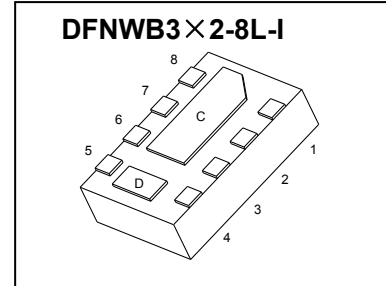




JIANGSU CHANGJING ELECTRONICS TECHNOLOGY CO., LTD
DFNWB3×2-8L-I Plastic-Encapsulate Transistors-MOSFETS

CJZM718 N-ch MOSFET and PNP Transistor

$V_{(BR)DSS}/BV_{CEO}$	$R_{DS(on)MAX}$	I_D/I_C
20V	0.7Ω@4.5V	0.5A
	0.85Ω@2.5V	
-25V	/	-3A



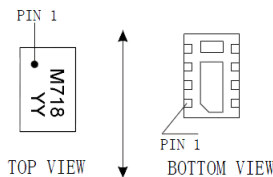
FEATURE

- High DC current gain
- Low Threshold
- Small package DFNWB3x2-8L-I
- Including a CJP718 transistor and a CJ1012 MOSFET independently in a package

APPLICATION

- Charging circuit
- Other power management in portable equipments

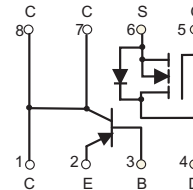
MARKING:



M718 = Device code

YY=Code

Equivalent Circuit



MAXIMUM RATINGS ($T_a=25^{\circ}C$ unless otherwise noted)

Symbol	Parameter	Value	Unit
PNP Transistor			
V_{CBO}	Collector-Base Voltage	-25	V
V_{CEO}	Collector-Emitter Voltage	-25	V
V_{EBO}	Emitter-Base Voltage	-7.5	V
I_C	Collector Current	-3	A
N-MOSFET			
V_{DS}	Drain-Source Voltage	20	V
V_{GS}	Gate-Source Voltage	±6	V
I_D	Drain Current -Continuous	0.5	A
I_{DM}	Drain Current - Pulse	2	A
Power Dissipation, Temperature and Thermal Resistance			
P_D	Power Dissipation	1	W
$R_{\theta JA}$	Thermal Resistance from Junction to Ambient (note1)	175	$^{\circ}C/W$
	Thermal Resistance from Junction to Ambient (note2)	110	$^{\circ}C/W$
T_J, T_{stg}	Operation Junction and Storage Temperature Range	-55~+150	$^{\circ}C$
T_L	Lead Temperature	260	$^{\circ}C$

MOSFET ELECTRICAL CHARACTERISTICS

PNP TRANSISTOR ELECTRICAL CHARACTERISTICS ($T_a=25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=-0.1\text{mA}$, $I_E=0$	-25			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}^*$	$I_C=-10\text{mA}$, $I_B=0$	-25			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=-0.1\text{mA}$, $I_C=0$	-7.5			V
Collector cut-off current	I_{CBO}	$V_{CB}=-20\text{V}$, $I_E=0$			-25	nA
Emitter cut-off current	I_{EBO}	$V_{EB}=-6\text{V}$, $I_C=0$			-25	nA
DC current gain	h_{FE}^*	$V_{CE}=-2\text{V}$, $I_C=-0.01\text{A}$	300			
		$V_{CE}=-2\text{V}$, $I_C=-0.1\text{A}$	300			
		$V_{CE}=-2\text{V}$, $I_C=-2\text{A}$	150			
		$V_{CE}=-2\text{V}$, $I_C=-6\text{A}$	15			
Collector-emitter saturation voltage	$V_{CE(sat)}^*$	$I_C=-0.1\text{A}$, $I_B=-10\text{mA}$			-30	mV
		$I_C=-1\text{A}$, $I_B=-20\text{mA}$			-220	mV
		$I_C=-1.5\text{A}$, $I_B=-50\text{mA}$			-250	mV
		$I_C=-2.5\text{A}$, $I_B=-150\text{mA}$			-350	mV
		$I_C=-3.5\text{A}$, $I_B=-350\text{mA}$			-380	mV
Base-emitter saturation voltage	$V_{BE(sat)}^*$	$I_C=-3.5\text{A}$, $I_B=-350\text{mA}$			-1.075	V
Base-emitter voltage	$V_{BE(on)}^*$	$V_{CE}=-2\text{V}$, $I_C=-3.5\text{A}$			-0.95	V
Transition frequency	f_T	$V_{CE}=-10\text{V}$, $I_C=-50\text{mA}$, $f=100\text{MHz}$	150			MHz

