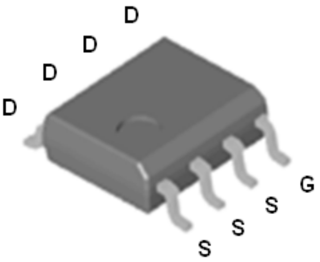
P8008BV

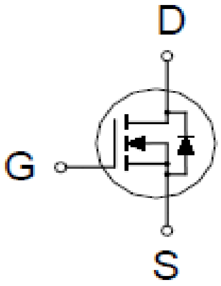
N-Channel Logic Level Enhancement Mode MOSFET

PRODUCT SUMMARY

$V_{(BR)DSS}$	$R_{DS(ON)}$	I_D
80V	80mΩ @V_{GS} = 10V	3A



SOP-8



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

PARAMETERS/TEST CONDITIONS		SYMBOL	LIMITS	UNITS
Drain-Source Voltage		V_{DS}	80	V
Gate-Source Voltage		V_{GS}	±25	
Continuous Drain Current[1]	T_A = 25 °C	I_D	3	A
	T_A = 100 °C		2	
Pulsed Drain Current		I_{DM}	15	
Avalanche Current		I_{AS}	22	
Avalanche Energy	L = 0.1mH	E_{AS}	26	mJ
Power Dissipation	T_A= 25 °C	P_D	2.5	W
	T_A =100 °C		1	
Junction & Storage Temperature Range		T_j, T_{stg}	-55 to 150	°C

THERMAL RESISTANCE RATINGS

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

[1] Pulse width limited by maximum junction temperature.

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

PARAMETER	SYMBOL	TEST CONDITIONS	LIMITS			UNITS
			MIN	TYP	MAX	
STATIC						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	V_{GS} = 0V, I_D = 250μA	80			V
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS} = V_{GS}, I_D = 250μA	1	2	3	
Gate-Body Leakage	I_{GSS}	V_{DS} = 0V, V_{GS} = ±25V			±100	nA
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS} = 64V, V_{GS} = 0V			1	μA
		V_{DS} = 60V, V_{GS} = 0V, T_J = 55 °C			10	
Drain-Source On-State Resistance[1]	$R_{DS(ON)}$	V_{GS} = 4.5V, I_D = 1A		56	90	mΩ
		V_{GS} = 10V, I_D = 3A		51	80	
Forward Transconductance[1]	g_{fs}	V_{DS} = 10V, I_D = 3A		10		S
On-State Drain Current[1]	$I_{D(ON)}$	V_{DS} = 5V, V_{GS} = 10V	15			A
DYNAMIC						
Input Capacitance	C_{iss}	V_{GS} = 0V, V_{DS} = 25V, f = 1MHz		1093		pF
Output Capacitance	C_{oss}			93		
Reverse Transfer Capacitance	C_{rss}			53		
Gate Resistance	R_g	V_{GS} = 0V,V_{DS} = 0V,f = 1MHz		1.5		Ω
Total Gate Charge[2]	Q_g	V_{DS} = 40V, I_D = 3A,V_{GS} = 10V		20		nC
Gate-Source Charge[2]	Q_{gs}			3		
Gate-Drain Charge[2]	Q_{gd}			6		
Turn-On Delay Time[2]	$t_{d(on)}$	V_{DS} = 40V, I_D ≅ 3A,V_{GS} = 10V, R_{GEN} = 6Ω		5.8		nS
Rise Time[2]	t_r			3.8		
Turn-Off Delay Time[2]	$t_{d(off)}$			22		
Fall Time[2]	t_f			5.2		
SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS (T_J = 25 °C)						
Continuous Current	I_S				2.5	A
Forward Voltage[1]	V_{SD}	I_F = 3A, V_{GS} = 0V			1	V
Reverse Recovery Time	t_{rr}	I_F = 3A, dI_F/dt = 100A / μS		24		nS
Reverse Recovery Charge	Q_{rr}			23		nC

[1] Pulse test : Pulse Width ≤ 300 μsec, Duty Cycle ≤ 2%.

[2] Independent of operating temperature.

