SZCJ

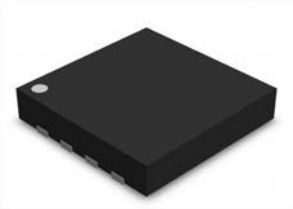
Shenzhen Changji Semiconductor Co., LTD.

DFNWB3×3-8L Plastic-Encapsulate MOSFETS

CJAE2002 Dual N-Channel MOSFET

$V_{(BR)DSS}$	$R_{DS(on)}$TYP	I_D
18V	4.4 mΩ@4.5V	15A
	4.5 mΩ@4.0V	
	4.6 mΩ@3.8V	
	4.9 mΩ@3.1V	
	5.4 mΩ@2.5V	

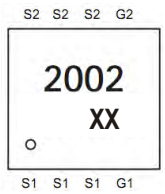
DFNWB3×3-8L



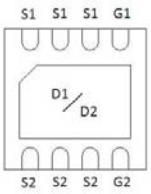
DESCRIPTION

The CJAE2002 uses advanced trench technology to provide excellent $R_{DS(ON)}$ and low gate charge. It is ESD protected. This device is suitable for use as a uni-directional or bi-directional load switch,facilitated by its common-drain configuration.

MARKING:



Top



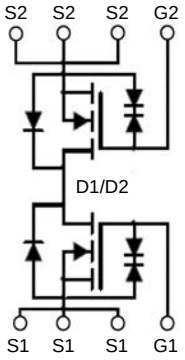
Back

2002 = Part No.

Solid dot = Pin1 indicator.

XX = Code.

Equivalent Circuit



MAXIMUM RATINGS (T_a=25℃ unless otherwise noted)

Parameter		Symbol	Value	Unit
Drain-Source Voltage		V_{DS}	18	V
Gate-Source Voltage		V_{GS}	±12	V
Continuous Drain Current	T_A = 25 °C	I_D ①	15	A
	T_A = 70 °C		13	
	T_C = 25 °C		55	
	T_C = 100 °C		35	
Pulsed Drain Current		I_{DM} ①②	100	A
Thermal Resistance from Junction to Ambient		$R_{\theta JA}$	42	℃/W
Thermal Resistance from Junction to Case		$R_{\theta JC}$	3	℃/W
Total Power Dissipation		P_D ③	3	W
Operating Junction and Storage Temperature Range		T_J,T_{stg}	-55~+150	℃