N-ch MOSFET ELECTRICAL CHARACTERISTICS ($T_a=25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
STATIC PARAMETERS						
Drain-source breakdown voltage	$V_{(BR)DSS}$	$V_{GS}=0\text{V}$, $I_D=250\mu\text{A}$	20			V
Zero gate voltage drain current	I_{DSS}	$V_{DS}=16\text{V}$, $V_{GS}=0\text{V}$			0.1	μA
Gate-body leakage current	I_{GSS}	$V_{GS}=\pm 4.5\text{V}$, $V_{DS}=0\text{V}$			± 1	μA
Gate threshold voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$, $I_D=250\mu\text{A}$	0.45		1.2	V
Drain-source on-resistance	$R_{DS(on)}$	$V_{GS}=4.5\text{V}$, $I_D=0.6\text{A}$		0.23	0.7	Ω
		$V_{GS}=2.5\text{V}$, $I_D=0.5\text{A}$		0.33	0.85	Ω
Forward transconductance	g_{fs}	$V_{DS}=10\text{V}$, $I_D=0.4\text{A}$	0.5			S
Diode forward voltage	V_{SD}^*	$I_S=0.15\text{A}$, $V_{GS}=0\text{V}$			1.2	V
DYNAMIC PARAMETERS (note 3)						
Input Capacitance	C_{iss}	$V_{DS}=16\text{V}$, $V_{GS}=0\text{V}$, $f=1\text{MHz}$		100		pF
Output Capacitance	C_{oss}			16		pF
Reverse Transfer Capacitance	C_{rss}			12		pF
SWITCHING PARAMETERS (note 3)						
Turn-on delay time	$t_{d(on)}$	$V_{DD}=10\text{V}$, $V_{GEN}=4.5\text{V}$, $R_G=10\Omega$, $R_L=47\Omega$, $I_D=0.2\text{A}$		5		ns
Turn-on rise time	t_r			5		ns
Turn-off delay time	$t_{d(off)}$			25		ns
Turn-off fall time	t_f			11		ns
Total Gate Charge	Q_g	$V_{DS}=10\text{V}$, $V_{GS}=4.5\text{V}$, $I_D=0.25\text{A}$		750		nC
Gate-Source Charge	Q_{gs}			75		nC
Gate-Drain Charge	Q_{gd}			225		nC

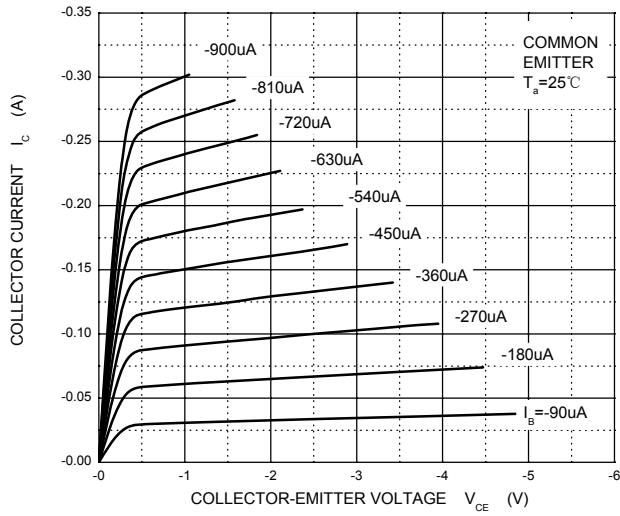
- Note:**
1. When mounted on a minimum pad.
 2. When mounted on 1 in² of 2oz copper board.
 3. These parameters have no way to verify.

