SZCJ

Shenzhen Changji Semiconductor Co., LTD.

JSCJ DFNWB3×3-8L Plastic-Encapsulate MOSFETS

CJAE35SN06 N-Channel Power MOSFET

$V_{(BR)DSS}$	$R_{DS(on)}$TYP	I_D
60 V	7.5mΩ@10V	35A
	10.5mΩ@4.5V	

DFNWB3×3-8L



DESCRIPTION

The CJAE35SN06 uses SGT technology and design to provide excellent $R_{DS(ON)}$ with low gate charge. It can be used in a wide variety of applications.

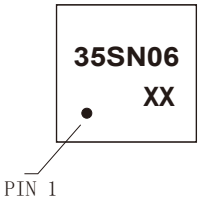
FEATURES

- 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

- Battery and loading switching

MARKING

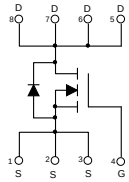


35SN06= Part No.

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}	60	V
Gate-Source Voltage	V_{GS}	±20	V
Continuous Drain Current	I_D ①	35	A
Pulsed Drain Current	I_{DM} ②	140	A
Single Pulsed Avalanche Energy	E_{AS} ③	39	mJ
Power Dissipation	P_D ①	35	W
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$ ⑥	83.3	℃/W
Thermal Resistance from Junction to Case	$R_{\theta JC}$ ①	3.5	℃/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	60			V
Zero gate voltage drain current	I_{DSS}	V_{DS} =48V, V_{GS} =0V			1.0	μA
Gate-body leakage current	I_{GSS}	V_{DS} =0V, V_{GS} =±20V			±100	nA
On characteristics ④						
Gate-threshold voltage	$V_{GS(th)}$	V_{DS} =V_{GS}, I_D =250μA	1.0	1.6	2.5	V
Static drain-source on-sate resistance	$R_{DS(on)}$	V_{GS} =10V, I_D =12A		7.5	10.0	mΩ
		V_{GS} =4.5V, I_D =12A		10.5	14.0	mΩ
Forward transconductance	g_{FS}	V_{DS} =5V, I_D =12A		20		S
Dynamic characteristics ④⑤						
Input capacitance	C_{iss}	V_{DS} =30V,V_{GS} =0V, f =1MHz		1270		pF
Output capacitance	C_{oss}			574		
Reverse transfer capacitance	C_{rss}			25.5		
Switching characteristics ④⑤						
Total gate charge	Q_g	V_{GS}=10V, V_{DS}=30V, I_D=12A		28		nC
Gate-source charge	Q_{gs}			2.7		
Gate-drain charge	Q_{gd}			7.5		
Turn-on delay time	$t_{d(on)}$	V_{DD}=30V,I_D=10A, V_{GS}=10V,R_G=4.5Ω, R_L=3Ω		6.6		ns
Turn-on rise time	t_r			15		
Turn-off delay time	$t_{d(off)}$			23		
Turn-off fall time	t_f			19		
Drain-Source Diode Characteristics						
Drain-source diode forward voltage	V_{SD} ④	V_{GS} =0V, I_S=12A			1.2	V
Continuous drain-source diode forward current	I_S ①				35	A
Pulsed drain-source diode forward current	I_{SM} ②				140	A

Notes:

1.T_C=25℃ Limited only by maximum temperature allowed.

2.P_W≤10μs, Duty cycle≤1%.

3.EAS condition: V_{DD}=30V,V_{GS}=10V, L=0.5mH, Rg=25Ω Starting T_J= 25°℃.

