

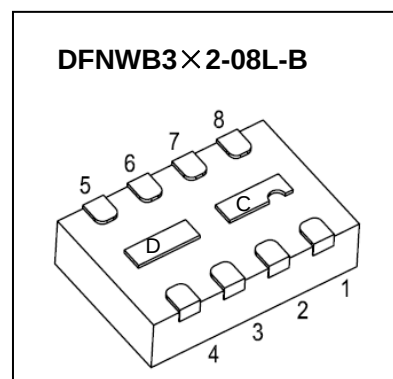


JIANGSU CHANGJING ELECTRONICS TECHNOLOGY CO., LTD

DFNWB3×2-08L-B Power Management MOSFETs-Schottky

CJ5853DC P-channel MOSFET and Schottky Barrier Diode

$V_{(BR)DSS}/V_R$	$R_{DS(on)MAX}$	I_D/I_O
-20V	110mΩ@-4.5V	-2.7A
	160mΩ@-2.5V	
	240mΩ@-1.8V	
20V	/	1 A



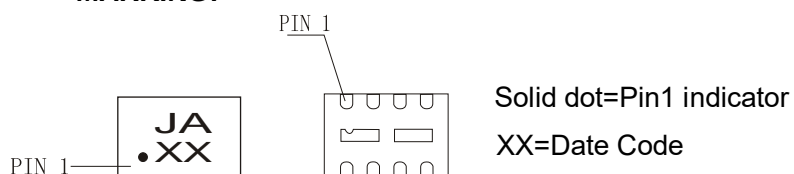
FEATURES

- Independent Pinout to Each Device to Ease Circuit Design
- Ultra low V_F
- Including a CJ2301 MOSFET and a MBR0520 Schottky (independently) in a package

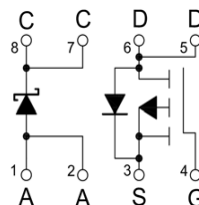
APPLICATIONS

- Li-Ion Battery Charging
- High Side DC-DC Conversion Circuits
- High Side Drive for Small Brushless DC Motors
- Power Management in Portable, Battery Powered Products

MARKING:



Equivalent Circuit



MAXIMUM RATINGS ($T_a=25^{\circ}\text{C}$ 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	-2.7	A
I_{DM}^*	Pulse Drain Current	-10	A
Schottky Barrier Diode			
V_{RRM}	Peak Repetitive Reverse Voltage	20	V
V_R	DC Blocking Voltage	20	V
I_O	Average Rectified Forward Current	1	A
Power Dissipation, Temperature and Thermal Resistance			
P_D	Power Dissipation	1.1	W
$R_{\theta JA}$	Thermal Resistance from Junction to Ambient	114	$^{\circ}\text{C/W}$
T_j	Operating Junction Temperature Range	-40~+125	$^{\circ}\text{C}$
T_{stg}	Storage Temperature Range	-55~+150	$^{\circ}\text{C}$
T_L	Lead Temperature for Soldering Purposes(1/8" from case for 10 s)	260	$^{\circ}\text{C}$

*Repetitive rating: Pluse width limited by junction temperature.