* Pulse test: pulse width $\leq 300\mu\text{s}$, duty cycle $\leq 2\%$

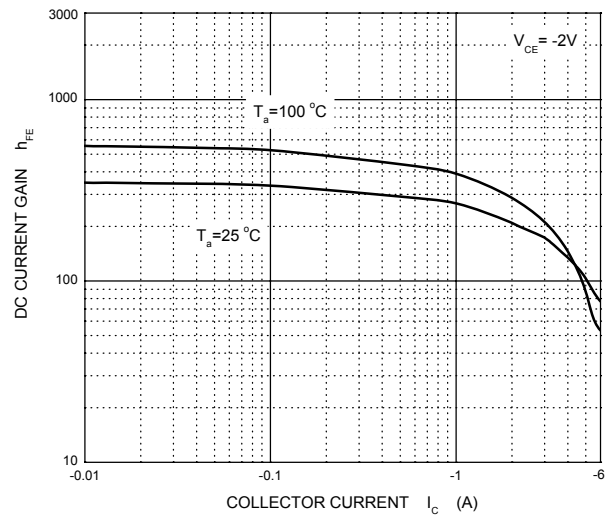
Typical Characteristics

PNP Transistor

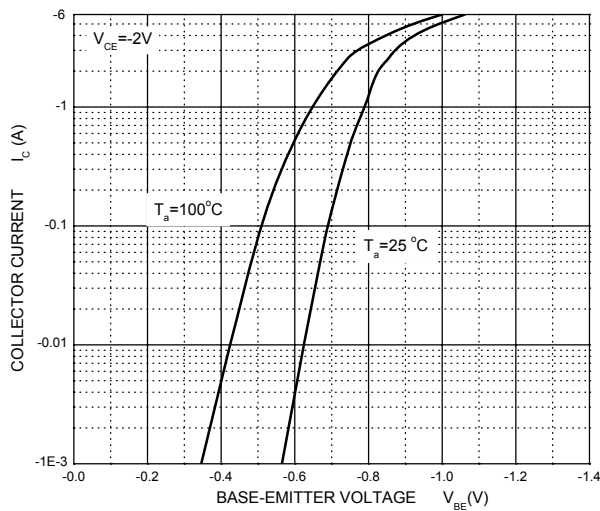
Static Characteristic



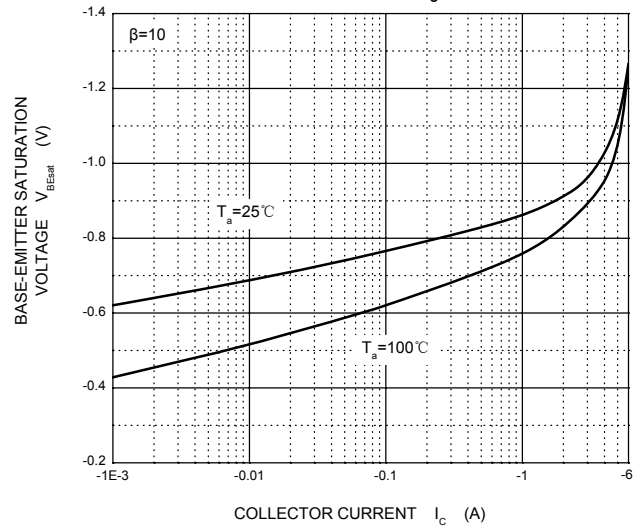
