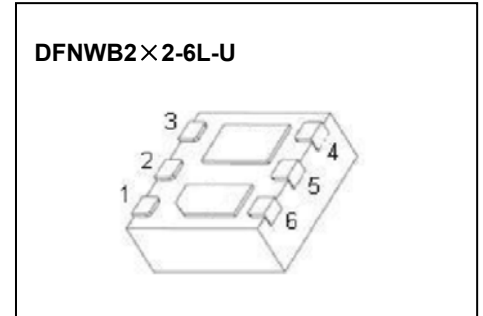




DFNWB2X2-6L-U Plastic-Encapsulate MOSFETS

CJM7201 N-Channel +P-Channel MOSFET

$V_{(BR)DSS}$	$R_{DS(on)MAX}$	I_D
60V	$7\Omega@10V$	0.115A
	$7\Omega@5V$	
-20V	$112m\Omega@-4.5V$	-2.3A
	$142m\Omega@-2.5V$	



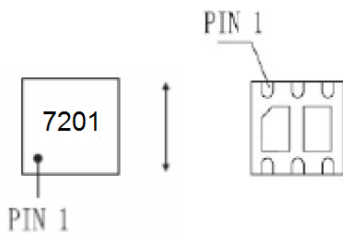
FEATURE

- Surface Mount Package
- TrenchFET Power MOSFET
- High Density Cell Design for Low $R_{DS(ON)}$
- Voltage Controlled Small Signal Switch
- Rugged and Reliable
- High Saturation Current Capability

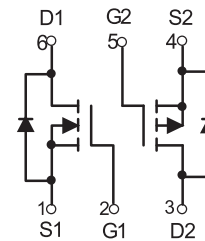
APPLICATION

- Load Switch for Portable Devices
- DC/DC Converter

MARKING



Equivalent Circuit



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

Parameter	Symbol	Value	Unit
N-MOSFET			
Drain-Source Voltage	V_{DS}	60	V
Gate-Source Voltage	V_{GS}	± 20	V
Continuous Drain Current (note 1)	I_D	0.115	A
Pulsed Drain Current ($t_p=10\mu s$)	I_{DM}	0.46	A
P-MOSFET			
Drain-Source Voltage	V_{DS}	-20	V
Gate-Source Voltage	V_{GS}	± 8	V
Continuous Drain Current (note 1)	I_D	-2.3	A
Pulsed Drain Current ($t_p=10\mu s$)	I_{DM}	-10	A
Temperature and Thermal Resistance			
Thermal Resistance from Junction to Ambient (note 1)	$R_{\theta JA}$	167	$^{\circ}C/W$
Junction Temperature	T_J	150	$^{\circ}C$
Storage Temperature	T_{STG}	-55~+150	$^{\circ}C$
Lead Temperature for Soldering Purposes(1/8" from case for 10 s)	T_L	260	$^{\circ}C$

MOSFET ELECTRICAL CHARACTERISTICS

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

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
STATIC CHARACTERISTICS						
Drain-source breakdown voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = 250\mu A$	60			V
Zero gate voltage drain current	I_{DSS}	$V_{DS} = 60V, V_{GS} = 0V$			80	nA
Gate-body leakage current	I_{GSS}	$V_{GS} = \pm 20V, V_{DS} = 0V$			± 80	nA
Gate threshold voltage (note 2)	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu A$	1		2.5	V
Drain-source on-resistance(note 2)	$R_{DS(on)}$	$V_{GS} = 10V, I_D = 500mA$			7	Ω
		$V_{GS} = 5V, I_D = 50mA$			7	Ω
Forward tranconductance(note 2)	g_{FS}	$V_{DS} = 10V, I_D = 200mA$	80			mS
Diode forward voltage	V_{SD}	$I_S = 115mA, V_{GS} = 0V$	0.55		1.2	V
DYNAMIC CHARACTERISTICS (note 4)						
Input Capacitance	C_{iss}	$V_{DS} = 25V, V_{GS} = 0V, f = 1MHz$			50	pF
Output Capacitance	C_{oss}				25	pF
Reverse Transfer Capacitance	C_{rss}				5	pF
SWITCHING CHARACTERISTICS (note 3,4)						
Turn-on delay time	$t_{d(on)}$	$V_{GEN} = 10V, V_{DD} = 25V, R_L = 50\Omega$ $I_D = 500mA, R_G = 25\Omega$			20	ns
Turn-off delay time	$t_{d(off)}$				40	ns