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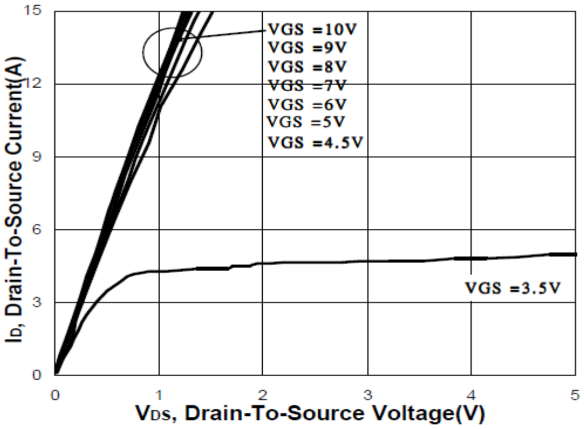
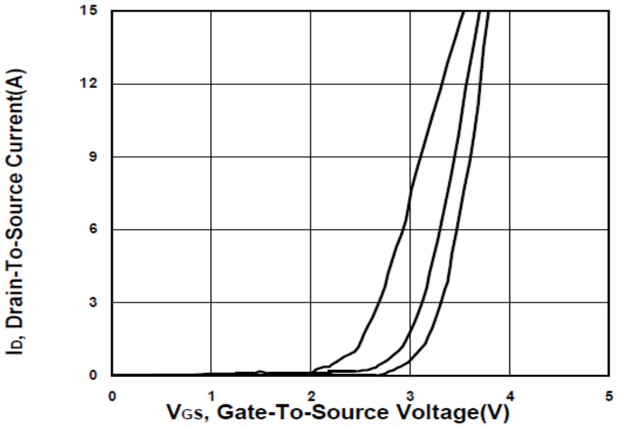
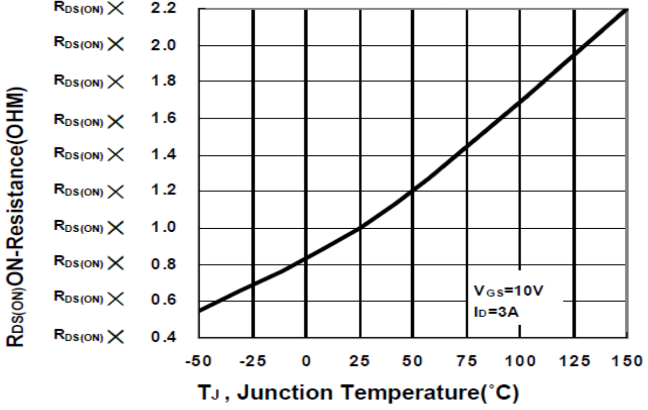
Output Characteristics



