



JIANGSU CHANGJING ELECTRONICS TECHNOLOGY CO., LTD

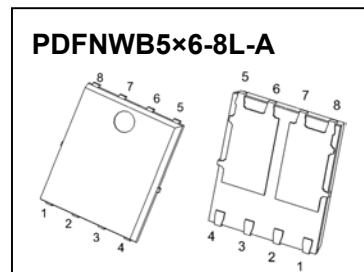
PDFNWB5×6-8L-A Plastic-Encapsulate MOSFETS

CJAC20N06D Dual N-Channel Power MOSFET

$V_{(BR)DSS}$	$R_{DS(on)TYP}$	I_D
60V	17m Ω @10V	20A
	22m Ω @4.5V	

DESCRIPTION

The CJAC20N06D provides excellent $R_{DS(ON)}$ with low gate charge. It can be used in a wide variety of applications



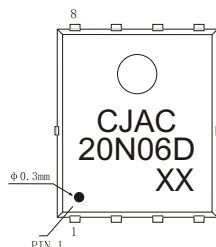
FEATURES

- High density cell design for ultra low $R_{DS(ON)}$
- Fully characterized avalanche voltage and current
- Excellent package for good heat dissipation

APPLICATIONS

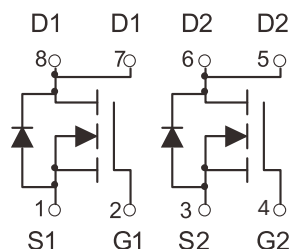
- DC/DC converter
- High-frequency switching and synchronous rectification

MARKING



CJAC20N06D = Part No.
Solid dot=Pin1 indicator
XX=Code

EQUIVALENT CIRCUIT



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

Parameter	Symbol	Limit	Unit
Drain-Source Voltage	V_{DS}	60	V
Gate-Source Voltage	V_{GS}	±20	V
Continuous Drain Current	I_D ①	20	A
Pulsed Drain Current	I_{DM} ②	80	A
Single Pulsed Avalanche Energy	E_{AS} ③	19	mJ
Power Dissipation	P_D ④	2	W
Thermal Resistance from Junction to Ambient	R_{JA} ⑤	62.5	$^{\circ}\text{C/W}$
Junction Temperature	T_J	150	$^{\circ}\text{C}$
Storage Temperature Range	T_{stg}	-55 ~+150	$^{\circ}\text{C}$
Lead Temperature for Soldering Purposes(1/8" from case for 10s)	T_L	260	$^{\circ}\text{C}$

MOSFET ELECTRICAL CHARACTERISTICS

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

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Off characteristics						
Drain-source breakdown voltage	V _{(BR) DSS}	V _{GS} = 0V, I _D =250μA	60			V
Zero gate voltage drain current	I _{DSS}	V _{DS} =60V, V _{GS} =0V			1	μA
Gate-body leakage current	I _{GSS}	V _{DS} =0V, V _{GS} =±20V			±100	nA
On characteristics ④						
Gate-threshold voltage	V _{GS(th)}	V _{DS} =V _{GS} , I _D =250μA	1.0	1.7	2.5	V
Static drain-source on-sate resistance	R _{DS(on)}	V _{GS} =10V, I _D =10A		17	25	mΩ
		V _{GS} =4.5V, I _D =10A		22	35	mΩ
Dynamic characteristics ④ ⑤						
Input capacitance	C _{iss}	V _{DS} =30V,V _{GS} =0V, f =1MHz		1970	2561	pF
Output capacitance	C _{oss}			97.4	126.6	
Reverse transfer capacitance	C _{rss}			94	122	
Switching characteristics ④ ⑤						
Total gate charge	Q _g	V _{DS} =48V, V _{GS} =10V, I _D =20A		15		nC
Gate-source charge	Q _{gs}			4.3		
Gate-drain charge	Q _{gd}			1.7		
Turn-on delay time	t _{d(on)}	V _{DD} =30V,I _D =20A, V _{GS} =10V,R _G =11Ω		5		ns
Turn-on rise time	t _r			1.5		
Turn-off delay time	t _{d(off)}			18		
Turn-off fall time	t _f			10		
Drain-Source Diode Characteristics						
Drain-source diode forward voltage	V _{SD} ④	V _{GS} =0V, I _S =10A			1.2	V
Continuous drain-source diode forward current	I _S ①				20	A
Pulsed drain-source diode forward current	I _{SM} ②				80	A

Notes:

1. $T_C = 25^{\circ}\text{C}$ Limited only by maximum temperature allowed.