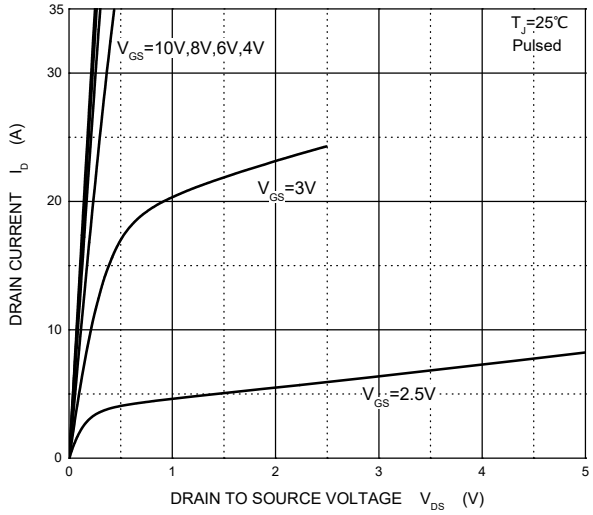
4.Pulse Test : Pulse Width≤300μs, duty cycle ≤2%.

5.Guaranteed by design, not subject to production.

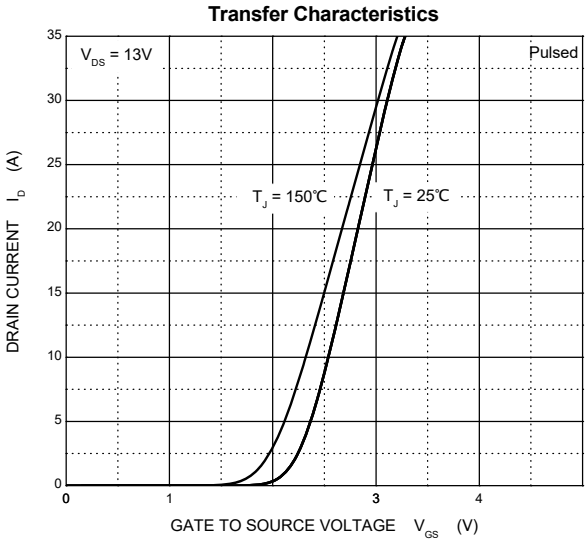
6.The value of RθJA is measured with the device mounted on 1 in 2 FR-4 board with 2oz. Copper, in a still air environment with T_a=25℃.