ELECTRICAL CHARACTERISTICS

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

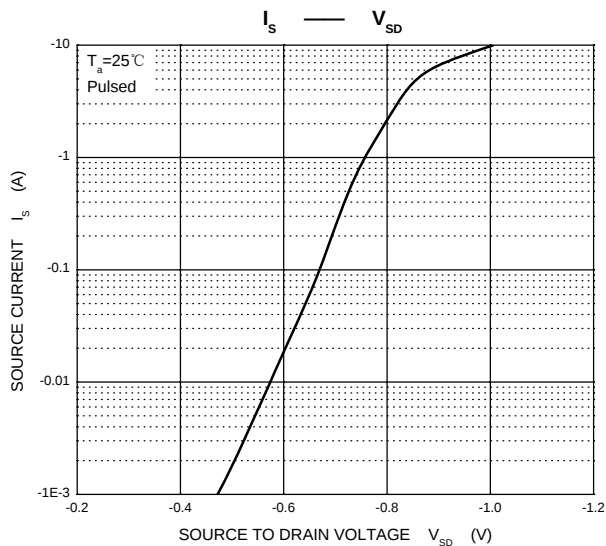
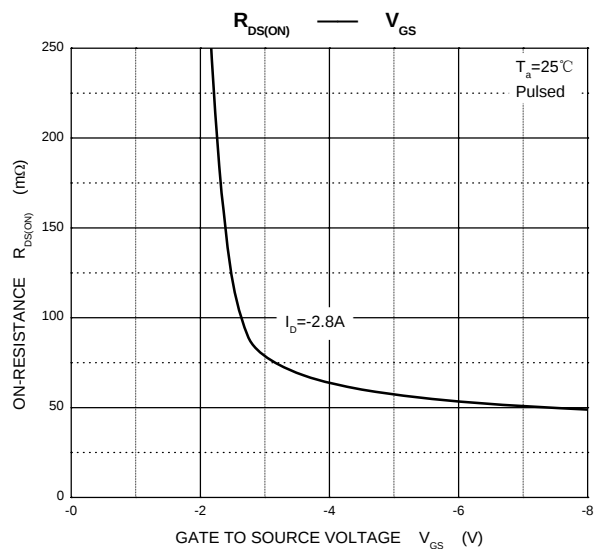
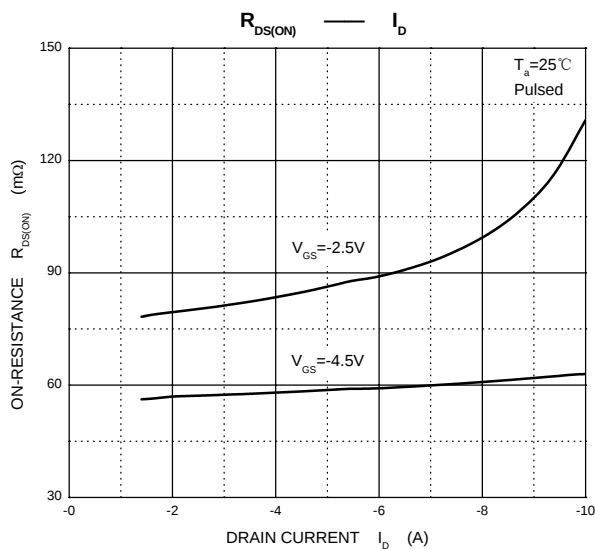
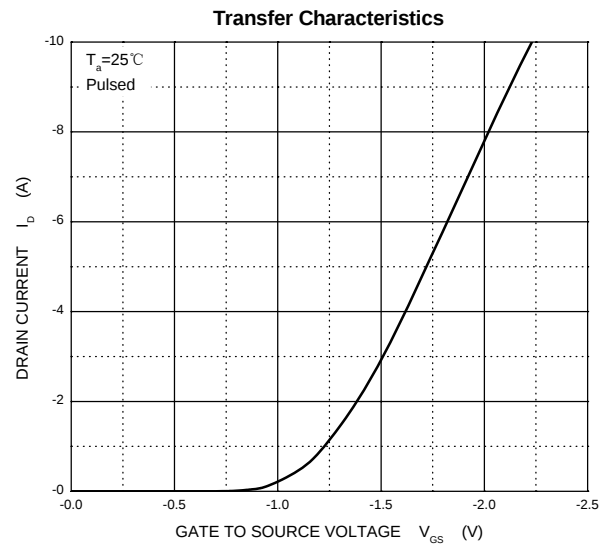
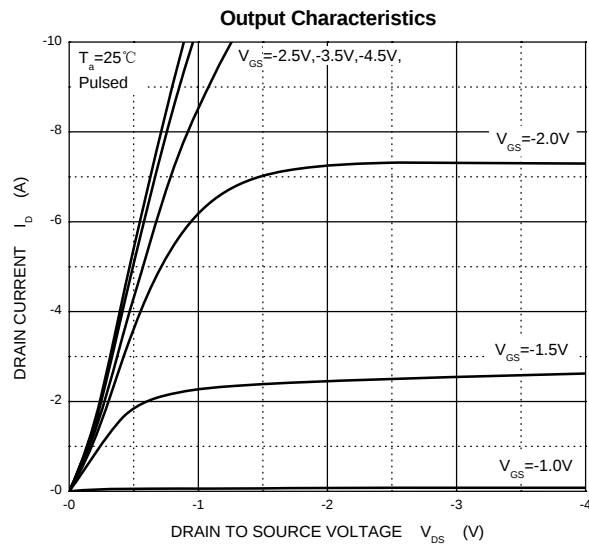
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
P-MOSFET						
STATIC PARAMETERS						
Drain-source breakdown voltage	V _{(BR)DSS}	V _{GS} =0V, I _D =-250μA	-20			V
Zero gate voltage drain current	I _{DSS}	V _{DS} =-16V, V _{GS} = 0V			-1	μA
Gate-body leakage current	I _{GSS}	V _{GS} =±8V, V _{DS} = 0V			±100	nA
Gate threshold voltage	V _{GS(th)}	V _{DS} =V _{GS} , I _D =-250μA	-0.45			V
Drain-source on-resistance(note1)	R _{DS(on)}	V _{GS} =-4.5V, I _D =-2.7A		55	110	mΩ
		V _{GS} =-2.5V, I _D =-2.2A		80	160	mΩ
		V _{GS} =-1.8V, I _D =-1A			240	mΩ
Forward transconductance(note1)	g _{FS}	V _{DS} =-10V, I _D =-2.7A		7		S
Diode forward voltage(note1)	V _{SD}	I _S =-0.9A, V _{GS} = 0V			-1.2	V
DYNAMIC PARAMETERS (note 2)						
Input capacitance	C _{iss}	V _{DS} =-10V, V _{GS} =0V, f =1MHz			300	pF
Output capacitance	C _{oss}				150	pF
Reverse transfer capacitance	C _{rss}				50	pF
SWITCHING PARAMETERS (note 2)						
Turn-on delay time	t _{d(on)}	V _{GS} =-4.5V, V _{DD} =-10V, R _L =10Ω, R _G =6Ω, I _D =-1A			25	ns
Turn-on rise time	t _r				45	ns
Turn-off delay time	t _{d(off)}				45	ns
Turn-off fall time	t _f				40	ns
Total Gate Charge	Q _g	V _{DS} =-10V, V _{GS} =-4.5V, I _D =-2.7A			6.5	nC
Gate-Source Charge	Q _{gs}			1.4		nC
Gate-Drain Charge	Q _{gd}			0.65		nC
SCHOTTKY BARRIER DIODE						
Forward voltage	V _F	I _F =0.5A			0.48	V
Reverse current	I _R	V _R =20V			100	μA
Junction capacitance	C _j	V _R =10V, f=1MHz		41		pF