2. $P_W \leq 10\mu s$, Duty cycle $\leq 1\%$.

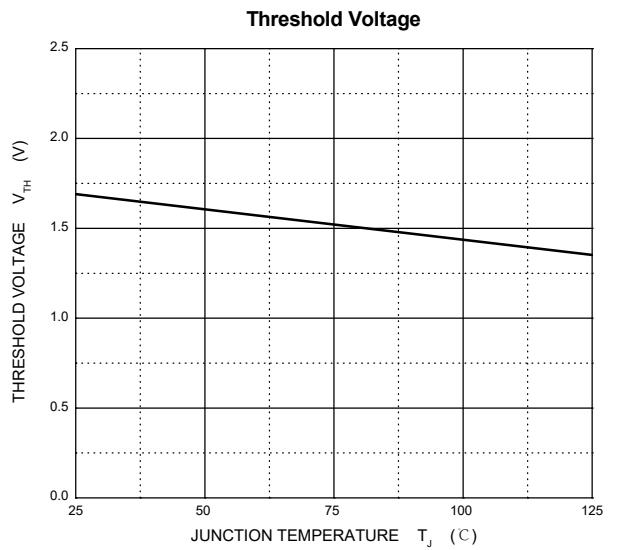
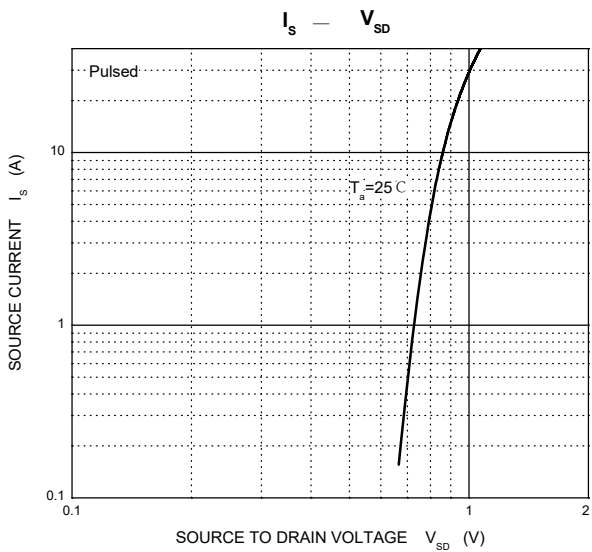
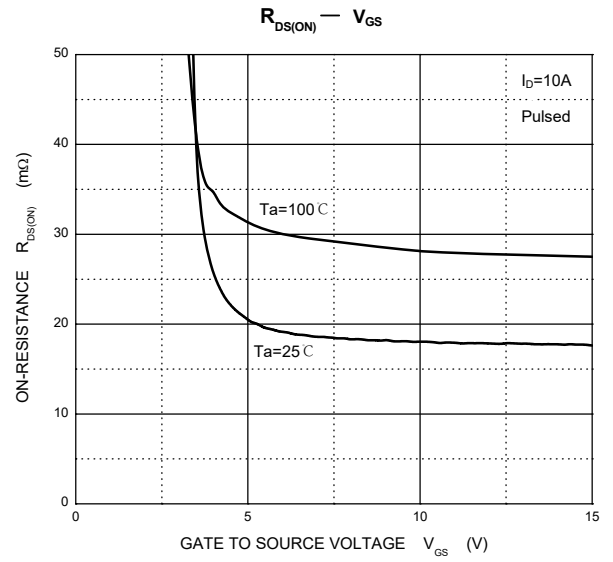
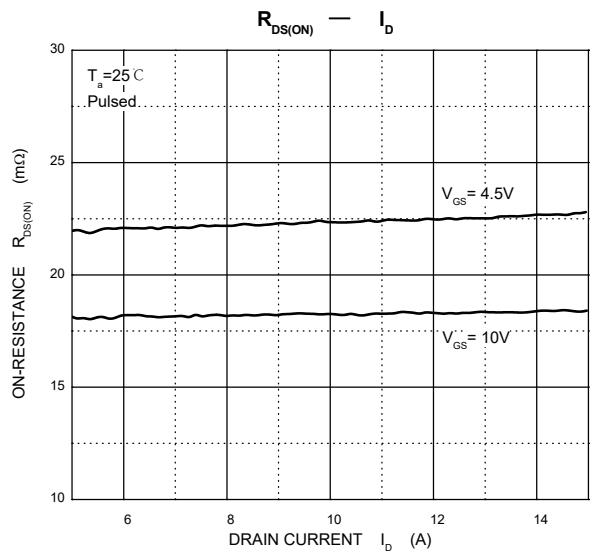
