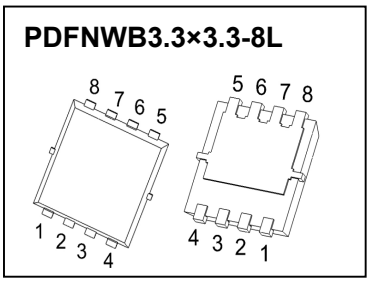
JIANGSU CHANGJING ELECTRONICS TECHNOLOGY CO., LTD.

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

CJAB35P03B P-Channel Power MOSFET

$V_{(BR)DSS}$	$R_{DS(on)}$TYP	I_D
-30V	9mΩ@10V	-35A
	12.5mΩ@4.5V	



DESCRIPTION

The CJAB35P03B 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.

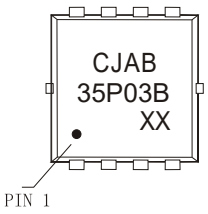
FEATURES

- High density cell design for ultra low $R_{DS(ON)}$
- Good stability and uniformity with high E_{AS}
- Excellent package for good heat dissipation

APPLICATIONS

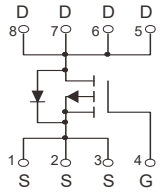
- Battery and loading switching

MARKING



CJAB35P03B = Part No.
Solid dot = Pin1 indicator.
XX = Code.

EQUIVALENT CIRCUIT



ABSOLUTE MAXIMUM RATINGS (T_J=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 ①	-35	A
Pulsed Drain Current	I_{DM} ②	-140	A
Single Pulsed Avalanche Energy	E_{AS} ③	109	mJ
Power Dissipation	P_D ①	50	W
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$ ⑥	83.3	℃/W
Thermal Resistance from Junction to Case	$R_{\theta JC}$ ①	2.5	℃/W
Operating Junction and Storage Temperature Range	T_J ,T_{STG}	-55~+150	℃

MOSFET ELECTRICAL CHARACTERISTICS

T_J=25℃ unless otherwise specified

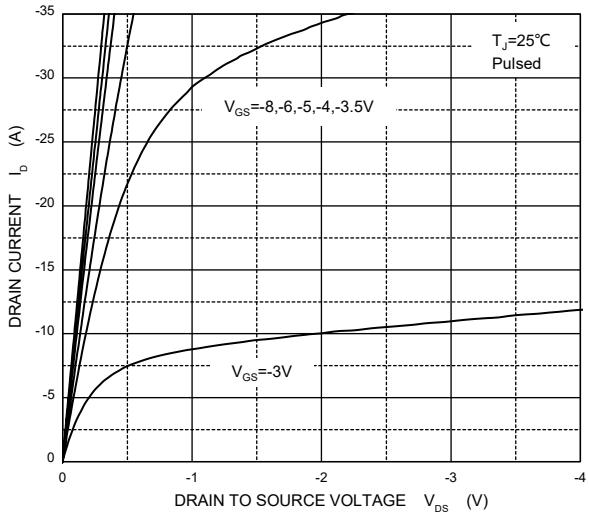
Parameter	Symbol	Test Condition		Min	Typ	Max	Unit
Off Characteristics							
Drain-source breakdown voltage	$V_{(BR)\ DSS}$	V_{GS} =0V, I_D =-1mA		-30	-	-	V
Zero gate voltage drain current	I_{DSS}	V_{DS}=-24V, V_{GS} =0V	T_J=25℃	-	-	-1.0	μA
			T_J=125℃	-	-	-100	μA
Gate-body leakage current	I_{GSS}	V_{DS} =0V, V_{GS} =±20V		-	-	±100	nA
On Characteristics④							
Gate-threshold voltage	$V_{GS(th)}$	V_{DS} =V_{GS}, I_D =-250μA		-1.0	-1.7	-2.5	V
Drain-source on-state resistance	$R_{DS(on)}$	V_{GS} =-10V, I_D =-12A		-	9.0	14	mΩ
		V_{GS} =-4.5V, I_D =-12A		-	12.5	24	mΩ
Dynamic Characteristics⑤							
Input capacitance	C_{iss}	V_{DS} =-15V, V_{GS} =0V, f =1MHz		-	2288	-	pF
Output capacitance	C_{oss}			-	277	-	
Reverse transfer capacitance	C_{rss}			-	210	-	
Gate resistance	R_g	f =1MHz		-	12	-	Ω
Switching Characteristics⑤							
Total gate charge	Q_g	V_{GS} =-4.5V, V_{DS} =-15V, I_D =-12A		-	20	-	nC
Total gate charge	Q_g	V_{GS} =-10V, V_{DS} =-15V, I_D =-12A		-	39	-	
Gate-source charge	Q_{gs}			-	7.4	-	
Gate-drain charge	Q_{gd}			-	7.0	-	
Turn-on delay time	$t_{d(on)}$	V_{DD} =-15V, I_D =-1A, V_{GS} =-10V, R_G =2.5Ω		-	6.1	-	ns
Turn-on rise time	t_r			-	2.9	-	
Turn-off delay time	$t_{d(off)}$			-	107.5	-	
Turn-off fall time	t_f			-	45.8	-	
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_S①			-	-	-35	A
Pulsed drain-source diode forward current	I_{SM}②			-	-	-140	A