h_{FE} — I_c



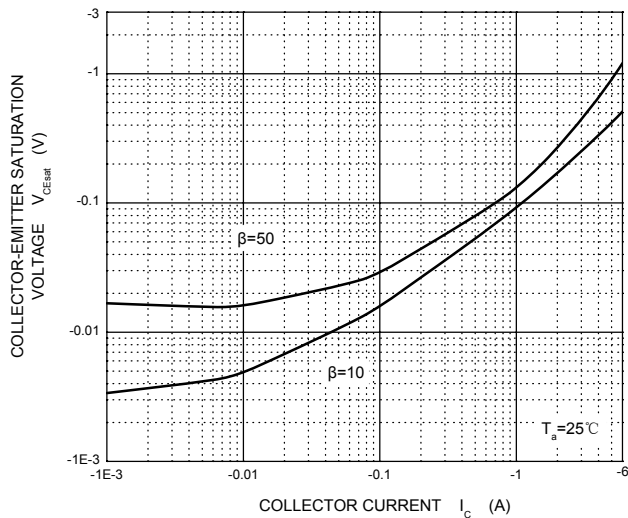
I_c — V_{BE}



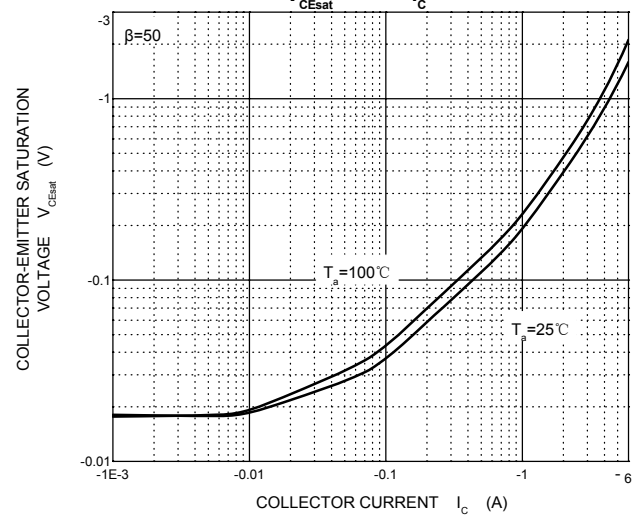
V_{BEsat} — I_c



V_{CEsat} — I_c

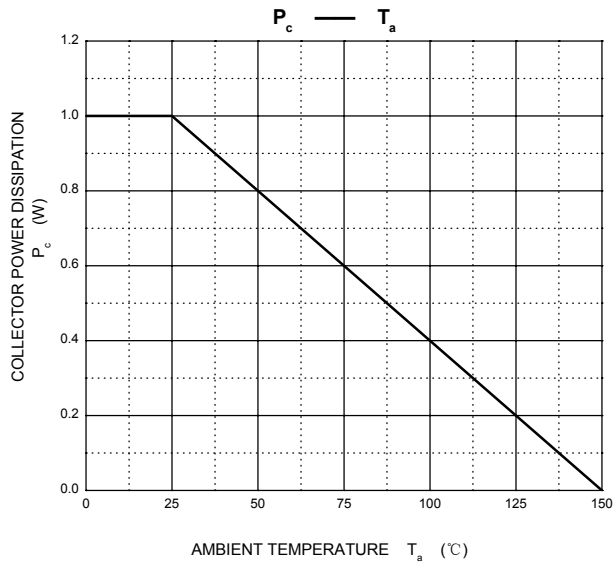
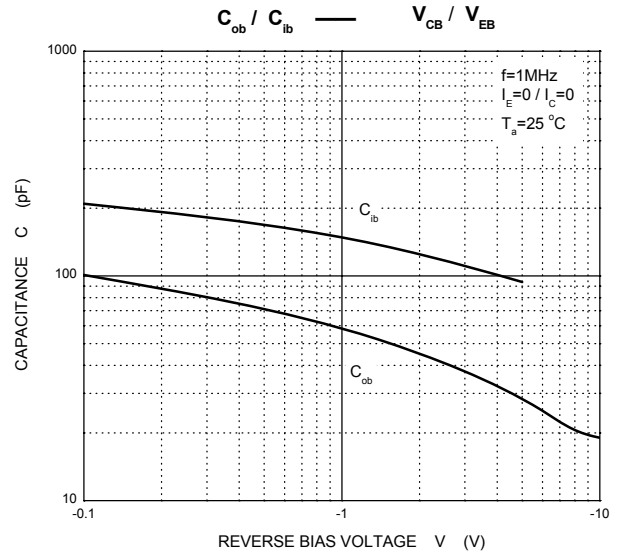
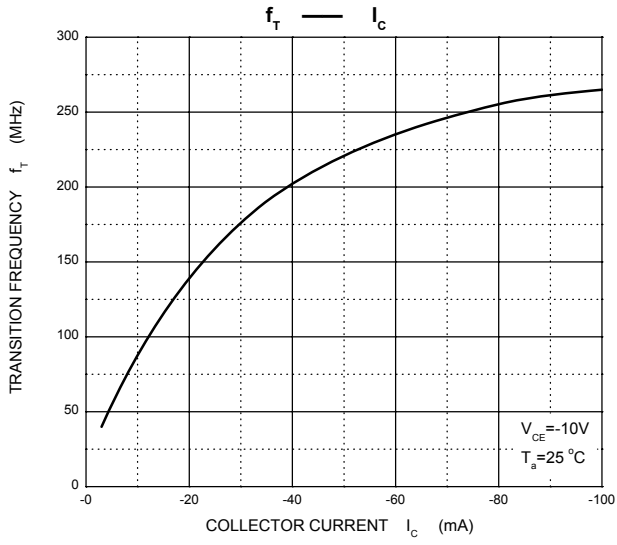