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

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
STATIC CHARACTERISTICS						
Drain-source breakdown voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = -250\mu A$	-20			V
Zero gate voltage drain current	I_{DSS}	$V_{DS} = -20V, V_{GS} = 0V$			-1	μA
Gate-body leakage current	I_{GSS}	$V_{GS} = \pm 8V, V_{DS} = 0V$			± 100	nA
Gate threshold voltage (note 2)	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = -250\mu A$	-0.4		-1	V
Drain-source on-resistance(note 2)	$R_{DS(on)}$	$V_{GS} = -4.5V, I_D = -2.8A$		90	112	m Ω
		$V_{GS} = -2.5V, I_D = -2A$		110	142	m Ω
Forward tranconductance(note 2)	g_{FS}	$V_{DS} = -5V, I_D = -2.8A$		6.5		S
Diode forward voltage	V_{SD}	$I_S = -0.7A, V_{GS} = 0V$		-0.8	-1.2	V
DYNAMIC CHARACTERISTICS (note 4)						
Input Capacitance	C_{iss}	$V_{DS} = -10V, V_{GS} = 0V, f = 1MHz$		405		pF
Output Capacitance	C_{oss}			75		pF
Reverse Transfer Capacitance	C_{rss}			55		pF
Gate resistance	R_g	$f = 1MHz$		6		Ω
SWITCHING CHARACTERISTICS (note 3,4)						
Turn-on delay time	$t_{d(on)}$	$V_{GEN} = -4.5V, V_{DD} = -10V, R_L = 10\Omega$ $I_D = -1A, R_g = 1\Omega$		11	20	ns
Turn-on rise time	t_r			35	60	ns
Turn-off delay time	$t_{d(off)}$			30	50	ns
Turn-off fall time	t_f			10	20	ns
Total gate charge	Q_g	$V_{DS} = -10V, V_{GS} = -4.5V, I_D = -3A$			10	nC
Gate-source charge	Q_{gs}				6	nC
Gate-drain charge	Q_{gd}			0.7		nC

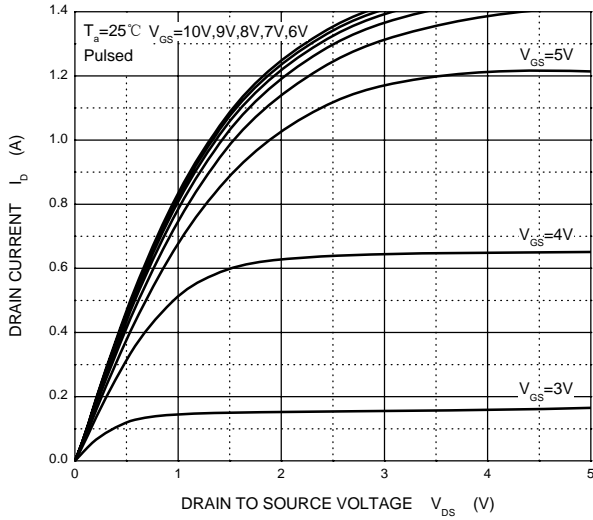
Notes :

1. Surface mounted on FR4 board using the minimum recommended pad size.
2. Pulse Test : Pulse width=300 μs , duty cycle $\leq 2\%$.
3. Switching characteristics are independent of operating junction temperature.
4. Guaranteed by design, not subject to producing.

