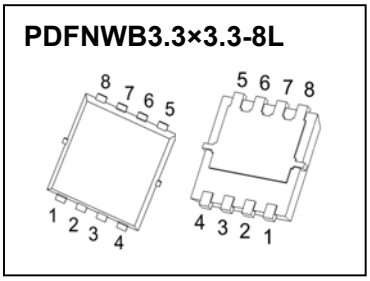
SZCJ

Shenzhen Changji Semiconductor Co., LTD.

JSCJ PDFNWB3.3×3.3-8L Plastic-Encapsulate MOSFETS

CJAB20N03 N-Channel Power MOSFET

$V_{(BR)DSS}$	$R_{DS(on)}$TYP	I_D
30 V	8.5mΩ@10V	20A
	12mΩ@4.5V	



DESCRIPTION

The CJAB20N03 uses advanced trench technology and design to provide excellent $R_{DS(ON)}$ with low gate charge. It can be used in a wide variety of applications

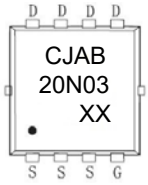
FEATURES

- Battery switch
- Load switch
- High density cell design for ultra low $R_{DS(ON)}$
- Fully characterized avalanche voltage and current
- Good stability and uniformity with high E_{AS}
- Excellent package for good heat dissipation
- Special process technology for high ESD capability

APPLICATIONS

- SMPS and general purpose applications
- Hard switched and high frequency circuits
- Uninterruptible Power Supply

MARKING

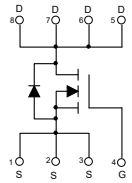


CJAB20N03 = Part No.

Solid dot = Pin1 indicator

XX = Code

EQUIVALENT CIRCUIT



MAXIMUM RATINGS (T_a=25℃ unless otherwise noted)

Parameter	Symbol	Limit	Unit
Drain-Source Voltage	V_{DS}	30	V
Gate-Source Voltage	V_{GS}	±20	V
Continuous Drain Current	I_D	20	A
Pulsed Drain Current	I_{DM}	100	A
Single Pulsed Avalanche Energy	E_{AS}(1)	70	mJ
Power Dissipation	P_D	1.5	W
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	83.3	℃/W
Junction Temperature	T_J	150	℃
Storage Temperature Range	T_{stg}	-55 ~+150	℃
Lead Temperature for Soldering Purposes(1/8'' from case for 10s)	T_L	260	℃

(1).EAS condition: V_{DD}=15V,L=0.14mH, R_G=25Ω, Starting T_J = 25°C

(2).Mounted on a glass epoxy board of 25.4 mm x 25.4 mm x 0.8 mmt

MOSFET ELECTRICAL CHARACTERISTICS

T_a=25℃ unless otherwise specified

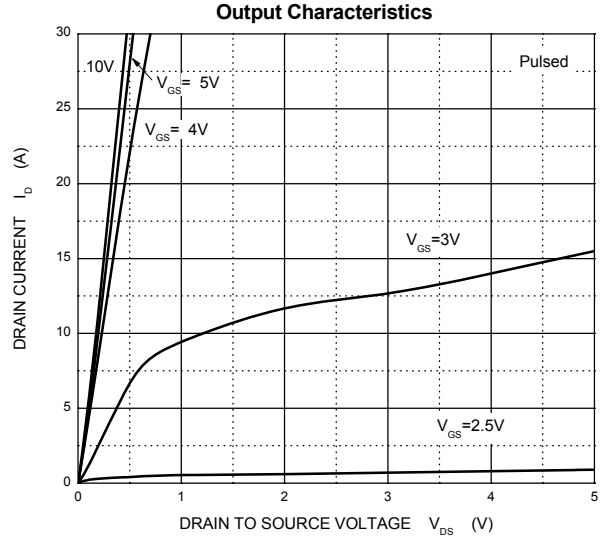
Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Off characteristics						
Drain-source breakdown voltage	$V_{(BR)DSS}$	V_{GS} = 0V, I_D =250μA	30			V
Zero gate voltage drain current	I_{DSS}	V_{DS} =30V, V_{GS} =0V			1	μA
Gate-body leakage current	I_{GSS}	V_{DS} =0V, V_{GS} =±20V			±100	nA
On characteristics (note1)						
Gate-threshold voltage	$V_{GS(th)}$	V_{DS} =V_{GS}, I_D =250μA	1.0	1.7	3.0	V
Static drain-source on-sate resistance	$R_{DS(on)}$	V_{GS} =10V, I_D =10A		8.5	12	mΩ
		V_{GS} =4.5V, I_D =10A		12	18	mΩ
Forward transconductance	g_{FS}	V_{DS} =5V, I_D =20A	15			S
Dynamic characteristics (note 2)						
Input capacitance	C_{iss}	V_{DS} =15V,V_{GS} =0V, f =1MHz		823		pF
Output capacitance	C_{oss}			138		
Reverse transfer capacitance	C_{rss}			100		
Switching characteristics (note 2)						
Total gate charge	Q_g	V_{DS}=15V, V_{GS}=10V, I_D=9A		13		nC
Gate-source charge	Q_{gs}			3		
Gate-drain charge	Q_{gd}			4.5		
Turn-on delay time	$t_{d(on)}$	V_{DS}=15V,V_{GS}=10V, R_L=1.8Ω,R_{GEN}=3Ω			10	ns
Turn-on rise time	t_r				8	
Turn-off delay time	$t_{d(off)}$				30	
Turn-off fall time	t_f				5	
Drain-Source Diode Characteristics						
Drain-source diode forward voltage(note1)	V_{SD}	V_{GS} =0V, I_S=10A			1.2	V
Continuous drain-source diode forward current	I_S				20	A
Pulsed drain-source diode forward current	I_{SM}				100	A
Reverse Recovery Time	t_{rr}	T_J = 25°C, I_F = 10A di/dt = 100A/μs(Note1)		22	35	ns
Reverse Recovery Charge	Q_{rr}			12	20	nC