MOSFET ELECTRICAL CHARACTERISTICS

T_a=25℃ unless otherwise specified

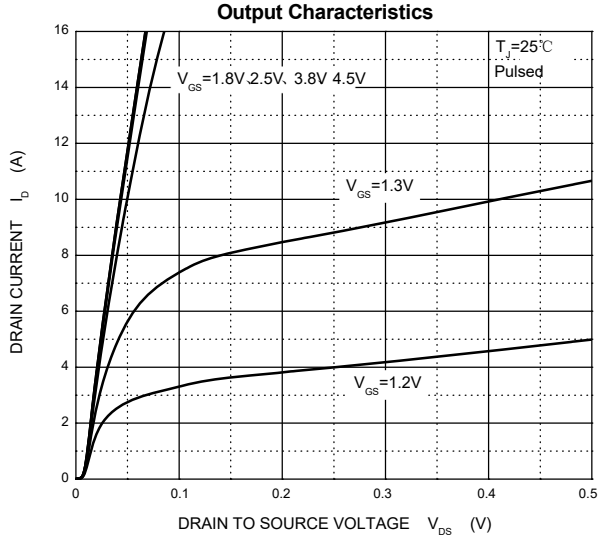
Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Off characteristics						
Drain-source breakdown voltage	$V_{(BR)DSS}$	V_{GS} = 0V, I_D =250μA	18			V
Zero gate voltage drain current	I_{DSS}	V_{DS} =16V,V_{GS} = 0V			1	μA
Gate-body leakage current	I_{GSS}	V_{GS} =±4.5V, V_{DS} = 0V			±1	μA
		V_{GS} =±8V, V_{DS} = 0V			±10	μA
On characteristics④						
Gate threshold voltage	$V_{GS(th)}$	V_{DS} =V_{GS}, I_D =250μA	0.4		1	V
Drain-source on-resistance	$R_{DS(on)}$	V_{GS} =4.5V, I_D =3A	4.0	4.4	5.5	mΩ
		V_{GS} =4.0V, I_D =3A	4.1	4.5	5.8	mΩ
		V_{GS} =3.8V, I_D =3A	4.2	4.6	6.0	mΩ
		V_{GS} =3.1V, I_D =3A	4.4	4.9	6.3	mΩ
		V_{GS} =2.5V, I_D =3A	4.8	5.4	6.5	mΩ
Forward tranconductance	g_{FS}	V_{DS} =5V, I_D =3A	8	42		S
DYNAMIC PARAMETERS ⑤						
Input Capacitance	C_{iss}	V_{DS} =10V,V_{GS} =0V,f =1MHz		1970		pF
Output Capacitance	C_{oss}			315		pF
Reverse Transfer Capacitance	C_{rss}			285		pF
Switching characteristics ⑤						
Total gate charge	Q_g	V_{DS} =10V,V_{GS} =4.5V,I_D =3A		26.5		nC
Gate-source charge	Q_{gs}			2.4		nC
Gate-drain charge	Q_{gd}			7.6		nC
Turn-on delay time	$t_{d(on)}$	V_{GS}=5V,V_{DD}=10V, I_D=3A R_L=1.35Ω,R_{GEN}=3Ω		4.5		ns
Turn-on rise time	t_r			8.9		ns
Turn-off delay time	$t_{d(off)}$			85		ns
Turn-off fall time	t_f			24		ns
Drain-Source Diode Characteristics						
Drain-source diode forward voltage	V_{SD} ④	V_{GS} =0V, I_S=1A			1.0	V
Continuous drain-source diode forward current	I_S ①				55	A
Pulsed drain-source diode forward current	I_{SM} ①②				100	A

Notes :

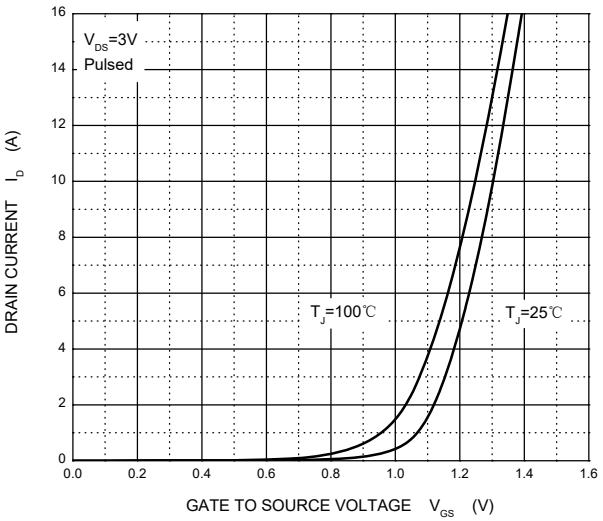
1. The data tested by surface mounted on a 1 inch² FR-4 board with 2OZ copper.
2. Pulse Test:Pulse Width < 10us, Duty Cycle < 0.5%.
3. The power dissipation is limited by 150℃junction temperature
4. Pulse Test : Pulse width≤300μs, duty cycle≤0.5%.
5. Guaranteed by design, not subject to production testing.
6. The data is theoretically the same as I_D, in real applications , should be limited by total power dissipation.

