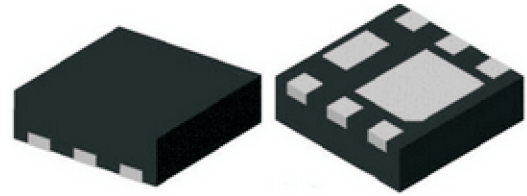


## CJM1206-G (P-Channel ) RoHS Device

V(BR)DSS	RDS(on)MAX	ID
-12V	45mΩ @ -4.5V	-6A
	60mΩ @ -2.5V	
	90mΩ @ -1.8V	



### Features

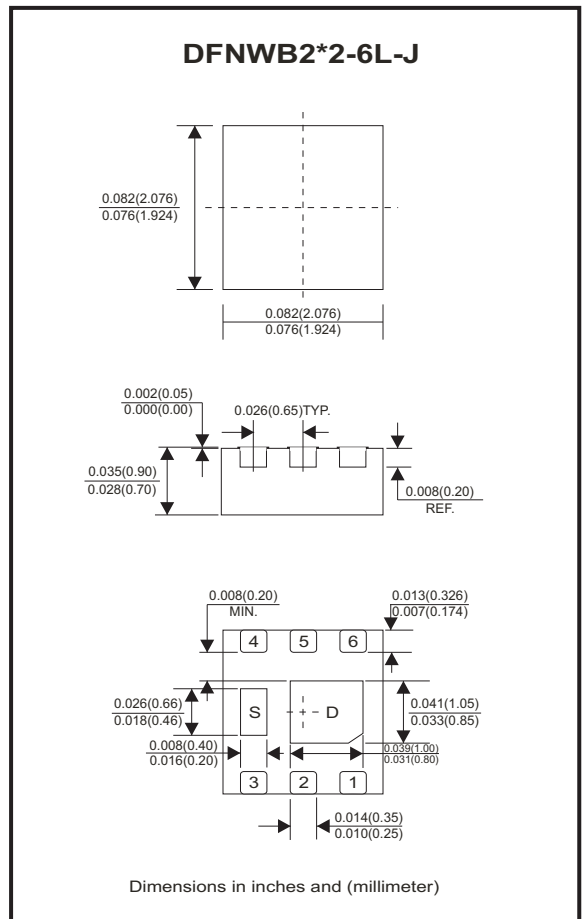
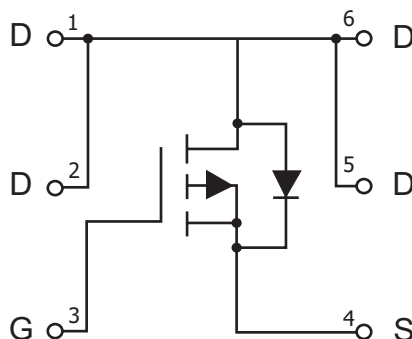
- P-Channel -12V(D-S) power MOSFET
- Advanced trench MOSFET process technology
- Ultra low on-resistance with low gate charge

### Mechanical data

- Case: DFNEB2\*2-6L-J, molded plastic.

### Circuit diagram

- 1. DRAIN
- 2. DRAIN
- 3. GATE
- 4. SOURCE
- 5. DRAIN
- 6. DRAIN



### Maximum Ratings (at Ta=25 °C unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-source voltage	V <sub>DS</sub>	-12	V
Gate-source voltage	V <sub>GS</sub>	±8	
Drain current-continuous	I <sub>D</sub>	-6	A
Drain current-pulsed	I <sub>DM</sub> *	-20	
Power dissipation	P <sub>D</sub>	2.5	W
Thermal resistance from junction to ambient	R <sub>θJA</sub>	357	°C/W
Junction temperature range	T <sub>J</sub>	-40 to +150	°C
Storage temperature range	T <sub>STG</sub>	-55 to +150	°C

\* Repetitive rating: Pluse width limited by junction temperature

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## Electrical Characteristics (at T<sub>A</sub>=25°C unless otherwise noted)