Notes:

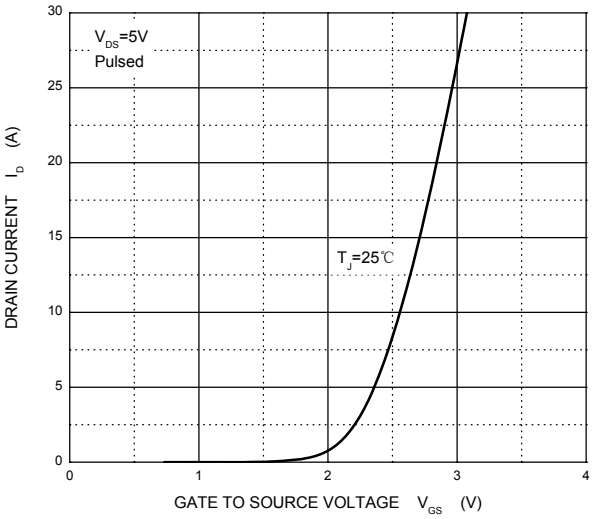
1. Pulse Test : Pulse Width≤300μs, duty cycle ≤2%.
2. Guaranteed by design, not subject to production.

Typical Characteristics

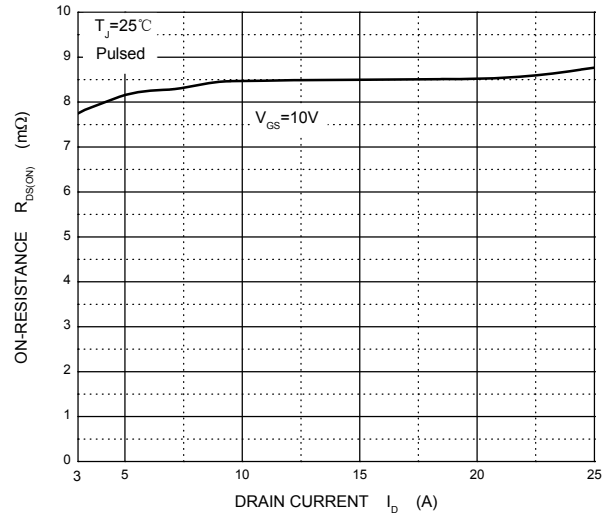
Output Characteristics



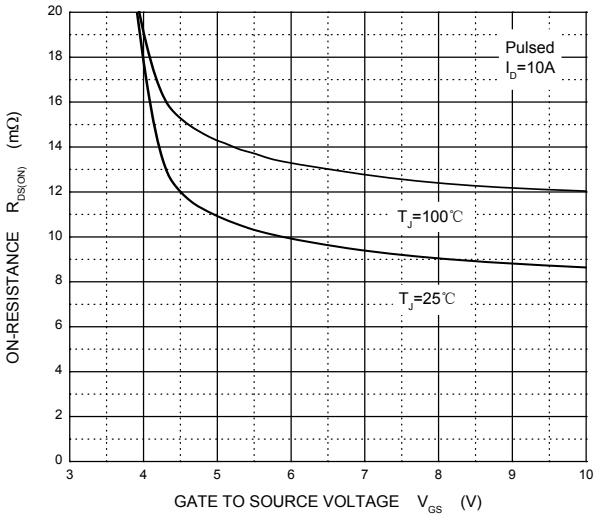
Transfer Characteristics



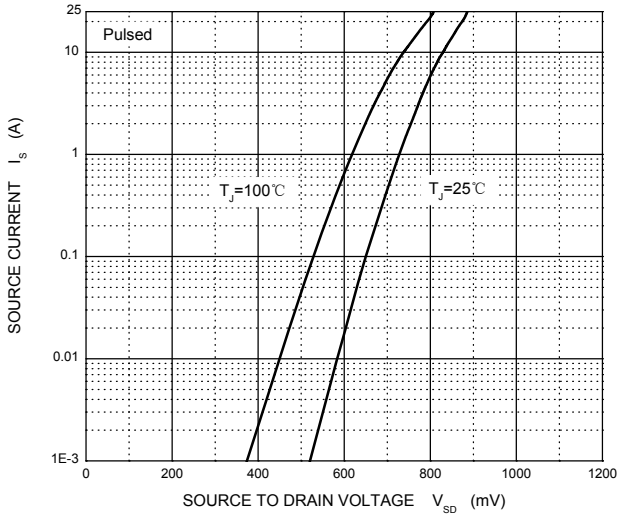
$R_{DS(ON)}$ —— I_D



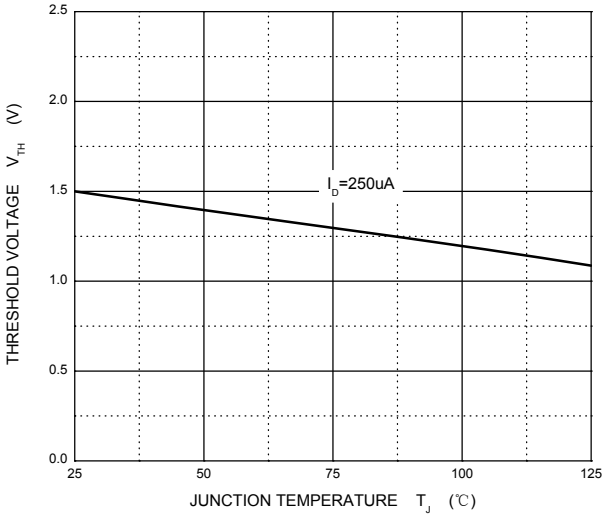
$R_{DS(ON)}$—— V_{GS}



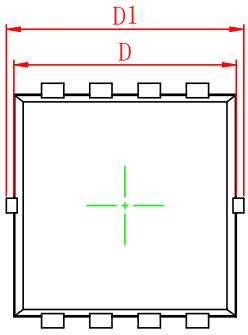
I_S —— V_{SD}



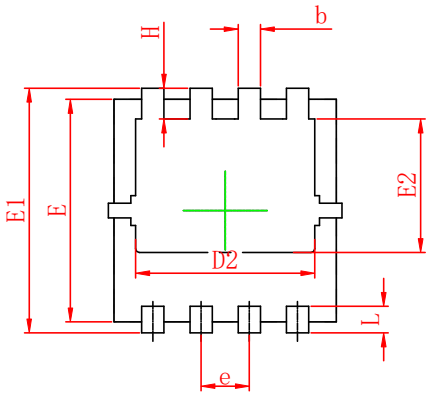
Threshold Voltage



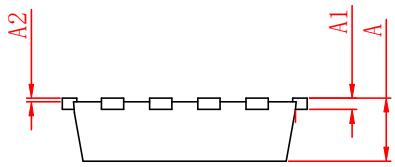
