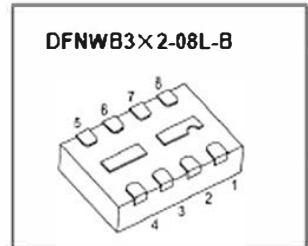


# DFNWB3×2-08L-B Power Management MOSFETs-Schottky

## CJ5853DCB P-channel MOSFET and Schottky Barrier Diode

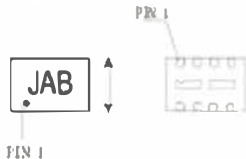
$V_{(BR)DS}/V_R$	$R_{DS(on)MAX}$	$I_D/I_O$
-20V	110m $\Omega$ @-4.5V	-2.7A
	160m $\Omega$ @-2.5V	
	240m $\Omega$ @-1.8V	
20V	/	0.5A



### FEATURE

- Independent Pinout to Each Device to Ease Circuit Design
- Ultra low  $V_F$
- Featuring a MOSFET and a Schottky Barrier Diode

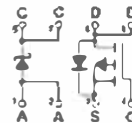
### MARKING



### APPLICATION

- 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

### Equivalent Circuit



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

Symbol	Parameter	Value	Unit
<b>P-MOSFET</b>			
$V_{DS}$	Drain-Source Voltage	-20	V
$V_{GS}$	Gate-Source Voltage	$\pm 8$	V
$I_D$	Continuous Drain Current	-2.7	A
$I_{DM}^*$	Pulse Drain Current	-10	A
<b>Schottky Barrier Diode</b>			
$V_{RRM}$	Peak Repetitive Reverse Voltage	20	V
$V_R$	DC Blocking Voltage	20	V
$I_O$	Average Rectified Forward Current	0.5	A
<b>Power Dissipation, Temperature and Thermal Resistance</b>			
$P_D$	Power Dissipation	1.1	W
$R_{\theta JA}$	Thermal Resistance from Junction to Ambient	114	$^\circ\text{C/W}$
$T_J$	Junction Temperature	150	$^\circ\text{C}$
$T_{STG}$	Storage Temperature	-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: Pulse width limited by junction temperature.