Note:

- 1.Pulse test: pulse width =300 μs , duty cycles $\leq 2\%$
- 2.These parameters have no way to verify.

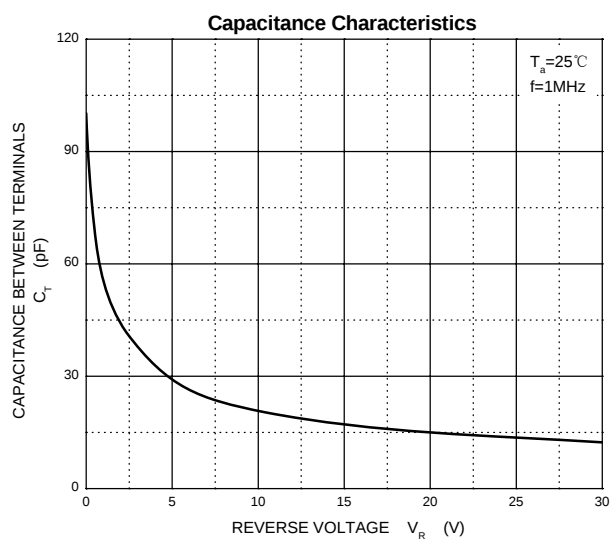
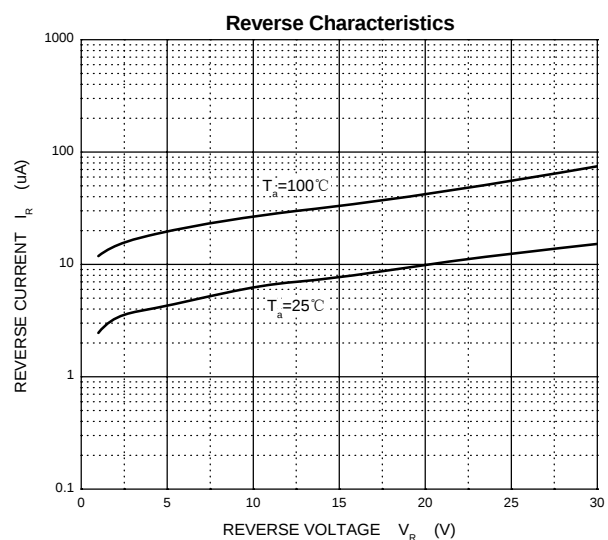
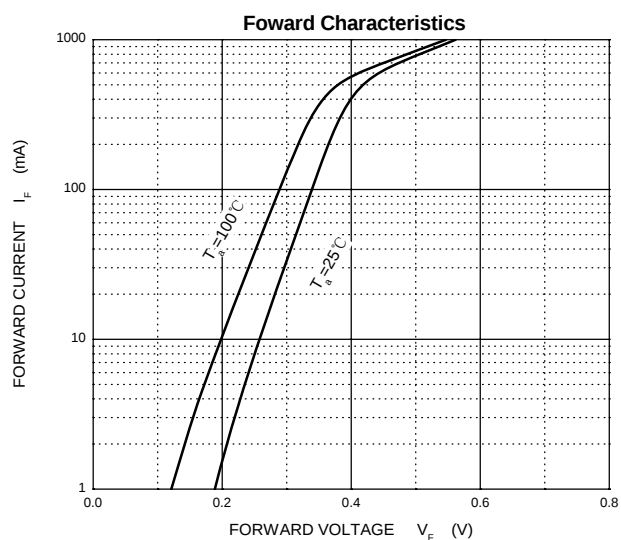
Typical Characteristics

