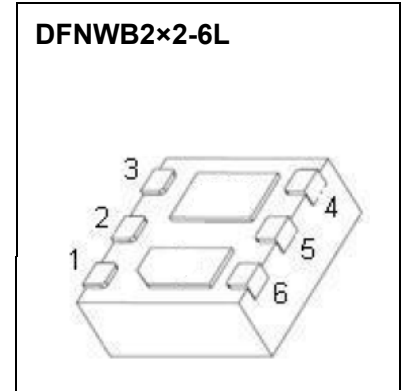




# DFNWB2×2-6L Plastic-Encapsulat MOSFETS

## MPD08 P-Channel Power MOSFET

$V_{(BR)DSS}$	$R_{DS(on)TYP}$	$I_D$
-12V	35mΩ@-4.5 V	-3.6 A
	48mΩ@-2.5 V	
	65mΩ@-1.8V	



### General Description

The MPD08 uses advanced trench technology and design to Provide excellent  $R_{DS(on)}$  with low gate charge. This device is suitable for use in DC-DC conversion applications.

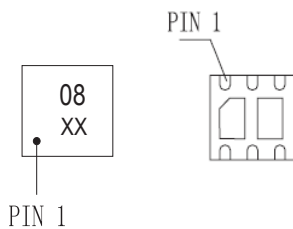
### FEATURE

- Low Profile for Easy Fit in Thin Environments
- Bidirectional Current Flow with Common Source Configuration

### APPLICATIONS

- Optimized for Battery and Load Management Applications in Portable Equipment
- Li-Ion Battery Charging and Protection Circuits
- High Power Management in Portable , Battery Powered Products
- High Side Load Switch

### MARKING:

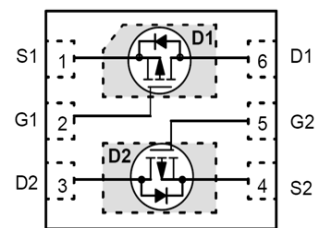


08 = Part No.  
 Solid dot = Pin1 indicator.  
 XX = Code.

front

back

### Equivalent Circuit



Parameter	Symbol	Value	Unit
Drain-Source Voltage	$V_{DS}$	-12	V
Gate-Source Voltage	$V_{GS}$	±8	
Continuous Drain Current	$I_D$	-3.6	A
Power Dissipation	$P_D$	0.7	W
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	178	°C/W
Storage Temperature	$T_j$	150	°C
Junction Temperature	$T_{stg}$	-55 ~+150	