Typical Characteristics

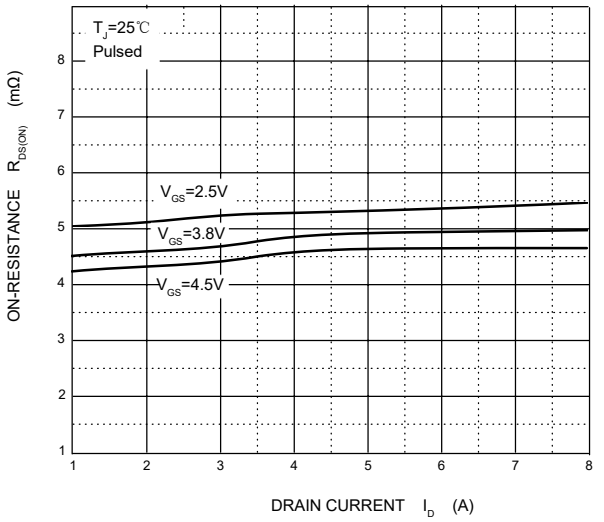
Output Characteristics



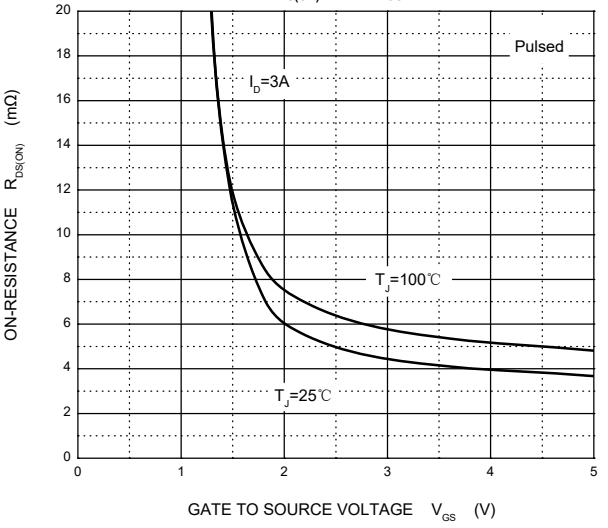
Transfer Characteristics



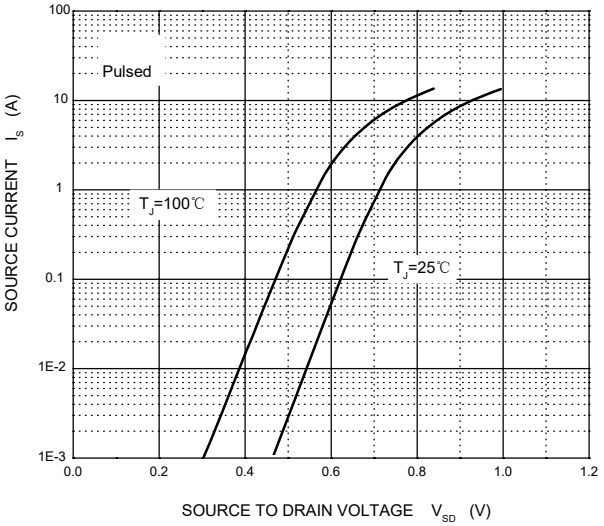
$R_{DS(ON)}$ —— I_D



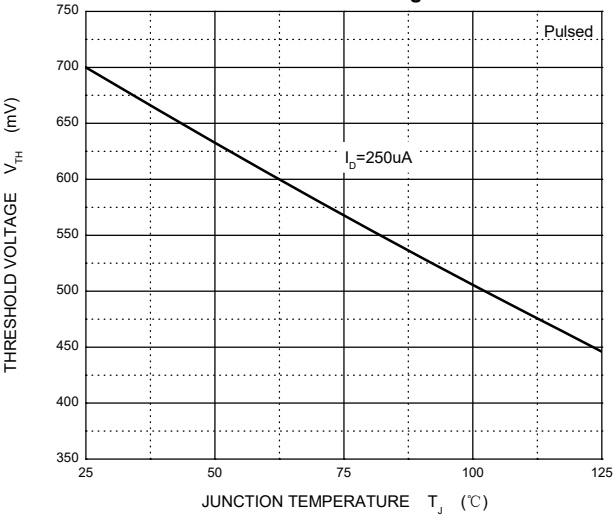