P-channel Characteristics

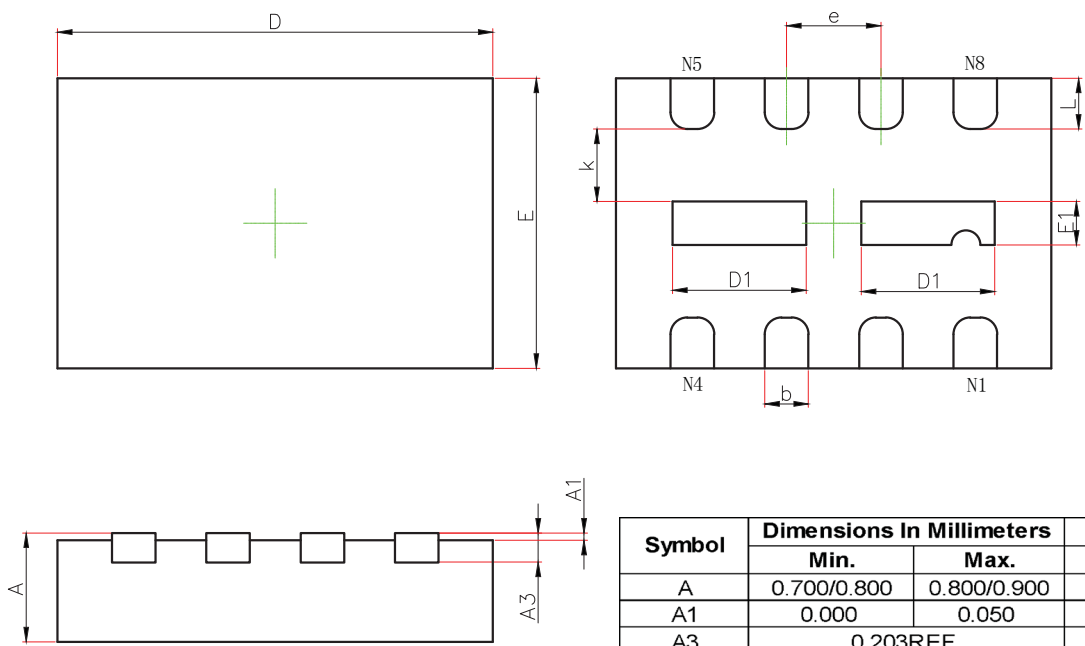


Typical Characteristics

Schottky Characteristics

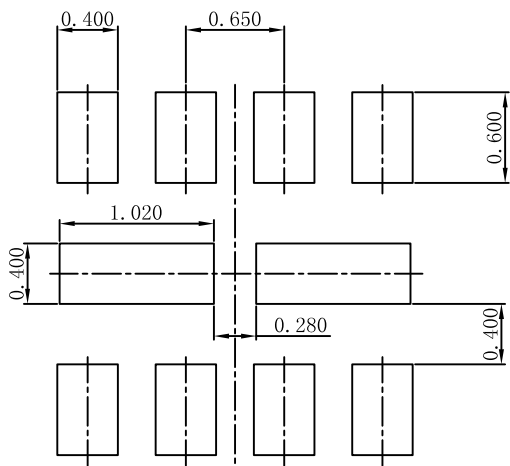


DFNWB3X2-8L-B Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.700/0.800	0.800/0.900	0.028/0.031	0.031/0.035
A1	0.000	0.050	0.000	0.002
A3	0.203REF.		0.008REF.	
D	2.924	3.076	0.115	0.121
E	1.924	2.076	0.076	0.082
D1	0.820	1.020	0.032	0.040
E1	0.200	0.400	0.008	0.016
k	0.200MIN.		0.008MIN.	
b	0.250	0.350	0.010	0.014
e	0.650TYP.		0.026TYP.	
L	0.274	0.426	0.011	0.017

