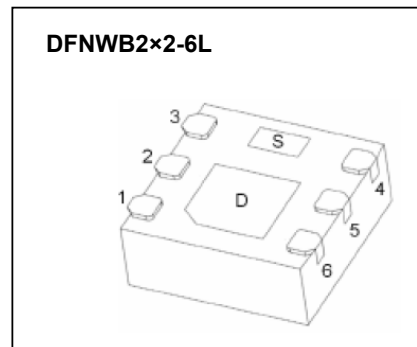




DFNWB2×2-6L Plastic-Encapsulate MOSFET

CJMN2012 N-Channel MOSFET

$V_{(BR)DSS}$	$R_{DS(on)}$ TYP	I_D
20V	10mΩ@ 4.5V	12A
	13mΩ@ 2.5V	
	18mΩ@1.8V	



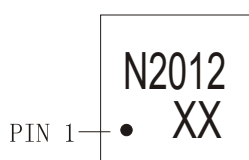
FEATURES

- TrenchFET Power MOSFET
- Small package DFNWB2×2-6L

APPLICATION

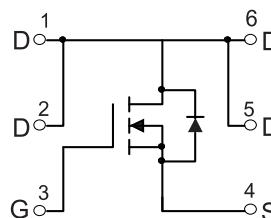
- Load Switch for Portable Applications

MARKING:



N2012 = Part No.
Solid dot = Pin1 indicator.
XX = Code.

Equivalent Circuit



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

Parameter		Symbol	Value	Unit
Drain-Source Voltage		V_{DS}	20	V
Gate-Source Voltage		V_{GS}	±10	V
Continuous Drain Current	$T_A=25$	I_D	12	A
	$T_A=75$		9.3	
Pulsed Drain Current		I_{DM}	40	A
Maximum Power Dissipation		P_D	3.1	W
Operating Junction and Storage Temperature Range		T_J, T_{STG}	-55~ +150	$^{\circ}\text{C}$

Thermal Characteristics

Parameter		Symbol	Value		Unit
			Typ	Max	
Thermal Resistance from Junction to Ambient	$t \leq 10\text{s}$	$R_{\theta JA}$	33	40	$^{\circ}\text{C/W}$
	Steady State		65	77	$^{\circ}\text{C/W}$

MOSFET ELECTRICAL CHARACTERISTICS

$T_a=25\text{ }^{\circ}\text{C}$ unless otherwise specified

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
STATIC PARAMETERS						
Drain-source breakdown voltage	V _{(BR)DSS}	V _{GS} = 0V, I _D =250μA	20			V
Zero gate voltage drain current	I _{DSS}	V _{DS} =16V, V _{GS} = 0V			1.0	μA
Gate-body leakage current	I _{GSS}	V _{GS} =±10V, V _{DS} = 0V			±100	nA
Gate threshold voltage	V _{GS(th)}	V _{DS} =V _{GS} , I _D =250μA	0.35	0.7	1.0	V
Drain-source on-resistance	R _{DS(on)}	V _{GS} =4.5V, I _D =5A		10	15	mΩ
		V _{GS} =2.5V, I _D =5A		13	18	mΩ
		V _{GS} =1.8V, I _D =5A		18	30	mΩ
DYNAMIC PARAMETERS						
Input Capacitance	C _{iss}	V _{DS} =4V, V _{GS} =0V, f =1MHz		1170		pF
Output Capacitance	C _{oss}			240		pF
Reverse Transfer Capacitance	C _{rss}			200		pF
Gate Resistance	R _g	f=1MHz		2.5		Ω
SWITCHING PARAMETERS						
Turn-on delay time	t _{d(on)}	V _{DD} =4V, V _{GS} =4.5V, I _D =10A, R _g =1Ω, R _L =0.4Ω		5.4		ns
Turn-on rise time	t _r			6.9		ns
Turn-off delay time	t _{d(off)}			14.6		ns
Turn-off fall time	t _f			2.7		ns
Total Gate Charge	Q _g	V _{DS} =4V, V _{GS} =5V I _D =10A		13.4		nC
Gate-Source Chage	Q _{gs}			1.7		nC
Gate-Drain Charge	Q _{gd}			3.1		nC
Drain-Source Diode Characteristics						
Drain-source diode forward voltage	V _{SD}	V _{GS} =0V, I _S =10A			1.2	V
Continuous drain-source diode forward current	I _S				12	A
Pulsed drain-source diode forward current	I _{SM}				40	A

Notes:

1.Limited only by maximum temperature allowed.

