DFNWB2X2-6L-A Power Management MOSFETS-Schottky

CJLJF3117P P-channel MOSFET and Schottky Barrier Diode

$V_{(BR)DSS}/V_R$	$R_{DS(on)}$MAX	I_D/I_O
-20V	100mΩ@-4.5V	-3.3A
	135mΩ@-2.5V	
	250mΩ@-1.8V	
30V	/	2A

DFNWB2×2-6L-A

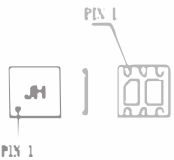
FEATURE

- Independent Pinout to Each Device to Ease Circuit Design
- High Current Schottky Diode

APPLICATION

- Optimized for Portable Applications Like Cell Phones,Digital Cameras,Media Players,etc
- DC-DC Buck Circuits
- Li-ion Battery Applications
- Color Display and Camera Flash Regulators

MARKING



Equivalent Circuit

Maximum ratings (T_a=25℃ unless otherwise noted)

Symbol	Parameter	Value	Unit
P-MOSFET			
V_{DS}	Drain-Source Voltage	-20	V
V_{GS}	Gate-Source Voltage	±8	V
I_D	Continuous Drain Current	-3.3	A
I_{DM}*	Pulse Drain Current	-10	A
Schottky Barrier Diode			
V_{RRM}	Peak Repetitive Reverse Voltage	30	V
V_R	DC Blocking Voltage	30	V
I_O	Average Rectified Forward Current	2	A
Power Dissipation, Temperature and Thermal Resistance			
P_D	Power Dissipation	0.75	W
$R_{\theta JA}$	Thermal Resistance from Junction to Ambient	83.3	℃/W
T_J	Junction Temperature	150	℃
T_{stg}	Storage Temperature	-55~+150	℃
T_L	Lead Temperature for Soldering Purposes(1/8" from case for 10 s)	260	℃

*Repetitive rating: Pluse width limited by junction temperature.

MOSFET ELECTRICAL CHARACTERISTICS

T_a=25℃ unless otherwise specified

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
P-MOSFET						
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	μA
Gate-body leakage current	I_{GSS}	V_{GS} =±8V, V_{DS} = 0V			±100	nA
Gate threshold voltage	$V_{GS(th)}$	V_{DS} =V_{GS}, I_D =-250μA	-0.4		-1	V
Drain-source on-resistance(note1)	$R_{DS(on)}$	V_{GS} =-4.5V, I_D =-2A			100	mΩ
		V_{GS} =-2.5V, I_D =-2A			135	mΩ
		V_{GS} =-1.8V, I_D =-1.6A			250	mΩ
Forward transconductance(note1)	g_{FS}	V_{DS}=-5V,I_D=-2A	2.5			S
Diode forward voltage(note1)	V_{SD}	I_S=-1A, V_{GS} = 0V			-1	V
DYNAMIC PARAMETERS (note 2)						
Input capacitance	C_{iss}	V_{DS} =-10V,V_{GS} =0V,f =1MHz		531		pF
Output capacitance	C_{oss}			91		pF
Reverse transfer capacitance	C_{rss}			56		pF
SWITCHING PARAMETERS (note 2)						
Turn-on delay time	$t_{d(on)}$	V_{GS}=-4.5V,V_{DD}=-5V, R_G=6Ω, I_D=-1A		5.2		ns
Turn-on rise time	t_r			13.2		ns
Turn-off delay time	$t_{d(off)}$			13.7		ns
Turn-off fall time	t_f			19.1		ns
Total Gate Charge	Q_g	V_{DS} =-10V,V_{GS} =-4.5V, I_D =-2A		5.5	8.2	nC
Gate-Source Charge	Q_{gs}			1.0		nC
Gate-Drain Charge	Q_{gd}			1.4		nC
Gate Resistance	R_g			8.8		Ω
SCHOTTKY BARRIER DIODE						
Forward voltage	V_F	I_F=0.1A			0.39	V
		I_F=1A			0.55	V
Reverse current	I_R	V_R=30V			20	μA
		V_R=20V			8	μA
		V_R=10V			4.5	μA
Junction capacitance	C_j	V_R=5V,f=1MHz		30		pF

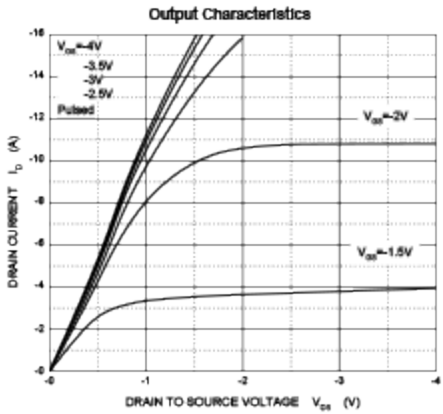
Note:

