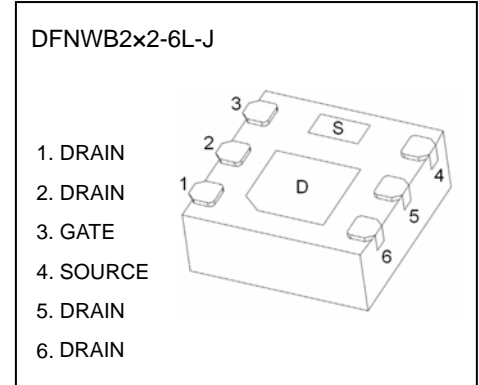


### 30V P-Channel MOSFETs

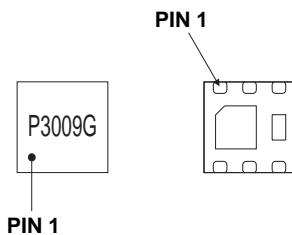
$V_{(BR)DSS}$	$R_{DS(on)MAX}$	$I_D$
-30V	25mΩ@-10V	-9A
	35mΩ@-10V	



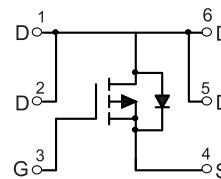
#### General Description

The FTK3009DFN22 uses advanced trench technology to provide excellent  $R_{DS(on)}$  with low gate charge. This device is suitable for use as a load switch or in PWM applications.

#### MARKING



#### Equivalent Circuit



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

Parameter	Symbol	Value	Unit
Drain-Source Voltage	$V_{DS}$	-30	V
Gate-Source Voltage	$V_{GS}$	$\pm 20$	V
Continuous Drain Current	$I_D$	-9	A
Power Dissipation	$P_D$	750	mW
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	165	$^\circ\text{C}/\text{W}$
Junction Temperature	$T_J$	150	$^\circ\text{C}$
Storage Temperature	$T_{stg}$	-55~+150	$^\circ\text{C}$



# FTK3009DFN22

## Electrical Characteristics ( $T_a=25^{\circ}\text{C}$ , unless otherwise noted)

Parameter	Symbol	Test Condition	Min	Typ	Max	Units	
<b>Static characteristics</b>							
Drain-source breakdown voltage	$BV_{DSS}$	$V_{GS} = 0V, I_D = -250\mu A$	-30			V	
Zero gate voltage drain current	$I_{DSS}$	$V_{DS} = -30V, V_{GS} = 0V$			-1	$\mu A$	
Gate-source leakage current	$I_{GSS}$	$V_{GS} = \pm 20V, V_{DS} = 0V$			$\pm 100$	nA	
Drain-source on-resistance (note 1)	$R_{DS(on)}$	$V_{GS} = -10V, I_D = -9A$		19	25	$m\Omega$	
		$V_{GS} = -4.5V, I_D = -6A$		27	35	$m\Omega$	
Forward transconductance (note 1)	$g_{FS}$	$V_{DS} = -5V, I_D = -9A$		12		S	
Gate threshold voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = -250\mu A$	-1.0	-1.5	-3.0	V	
Diode forward voltage (note 1)	$V_{SD}$	$I_S = -2A, V_{GS} = 0V$			-1.2	V	
<b>Dynamic characteristics (note 2)</b>							
Input capacitance	$C_{iss}$	$V_{DS} = -15V, V_{GS} = 0V, f = 1MHz$		1400		pF	
Output capacitance	$C_{oss}$				163		pF
Reverse transfer capacitance	$C_{rss}$				145		pF
<b>Switching Characteristics (note 2)</b>							
Turn-on delay time	$t_{d(on)}$	$V_{DD} = -15V, I_D = -1A, V_{GS} = -10V,$ $R_G = 1\Omega, R_L = 15\Omega$			15	ns	
Turn-on rise time	$t_r$				15	ns	
Turn-off delay time	$t_{d(off)}$				75	ns	
Turn-off fall time	$t_f$				25	ns	
Total gate charge	$Q_g$	$V_{GS} = -4.5V, V_{DS} = -6V,$ $I_D = -9A$			25	nC	
TGate-source charge	$Q_{gs}$				7	nC	
TGate-drain charge	$Q_{gd}$				12	nC	