$R_{DS(ON)}$ —— V_{GS}



I_S —— V_{SD}

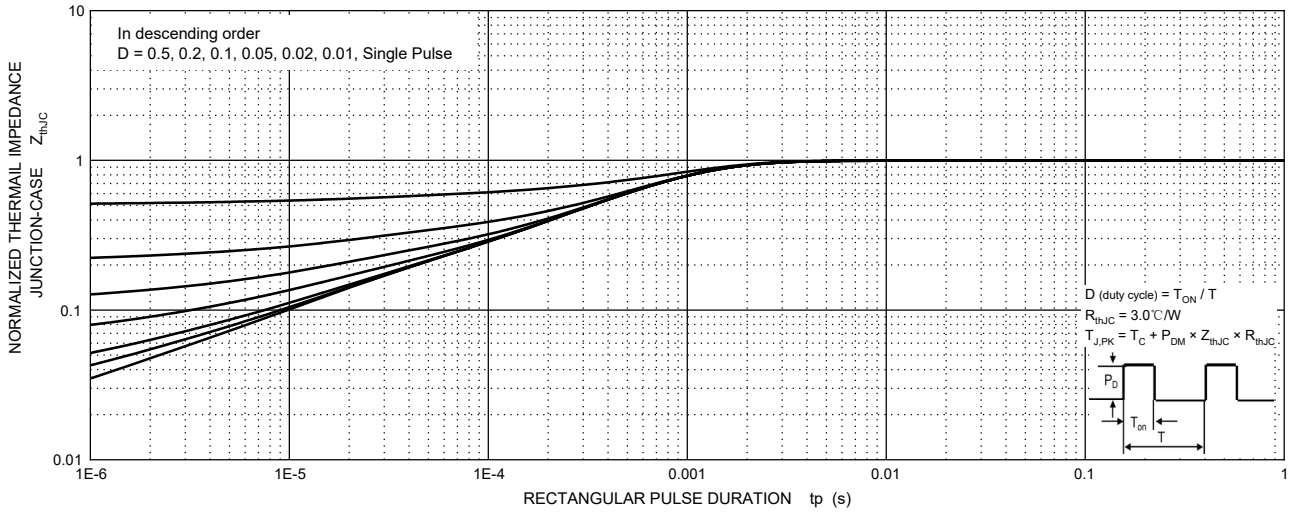


Threshold Voltage

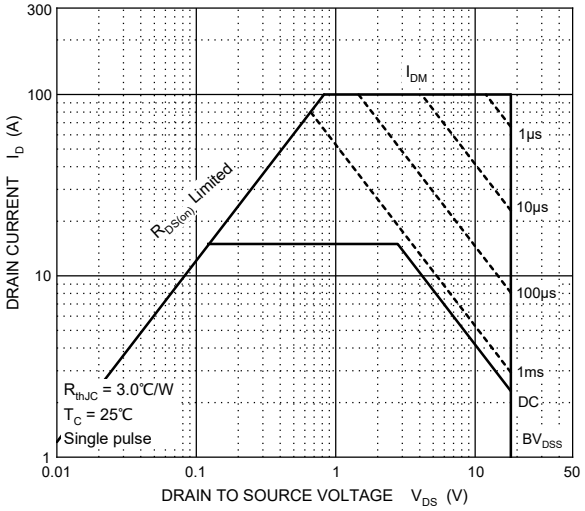


Typical Characteristics

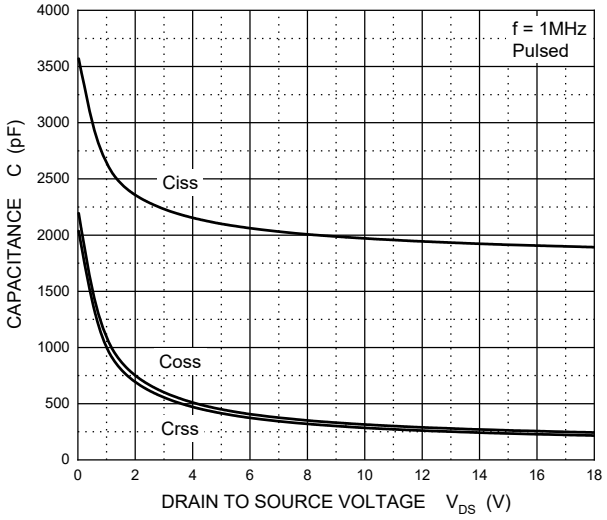
Transient Thermal Impedance, Junction-Case