## MOSFET ELECTRICAL CHARACTERISTICS

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

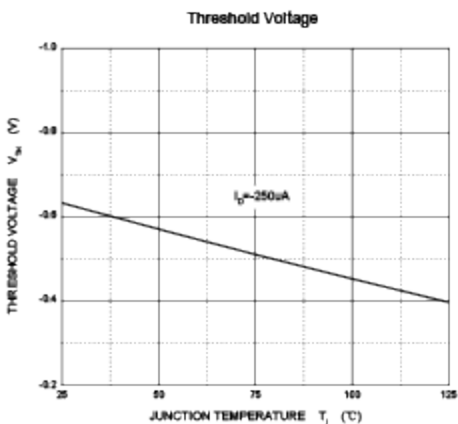
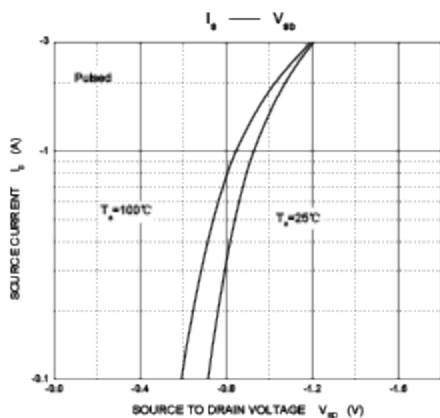
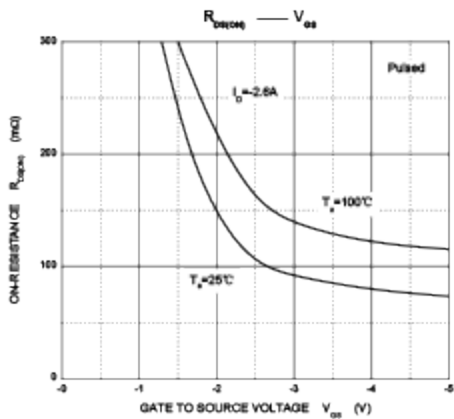
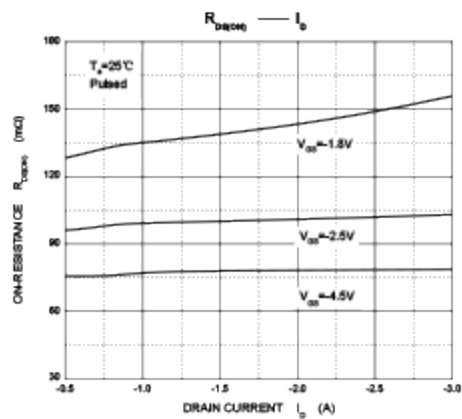
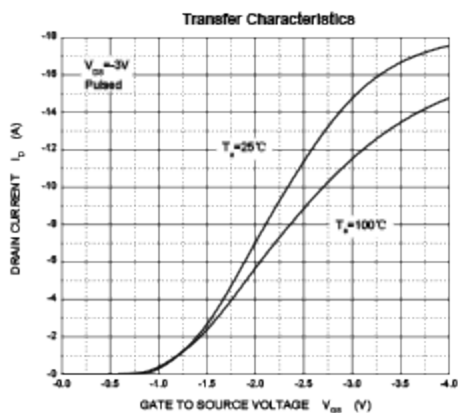
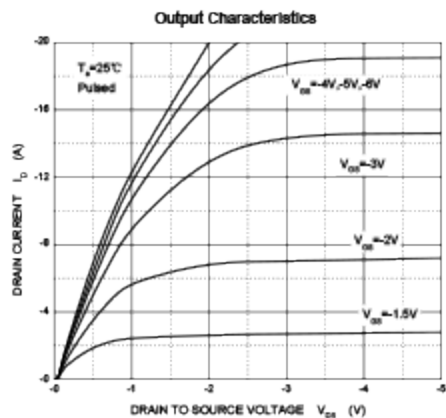
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
<b>P-MOSFET</b>						
<b>STATIC PARAMETERS</b>						
Drain-source breakdown voltage	$V_{(BR)DSS}$	$V_{GS}=0V, I_D=-250\mu A$	-20			V
Zero gate voltage drain current	$I_{DSS}$	$V_{DS}=-16V, V_{GS}=0V$			-1	$\mu A$
Gate-body leakage current	$I_{GBSS}$	$V_{GS}=\pm 8V, V_{DS}=0V$			$\pm 100$	nA
Gate threshold voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=-250\mu A$	-0.45			V
Drain-source on-resistance(note 1)	$R_{DS(on)}$	$V_{GS}=-4.5V, I_D=-2.7A$			110	m $\Omega$
		$V_{GS}=-2.5V, I_D=-2.2A$			160	m $\Omega$
		$V_{GS}=-1.8V, I_D=-1A$			240	m $\Omega$
Forward transconductance(note 1)	$g_{FS}$	$V_{DS}=-10V, I_D=-2.7A$		7		S
Diode forward voltage(note 1)	$V_{SD}$	$I_S=-0.9A, V_{GS}=0V$			-1.2	V
<b>DYNAMIC PARAMETERS (note 2)</b>						
Input capacitance	$C_{iss}$	$V_{DS}=-10V, V_{GS}=0V, f=1\text{MHz}$			300	pF
Output capacitance	$C_{oss}$				150	pF
Reverse transfer capacitance	$C_{rss}$				50	pF
<b>SWITCHING PARAMETERS (note 2)</b>						
Turn-on delay time	$t_{d(on)}$	$V_{GS}=-4.5V, V_{DD}=-10V, R_L=10\Omega, R_G=8\Omega, I_D=-1A$			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
<b>SCHOTTKY BARRIER DIODE</b>						
Forward voltage	$V_F$	$I_F=0.5A$			0.48	V
Reverse current	$I_R$	$V_R=20V$			100	$\mu A$
Junction capacitance	$C_j$	$V_R=10V, f=1\text{MHz}$		41		pF