V_{CEsat} — I_c



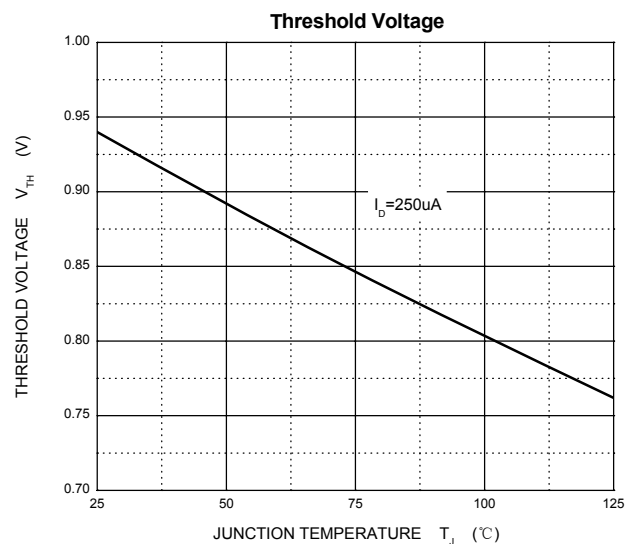
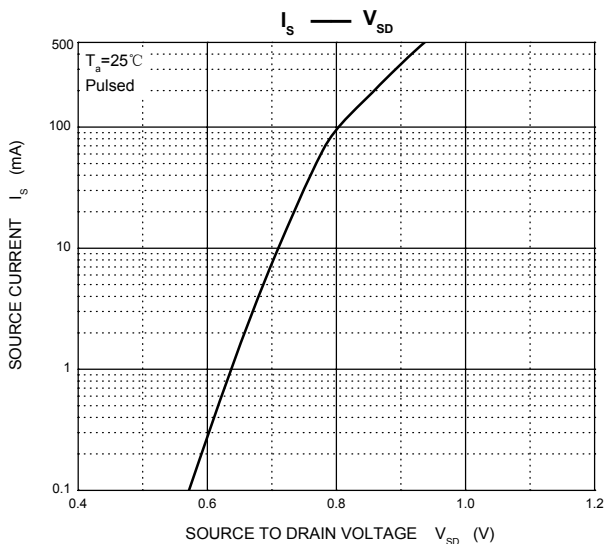
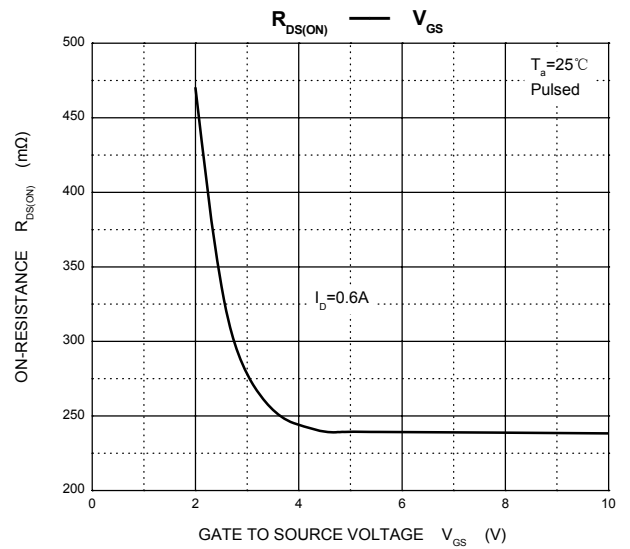