Notes:

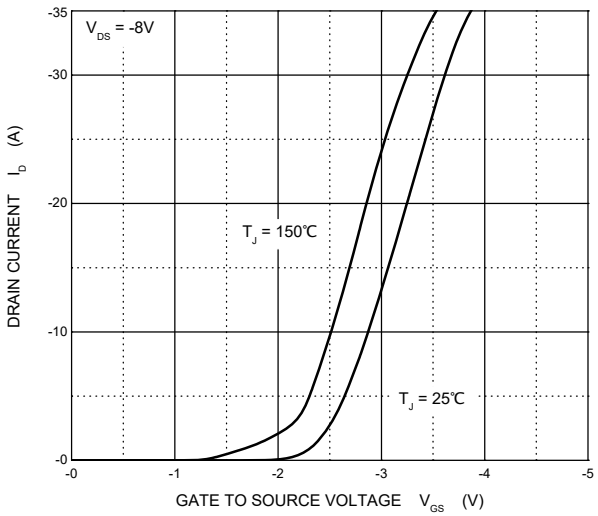
1. T_C=25℃. Limited only by maximum temperature allowed
2. P_W ≤10μs.Limited only by maximum temperature allowed.
3. E_{AS} condition: V_{DD}=-15V,L=0.5mH, R_g=25Ω Starting T_J = 25℃.
4. Pulse Test : Pulse Width≤380μs, duty cycle ≤2%.
5. Guaranteed by design, not subject to production.
6. Device mounted on 1 in^2 FR-4 board with 2oz. single-sided Copper, in a still air environment with T_a=25℃.

Typical Characteristics (T_J = 25℃, unless otherwise specified)