Typical Characteristics

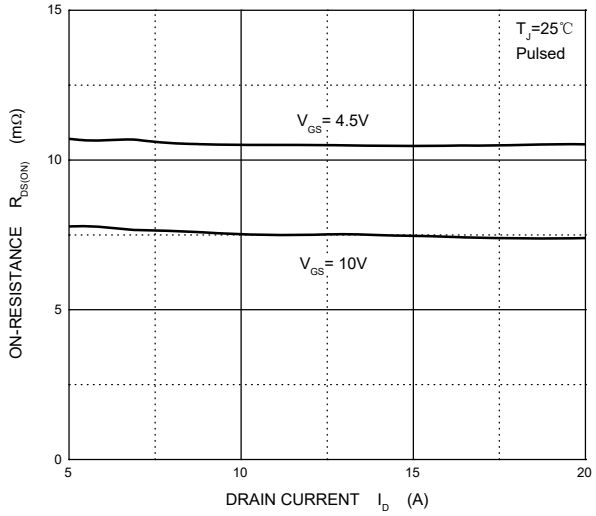
Output Characteristics



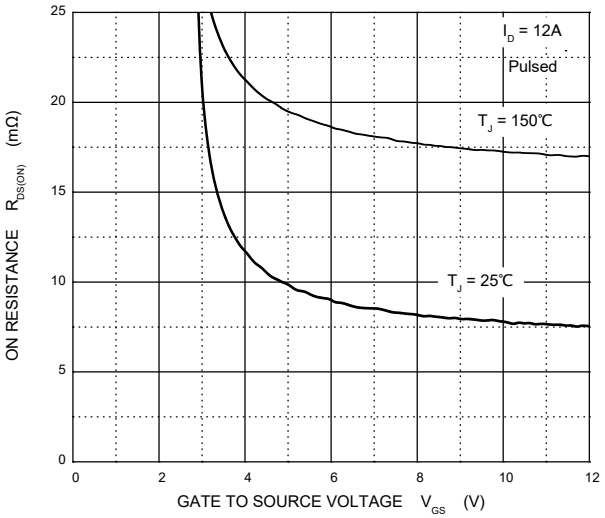
Transfer Characteristics



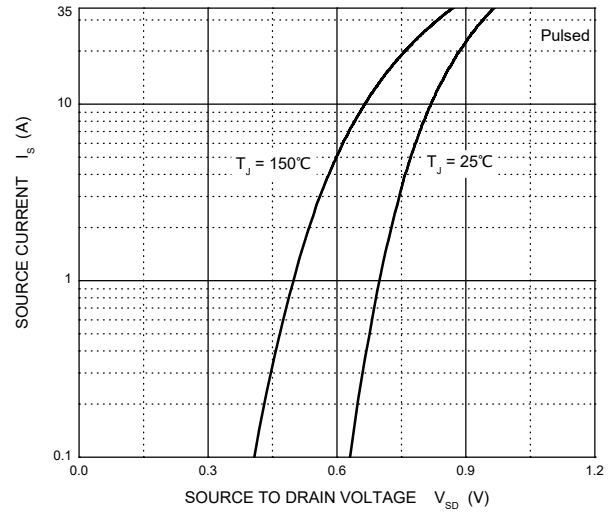
$R_{DS(ON)}$ —— I_D



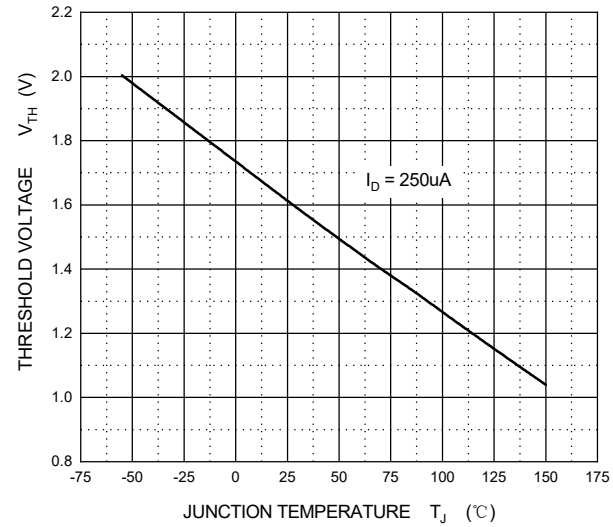
On Resistance vs. Gate-Source Bias



Source-Drain Diode Forward Characteristics



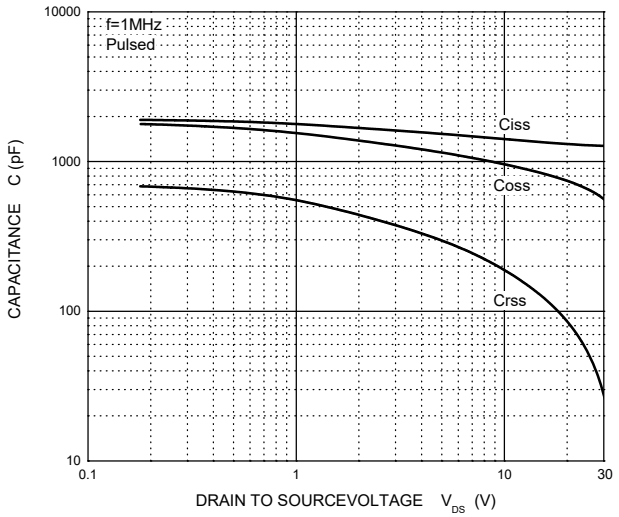
Gate-Source Threshold Voltage



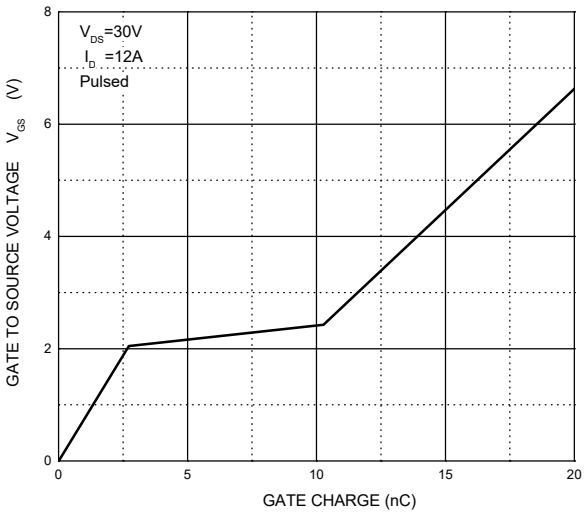
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Typical Characteristics