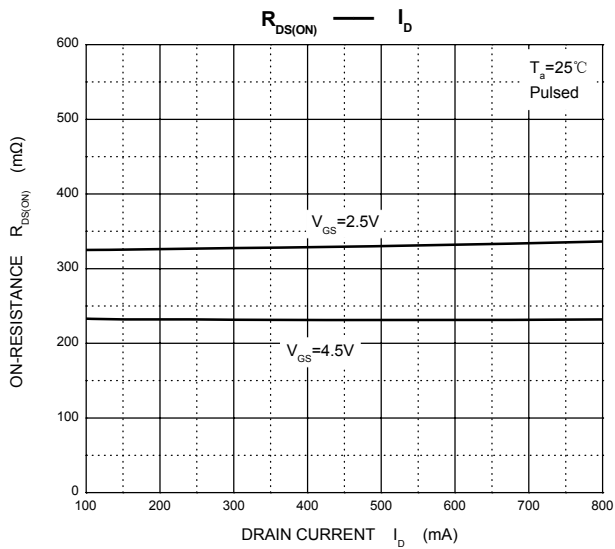
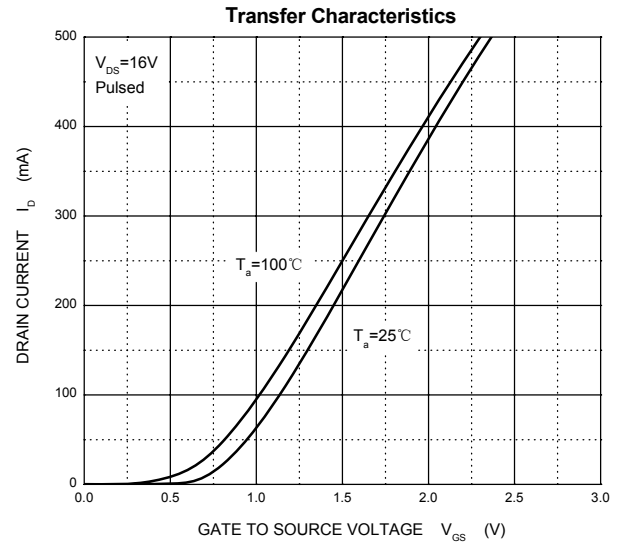
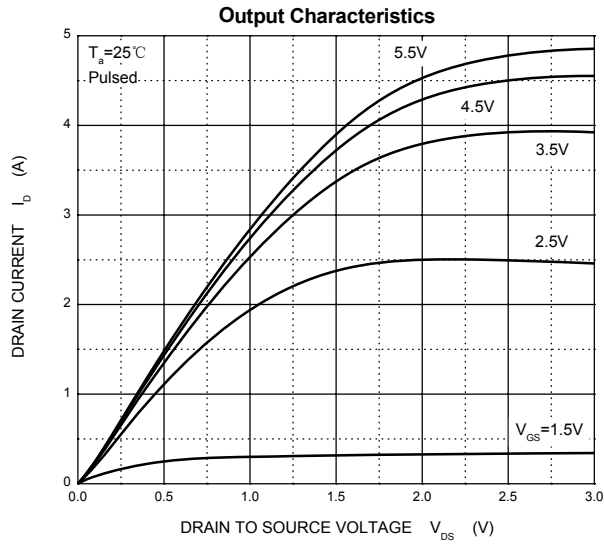
Typical Characteristics