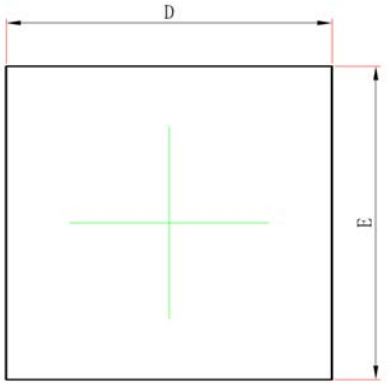
Maximum Safe Operating Area



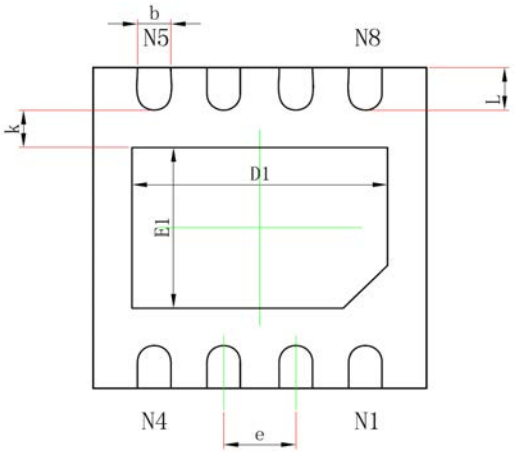
Typical Capacitances



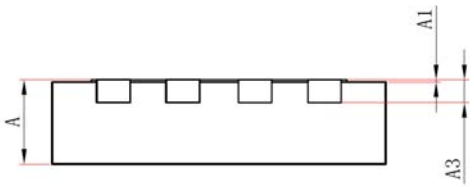
DFNWB3x3-8L-J Package Outline Dimensions(Unit:mm)



TOP VIEW



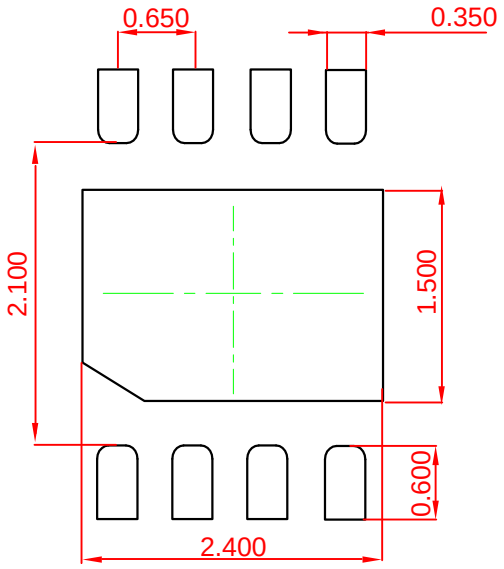
BOTTOM VIEW



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	2.900	3.100	0.114	0.122
E	2.900	3.100	0.114	0.122
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	0.350REF.		0.014REF.	
e	0.650TYP.		0.026TYP.	
L	0.324	0.476	0.013	0.019

DFNWB3x3-8L-J Suggested Pad Layout

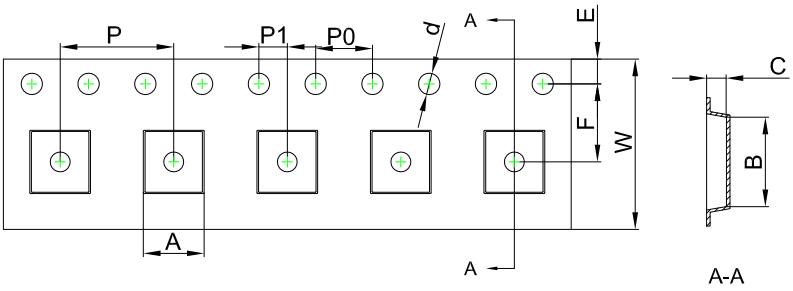


Note:
1.Controlling dimension:in millimeters.
2.General tolerance:± 0.050mm.
3.The pad layout is for reference purposes only.