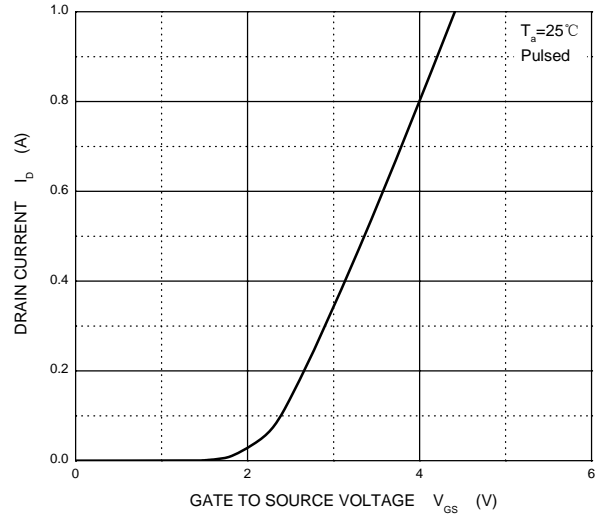
Typical Characteristics

N-Channel Characteristics

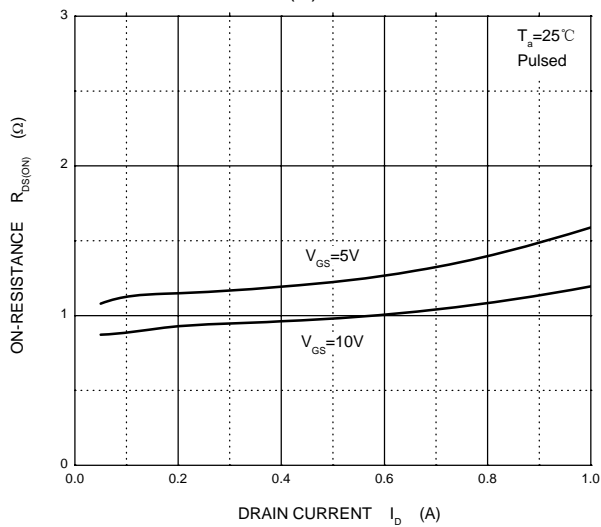
Output Characteristics



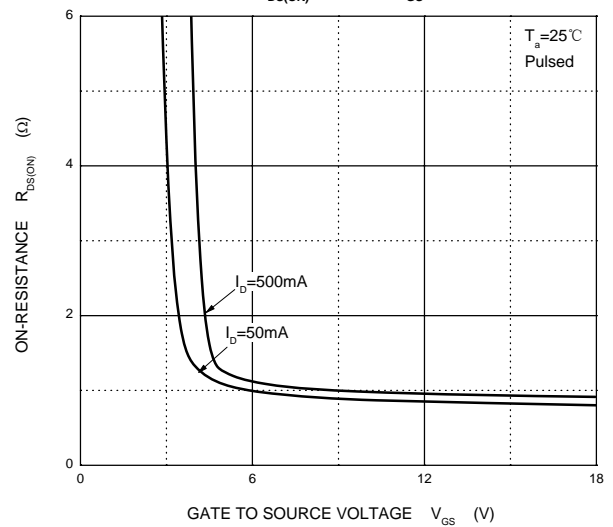
Transfer Characteristics



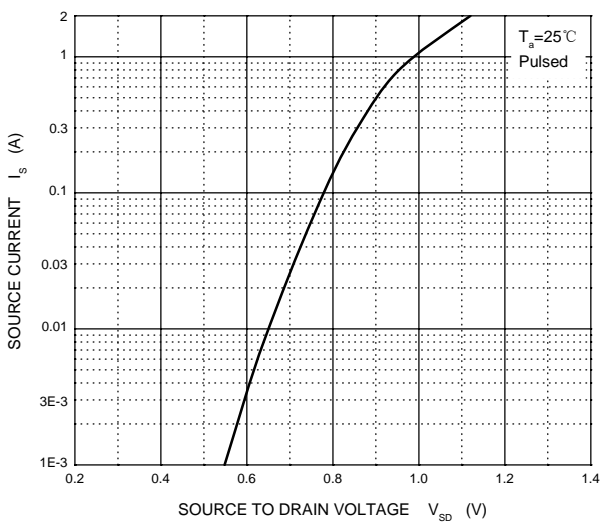