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
<b>Static characteristics</b>						
Drain-source breakdown voltage	V <sub>(BR) DSS</sub>	V <sub>GS</sub> = 0V , I <sub>D</sub> = -250μA	-12			V
Gate-source threshold voltage	V <sub>GS(th)</sub>	V <sub>DS</sub> = V <sub>GS</sub> , I <sub>D</sub> = -250μA	-0.5		-0.9	V
Gate-source leakage current	I <sub>GSS</sub>	V <sub>DS</sub> = 0V , V <sub>GS</sub> = ±8V			±100	nA
Zero gate voltage drain current	I <sub>DSS</sub>	V <sub>DS</sub> = -8V , V <sub>GS</sub> = 0V			-1	μA
Drain-source on-resistance (note 1)	R <sub>DS(on)</sub>	V <sub>GS</sub> = -4.5V , I <sub>D</sub> = -3.5A		30	45	mΩ
		V <sub>GS</sub> = -2.5V , I <sub>D</sub> = -3A		40	60	
		V <sub>GS</sub> = -1.8V , I <sub>D</sub> = -2.0A		60	90	
Forward transconductance (note 1)	g <sub>fs</sub>	V <sub>DS</sub> = -5V , I <sub>D</sub> = -4.1A	6			S
<b>Dynamic characteristics</b>						
Input capacitance (note 2,3)	C <sub>iss</sub>	V <sub>DS</sub> = -4V , V <sub>GS</sub> = 0V f = 1MHz		740		pF
Output capacitance (note 2,3)	C <sub>oss</sub>			290		
Reverse transfer capacitance (note 2,3)	C <sub>rss</sub>			190		
Total gate charge (note2)	Q <sub>g</sub>	V <sub>DS</sub> = -4V , V <sub>GS</sub> = -4.5V, I <sub>D</sub> = -4.1A,		7.8	15	nC
		V <sub>DS</sub> = -4V , V <sub>GS</sub> = -2.5A I <sub>D</sub> = -4.1A		45	9	
Gate-source charge (note2)	Q <sub>gs</sub>	I <sub>D</sub> = -4.1A		1.2		
Gate-drain charge (note2)	Q <sub>gd</sub>			1.6		
Gate-resistance (note2,3)	R <sub>g</sub>	f = 1MHz	1.4	7	14	Ω
Trun-on delay time (note2,3)	t <sub>d(on)</sub>	V <sub>DD</sub> = -4V R <sub>L</sub> = 1.2Ω , I <sub>D</sub> ≈ -3.3A V <sub>GEN</sub> = -4.5V , R <sub>g</sub> = 1Ω		13	20	nS
Rise time (note2,3)	t <sub>r</sub>			35	53	
Trun-off delay time (note2,3)	t <sub>d(off)</sub>			32	48	
Fall time (note2,3)	t <sub>f</sub>			10	20	
Turn-on delay time (note2,3)	t <sub>d(on)</sub>	V <sub>DD</sub> = -4V R <sub>L</sub> = 1.2Ω , I <sub>D</sub> ≈ -3.3A V <sub>GEN</sub> = -8V , R <sub>g</sub> = 1Ω		5	10	
Rise time (note2,3)	t <sub>r</sub>			11	17	
Turn-off delay time (note2,3)	t <sub>d(off)</sub>			22	33	
Fall time(note2,3)	t <sub>f</sub>			16	24	
<b>Drain-source body diode characteristics</b>						
Continuous source-drain diode current	I <sub>S</sub>				-6	A
Pulse diode forward current (note1)	I <sub>SM</sub>				-20	
Body ciode voltage	V <sub>SD</sub>	I <sub>F</sub> = -3.3A			-1.2	V

**Note:**

1. Pulse test; pulse width ≤ 300μs, Duty cycle ≤ 2%
2. Guaranteed by design, not subject to production testing.
3. These parameters have no way to verify.

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## RATING AND CHARACTERISTIC CURVES (CJM1206-G)