2. $P_w \leq 10\mu s$, Duty cycle $\leq 1\%$.

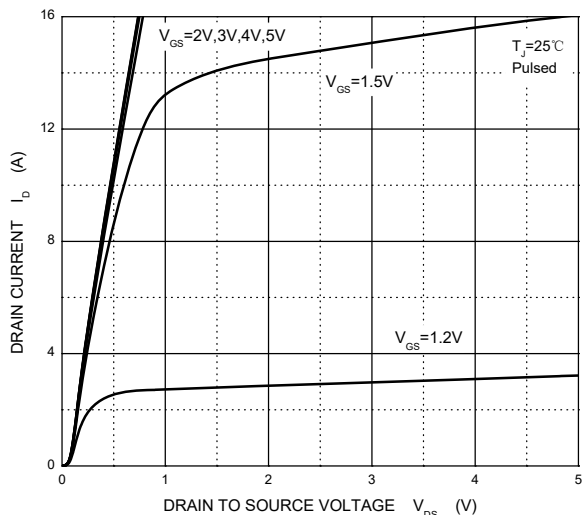
3.Pulse Test : Pulse Width $\leq 300\mu s$, duty cycle $\leq 2\%$.

4.Guaranteed by design, not subject to production.

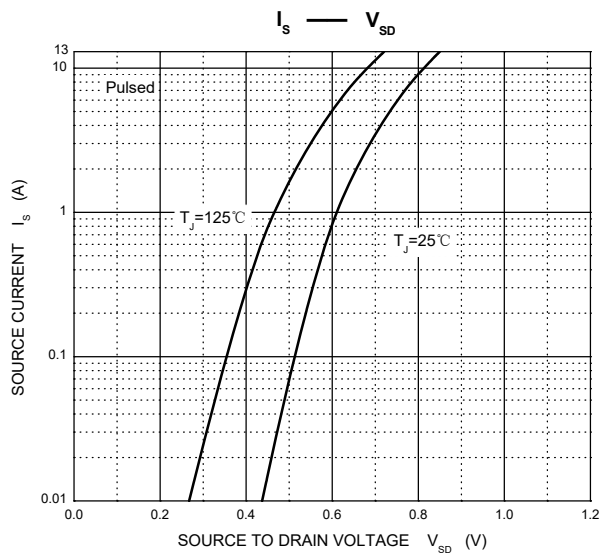
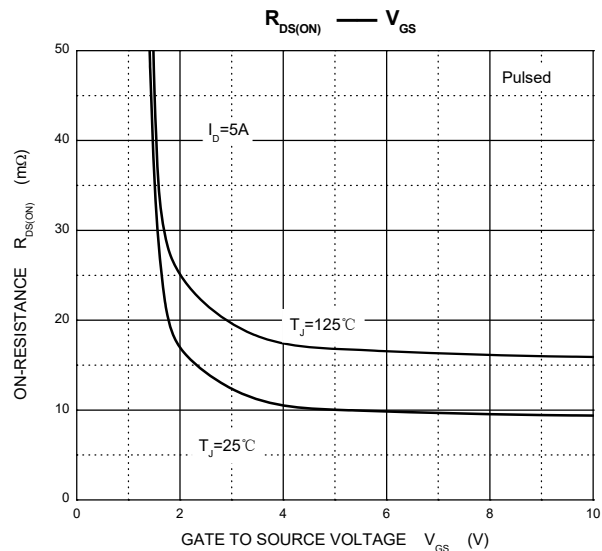
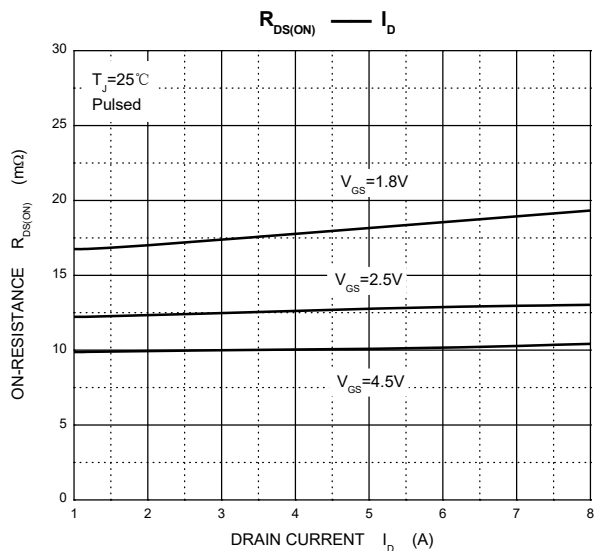
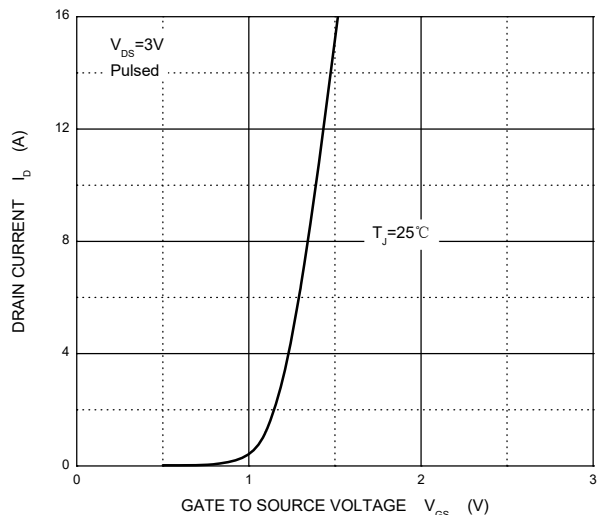
5.Device mounted on 1 in² FR-4 board with 2oz. double-sided Copper, in a still air environment with $T_A = 25\text{ }^{\circ}\text{C}$. The current rating is based on the $\leq 10s$ thermal resistance rating.