### Note:

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

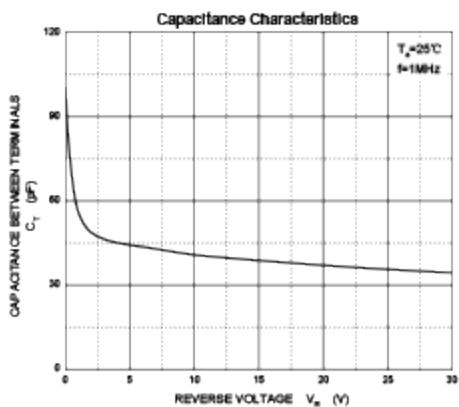
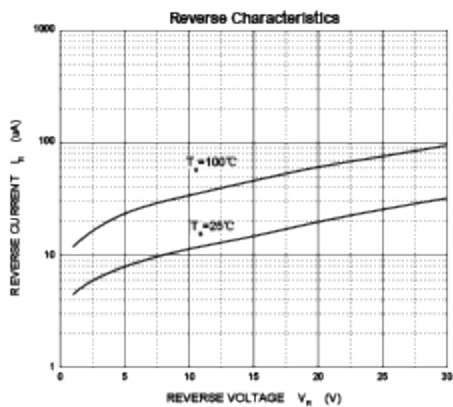
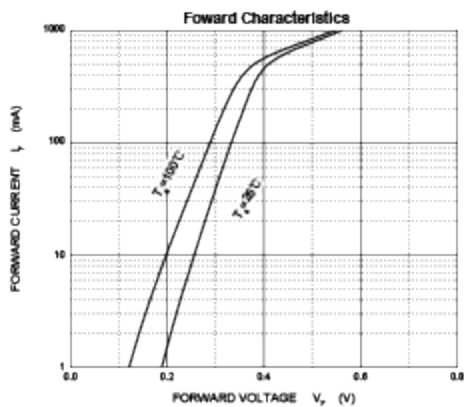
# Typical Characteristics