## MOSFET ELECTRICAL CHARACTERISTICS

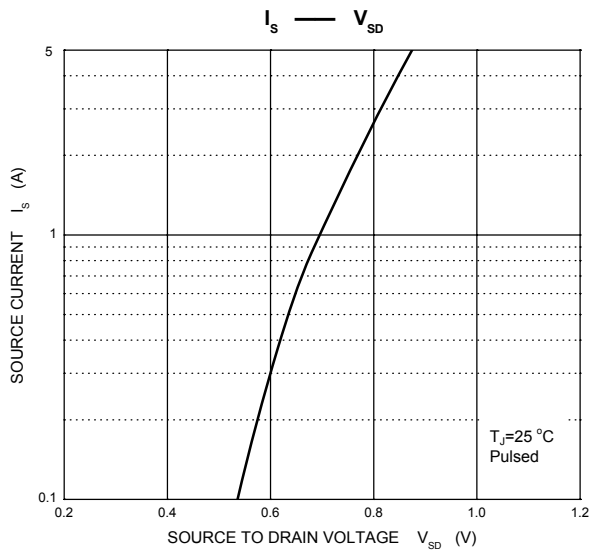
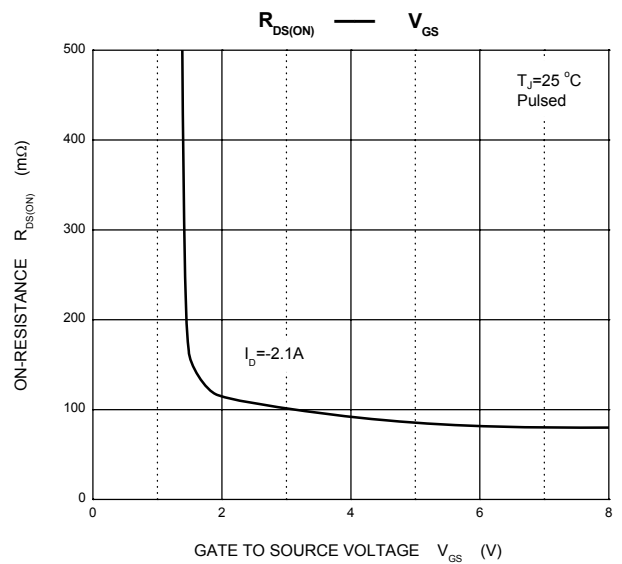
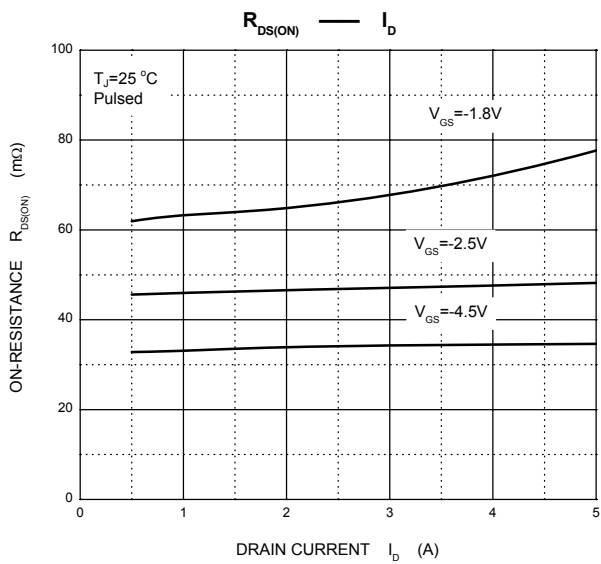
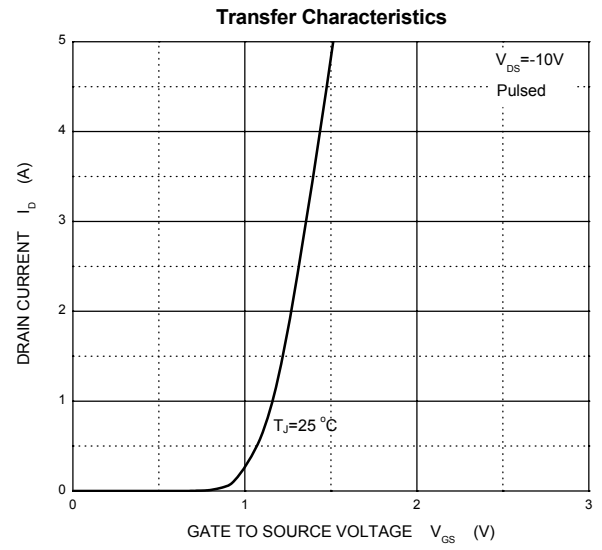
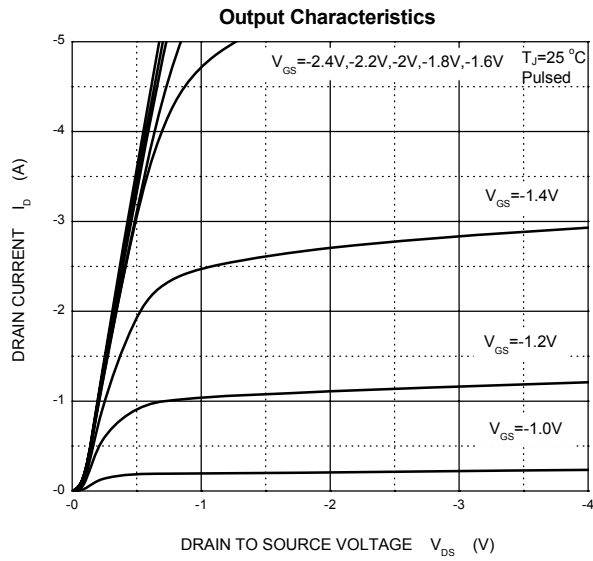
$T_a=25^\circ\text{C}$  unless otherwise specified

