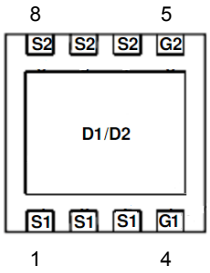
DFN-3x3-8L Plastic-Encapsulate MOSFETS

8205B

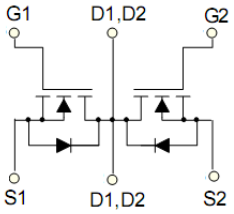
8205B Dual N-Channel MOSFET

$V_{(BR)DSS}$	$R_{DS(on)}$MAX	I_D Max
20V	0.018Ω @ 4.5V	7.5A
	0.026Ω @ 2.5V	

DFN-3x3-8L



Equivalent Circuit



MARKING



Y :year code W :week code

FEATURE

- TrenchFET Power MOSFET
- Excellent $R_{DS(on)}$
- Low Gate Charge
- High Power and Current Handing Capability
- Surface Mount Package

APPLICATION

- Battery Protection
- Load Switch
- Power Management

ABSOLUTE MAXIMUM RATINGS (T_a=25℃ unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	20	V
Gate-Source Voltage	V_{GS}	±12	V
Continuous Drain Current	I_D	7.5	A
Pulsed Drain Current (note 1)	I_{DM}	25	A
Thermal Resistance from Junction to Ambient (note 2)	$R_{\theta JA}$	90	℃/W
Junction Temperature	T_J	150	℃
Storage Temperature	T_{STG}	-55~+150	℃
Lead Temperature for Soldering Purposes(1/8'' from case for 10 s)	T_L	260	℃

DFN-3x3-8L Plastic-Encapsulate MOSFETS

8205B

MOSFET ELECTRICAL CHARACTERISTICS

T_a =25 ℃ unless otherwise specified

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
STATIC CHARACTERICTISCS						
Drain-source breakdown voltage	$V_{(BR)DSS}$	V_{GS} = 0V, I_D =250μA	20			V
Zero gate voltage drain current	I_{DSS}	V_{DS} =19V,V_{GS} = 0V			100	nA
Gate-body leakage current	I_{GSS}	V_{GS} =±12V, V_{DS} = 0V			±100	nA
Gate threshold voltage (note 3)	$V_{GS(th)}$	V_{DS} =V_{GS}, I_D =250μA	0.5	0.7	1.0	V
Drain-source on-resistance (note 3)	$R_{DS(on)}$	V_{GS} =4.5V, I_D =5.0A	12	16	18	mΩ
		V_{GS} =3.8V, I_D =4.0A	15	18	21	mΩ
		V_{GS} =2.5V, I_D =4.0A	18	22	26	mΩ
Forward tranconductance (note 3)	g_{FS}	V_{DS} =5V, I_D =4A		10		S
Diode forward voltage (note 3)	V_{SD}	I_S=1.50A, V_{GS} = 0V			1.0	V
DYNAMIC CHARACTERICTISCS (note4)						
Input Capacitance	C_{iss}	V_{DS} =10V,V_{GS} =0V,f =1MHz		800		pF
Output Capacitance	C_{oss}			150		pF
Reverse Transfer Capacitance	C_{rss}			125		pF
SWITCHING CHARACTERICTISCS (note 4)						
Turn-on delay time	$t_{d(on)}$	V_{GS}=4.5V, V_{DS}=10V, I_D=3A R_{GEN}=3Ω		18		ns
Turn-on rise time	t_r			4.8		ns
Turn-off delay time	$t_{d(off)}$			43.5		ns
Turn-off fall time	t_f			20		ns
Total Gate Charge	Q_g	V_{DS} =10V,V_{GS} =4.5V,I_D=5A		11		nC
Gate-Source Charge	Q_{gs}			2.2		nC
Gate-Drain Charge	Q_{gd}			2.5		nC

Notes :

1.Repetitive rating：Pluse width limited by maximum junction temperature

2.Surface Mounted on FR4 board，t≤10 sec.