PDFNWB3.3×3.3-8L PACKAGE OUTLINE DIMENSIONS



Top View
[顶视图]



Bottom View
[背视图]

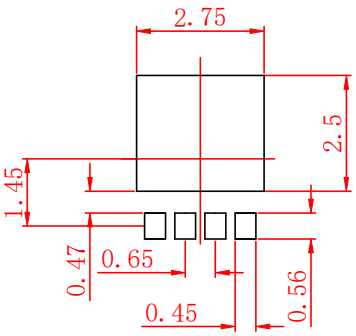


Side View
[侧视图]

Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.65	0.90	0.026	0.035
A1	0.15 REF.		0.006 REF.	
A2	0~0.05		0~0.002	
D	2.90	3.20	0.114	0.126
D1	3.00	3.40	0.118	0.134
D2	2.30	2.70	0.091	0.106
E	2.90	3.20	0.114	0.126
E1	3.00	3.40	0.118	0.134
E2	1.60	1.90	0.063	0.075
b	0.20	0.42	0.008	0.017
e	0.65 BSC.		0.026 BSC.	
L	0.20	0.50	0.008	0.020
H	0.32	0.52	0.012	0.020

Notes：
1 Dimensions exclusive of mold gate burrs.
2 Dimensions exclusive of mold flash and cutting burrs.