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
<b>On/Off Characteristics</b>						
Drain-source breakdown voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = -250\mu A$	-12			V
Gate-threshold voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = -250\mu A$	-0.4		-1	
Gate-body leakage current	$I_{GSS}$	$V_{DS} = 0V, V_{GS} = \pm 8V$			$\pm 100$	nA
Zero gate voltage drain current	$I_{DSS}$	$V_{DS} = -12V, V_{GS} = 0V$			-1	$\mu A$
Drain-source on-state resistance (Note 1)	$R_{DS(on)}$	$V_{GS} = -4.5V, I_D = -3.6A$		35	60	m $\Omega$
		$V_{GS} = -2.5V, I_D = -3A$		48	80	
		$V_{GS} = -1.8V, I_D = -2A$		65	110	
Forward transconductance (note 1)	$g_{fs}$	$V_{DS} = -10V, I_D = -2.7A$	5.5			S
<b>Charges , Capacitances and Gate resistance</b>						
Input capacitance (note 2)	$C_{iss}$	$V_{DS} = -15V, V_{GS} = 0V, f = 1MHz$		480		pF
Output capacitance (note 2)	$C_{oss}$			46		
Reverse transfer capacitance (note 2)	$C_{rss}$			10		
Total gate charge	$Q_g$	$V_{DS} = -4.5V, V_{GS} = -6V, I_D = -2.8A$		7.2		nC
Gate-source charge	$Q_{gs}$			2.2		
Gate-drain charge	$Q_{gd}$			1.2		
<b>Switching times (note2)</b>						
Turn-on delay time	$t_{d(on)}$	$V_{DS} = -6V, I_D = -2.8A,$ $V_{GS} = -4.5V, R_G = 6\Omega$		38		ns
Rise time	$t_r$			25		
Turn-off delay time	$t_{d(off)}$			43		
Fall time	$t_f$			5		
<b>Source-drain diode characteristics</b>						
Forward on voltage (note1)	$V_{SD}$	$V_{GS} = 0V, I_S = -1A$			-0.8	V

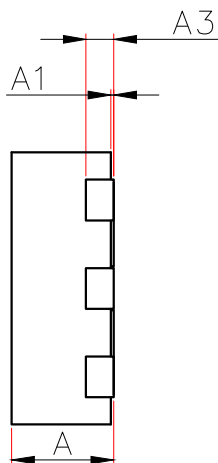
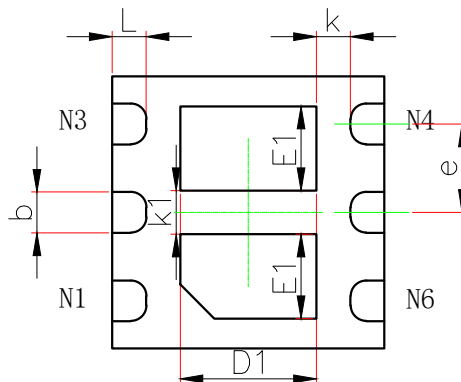
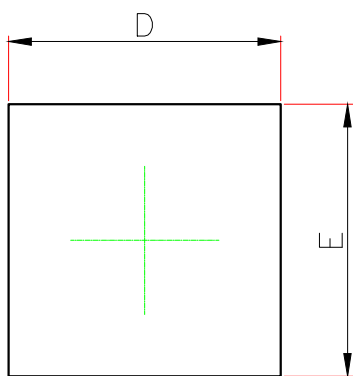
**Notes:**

