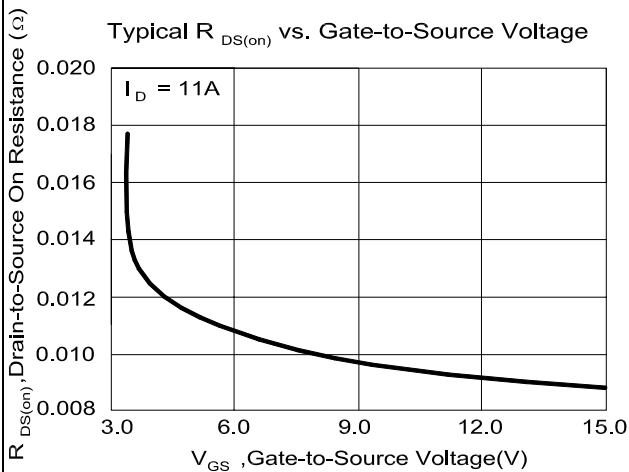
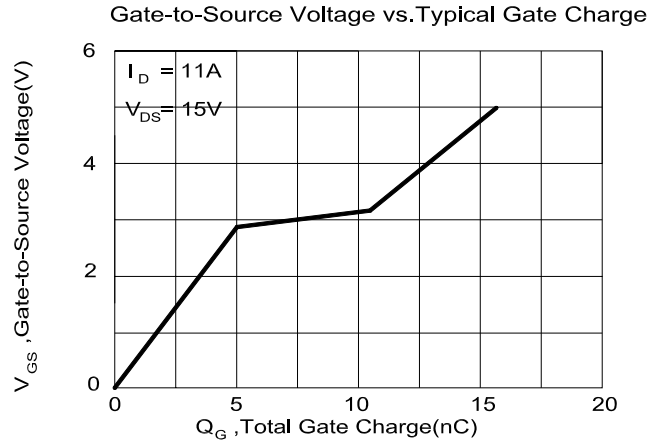
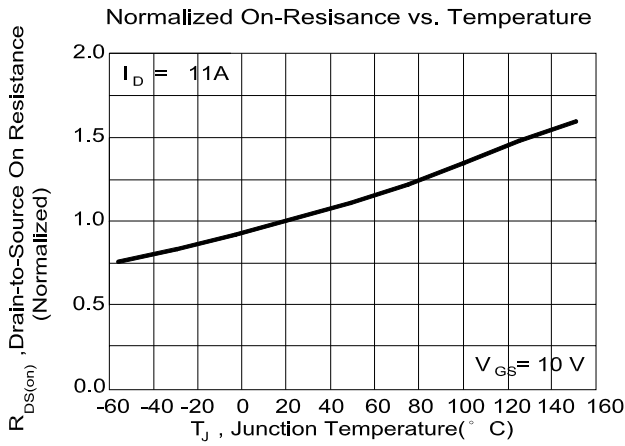
<sup>1</sup>Pulse test : Pulse Width  $\leq 300 \mu sec$ , Duty Cycle  $\leq 2\%$ .

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

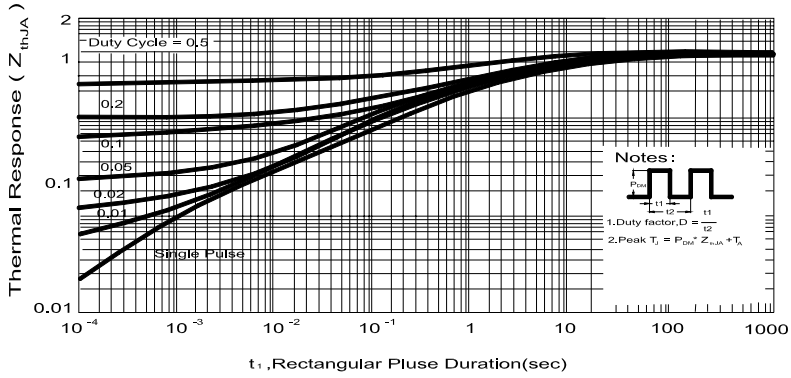
<sup>3</sup>Pulse width limited by maximum junction temperature.

**REMARK: THE PRODUCT MARKED WITH “P1103BVG”, DATE CODE or LOT #**

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



Maximum Effective Transient Thermal Impedance, Junction-to-Ambient



**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			