Fig.1 - Output Characteristics

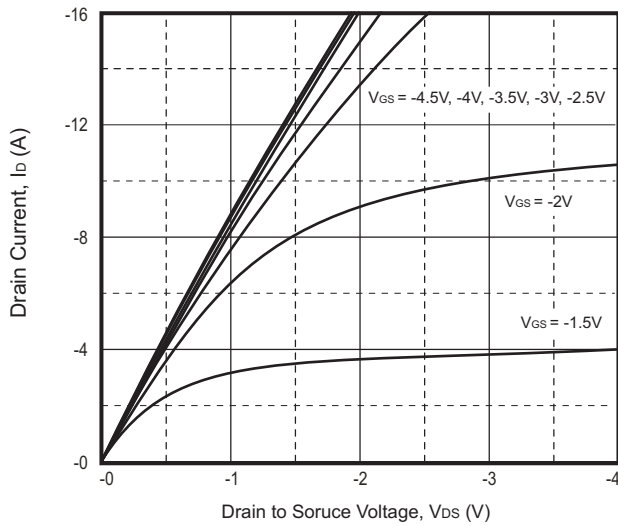


Fig.2 - Transfer Characteristics

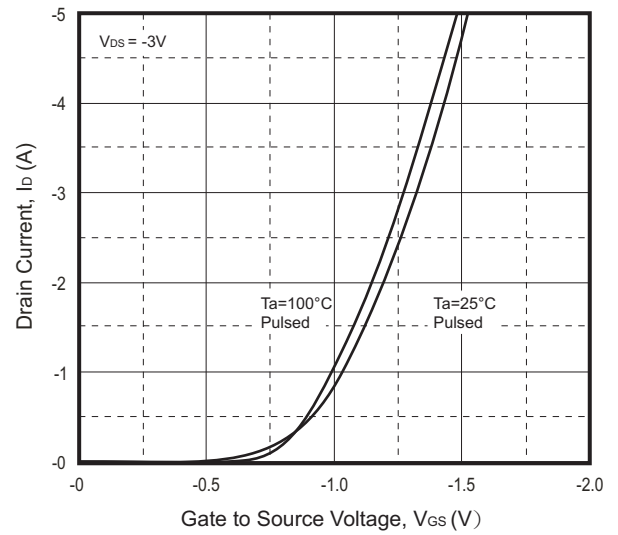


Fig.3 -  $R_{DS(ON)}$  —  $I_D$

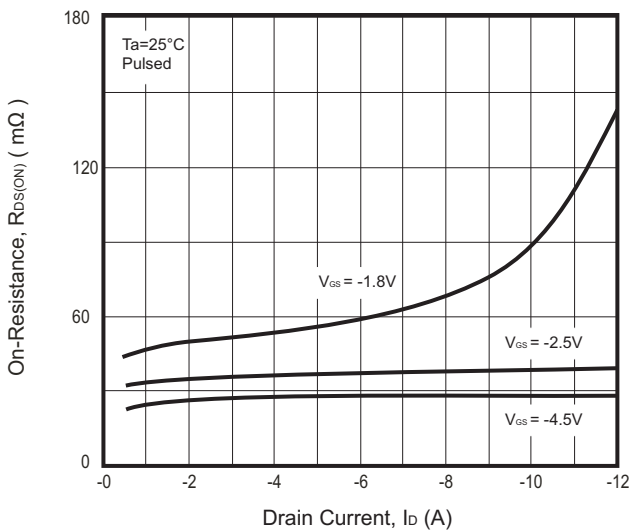


Fig.4 -  $R_{DS(ON)}$  —  $V_{GS}$