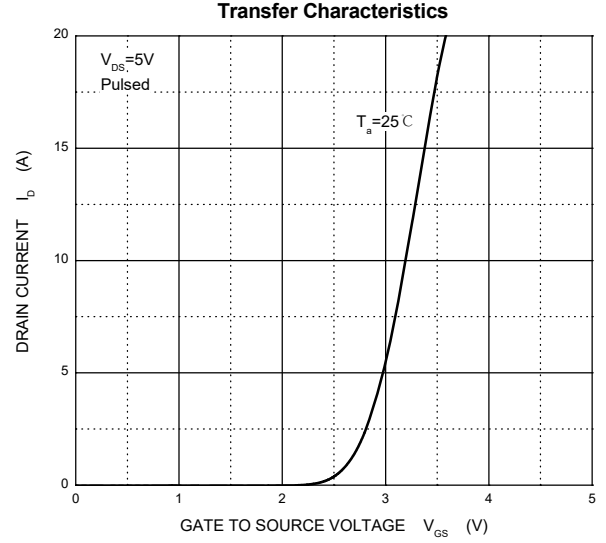
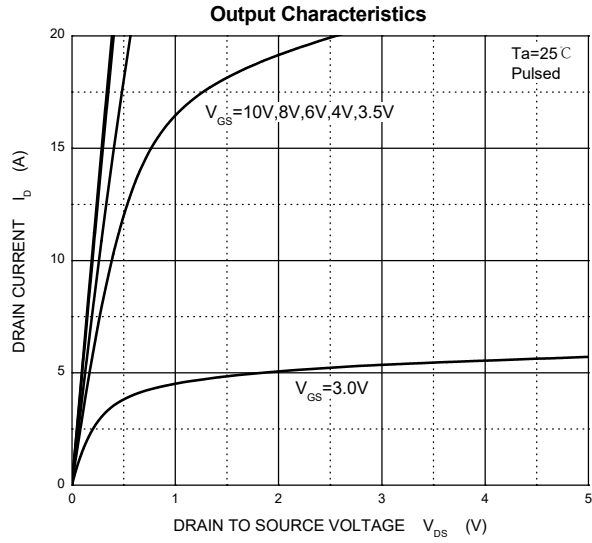
3. EAS condition: $V_{DD} = 30V, V_{GS} = 10V, L = 0.1mH, R_G = 25\Omega$ Starting $T_J = 25^{\circ}\text{C}$.