DFNWB3X2-8L-B Suggested Pad Layout

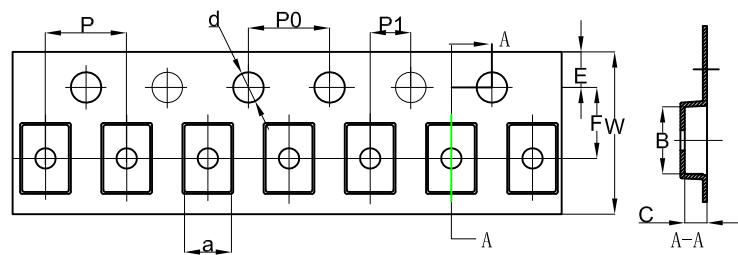


Note:
1.Controlling dimension:in millimeters.
2.General tolerance:±0.050mm.
3.The pad layout is for reference purposes only.

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.

DFNWB3X2-8L Tape and Reel

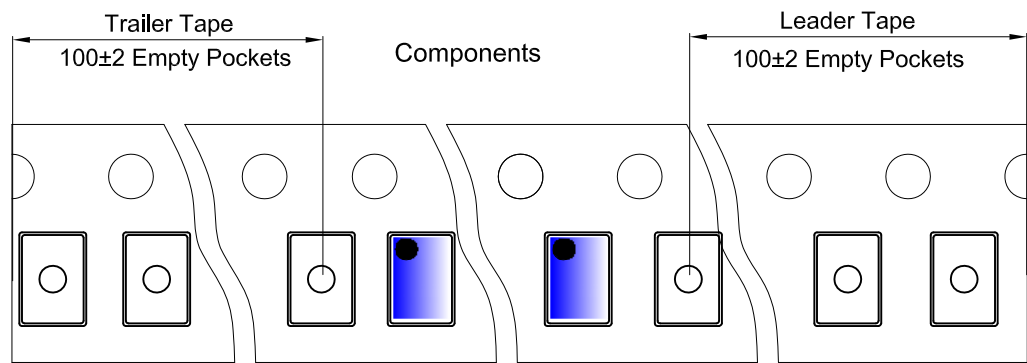
DFNWB3*2-8L Embossed Carrier Tape



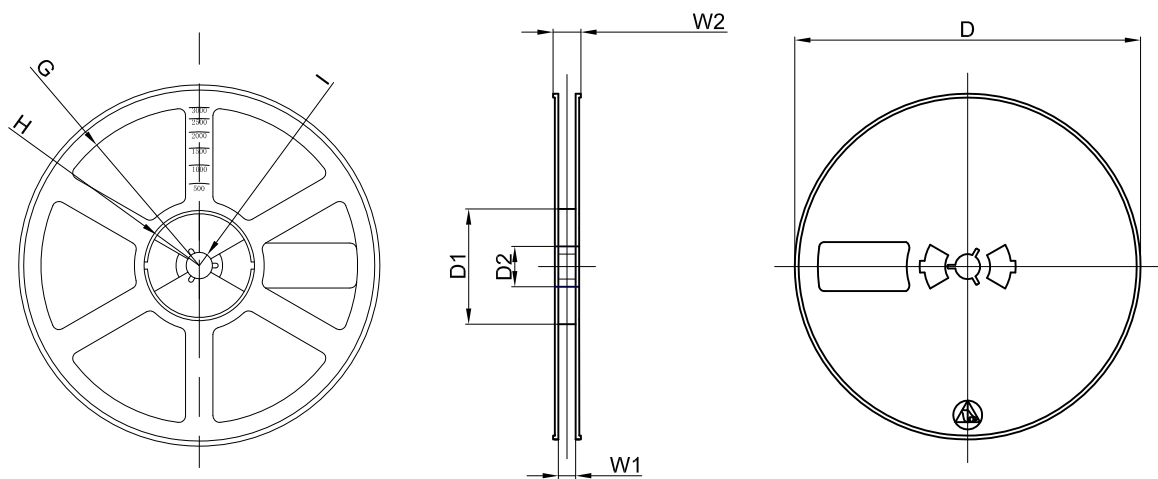
Packaging Description:
DFNWB3*2-8L parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Heat Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed 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	