PNP Transistor

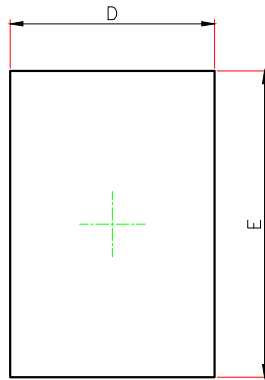


Typical Characteristics

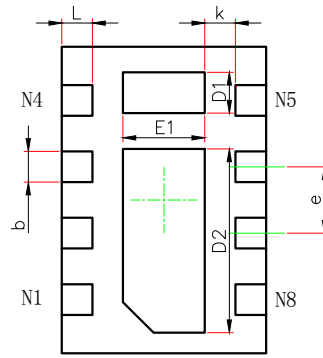
N-channel Characteristics



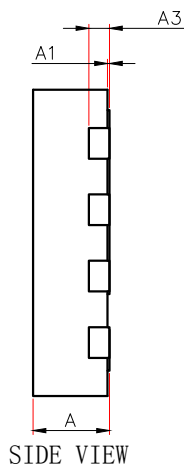
DFNWB3X2-8L-I Package Outline Dimensions



TOP VIEW



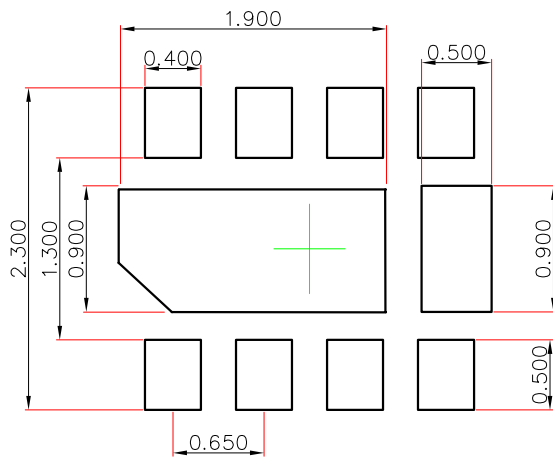
BOTTOM VIEW



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	1.900	2.100	0.075	0.083
E	2.900	3.100	0.114	0.122
D1	0.300	0.500	0.012	0.020
E1	0.700	0.900	0.028	0.035
D2	1.700	1.900	0.067	0.075
b	0.250	0.350	0.010	0.014
e	0.650TYP.		0.026TYP.	
k	0.200MIN.		0.008MIN.	
L	0.250	0.350	0.010	0.014

DFNWB3X2-8L-I Suggested Pad Layout



Note:

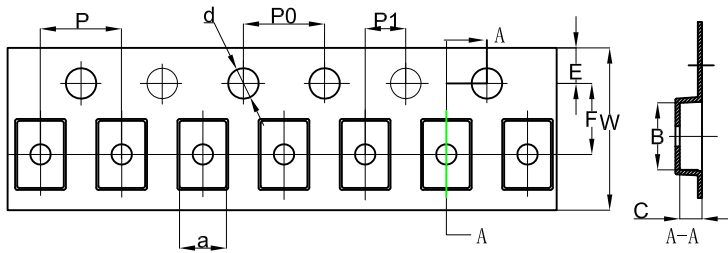
1. Controlling dimension: in millimeters.
2. General tolerance: ± 0.050 mm.
3. The pad layout is for reference purposes only.

