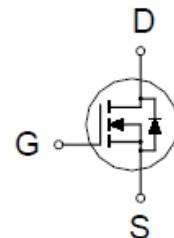
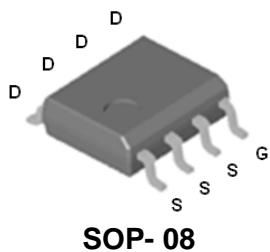


# P1203BV

## N-Channel Enhancement Mode MOSFET

### PRODUCT SUMMARY

$V_{(BR)DSS}$	$R_{DS(ON)}$	$I_D$
30V	12mΩ @ $V_{GS} = 10V$	11A



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

PARAMETERS/TEST CONDITIONS	SYMBOL	LIMITS	UNITS
Drain-Source Voltage	$V_{DS}$	30	V
Gate-Source Voltage	$V_{GS}$	$\pm 20$	
Continuous Drain Current <sup>2</sup>	$I_D$	11	A
		7	
Pulsed Drain Current <sup>1, 2</sup>	$I_{DM}$	40	
Avalanche Current	$I_{AS}$	28	
Avalanche Energy	$E_{AS}$	40	mJ
Power Dissipation	$P_D$	2.5	W
		1	
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	

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

<sup>2</sup>Limited only by maximum temperature allowed

## P1203BV

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

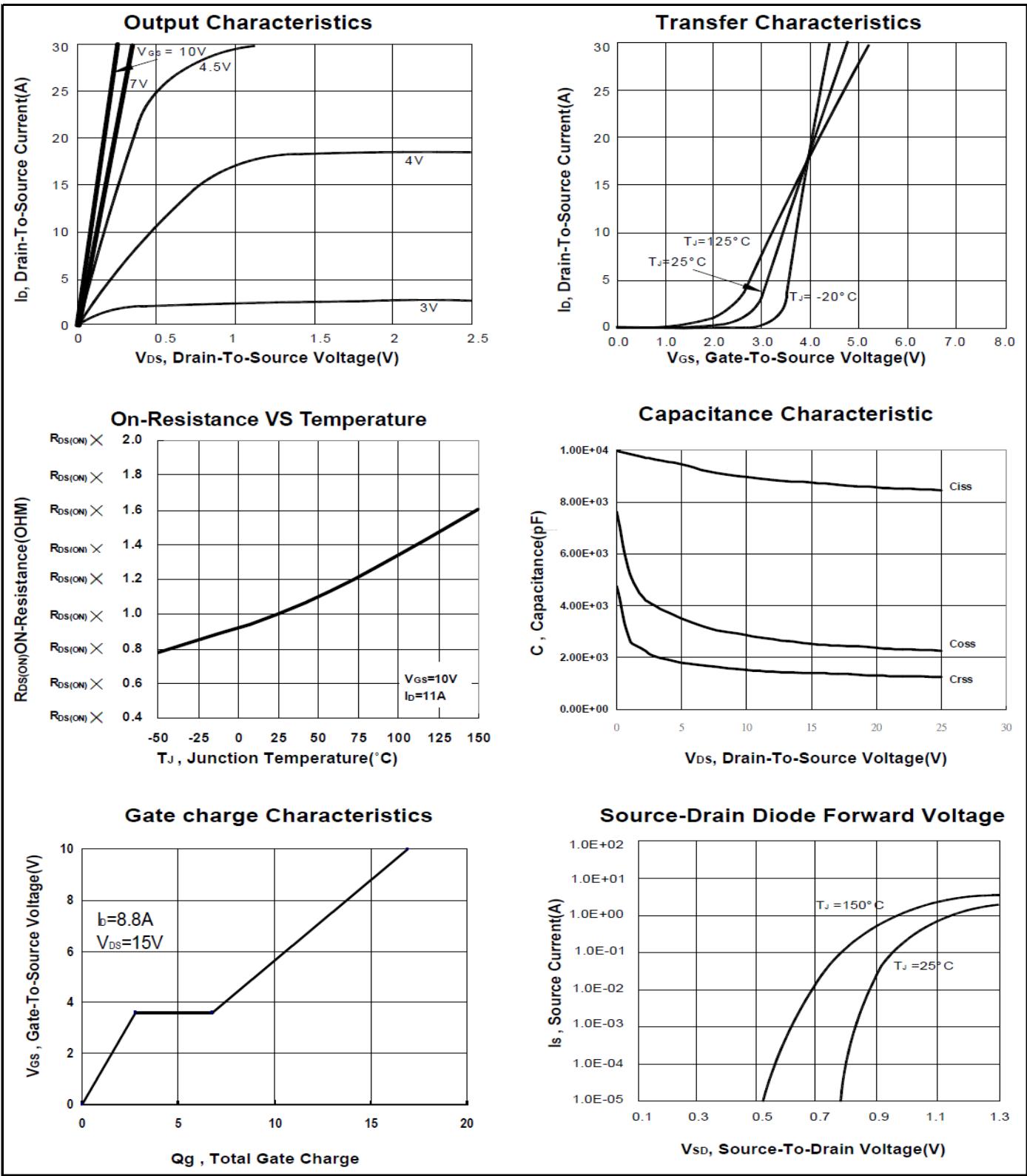
PARAMETER	SYMBOL	TEST CONDITIONS	LIMITS			UNIT
			MIN	TYP	MAX	
<b>STATIC</b>						
Drain-Source Breakdown Voltage	$V_{(\text{BR})\text{DSS}}$	$V_{\text{GS}} = 0\text{V}, I_D = 250\mu\text{A}$	30			V
Gate Threshold Voltage	$V_{\text{GS}(\text{th})}$	$V_{\text{DS}} = V_{\text{GS}}, I_D = 250\mu\text{A}$	1	1.8	3	
Gate-Body Leakage	$I_{\text{GSS}}$	$V_{\text{DS}} = 0\text{V}, V_{\text{GS}} = \pm 20\text{V}$			$\pm 100$	nA
Zero Gate Voltage Drain Current	$I_{\text{DSS}}$	$V_{\text{DS}} = 24\text{V}, V_{\text{GS}} = 0\text{V}$			1	$\mu\text{A}$
		$V_{\text{DS}} = 20\text{V}, V_{\text{GS}} = 0\text{V}, T_J = 125^\circ\text{C}$			10	
On-State Drain Current <sup>1</sup>	$I_{\text{D}(\text{ON})}$	$V_{\text{DS}} = 10\text{V}, V_{\text{GS}} = 10\text{V}$	70			A