1. Pulse Test : Pulse width  $\leq 300\mu s$ , duty cycle  $\leq 2\%$ .
2. These parameters have no way to verify.

# Typical Characteristics

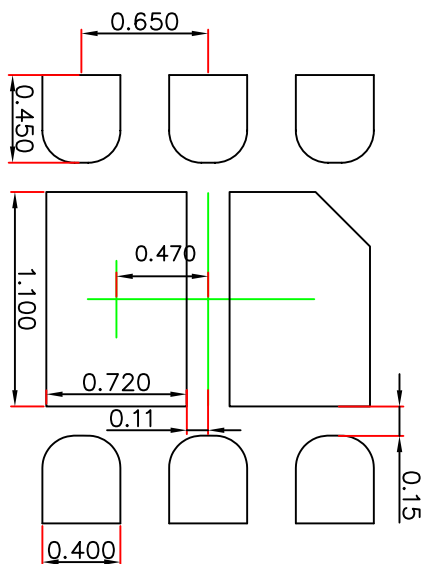


## DFNWB2X2-6L-U Package Outline Dimensions



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

## DFNWB2X2-6L-U Suggested Pad Layout

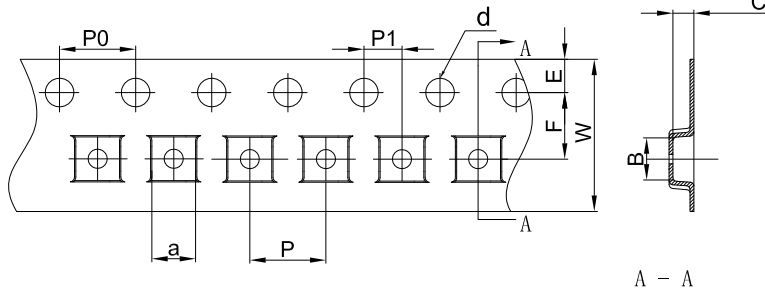


### Note:

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

# DFNWB2X2-6L Tape and Reel

## DFNWB2×2-6L Embossed Carrier Tape



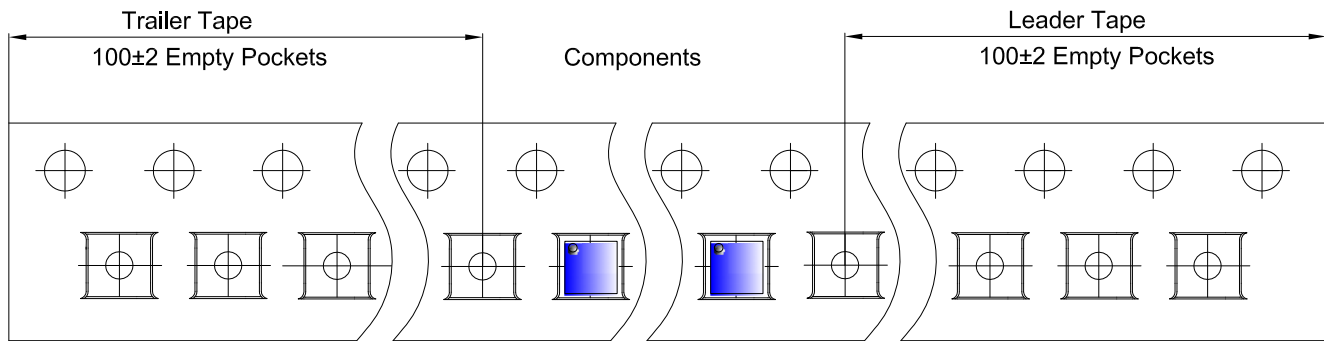
### Packaging Description:

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).

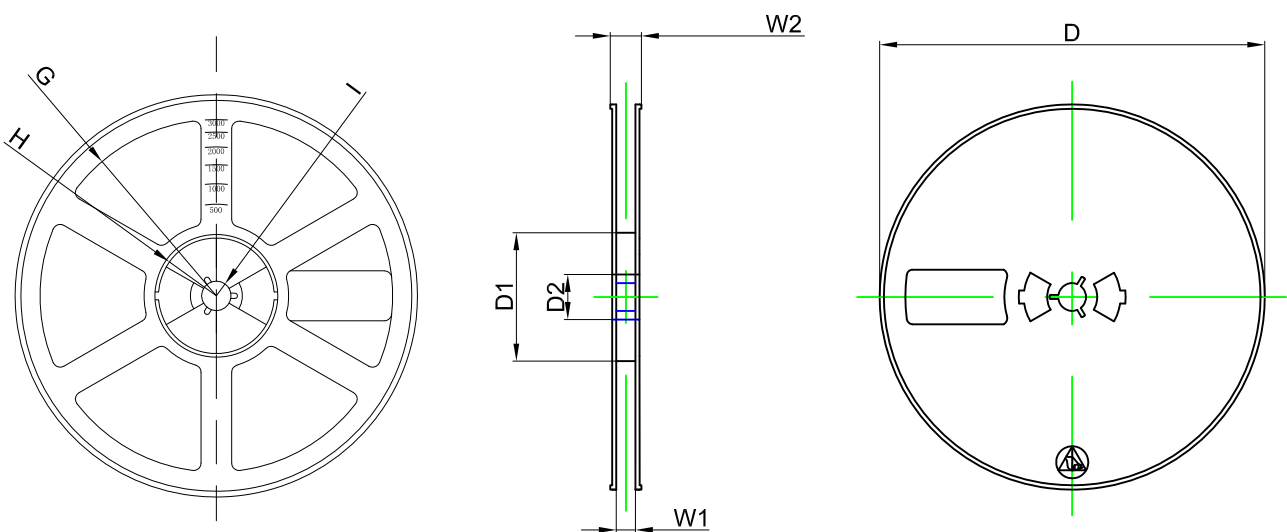
Dimensions are in millimeter

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	