Typical Characteristics

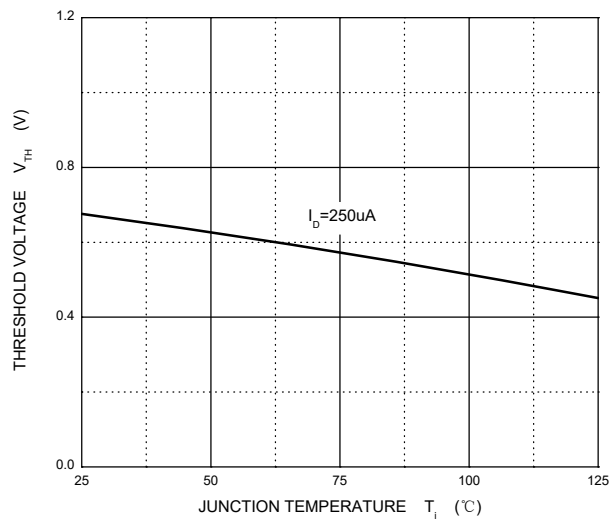
Output Characteristics



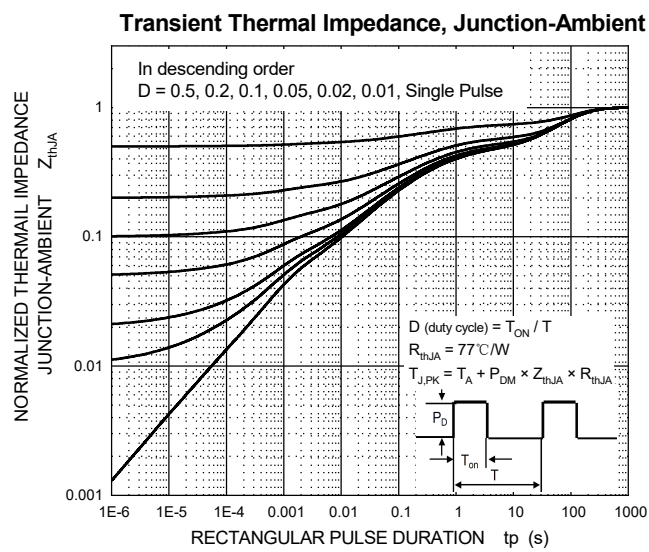
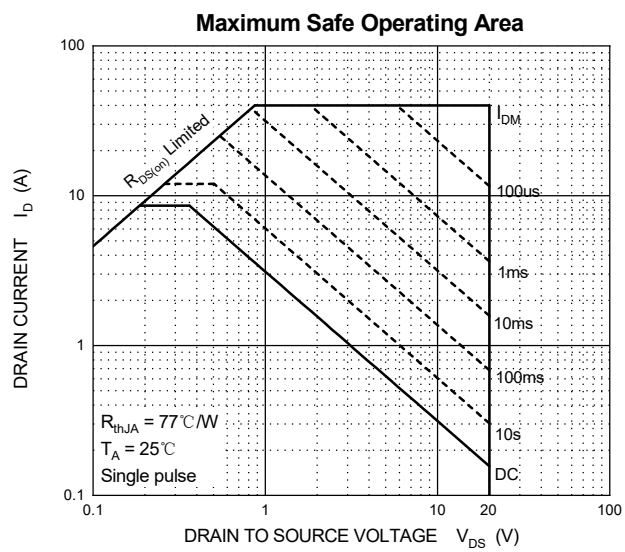
Transfer Characteristics