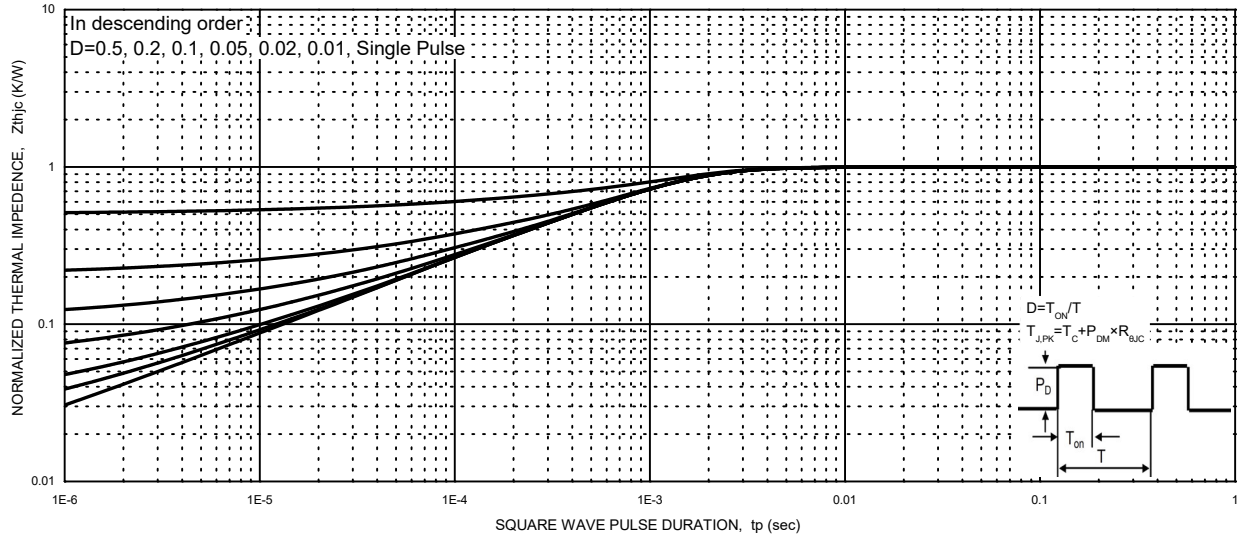
Capacitances



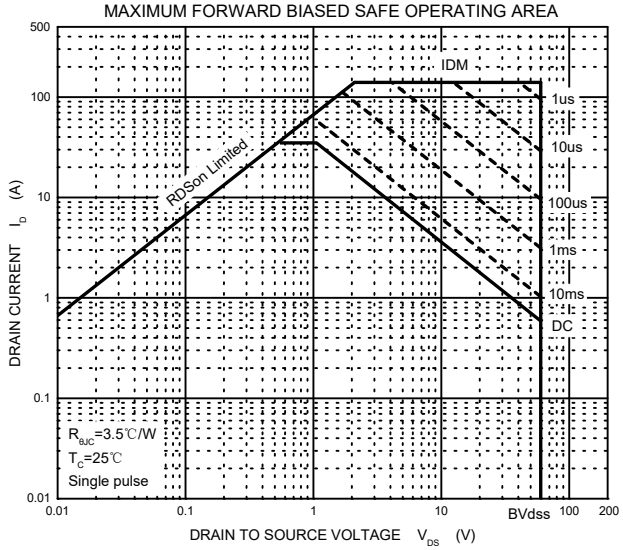
Gate Charge



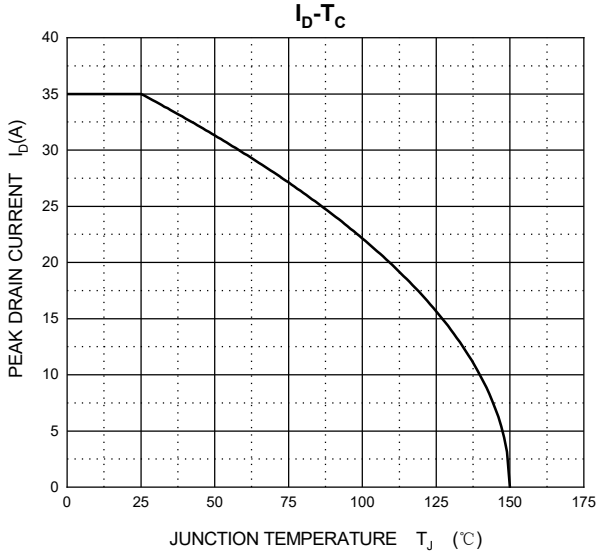
NORMALIZED TRAISIENT THERMAL IMPENDANCE



MAXIMUM FORWARD BIASED SAFE OPERATING AREA

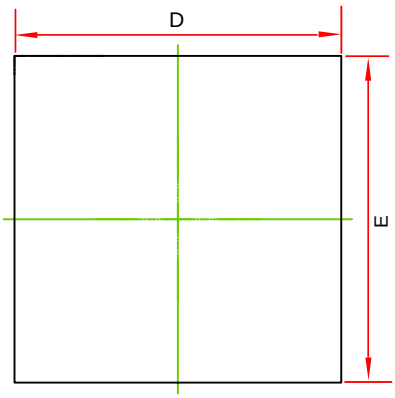


I_D-T_C

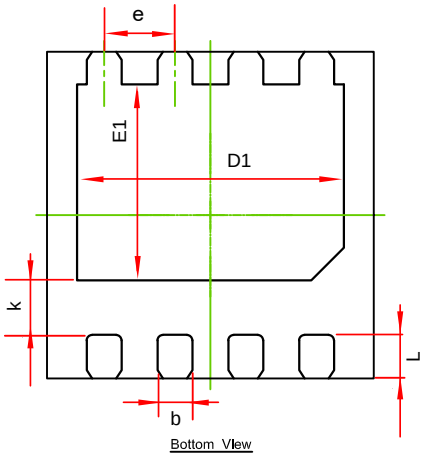


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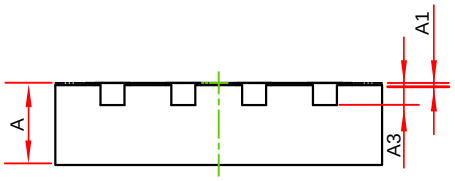
DFNWB3X3-8L Package Outline Dimensions



Top View
[顶视图]



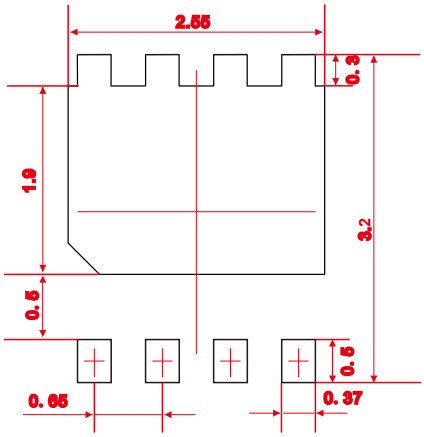
Bottom View
[背视图]



Side View
[侧视图]

Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.700	0.800	0.028	0.031
A1	0.000	0.050	0.000	0.002
A3	0.195	0.203	0.0076	0.0079
D	2.924	3.076	0.115	0.121
E	2.924	3.076	0.115	0.121
D1	2.350	2.550	0.093	0.100
E1	1.700	1.900	0.067	0.075
k	0.3	0.5	0.011	0.019
b	0.270	0.370	0.011	0.015
e	0.55	0.65	0.021	0.025
L	0.300	0.500	0.012	0.020