## P-channel Characteristics

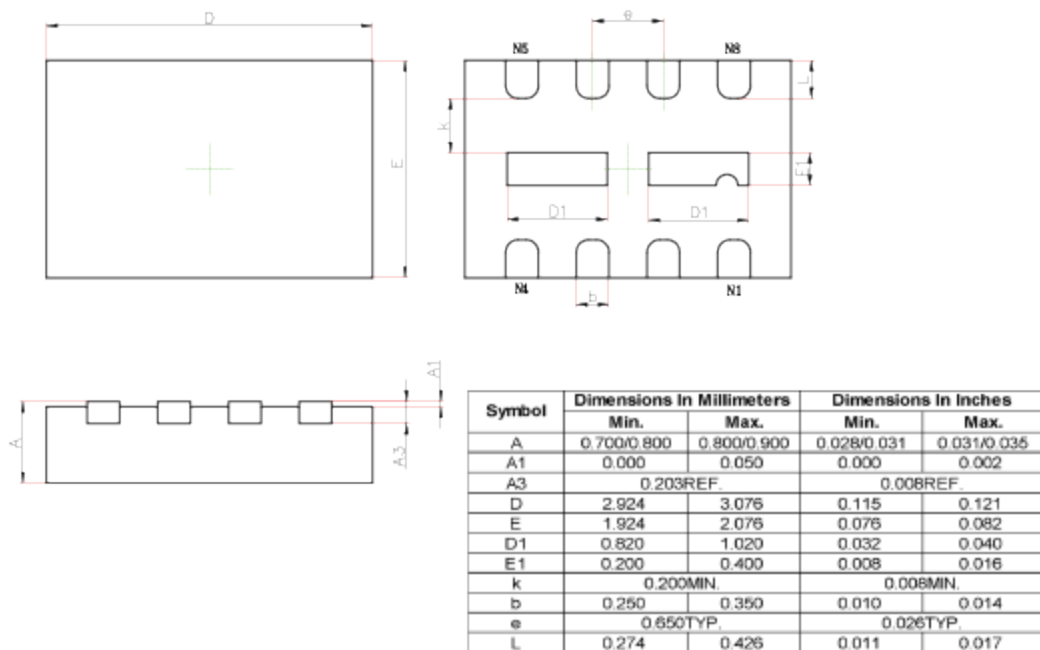


## Typical Characteristics

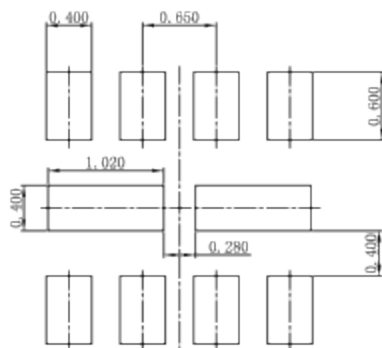
### Schottky Characteristics



## DFNWB3X2-8L-B Package Outline Dimensions



## DFNWB3X2-8L-B Suggested Pad Layout



### Note:

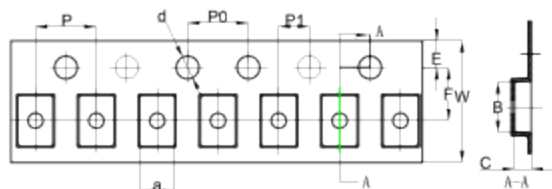
1. Controlling dimension: in millimeters.
2. General tolerance:  $\pm 0.050\text{mm}$ .
3. The pad layout is for reference purposes only.

### NOTICE

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.

## DFNWB3X2-8L Tape and Reel

### DFNWB3\*2-8L Embossed Carrier Tape



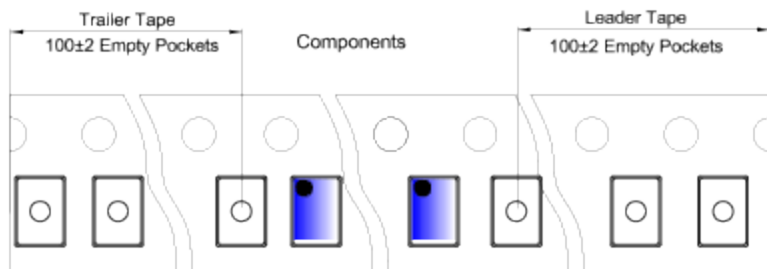
#### Packaging Description:

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).

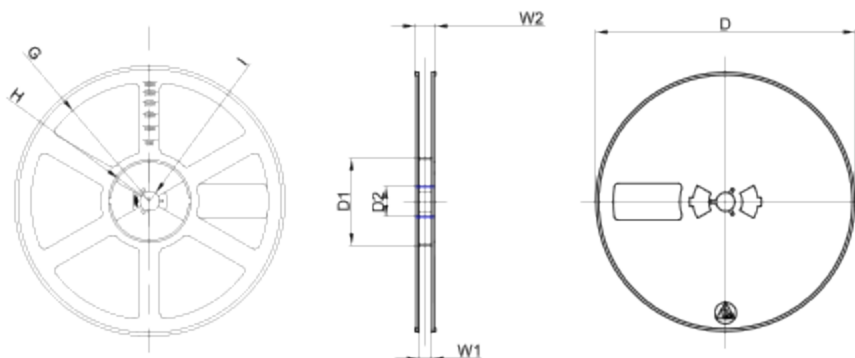
ALL DIM IN mm

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	