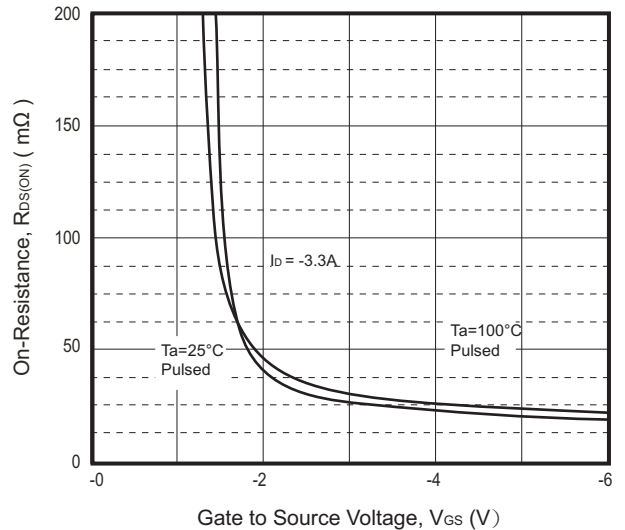


Fig.5 -  $I_S$  —  $V_{SD}$

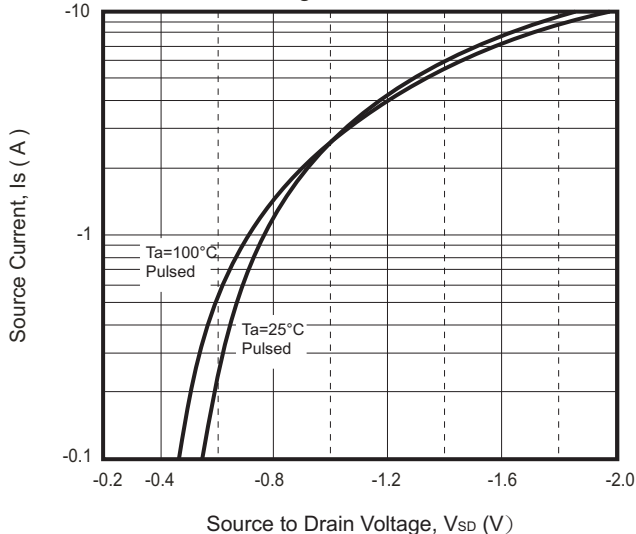
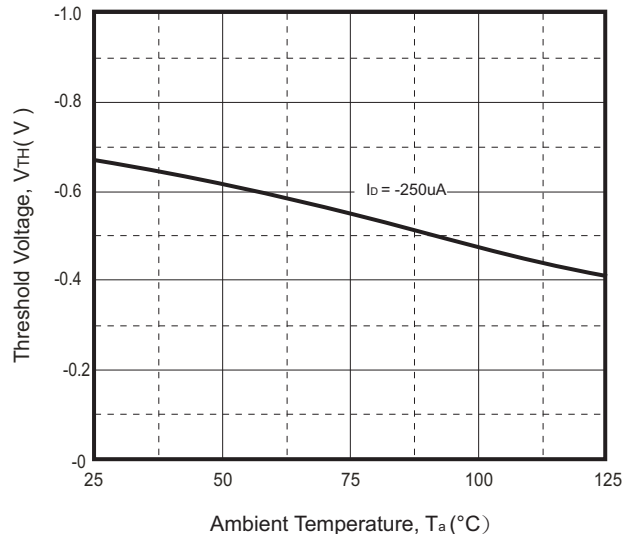
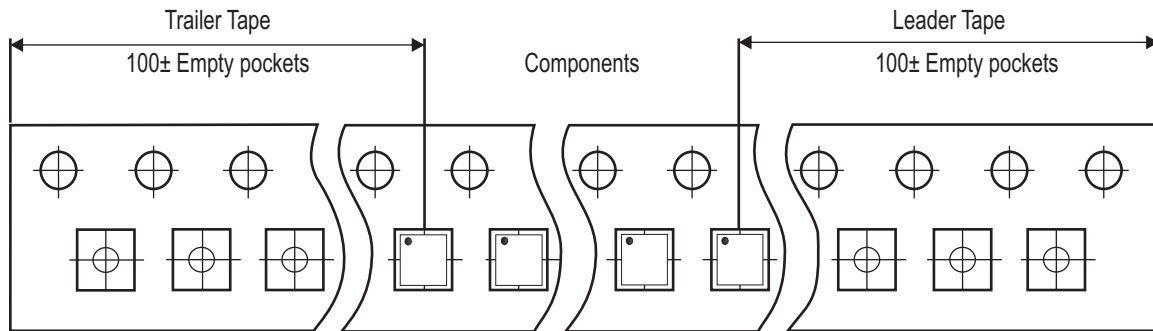
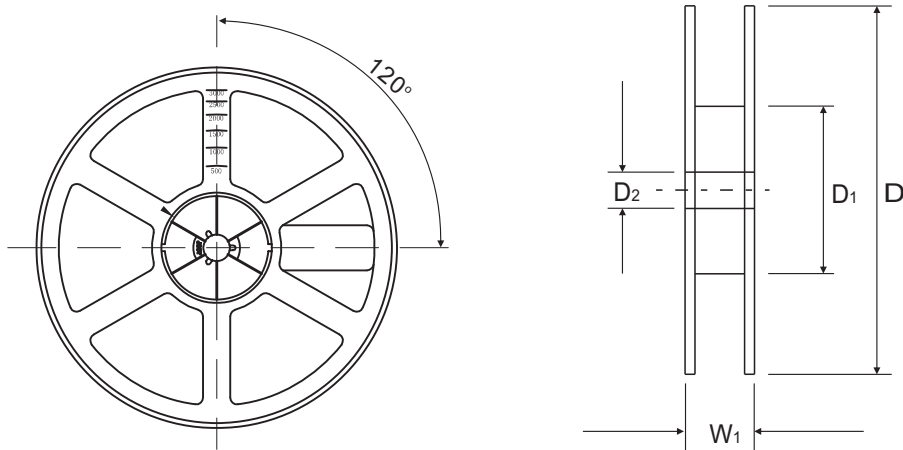
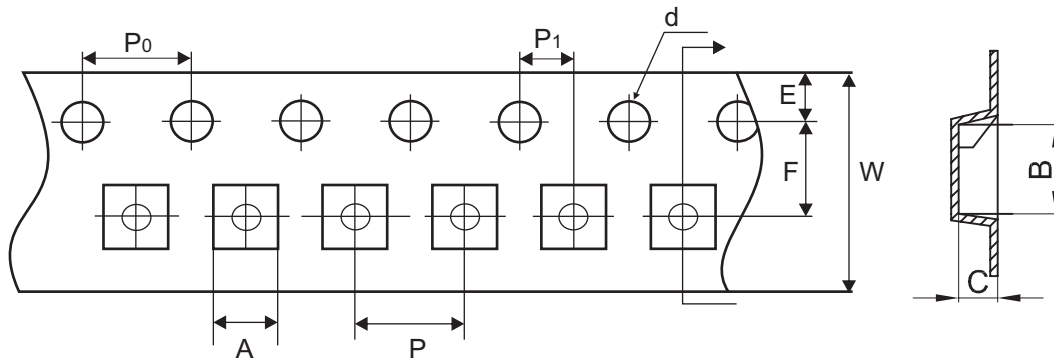