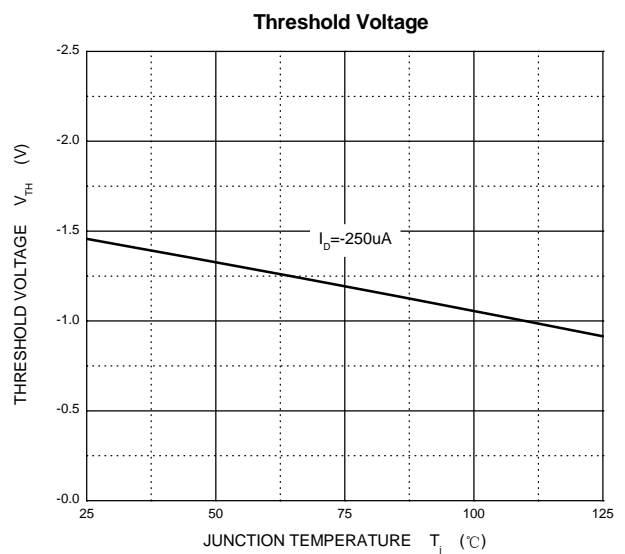
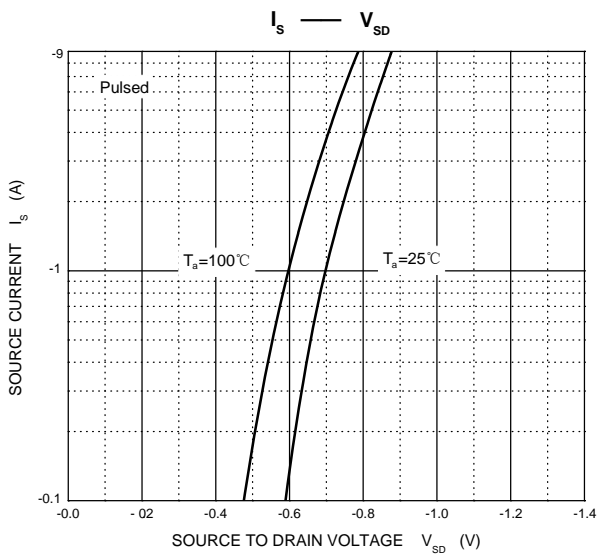
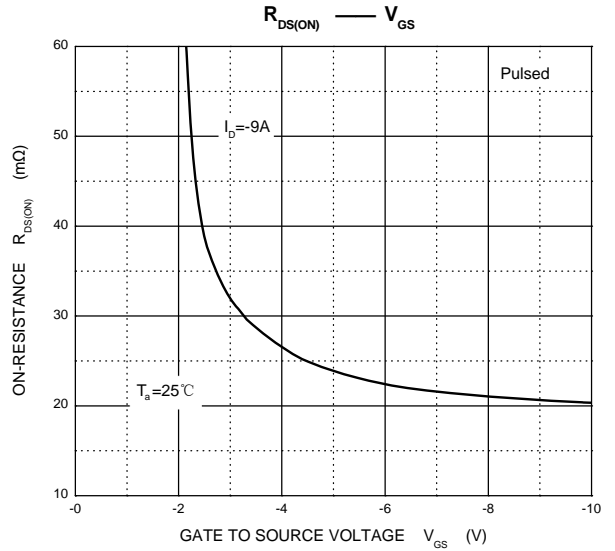