3. Pulse test : Pulse width≤300μs, duty cycle≤2%.

4. Guaranteed by design, not subject to production.

TYPICAL ELECTRICAL AND THERMAL CHARACTERISTICS

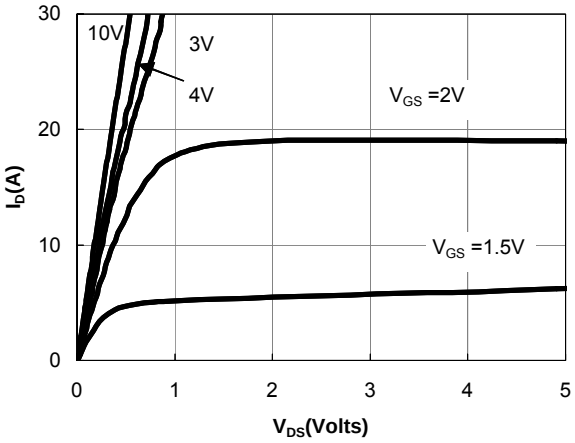


Figure 1: On-Regions Characteristics

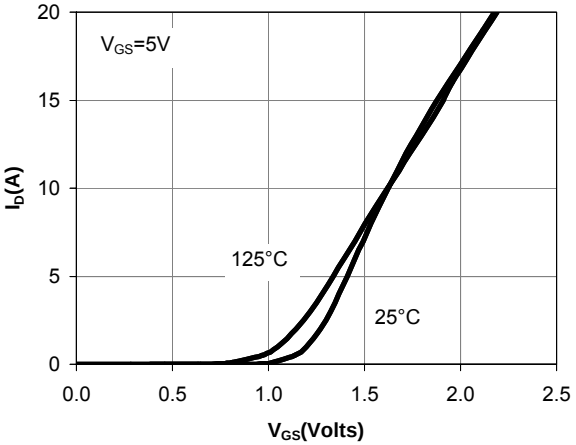


Figure 2: Transfer Characteristics

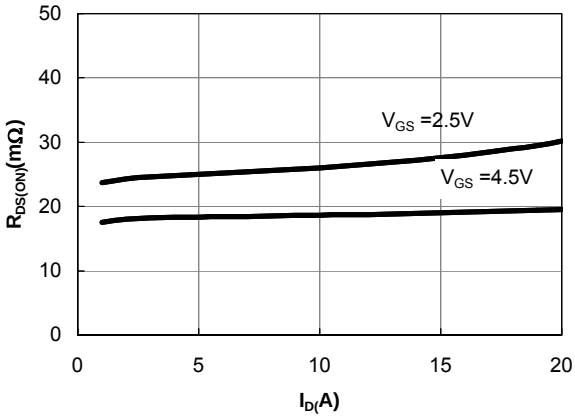


Figure 3: On-Resistance vs. Drain Current and Gate Voltage

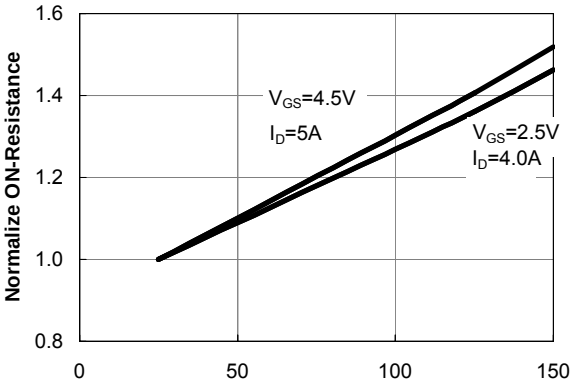


Figure 4: On-Resistance vs. Junction Temperature