$R_{DS(ON)}$ — I_D



$R_{DS(ON)}$ — V_{GS}

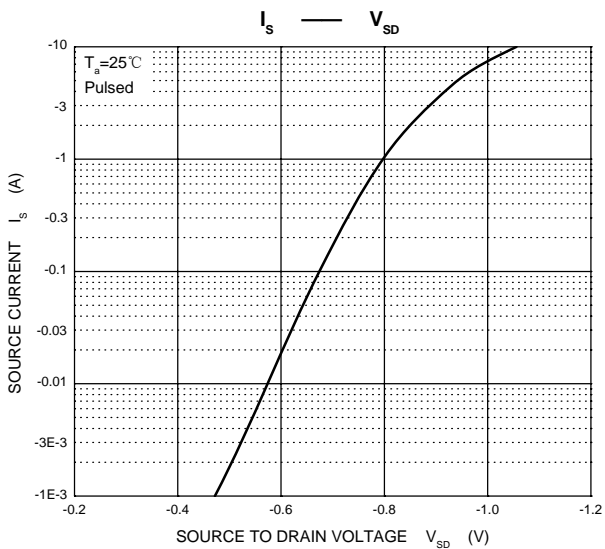
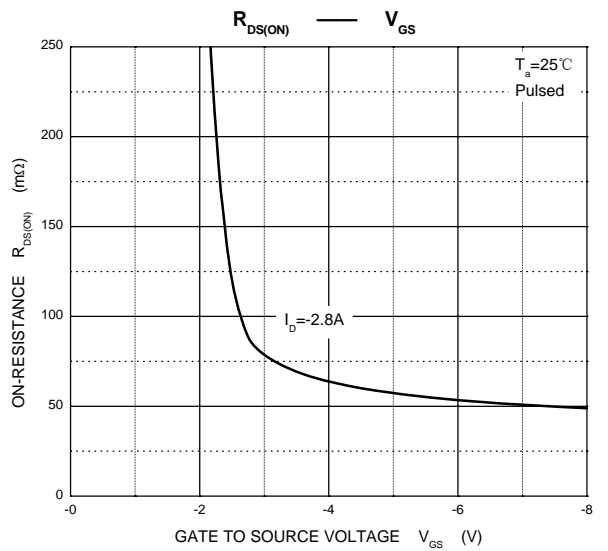
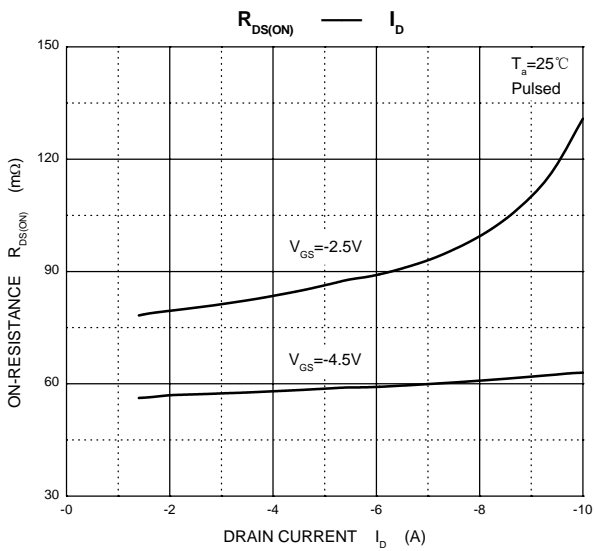
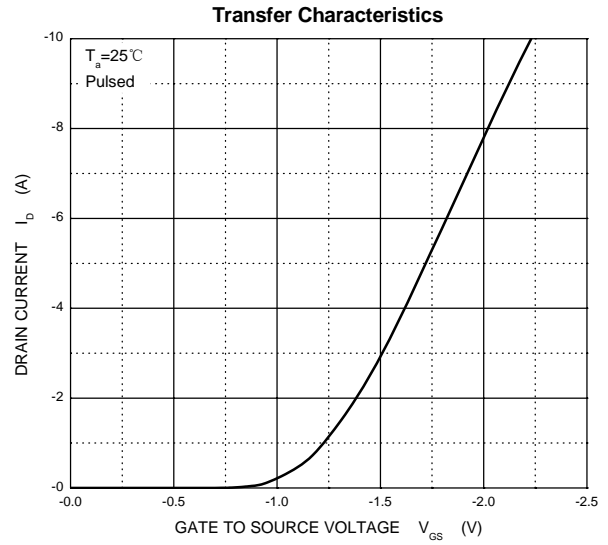
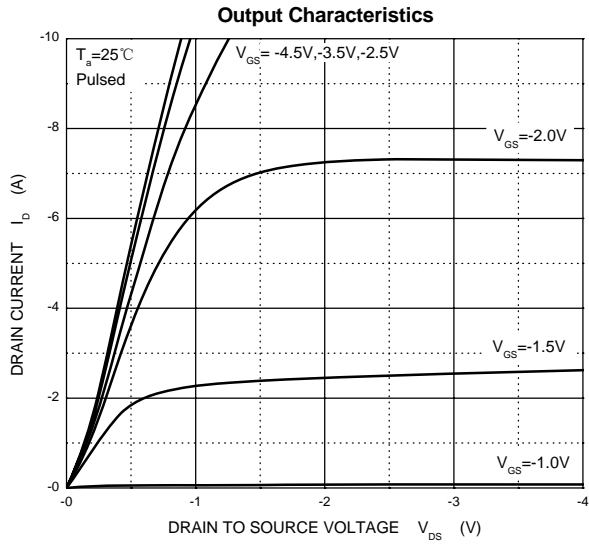


