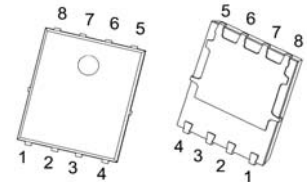


**PDFNWB5X6-8L Plastic-Encapsulate MOSFETS****CJAC20N10 N-Channel Power MOSFET**

$V_{(BR)DSS}$	$R_{DS(on)MAX}$	I_D
100V	31m Ω @10V	20A
	40m Ω @4.5V	

PDFNWB5×6-8L**DESCRIPTION**

This advanced high voltage MOSFET is designed to stand high energy in the avalanche mode and switch efficiently. This new high energy device also offers a drain-to-source diode fast recovery time.

Designed for high voltage, high speed switching applications such as power supplies, converters, power motor controls and bridge circuits.

FEATURES

- High density cell design for ultra low $R_{DS(on)}$
- Fully characterized avalanche voltage and current
- Good stability and uniformity with high E_{AS}
- Special process technology for high ESD capability
- Excellent package for good heat dissipation

APPLICATIONS

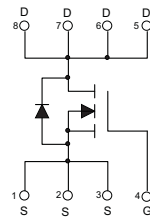
- Hard switched and high frequency circuits
- Uninterruptible power supply
- Power switching application

MARKING

CJAC20N10 = Part No.

Solid dot=Pin1 indicator

XXX= Code

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

Parameter	Symbol	Limit	Unit
Drain-Source Voltage	V_{DS}	100	V
Gate-Source Voltage	V_{GS}	± 20	V
Continuous Drain Current	I_D	20	A
Pulsed Drain Current	I_{DM}	80	A
Single Pulsed Avalanche Energy	$E_{AS}^{(1)}$	156	mJ
Power Dissipation	$P_D^{(2)}$	2	W
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	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	$^{\circ}\text{C}$

(1). E_{AS} condition: $V_{DD}=50\text{V}$, $L=0.5\text{mH}$, $R_G=25\Omega$, Starting $T_J = 25^{\circ}\text{C}$