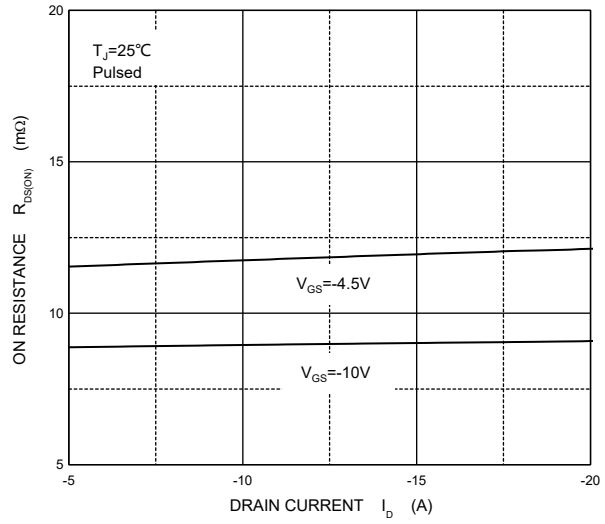
Output Characteristics



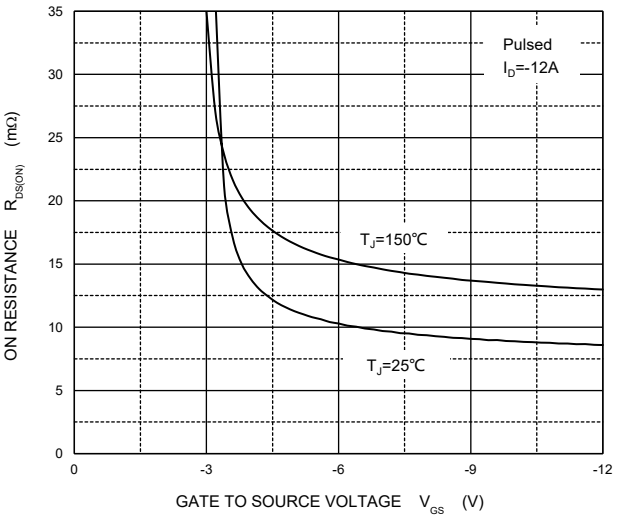
Transfer Characteristics



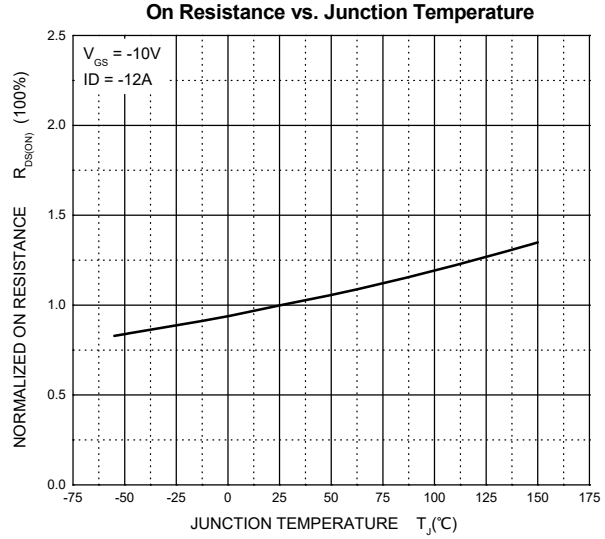
On Resistance vs. Drain Current



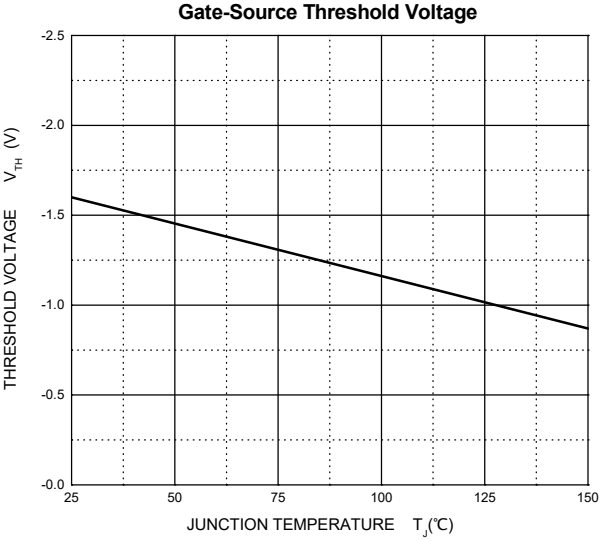