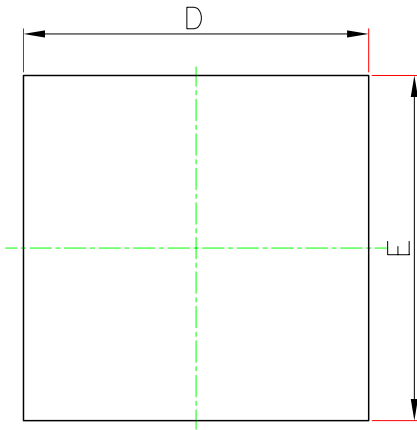
Threshold Voltage



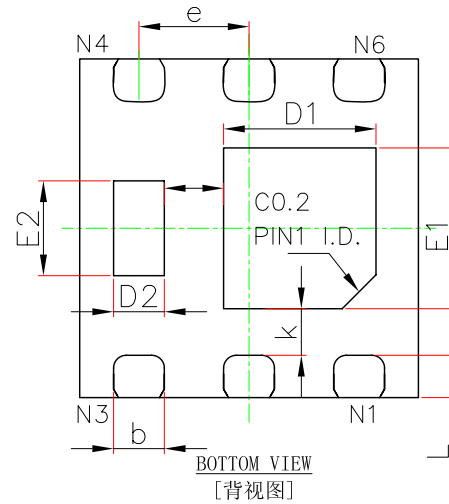
Typical Characteristics



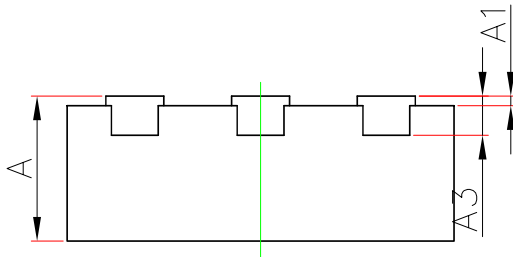
DFNWB2×2-6L-J Package Outline Dimensions



TOP VIEW
[顶视图]



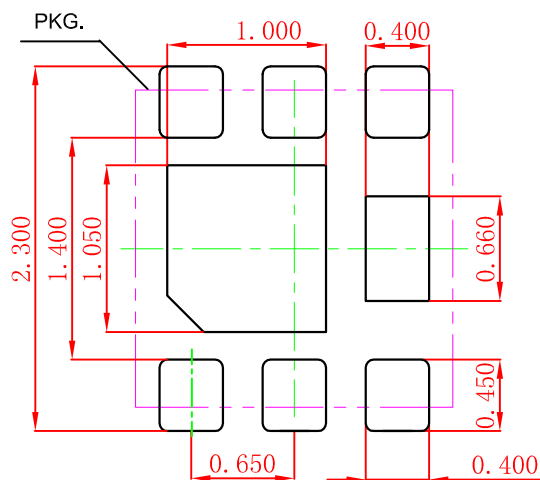
BOTTOM VIEW
[背视图]



SIDE VIEW
[侧视图]

Symbols	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	0.800	1.000	0.031	0.039
E1	0.850	1.050	0.033	0.041
D2	0.200	0.400	0.008	0.016
E2	0.460	0.660	0.018	0.026
b	0.250	0.350	0.010	0.014
e	0.650BSC.		0.026BSC.	
k	0.275REF.		0.011REF.	
k1	0.350REF.		0.014REF.	
L	0.174	0.326	0.007	0.013

DFNWB2×2-6L-J Suggested Pad Layout



Note:

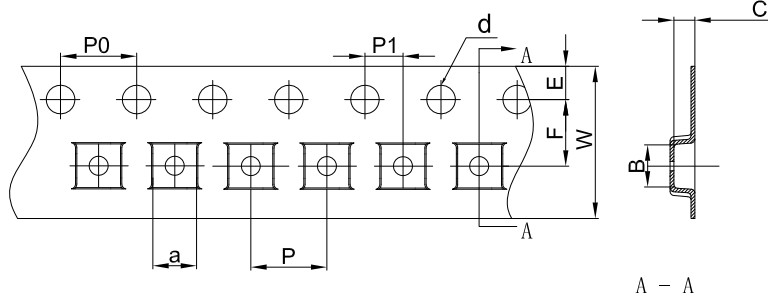
1. Controlling dimension: in millimeters.
2. General tolerance: $\pm 0.050\text{mm}$.
3. The pad layout is for reference purposes only.