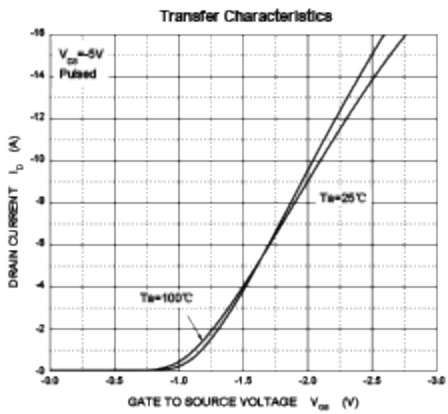
1.Pulse test: pulse width =300μs, duty cycles≤ 2%

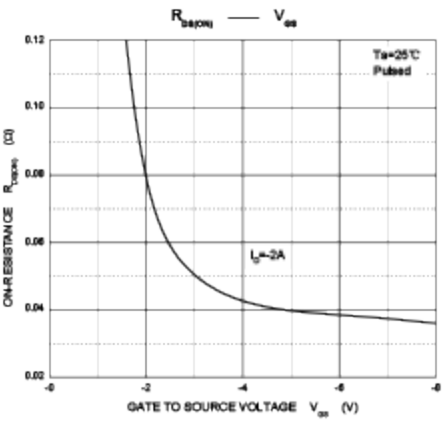
2.These parameters have no way to verify.