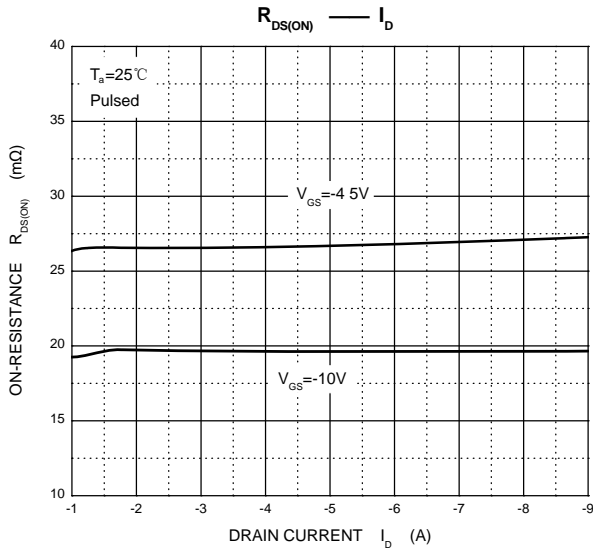
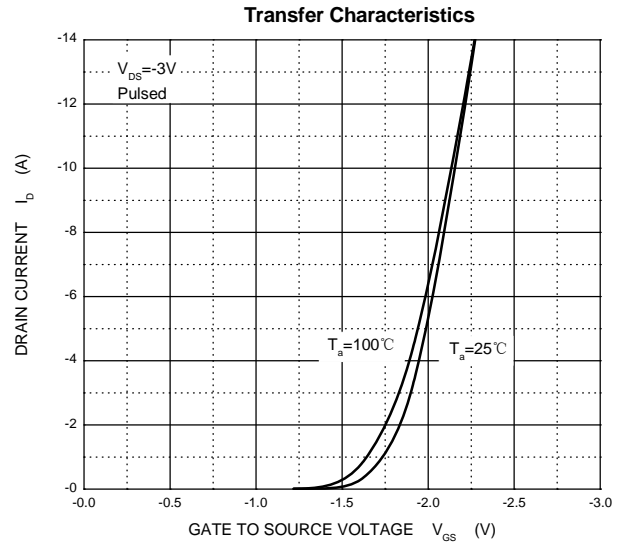
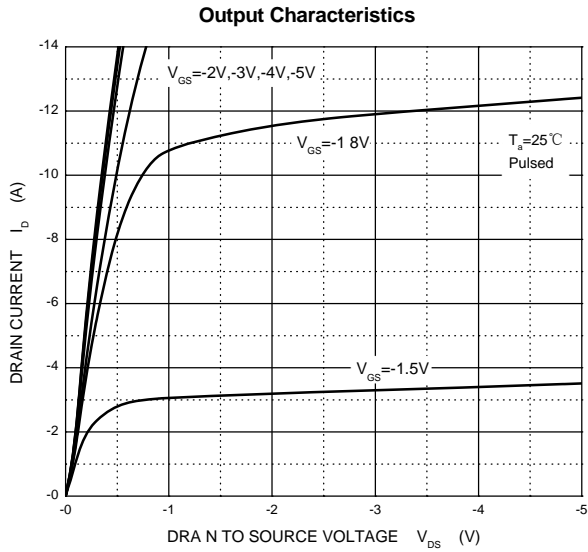
### Notes:

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

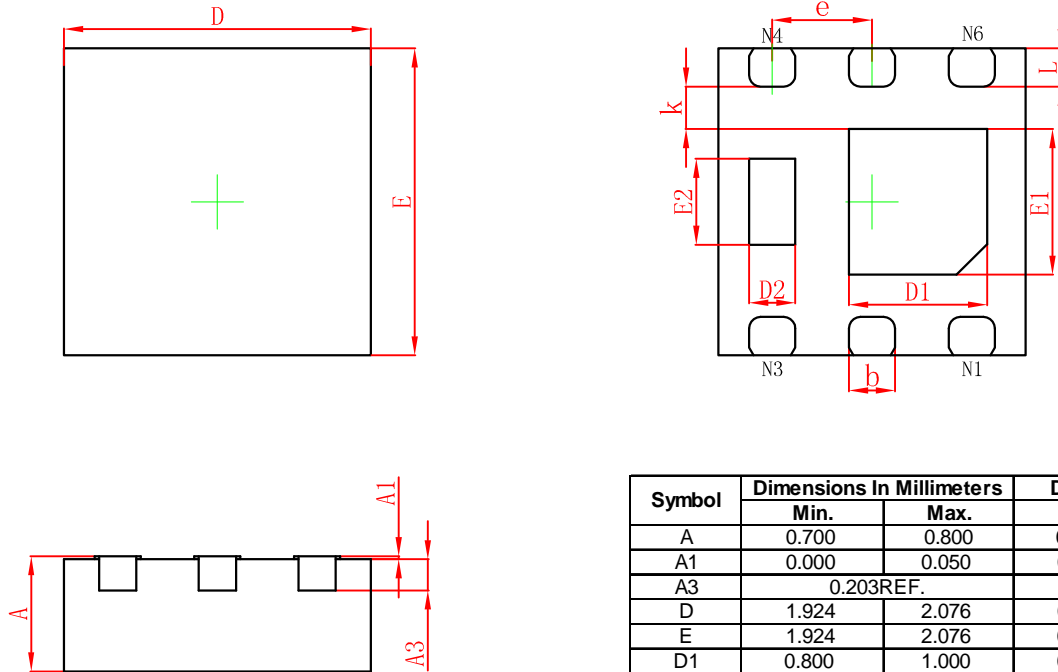


# FTK3009DFN22

## Typical Characteristics

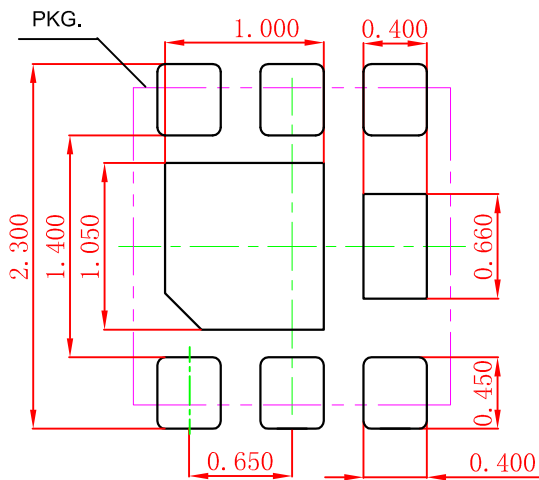


## DFNWB2X2-6L-J Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.700	0.800	0.028	0.032
A1	0.000	0.050	0.000	0.002
A3	0.203REF.		0.008REF.	
D	1.924	2.076	0.076	0.082
E	1.924	2.076	0.076	0.082
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
k	0.200MIN.		0.008MIN.	
b	0.250	0.350	0.010	0.014
e	0.650TYP.		0.026TYP.	
L	0.174	0.326	0.007	0.013