DFNWB3X3-8L Suggested Pad Layout

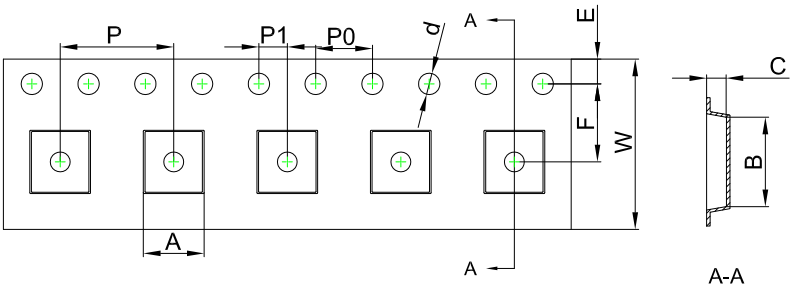


Note:
1.Controlling dimension:in millimeters.
2.General tolerance:±0.05mm.
3.The pad layout is for reference purposes only.

NOTICE

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

DFNWB3×3-8L Embossed Carrier Tape

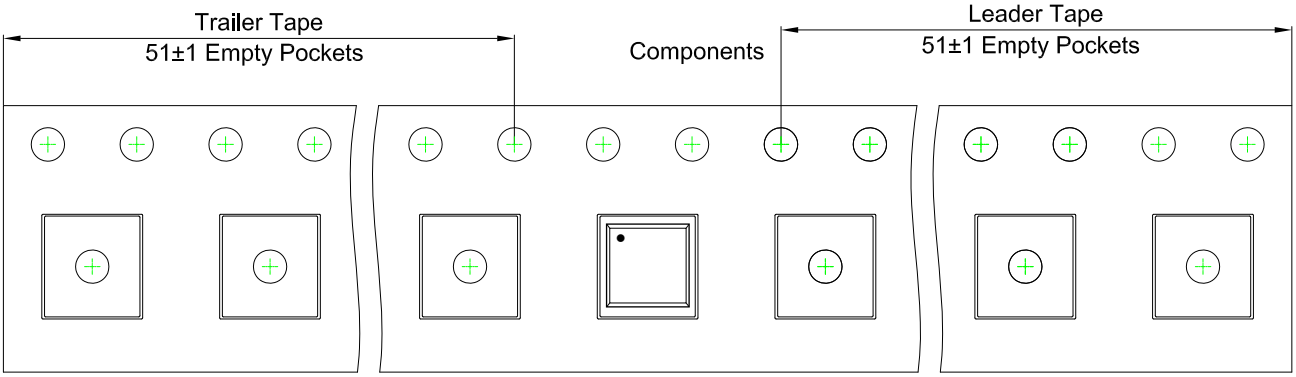


Packaging Description:

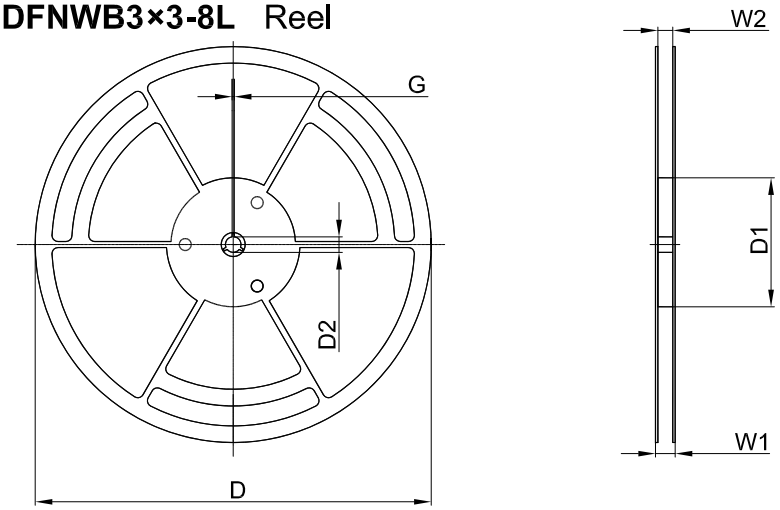
DFNWB3x3-8L parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Heat Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. These reeled parts 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

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