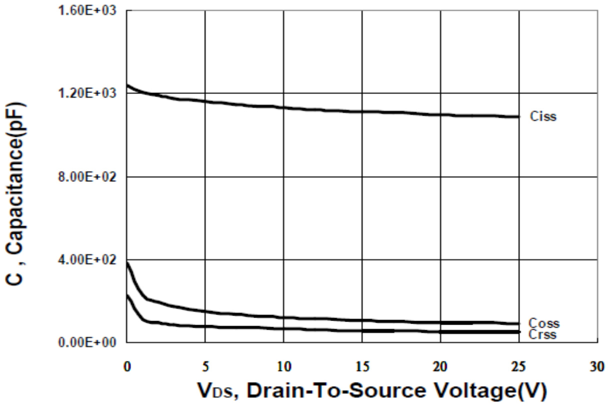
Transfer Characteristics



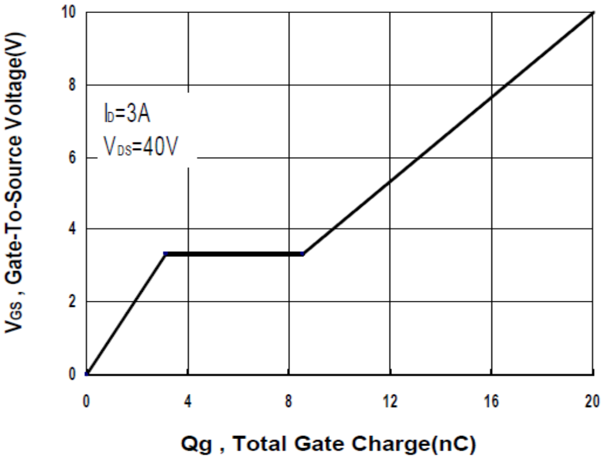
On-Resistance VS Temperature



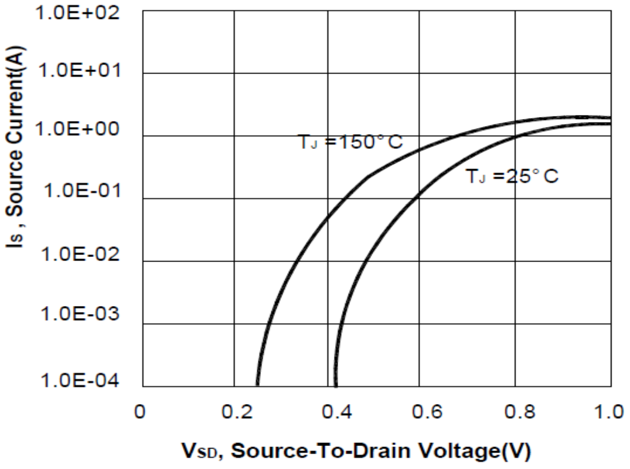
Capacitance Characteristic



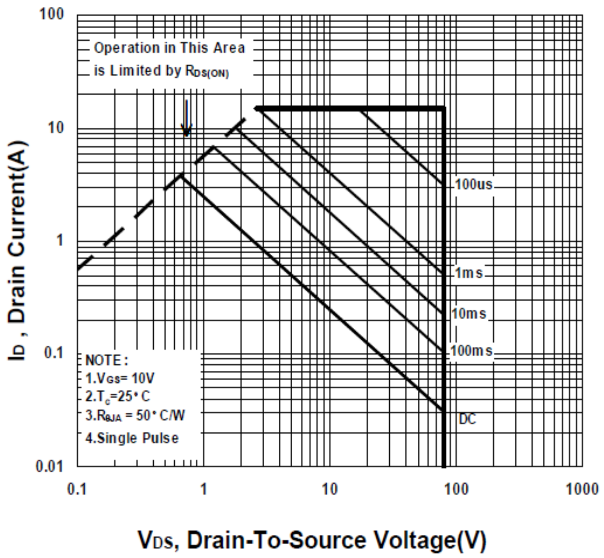
Gate charge Characteristics



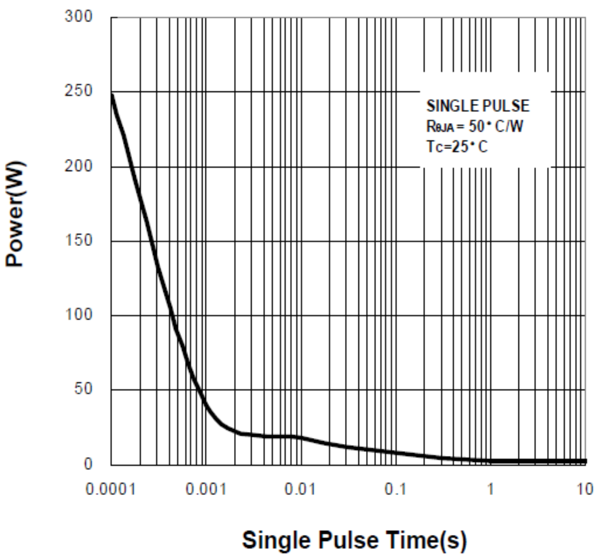
Source-Drain Diode Forward Voltage



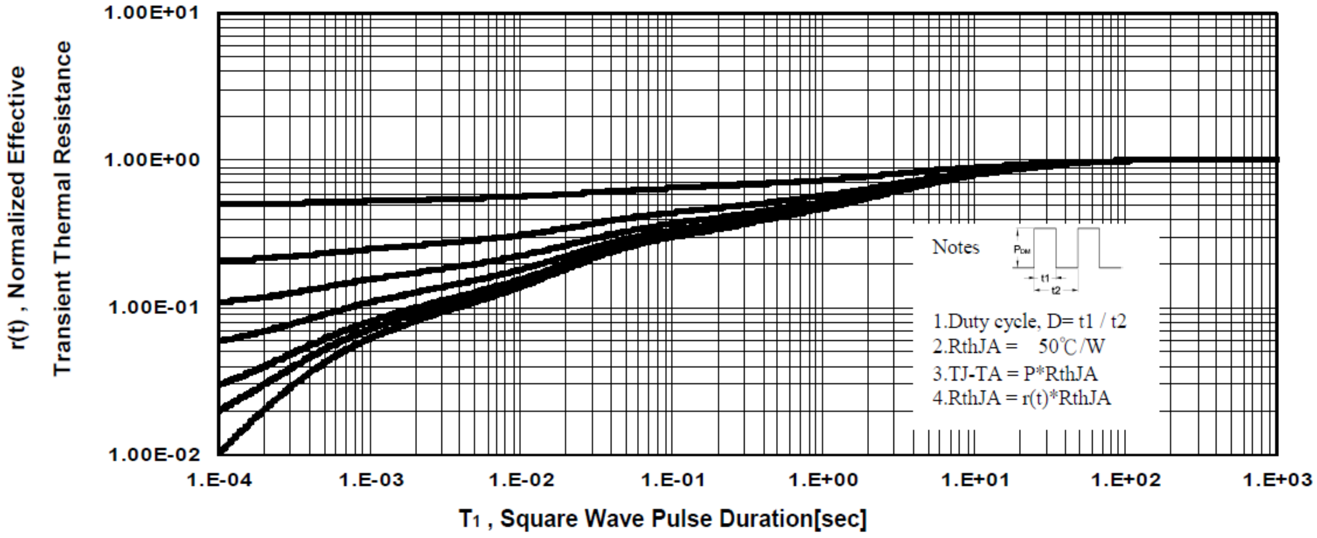
Safe Operating Area



Single Pulse Maximum Power Dissipation



Transient Thermal Response Curve



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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