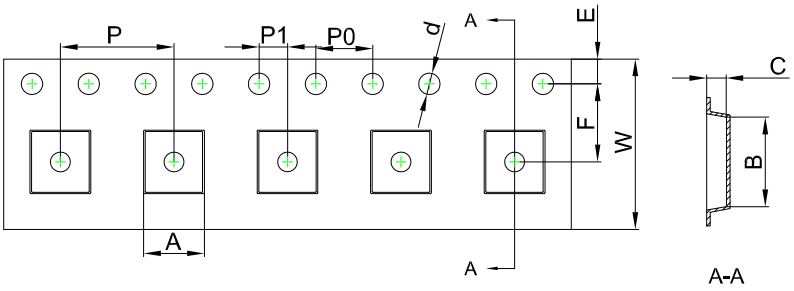
PDFNWB3.3×3.3-8L Suggested Pad Layout



Notes：
1 Controlling dimension：in millimeters.
2 General tolerance:±0.05mm.
2 The pad layout is for referance purpose only.

NOTICE
SZCJ reservesthe 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.

PDFNWB3.3×3.3-8L Embossed Carrier Tape

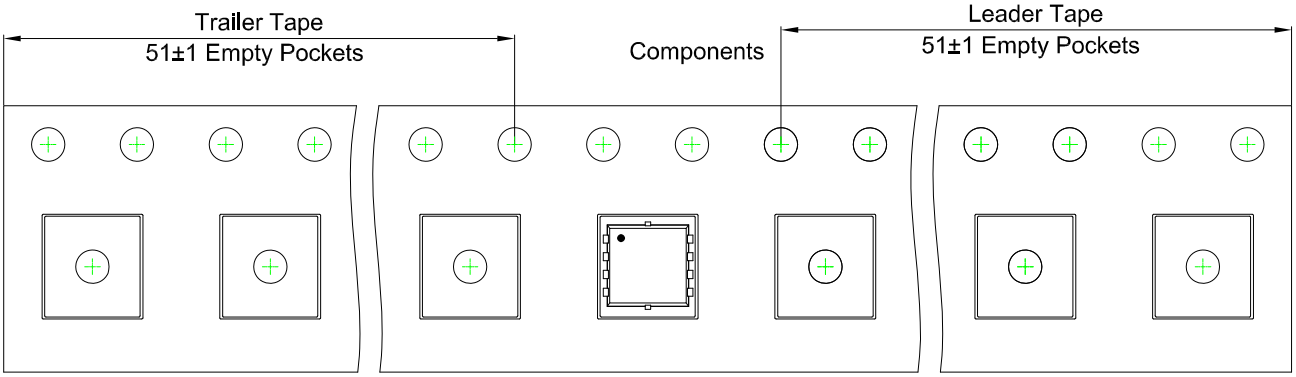


Packaging Description:

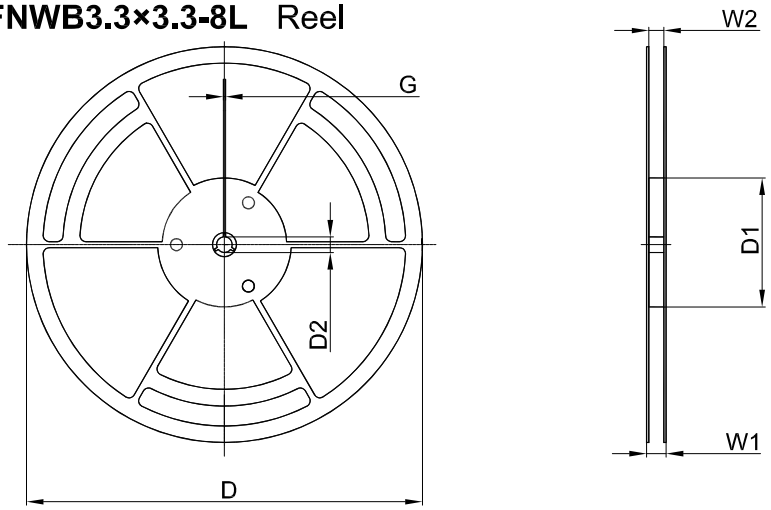
PDFNWB3.3x3.3-8L parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Heat Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. These reeled 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
PDFNWB3.3×3.3-8L	3.55	3.55	1.10	Ø1.50	1.75	5.50	4.00	8.00	2.00	12.00

PDFNWB3.3×3.3-8L Tape Leader and Trailer



PDFNWB3.3×3.3-8L Reel



Dimensions are in millimeter						
Reel Option	**D**	**D1**	**D2**	**G**	**W1**	**W2**
13" Dia	φ330.00	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

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