Fig.6 - Threshold Voltage



# Reel Taping Specification



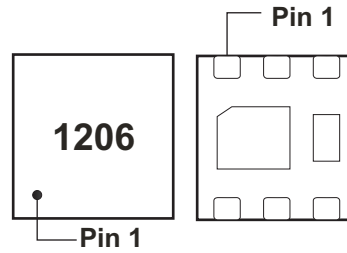
DFNWB2X2-6L-J	SYMBOL	A	B	C	d	D	D <sub>1</sub>	D <sub>2</sub>
	(mm)	2.30 ± 0.05	2.30 ± 0.05	1.10 ± 0.05	1.50 ± 0.10	180.00 + 0.00 - 3.00	60.00 ± 0.50	13.00 ± 0.20
	(inch)	0.091 ± 0.002	0.091 ± 0.002	0.043 ± 0.002	0.059 ± 0.004	7.087 + 0.000 - 0.118	2.362 ± 0.002	0.512 ± 0.008

DFNWB2X2-6L-J	SYMBOL	E	F	P	P <sub>0</sub>	P <sub>1</sub>	W	W <sub>1</sub>
	(mm)	1.75 ± 0.10	3.50 ± 0.10	4.00 ± 0.10	4.00 ± 0.10	2.00 ± 0.10	8.00 + 0.30 - 0.10	13.10 ± 1.30
	(inch)	0.069 ± 0.004	0.138 ± 0.004	0.157 ± 0.004	0.157 ± 0.004	0.079 ± 0.004	0.315 + 0.012 - 0.004	0.518 ± 0.051

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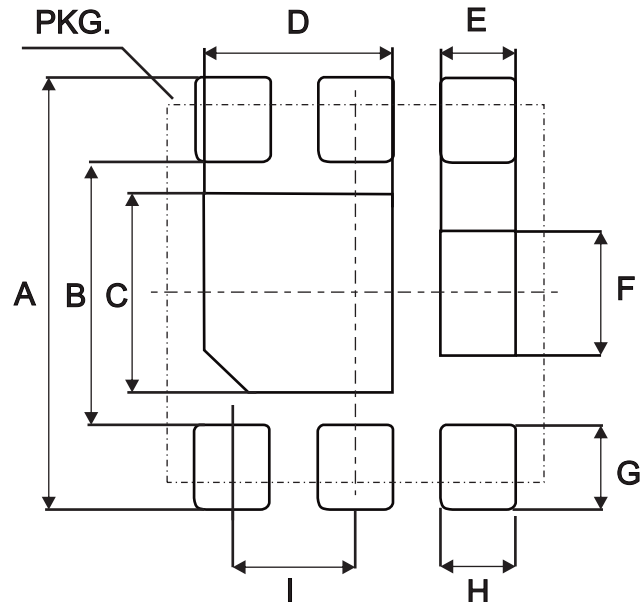
## Marking Code

Part Number	Marking Code
CJM1206-G	1206



## Suggested PAD Layout

SIZE	DFNWB2X2-6L-J	
	(mm)	(inch)
A	2.30	0.091
B	1.40	0.055
C	1.05	0.041
D	1.00	0.039
E	0.40	0.016
F	0.66	0.026
G	0.45	0.018
H	0.40	0.016
I	0.65	0.026



## Standard Packaging

Case Type	Qty Per Reel	Reel Size
	(Pcs)	(inch)
DFNWB2X2-6L-J	8,000	7