I_S — V_{SD}

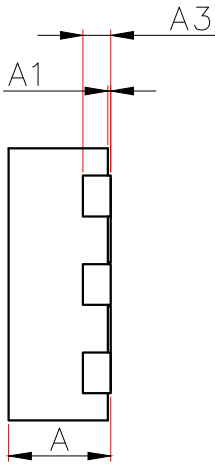
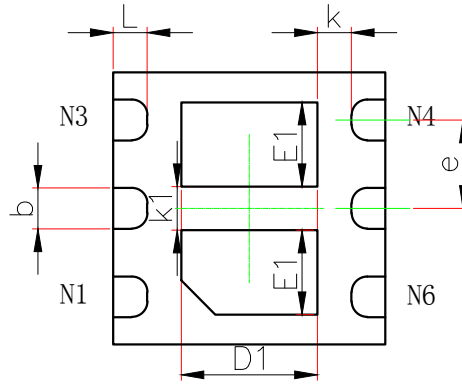
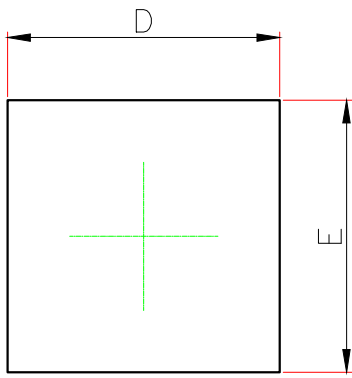


Typical Characteristics

P-Channel Characteristics

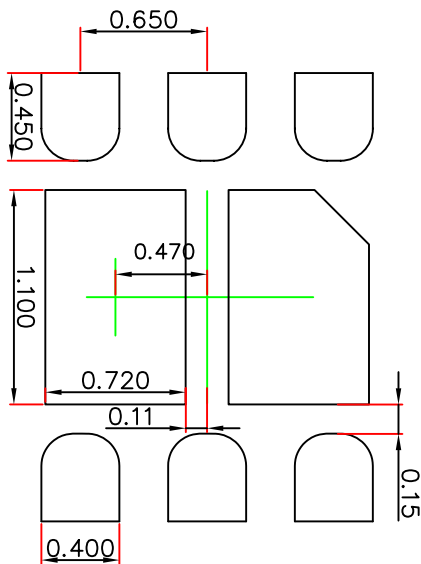


DFNWB2×2-6L-U Package Outline Dimensions



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	1.900	2.100	0.075	0.083
D1	0.900	1.100	0.035	0.043
E1	0.520	0.720	0.020	0.028
b	0.250	0.350	0.010	0.014
e	0.650TYP.		0.026TYP.	
k	0.200MIN.		0.008MIN.	
k1	0.320REF.		0.013REF.	
L	0.200	0.300	0.008	0.012

DFNWB2×2-6L-U Suggested Pad Layout



Note:

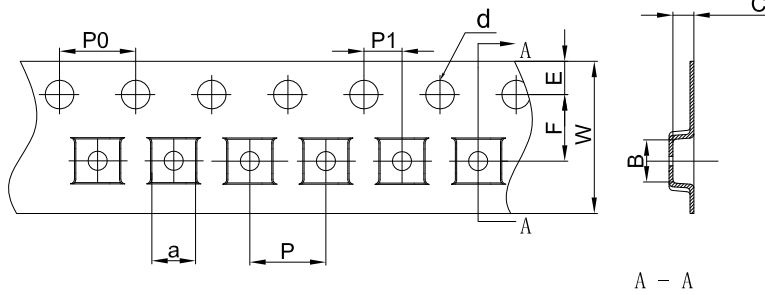
1. Controlling dimension: in millimeters.
2. General tolerance: ± 0.050 mm.
3. The pad layout is for reference purposes only.