4. Pulse Test : Pulse Width $\leq 300\mu s$, duty cycle $\leq 2\%$.

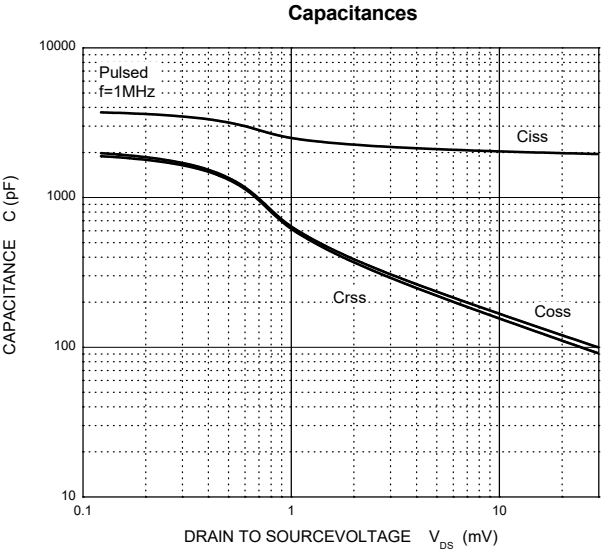
5. Guaranteed by design, not subject to production.

6. The value of $R_{\theta JA}$ is measured with the device mounted on 1 in 2 FR-4 board with 2oz. Copper, in a still air environment with $T_a = 25^{\circ}\text{C}$.

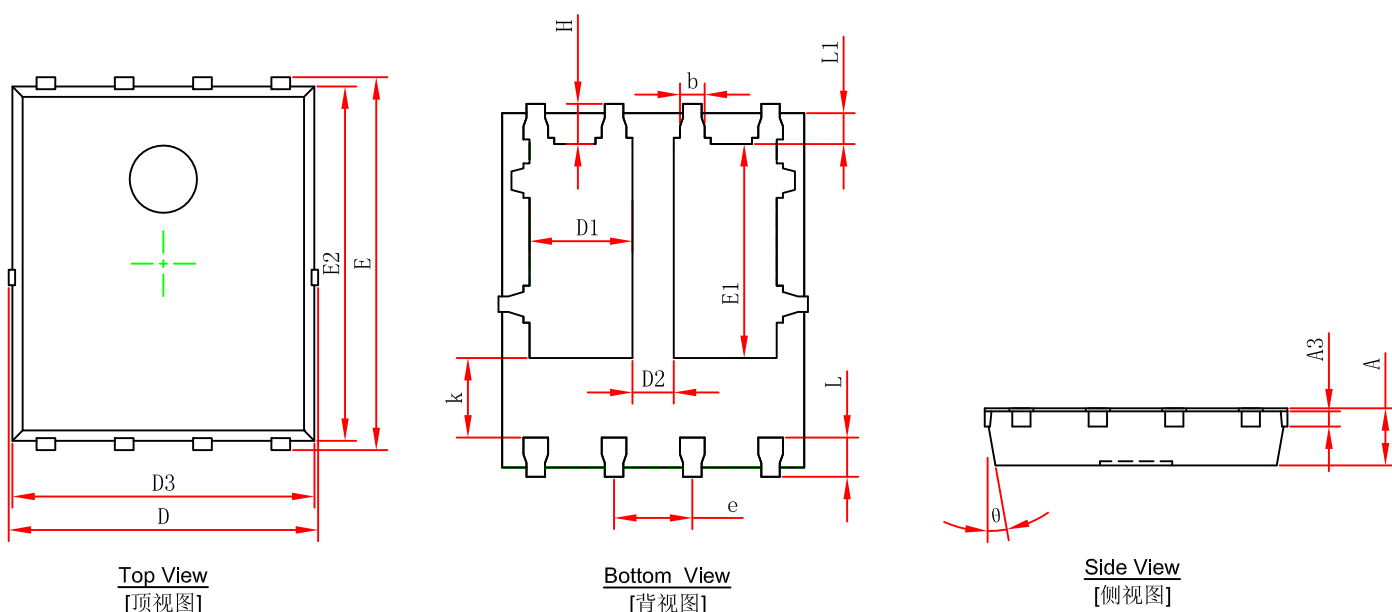
Typical Characteristics



Typical Characteristics



PDFNWB5×6-8L-A Package Outline Dimensions

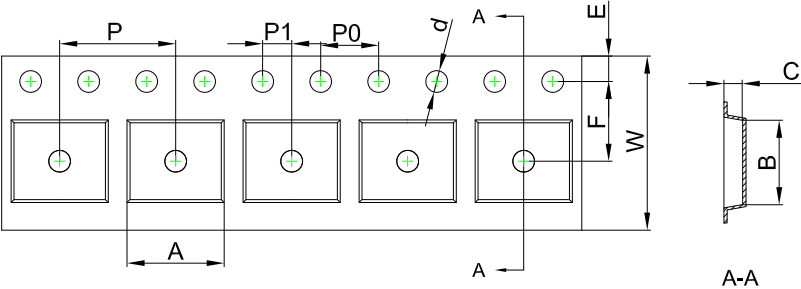


Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.900	1.000	0.035	0.039
A3	0.254 REF.		0.010 REF.	
D	4.944	5.096	0.195	0.201
E	5.974	6.126	0.235	0.241
D1	1.470	1.870	0.058	0.074
D2	0.470	0.870	0.019	0.034
E1	3.375	3.575	0.133	0.141
D3	4.824	4.976	0.190	0.196
E2	5.674	5.826	0.223	0.229
k	1.190	1.390	0.047	0.055
b	0.350	0.450	0.014	0.018
e	1.270 TYP.		0.050 TYP.	
L	0.559	0.711	0.022	0.028
L1	0.424	0.576	0.017	0.023
H	0.574	0.726	0.023	0.029
θ	10°	12°	10°	12°

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.