NOTICE

SZCJ reserves the right to make modifications,enhancements,improvements,corrections or other changes without further notice to any product herein. SZCJ does not assume any liability arising out of the application or use of any product described herein.

DFNWB3×3-8L Embossed Carrier Tape

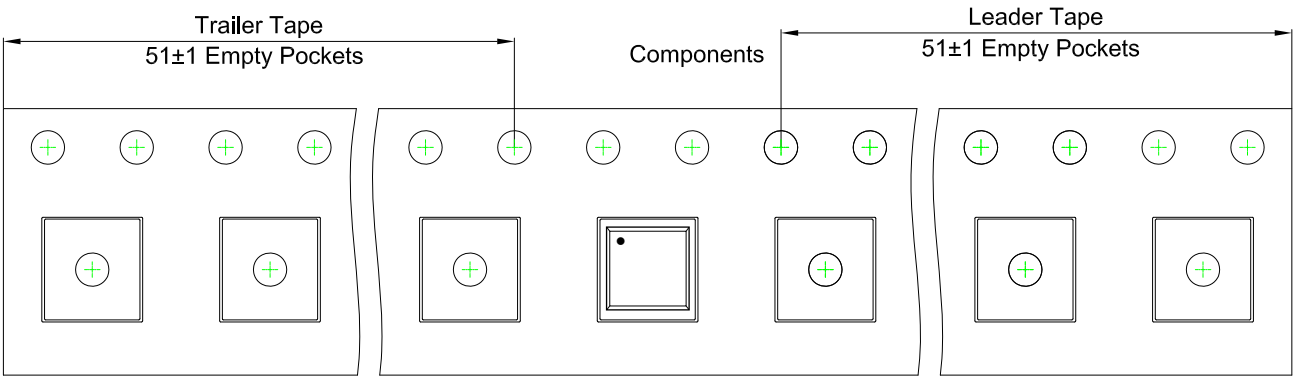


Packaging Description:

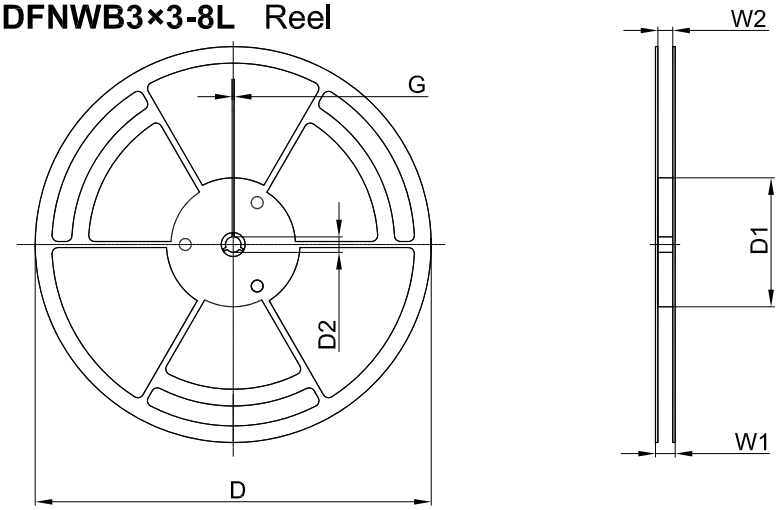
DFNWB3x3-8L parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Heat Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. These reeled parts in standard option are shipped with 5,000 units per 13" or 33.0 cm diameter reel. The reels are clear in color and is made of polystyrene plastic (anti-static coated).

Dimensions are in millimeter										
Pkg type	A	B	C	d	E	F	P0	P	P1	W
DFNWB3×3-8L	3.35	3.35	1.13	Ø1.50	1.75	5.50	4.00	8.00	2.00	12.00

DFNWB3×3-8L Tape Leader and Trailer



DFNWB3×3-8L Reel



Dimensions are in millimeter						
Reel Option	D	D1	D2	G	W1	W2
13"Dia	Ø330.00	100.00	13.00	1.90	17.60	12.40

REEL	Reel Size	Box	Box Size(mm)	Carton	Carton Size(mm)
5,000 pcs	13 inch	10,000 pcs	360×360×65	50,000 pcs	378×358×382