NOTICE

JSCJ reserves the right to make modifications, enhancements, improvements, corrections or other changes without further notice to any product herein. JSCJ 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

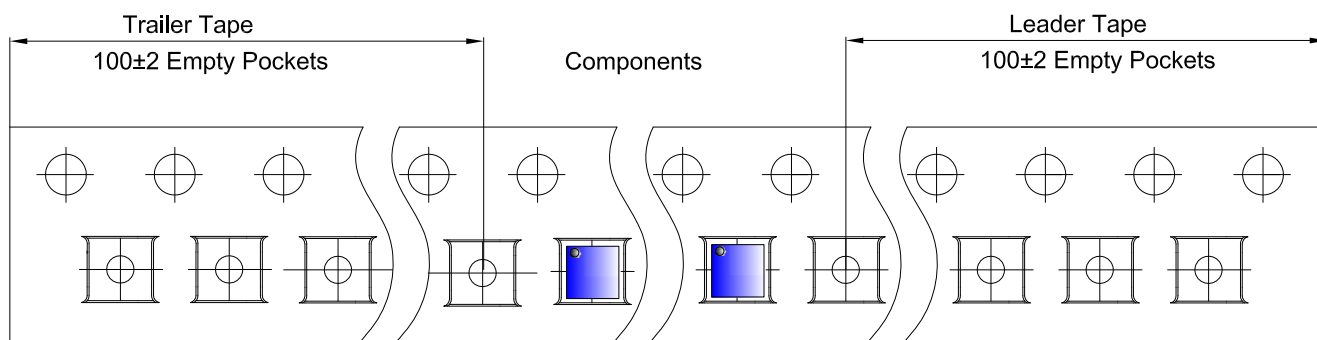


Packaging Description:

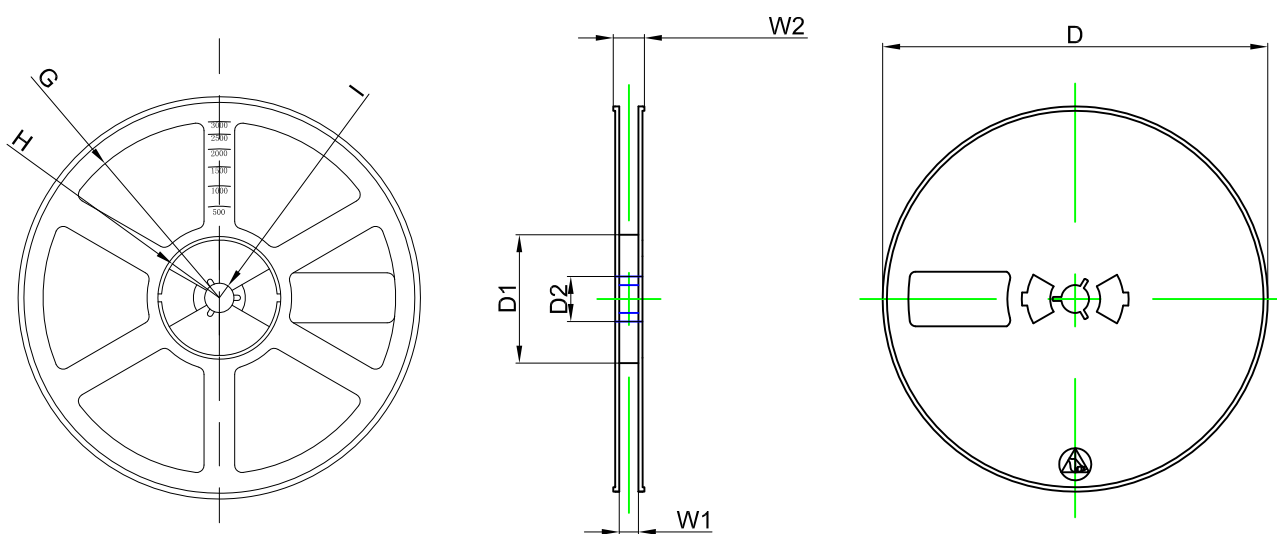
DFNWB2×2-6L parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Heat Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. These reeled parts 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	