NOTICE

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DFNWB3X2-8L Tape and Reel

DFNWB3*2-8L Embossed Carrier Tape

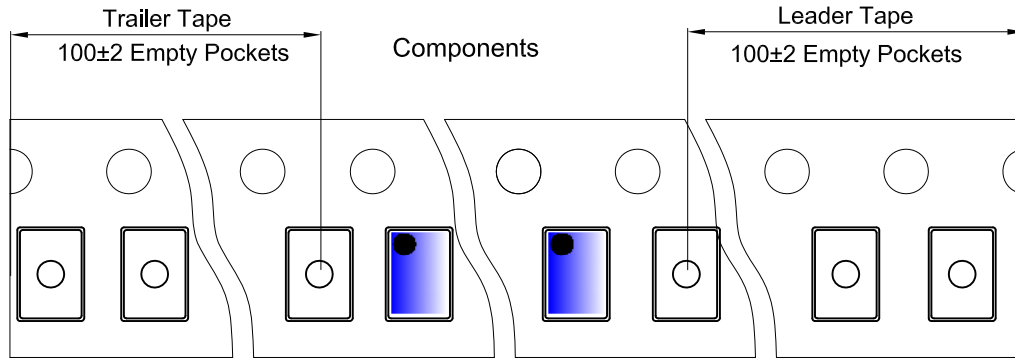


Packaging Description:

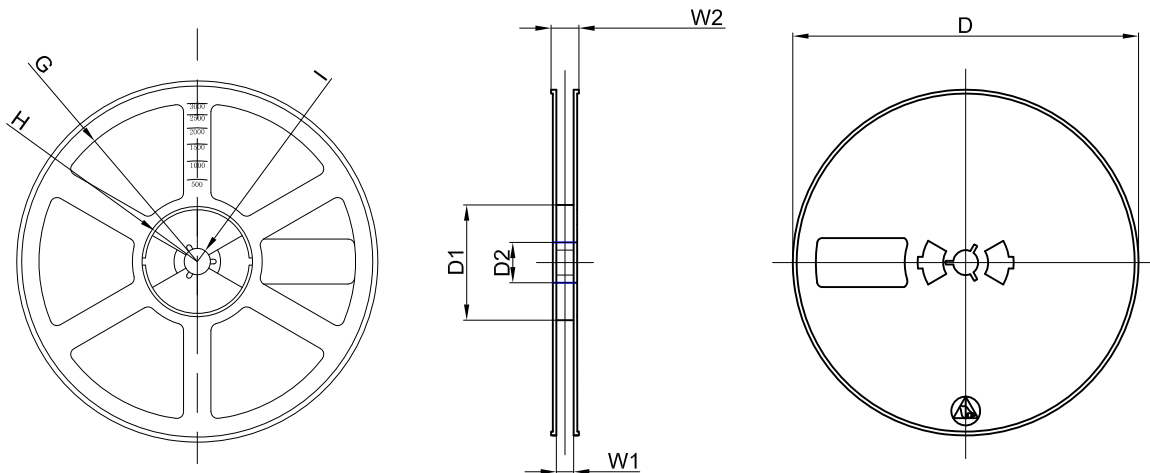
DFNWB3*2-8L parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Heat Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. These reeled parts in standard option are shipped with 3,000 units per 7" or 18.0cm diameter reel. The reels are clear in color and is made of polystyrene plastic (anti-static coated).
ALL DIM IN mm

Dimensions are in millimeter										
Pkg type	a	B	C	d	E	F	P0	P	P1	W
DFNWB3*2-8L	2.30	3.30	1.10	Ø1.50	1.75	3.50	4.00	4.00	2.00	8.00

DFNWB3*2-8L Tape Leader and Trailer



DFNWB3*2-8L Reel



Dimensions are in millimeter								
Reel Option	D	D1	D2	G	H	I	W1	W2
7" Dia	Ø180.00	60.00	13.00	R78.00	R25.60	R6.50	9.50	13.10

REEL	Reel Size	Box	Box Size(mm)	Carton	Carton Size(mm)	G.W.(kg)
3,000 pcs	7 inch	30,000 pcs	203×203×195	120,000 pcs	438×438×220	

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