On Resistance vs. Gate-Source Bias



On Resistance vs. Junction Temperature

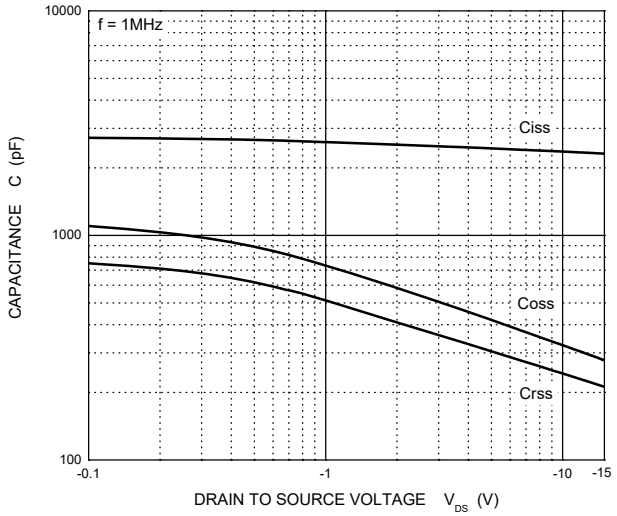


Gate-Source Threshold Voltage

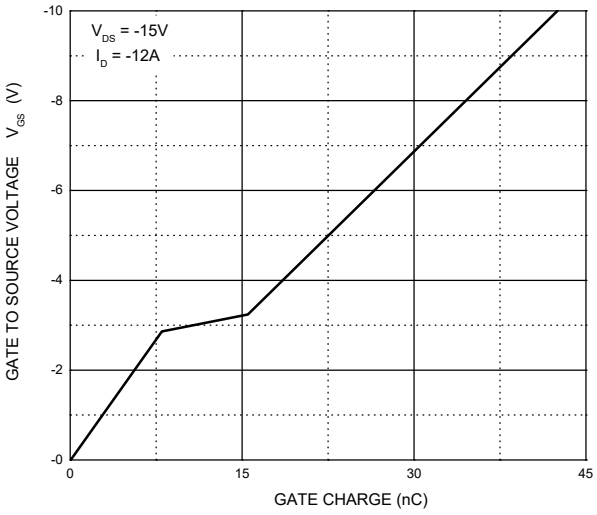


Typical Characteristics (T_J = 25℃, unless otherwise specified)