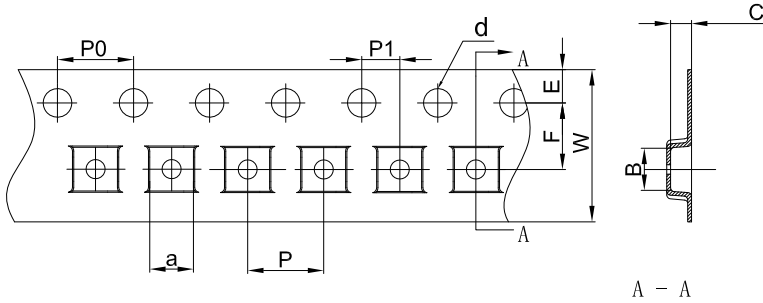
## DFNWB2X2-6L-J Suggested Pad Layout



- 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

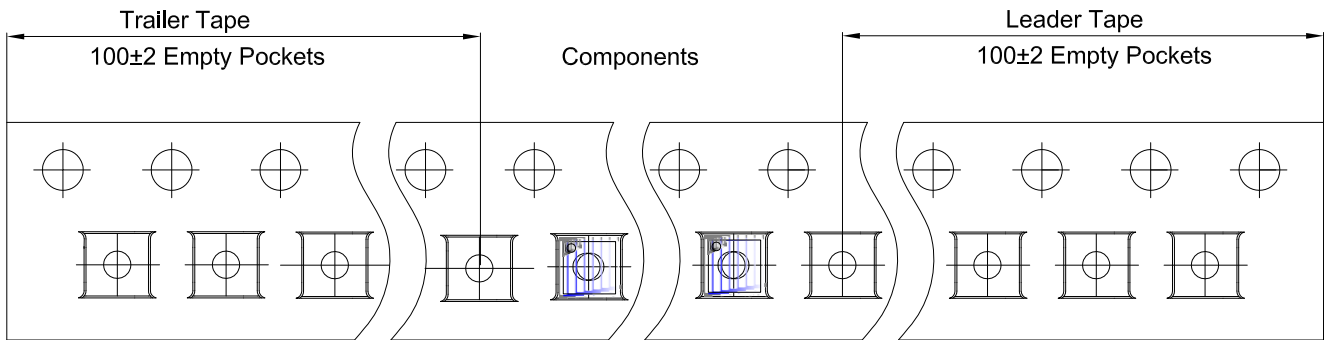


#### Packaging Description:

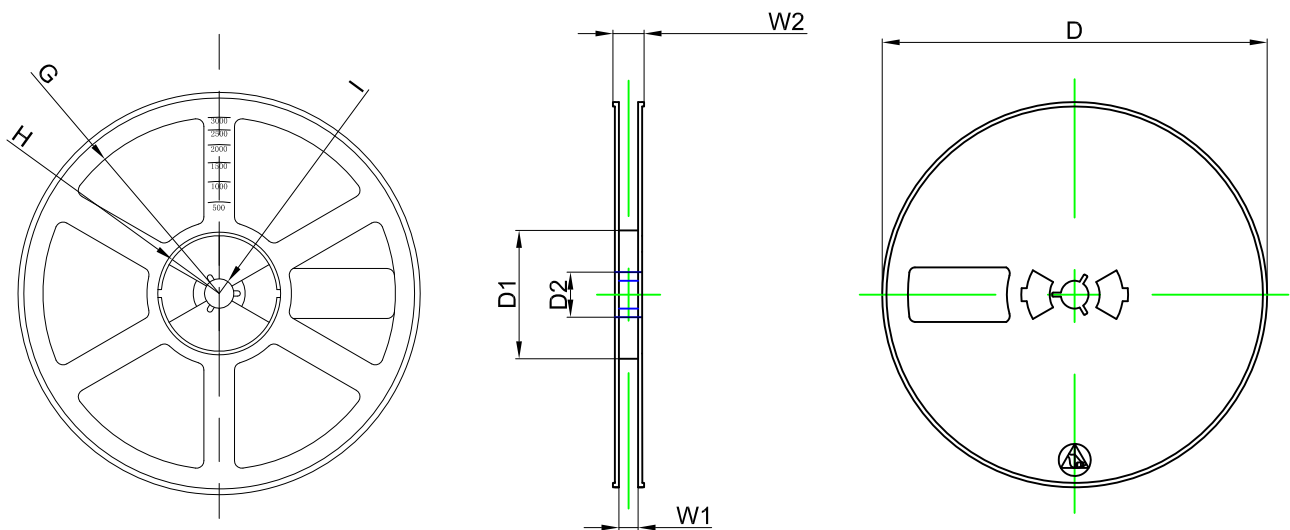
DFNWB2×2-6L parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Heat Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. These reeled parts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