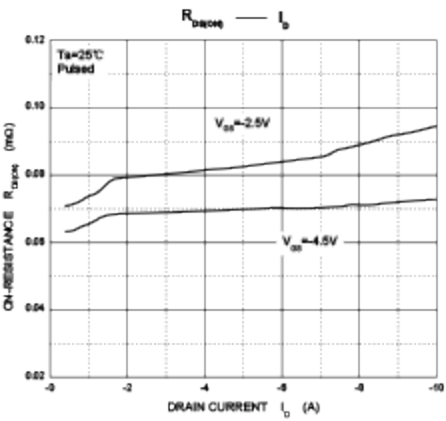
Typical Characteristics

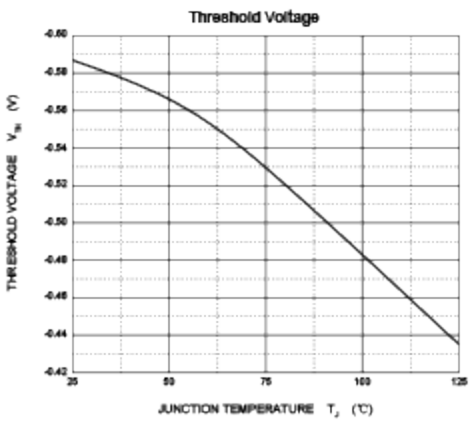
P-channel Characteristics

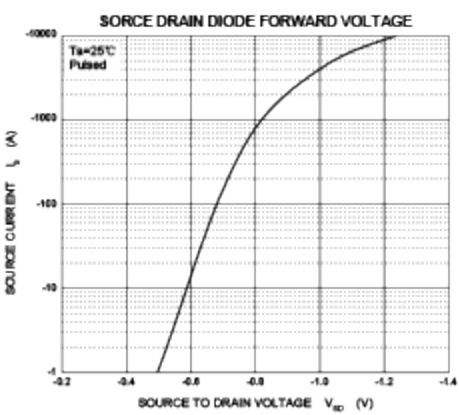






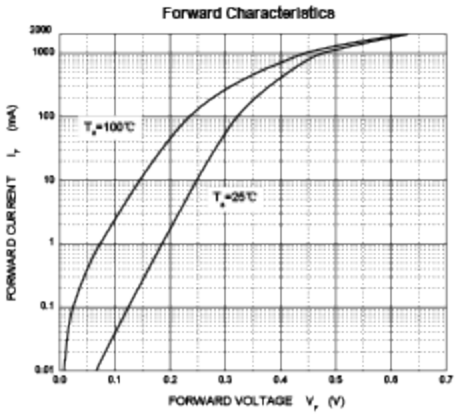


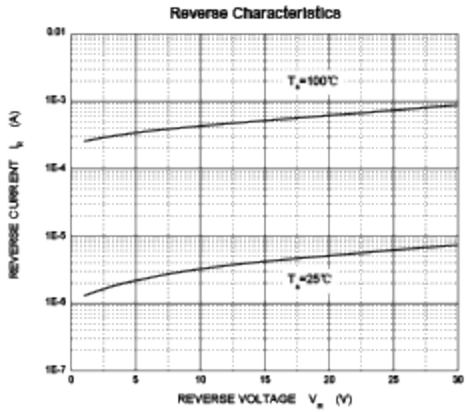




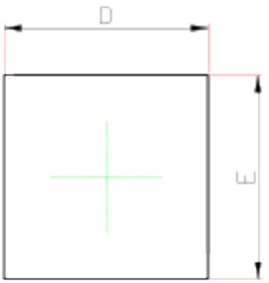
Typical Characteristics

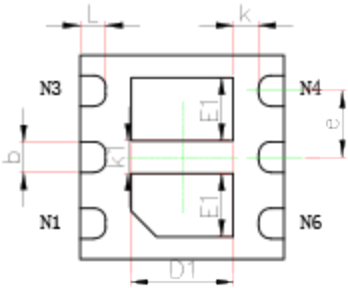
Schottky Characteristics





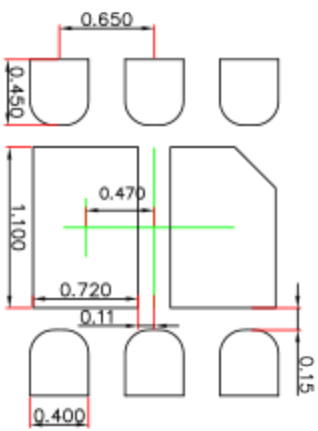
DFNWB2X2-6L-A Package Outline Dimensions





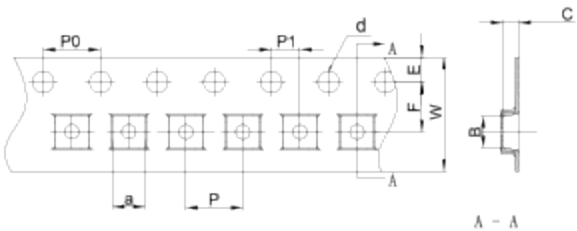
Symbol	Dimensions In Millimeters		Dimensions In Inches	
	MIN.	MAX.	MIN.	MAX.
A	0.700	0.800	0.028	0.031
A1	0.000	0.050	0.000	0.002
A3	0.203REF.		0.008REF.	
D	1.900	2.100	0.075	0.083
E	1.900	2.100	0.075	0.083
D1	0.900	1.100	0.035	0.043
E1	0.520	0.720	0.020	0.028
b	0.250	0.350	0.010	0.014
e	0.650TYP.		0.026TYP.	
k	0.200MIN.		0.008MIN.	
k1	0.320REF		0.013REF.	
L	0.200	0.300	0.008	0.012

DFNWB2X2-6L-A Suggested Pad Layout



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

DFNWB2×2-6L Embossed Carrier Tape

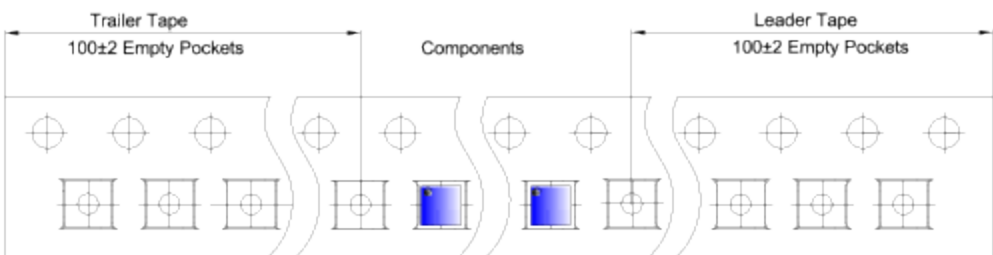


Packaging Description:

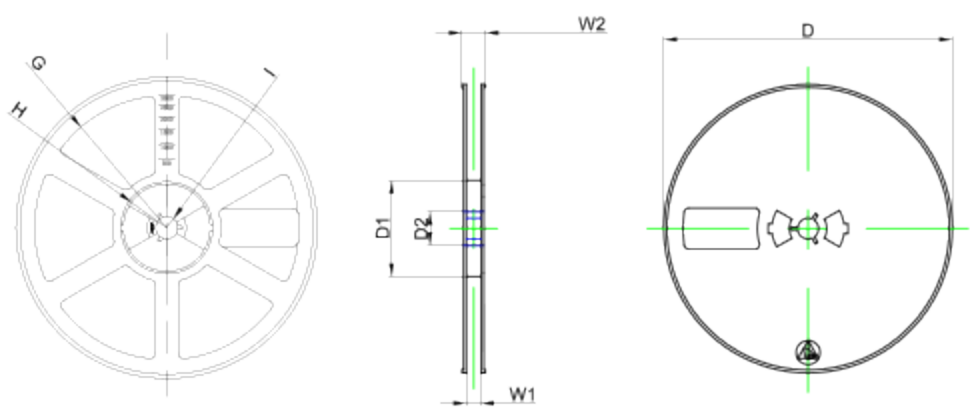
DFNWB2×2-6L parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Heat Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. These reeled parts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