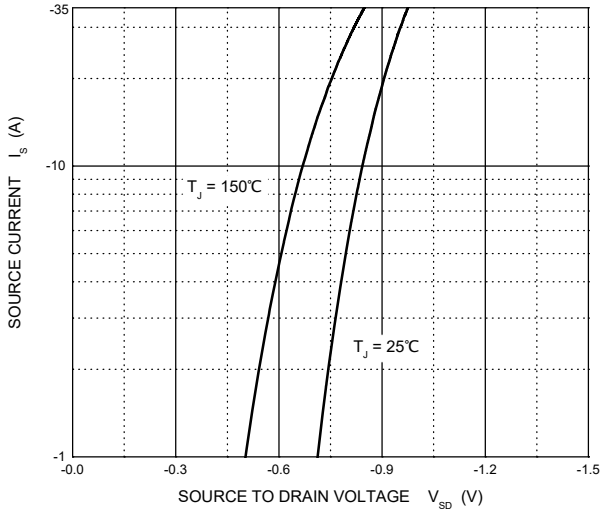
Typical Capacitances



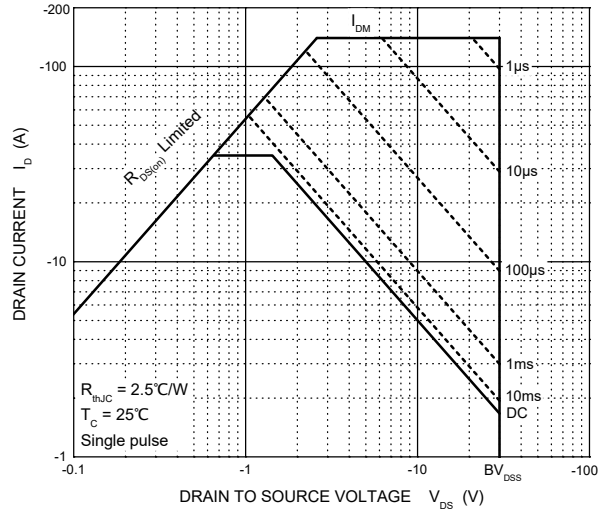
Gate Charge



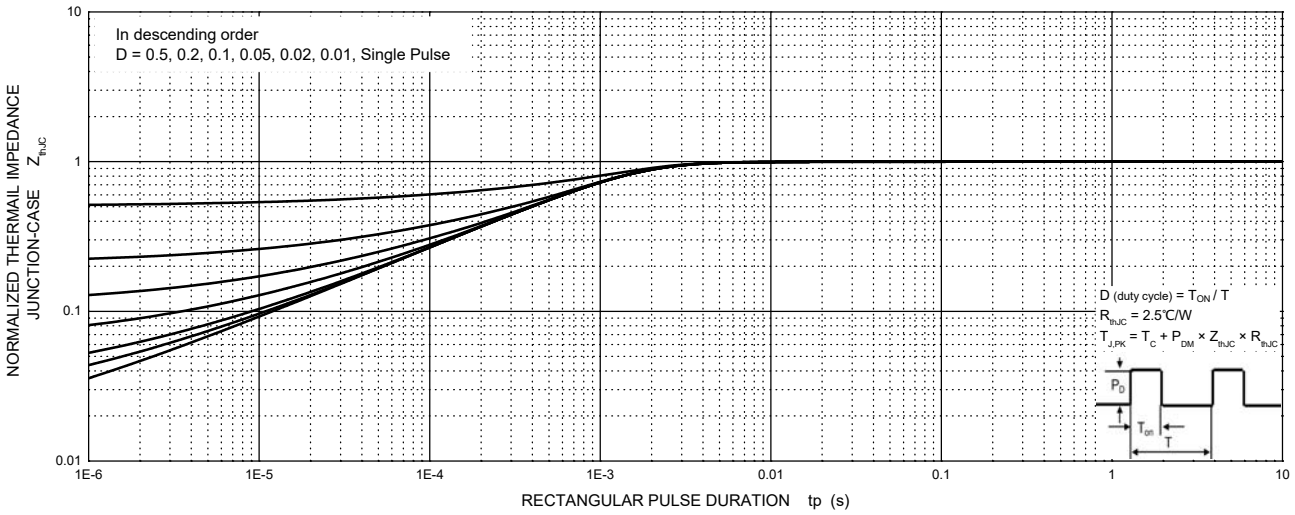
Source-Drain Diode Forward Characteristics