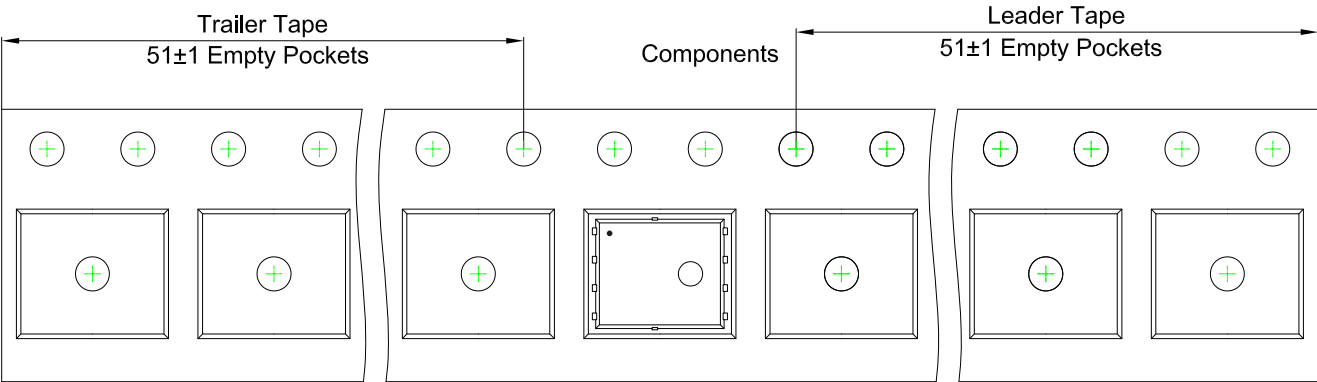
PDFNWB5×6-8L-A Embossed Carrier Tape



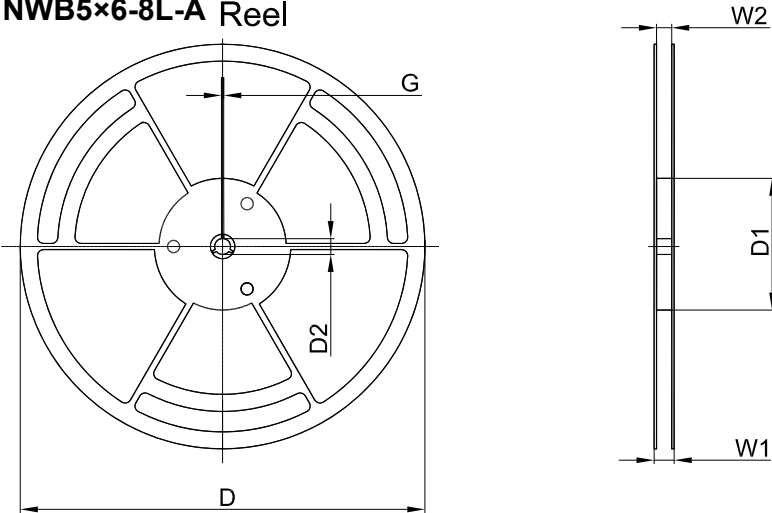
Packaging Description:
PDFNWB5×6-8L-A parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Heat Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. These reeled parts in standard option are shipped with 5,000 units per 13" or 33.0 cm 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
PDFNWB5×6-8L-A	6.30	5.30	1.10	Ø1.50	1.75	5.50	4.00	8.00	2.00	12.00

PDFNWB5×6-8L-A Tape Leader and Trailer



PDFNWB5×6-8L-A Reel



Dimensions are in millimeter						
Reel Option	D	D1	D2	G	W1	W2
13"Dia	Ø330.00	100.00	13.00	1.90	17.60	12.40

REEL	Reel Size	Box	Box Size(mm)	Carton	Carton Size(mm)
5,000 pcs	13 inch	5,000 pcs	340×336×29	50,000 pcs	353×346×365