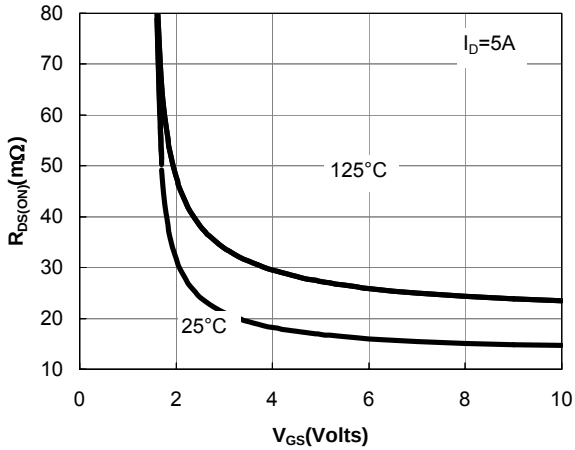


Figure 5: On-Resistance vs. Gate-Source Voltage

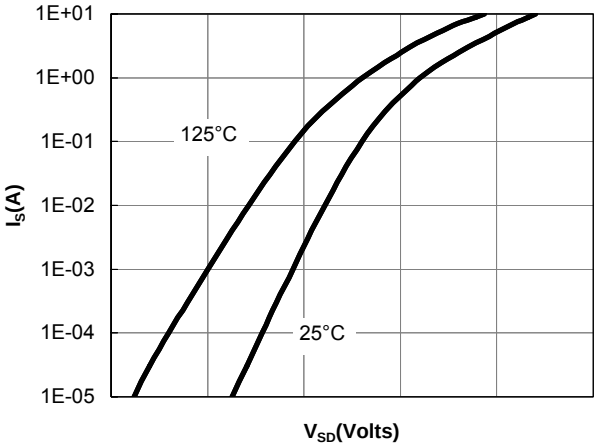


Figure 6: Body-Diode Characteristics

TYPICAL ELECTRICAL AND THERMAL CHARACTERISTICS

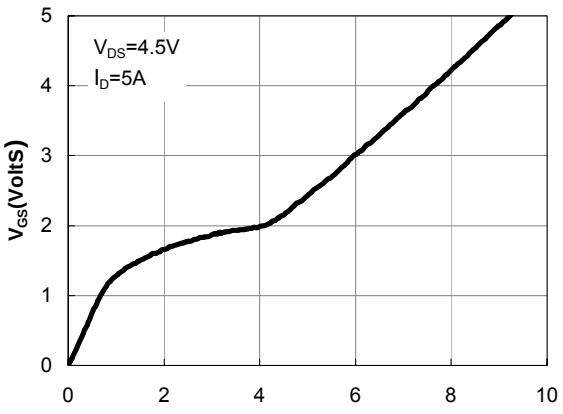


Figure 7: Gate-Charge Characteristics

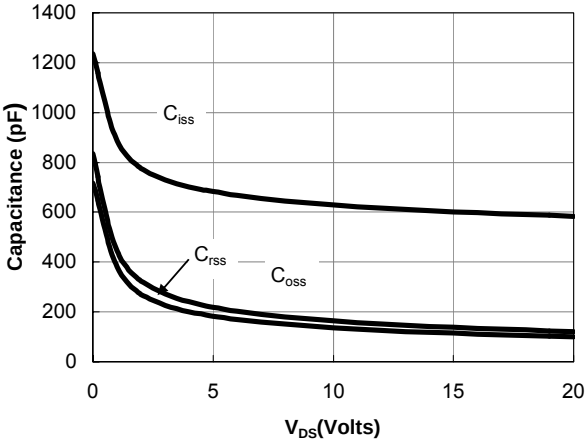


Figure 8: Capacitance Characteristics

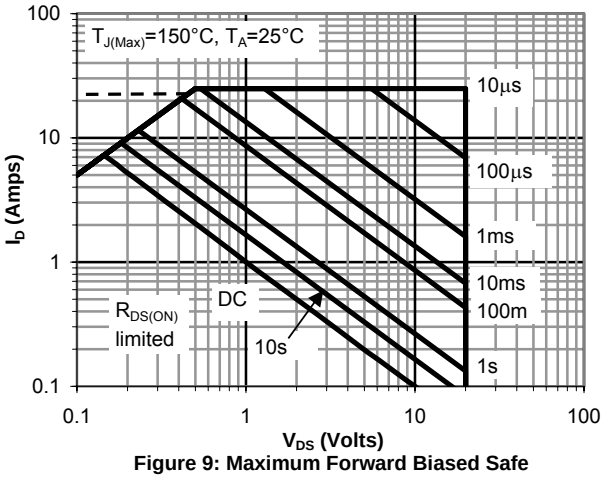


Figure 9: Maximum Forward Biased Safe Operating Area (Note E)