Maximum Safe Operating Area

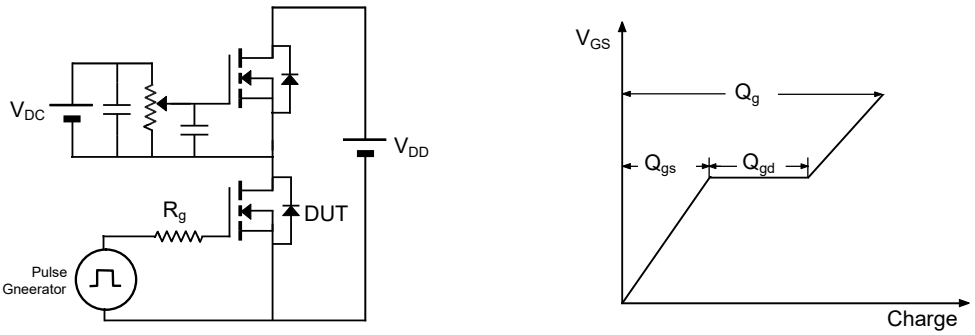


Transient Thermal Impedance, Junction-Case

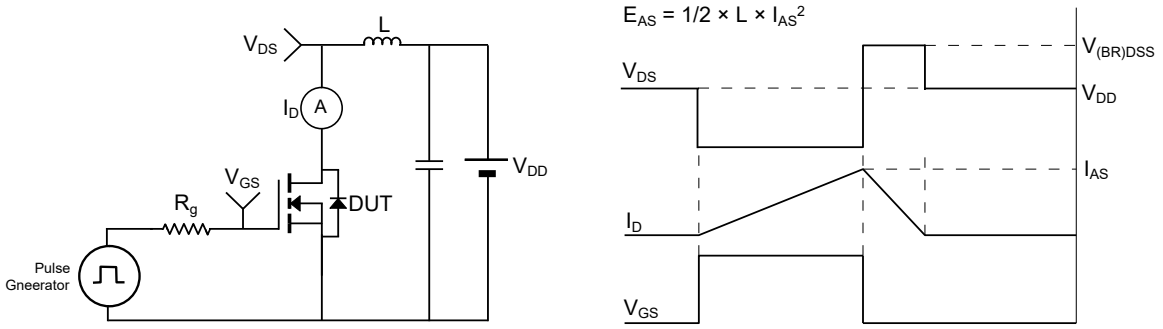


TEST CIRCUIT AND WAVEFOMRS

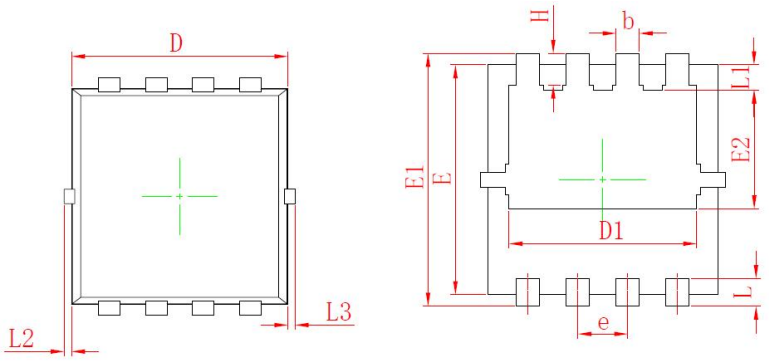
Gate Charge



Un-clamped Inductive Load Switching

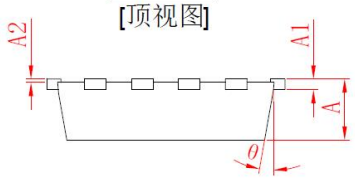


PDFNWB3.3×3.3-8L-A Package Outline Dimensions



Top View
[顶视图]

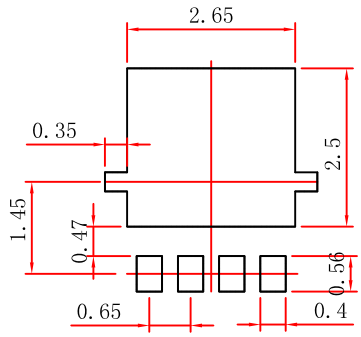
Bottom View
[背视图]



Slde View
[侧视图]

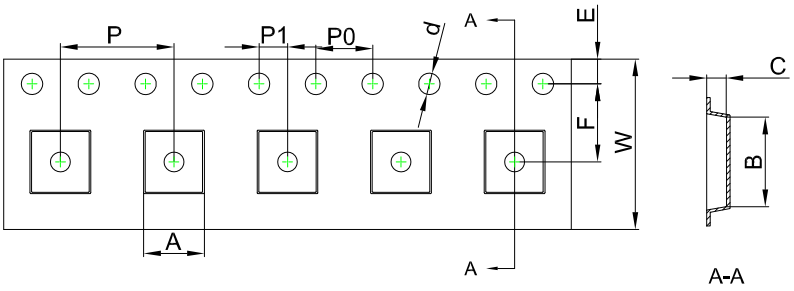
Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.650	0.850	0.026	0.033
A1	0.203REF.		0.008REF.	
A2	0~0.05		0~0.002	
D	2.900	3.100	0.114	0.122
D1	2.050	2.550	0.081	0.100
E	2.900	3.100	0.114	0.122
E1	3.150	3.450	0.124	0.136
E2	1.450	1.650	0.057	0.065
b	0.200	0.400	0.008	0.016
e	0.550	0.750	0.022	0.030
L	0.300	0.500	0.012	0.020
L1	0.180	0.480	0.007	0.019
L2	0~0.100		0~0.004	
L3	0~0.100		0~0.004	
H	0.315	0.515	0.012	0.020
Φ	9°	13°	9°	13°