Drain-Source On-State Resistance <sup>1</sup>	$R_{\text{DS}(\text{ON})}$	$V_{\text{GS}} = 4.5\text{V}, I_D = 11\text{A}$		14	17.5	$\text{m}\Omega$
		$V_{\text{GS}} = 10\text{V}, I_D = 11\text{A}$		8.5	12	
Forward Transconductance <sup>1</sup>	$g_{\text{fs}}$	$V_{\text{DS}} = 5\text{V}, I_D = 10\text{A}$		40		S
<b>DYNAMIC</b>						
Input Capacitance	$C_{\text{iss}}$	$V_{\text{GS}} = 0\text{V}, V_{\text{DS}} = 20\text{V}, f = 1\text{MHz}$		846		pF
Output Capacitance	$C_{\text{oss}}$			225		
Reverse Transfer Capacitance	$C_{\text{rss}}$			126		
Gate Resistance	$R_g$	$V_{\text{GS}} = 0\text{V}, V_{\text{DS}} = 0\text{V}, f = 1\text{MHz}$		1.65		$\Omega$
Total Gate Charge <sup>2</sup>	$Q_g$	$V_{\text{DS}} = 0.5V_{(\text{BR})\text{DSS}}, I_D = 8.8\text{A}, V_{\text{GS}} = 10\text{V}$		17		nC
Gate-Source Charge <sup>2</sup>	$Q_{\text{gs}}$			2.7		
Gate-Drain Charge <sup>2</sup>	$Q_{\text{gd}}$			4		
Turn-On Delay Time <sup>2</sup>	$t_{\text{d}(\text{on})}$	$V_{\text{DD}} = 15\text{V}, I_D = 12.5\text{A}, V_{\text{GS}} = 10\text{V}, R_G = 6\Omega$		9		nS
Rise Time <sup>2</sup>	$t_r$			40		
Turn-Off Delay Time <sup>2</sup>	$t_{\text{d}(\text{off})}$			20		
Fall Time <sup>2</sup>	$t_f$			6		
<b>SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS (<math>T_J = 25^\circ\text{C}</math>)</b>						
Continuous Current	$I_S$				1.9	A
Forward Voltage <sup>1</sup>	$V_{\text{SD}}$	$I_F = 25\text{A}, V_{\text{GS}} = 0\text{V}$			1.3	V
Reverse Recovery Time	$t_{\text{rr}}$	$I_F = 11\text{ A}, dI_F/dt = 100\text{A} / \mu\text{s}$		21		nS
Reverse Recovery Charge	$Q_{\text{rr}}$			10		nC