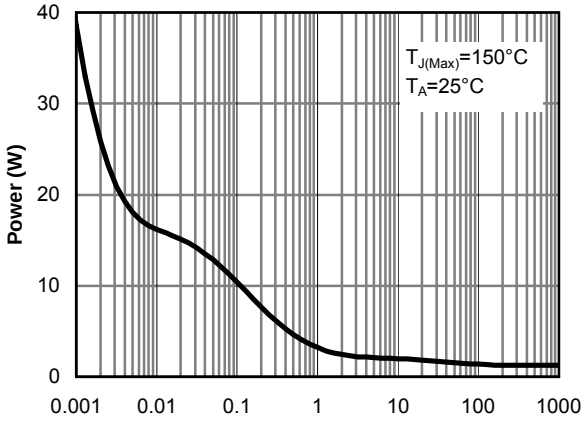


Figure 10: Single Pulse Power Rating Junction-to-

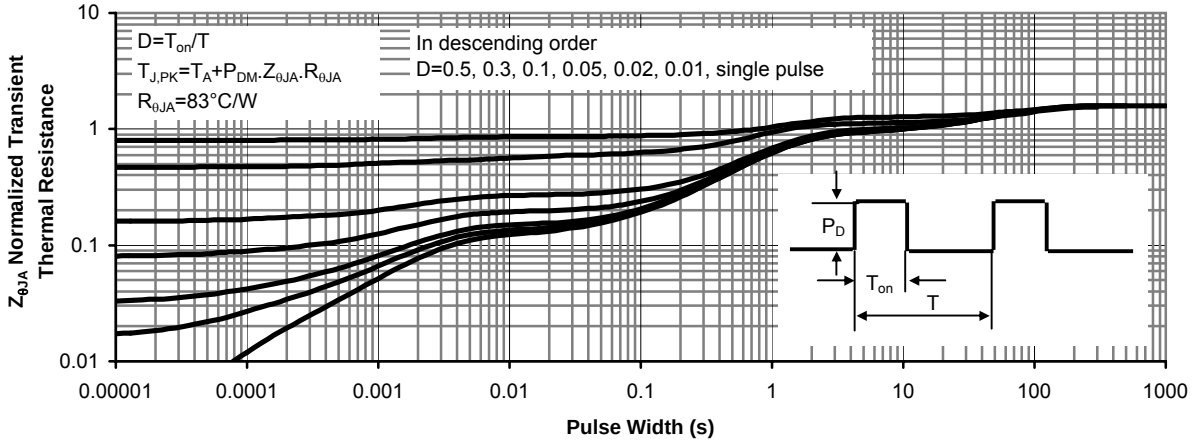
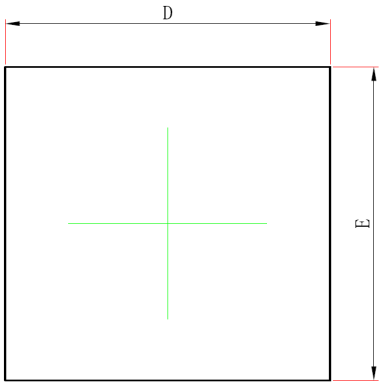
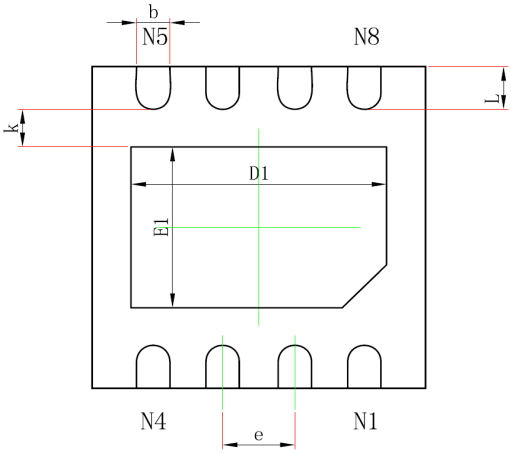


Figure 11: Normalized Maximum Transient Thermal Impedance

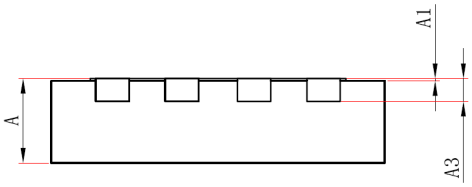
DFNWB3×3-8L-J Package Outline Dimensions(Unit:mm)



TOP VIEW



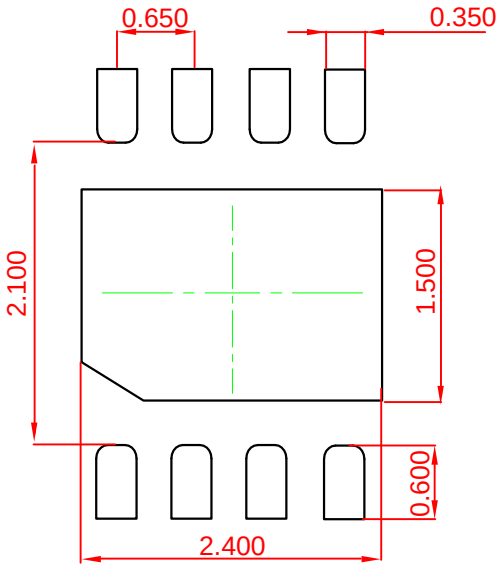
BOTTOM VIEW



SIDE VIEW

Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.700	0.800	0.028	0.031
A1	0.000	0.050	0.000	0.002
A3	0.203REF.		0.008REF.	
D	2.924	3.076	0.115	0.121
E	2.924	3.076	0.115	0.121
D1	2.200	2.400	0.087	0.094
E1	1.400	1.600	0.055	0.063
b	0.250	0.350	0.010	0.014
k	0.200MIN		0.008MIN	
e	0.650TYP.		0.026TYP.	
L	0.324	0.476	0.013	0.019

DFNWB3×3-8L-J Suggested Pad Layout



Note:
1.Controlling dimension:in millimeters.
2.General tolerance:± 0.050mm.
3.The pad layout is for reference purposes only.