PDFNWB3.3x3.3-8L Suggested Pad Layout



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

PDFNWB3.3×3.3-8L Embossed Carrier Tape

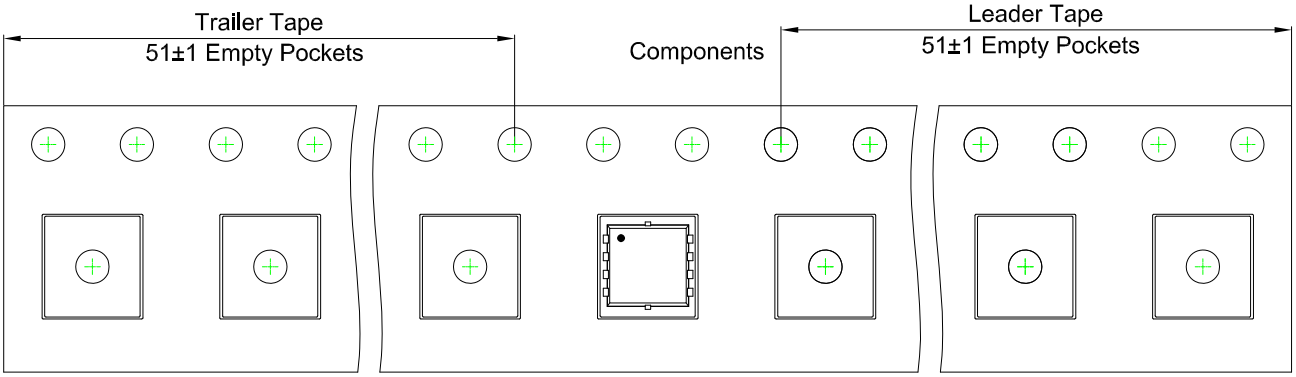


Packaging Description:

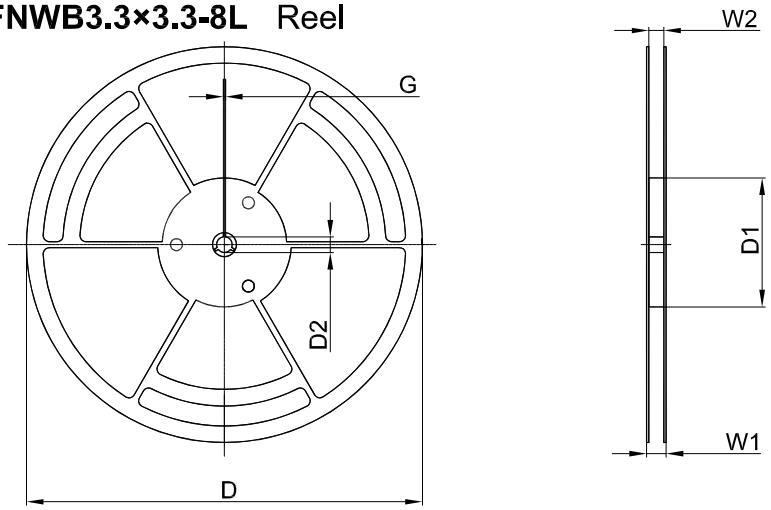
PDFNWB3.3x3.3-8L parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Heat Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. These reeled 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