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

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

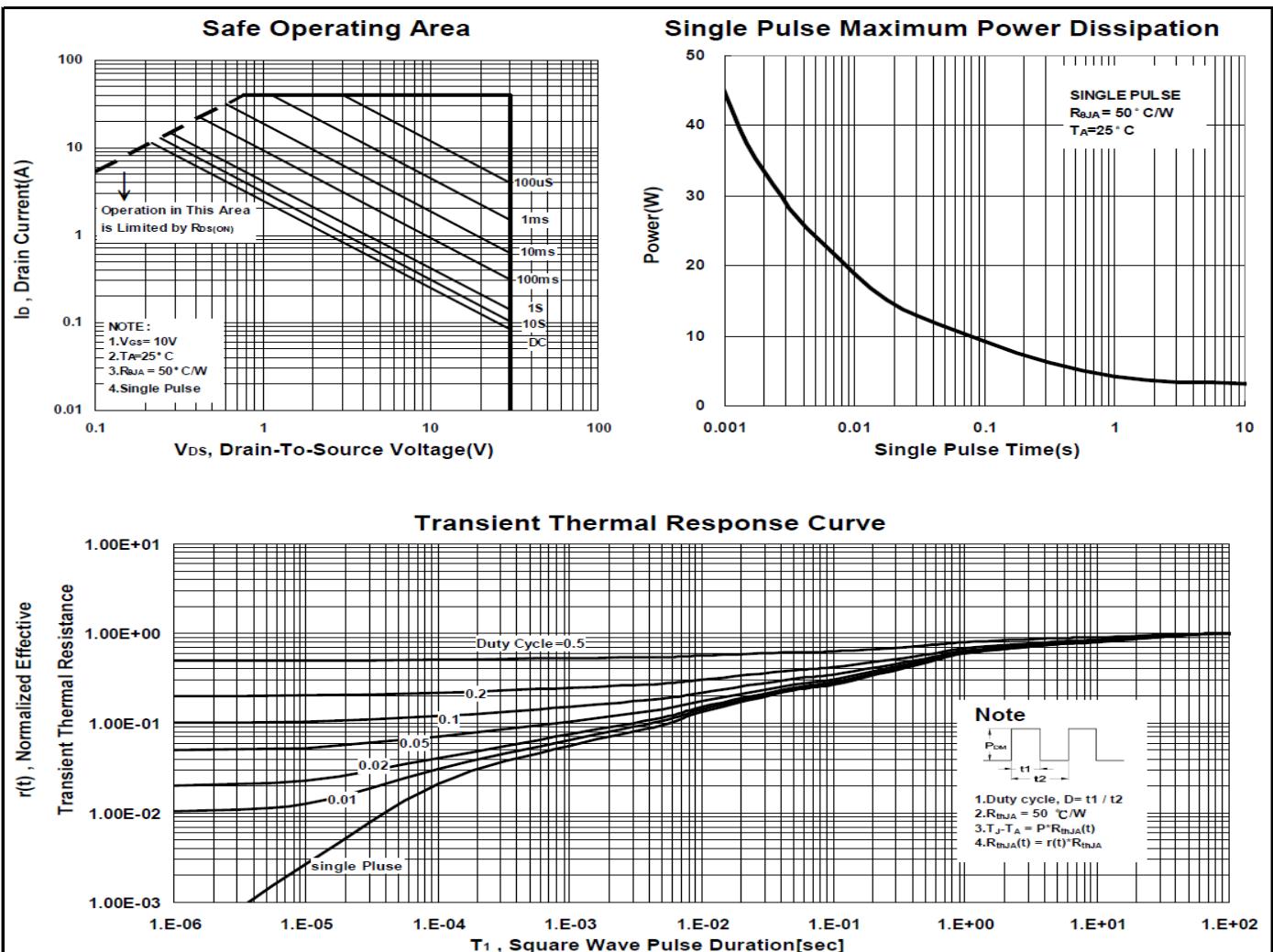
## P1203BV

### N-Channel Enhancement Mode MOSFET



## P1203BV

### N-Channel Enhancement Mode MOSFET



# P1203BV

## N-Channel Enhancement Mode MOSFET

### Package Dimension

### SOP-8 MECHANICAL DATA

Dimension	mm			Dimension	mm		
	Min.	Typ.	Max.		Min.	Typ.	Max.
A	4.8	4.9	5.0	H	0.4	0.6	0.93
B	3.8	3.9	4.0	I	0.19	0.21	0.25
C	5.79	6.0	6.2	J	0.25	0.375	0.5
D	0.33	0.4	0.51	K	0°	3°	18°
E	1.25	1.27	1.29				
F	1.1	1.3	1.65				
G	0.05	0.15	0.25				