NOTICE

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

DFNWB2X2-6L Tape and Reel

DFNWB2×2-6L Embossed Carrier Tape



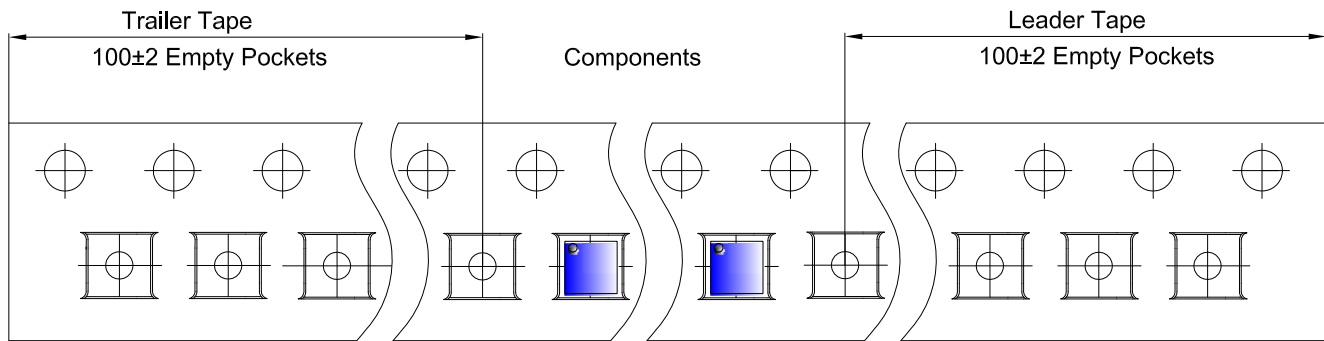
Packaging Description:

DFNWB2×2-6L 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).

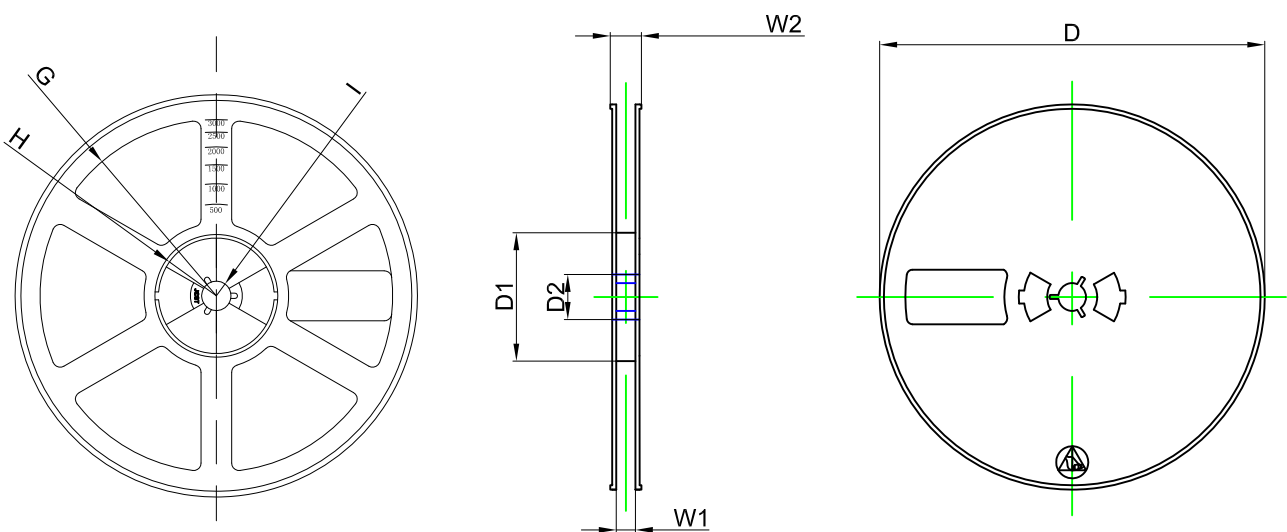
Dimensions are in millimeter

Pkg type	a	B	C	d	E	F	P0	P	P1	W
DFNWB2×2-6L	2.30	2.30	1.10	Ø1.50	1.75	3.50	4.00	4.00	2.00	8.00

DFNWB2×2-6L Tape Leader and Trailer



DFNWB2×2-6L 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)
3000 pcs	7 inch	30,000 pcs	203×203×195	120,000 pcs	438×438×220	