(2). Mounted on a glass epoxy board of 25.4mm x 25.4mm x 0.8mm

MOSFET ELECTRICAL CHARACTERISTICS

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

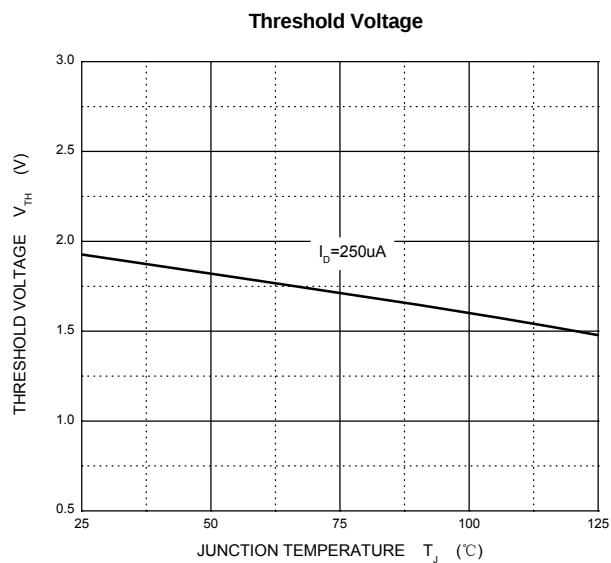
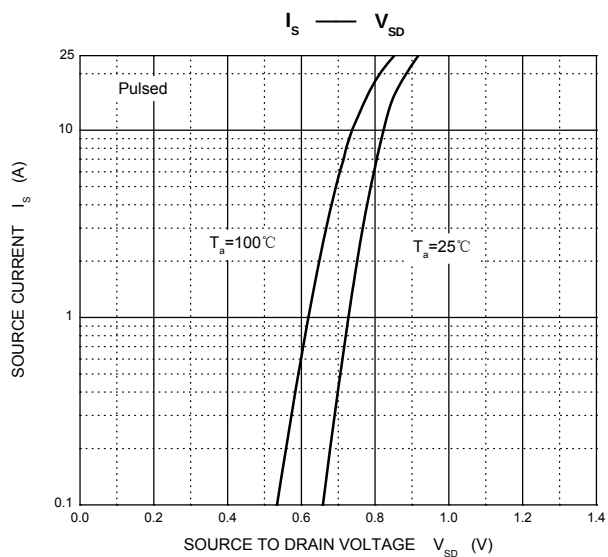
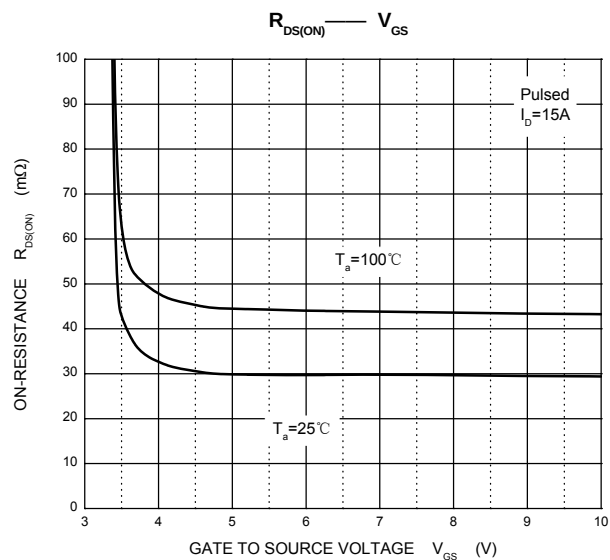
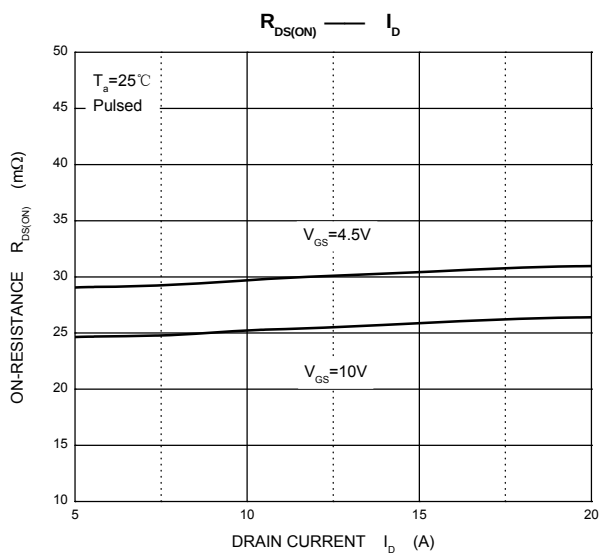
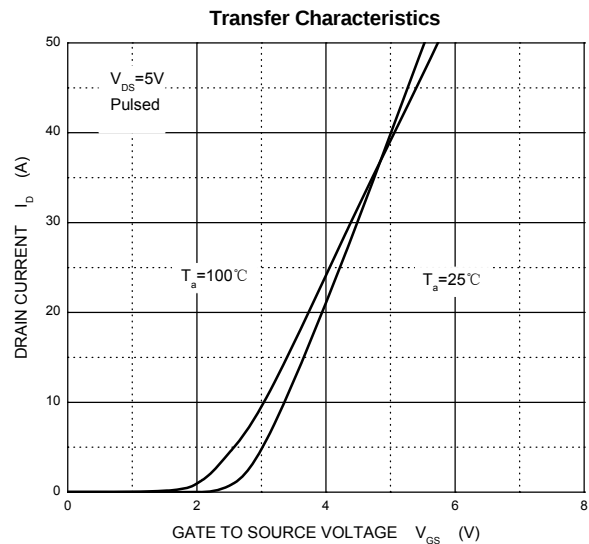
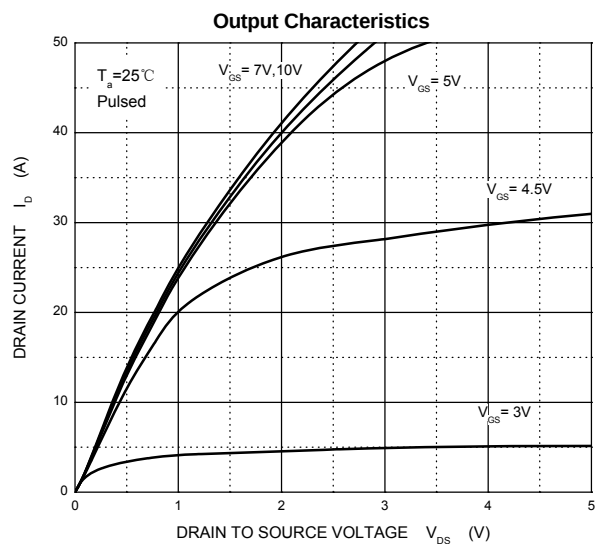
ELECTRICAL CHARACTERISTICS($T_a = 25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Off characteristics						
Drain-source breakdown voltage	V _{(BR) DSS}	V _{GS} = 0V, I _D =250μA	100			V
Zero gate voltage drain current	I _{DSS}	V _{DS} =100V, V _{GS} =0V			1	μA
Gate-body leakage current	I _{GSS}	V _{DS} =0V, V _{GS} =±20V			±100	nA
On characteristics (note1)						
Gate-threshold voltage	V _{GS(th)}	V _{DS} =V _{GS} , I _D =250μA	1.3	2.0	2.5	V
Static drain-source on-sate resistance	R _{DS(on)}	V _{GS} =10V, I _D =15A		26	31	mΩ
		V _{GS} =4.5V, I _D =15A		30	40	mΩ
Forward transconductance	g _{FS}	V _{DS} =5V, I _D =10A		15		S
Dynamic characteristics (note 2)						
Input capacitance	C _{iss}	V _{DS} =25V, V _{GS} =0V, f =1MHz		2000		pF
Output capacitance	C _{oss}			300		
Reverse transfer capacitance	C _{rss}			250		
Switching characteristics (note 2)						
Total gate charge	Q _g	V _{DS} =50V, V _{GS} =10V, I _D =10A		39		nC
Gate-source charge	Q _{gs}			8		
Gate-drain charge	Q _{gd}			12		
Turn-on delay time	t _{d(on)}	V _{DD} =30V, V _{GS} =10V, R _G = 3.0Ω, I _D =2A, R _L =5Ω		7		ns
Turn-on rise time	t _r			7		
Turn-off delay time	t _{d(off)}			29		
Turn-off fall time	t _f			7		
Drain-Source Diode Characteristics						
Drain-source diode forward voltage(note1)	V _{SD}	V _{GS} =0V, I _S =15A			1.2	V
Continuous drain-source diode forward current	I _S				30	A
Pulsed drain-source diode forward current	I _{SM}				120	A

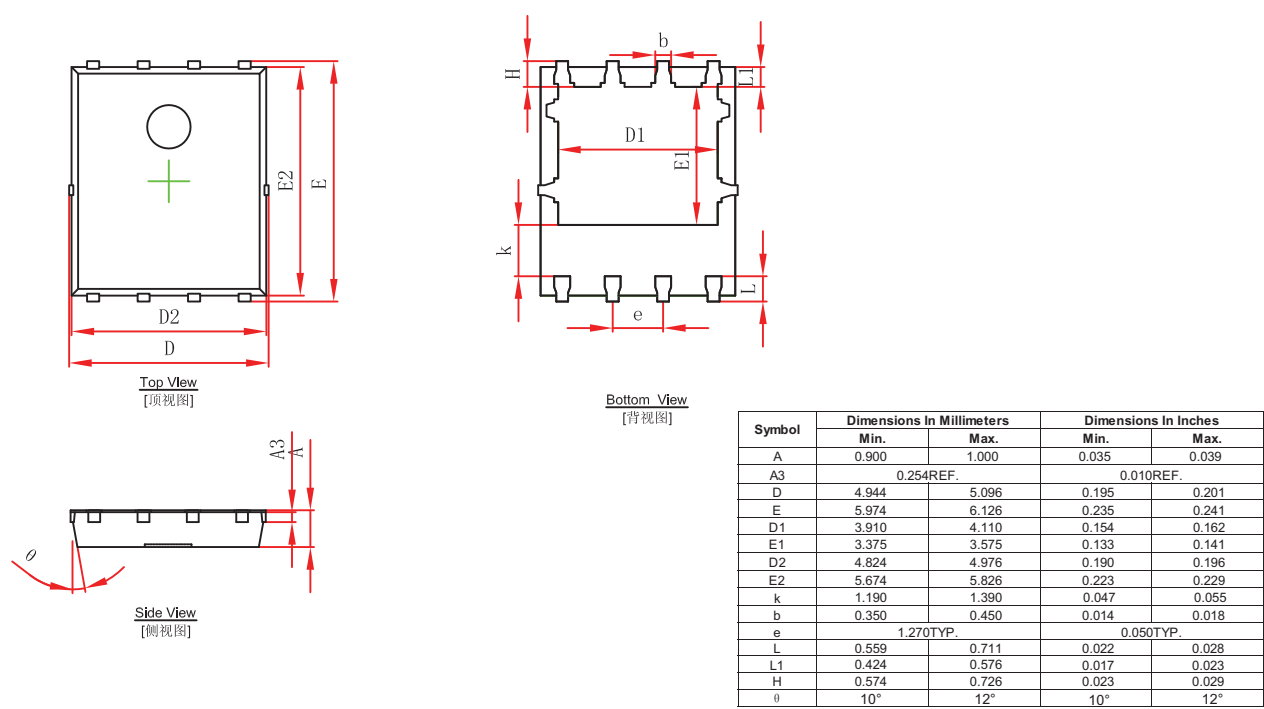
Notes:

1. Pulse Test : Pulse Width $\leq 300\mu s$, duty cycle $\leq 2\%$.
2. Guaranteed by design, not subject to production.

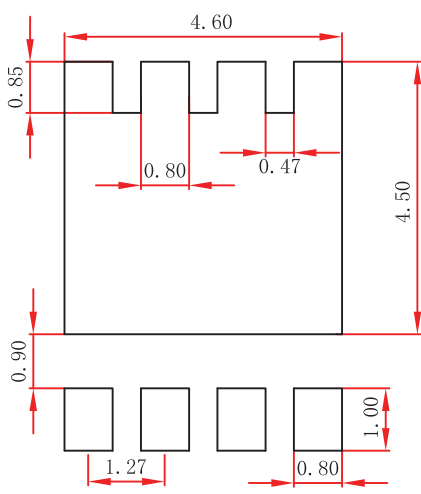
Typical Characteristics



PDFNWB5x6-8L Package Outline Dimensions



PDFNWB5x6-8L Suggested Pad Layout



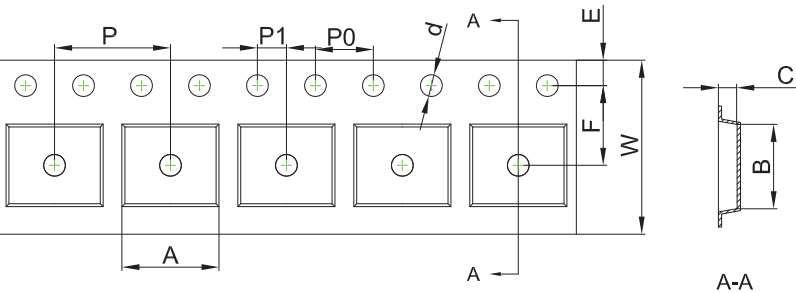
Note:
1.Controlling dimension:in millimeters.
2.General tolerance:±0.05mm.
3.The pad layout is for reference purposes only.

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.

PDFNWB5×6 Tape and Reel

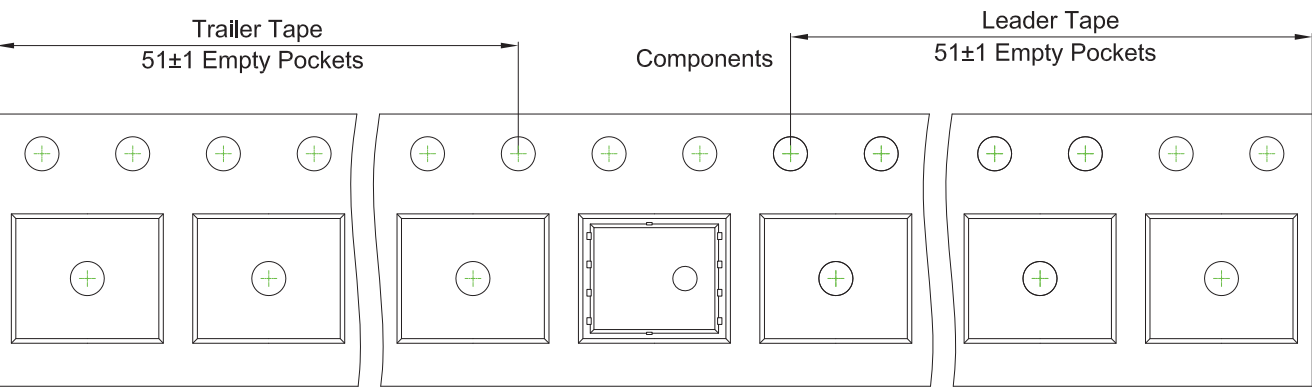
PDFNWB5×6-8L Embossed Carrier Tape



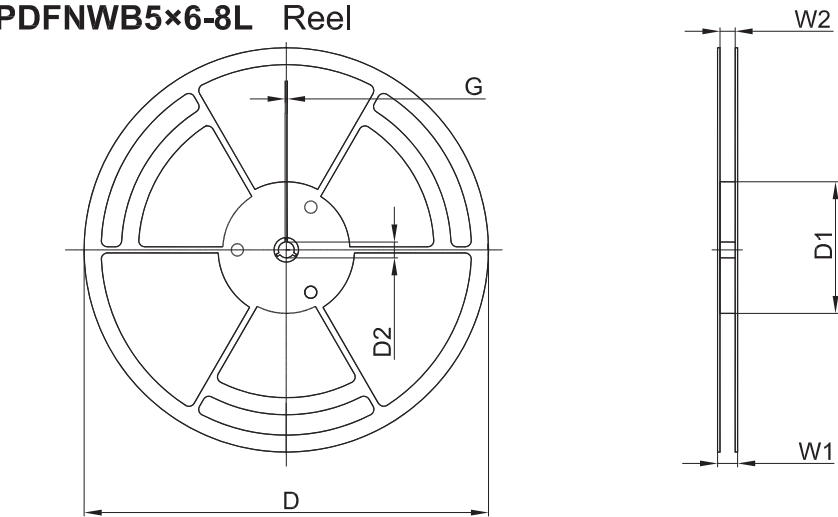
Packaging Description:
PDFNWB5×6-8L parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Heat Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed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

PDFNWB5×6-8L Tape Leader and Trailer



PDFNWB5×6-8L 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