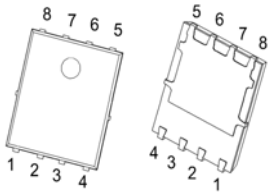
PDFNWB5×6-8L Plastic-Encapsulate MOSFETS

CJAC30P10 P-Channel Power MOSFET

$V_{(BR)DSS}$	$R_{DS(on)}$TYP	I_D
-100V	35mΩ@-10V	-30A
	38mΩ@-4.5V	

PDFNWB5×6-8L



GENERAL DESCRIPTION

The CJAC30P10 uses advanced trench technology and design to provide excellent $R_{DS(on)}$ with low gate charge. It can be used in a wide variety of applications.

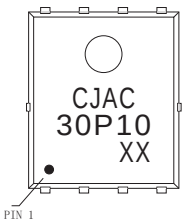
FEATURE

- Advanced trench process technology
- Reliable and rugged
- High density cell design for ultra low On-Resistance

APPLICATION

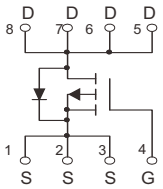
- Power management in notebook computer
- Portable equipment and battery powered systems

MARKING



CJAC30P10 = Part No.
Solid dot=Pin1 indicator.
XX=Code.

EQUIVALENT CIRCUIT



MAXIMUM RATINGS (T_a=25℃ unless otherwise noted)

Parameter		Symbol	Limit	Unit
Drain-Source Voltage		V_{DS}	-100	V
Gate-Source Voltage		V_{GS}	±20	V
Continuous Drain Current	T_C =25℃	I_D	-30	A
	T_C =100℃		-19	
Pulsed Drain Current		I_{DM}①②	-120	A
Continuous Drain Current	T_A =25℃	I_D	-4.8	A
	T_A =75℃		-3.7	
Avalanche Current		I_{AS}③	-31	A
Single Pulsed Avalanche Energy		E_{AS}③	240	mJ
Power Dissipation		P_D①	96	W
Junction Temperature and Storage Temperature Range		T_J,T_{stg}	-55 ~+150	℃

Thermal Characteristics

Parameter	Symbol	Value		Unit
		Typ	Max	
Thermal Resistance from Junction to Case	$R_{\theta JC}$	1.0	1.3	℃/W
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$⑥	41	62.5	℃/W

MOSFET ELECTRICAL CHARACTERISTICS

T_a=25℃ 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} =-80V, V_{GS} =0V	T_J =25℃			-1.0	μA
			T_J =125℃			-100	
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	-1.6	-2.5	V
Static drain-source on-sate resistance	$R_{DS(on)}$	V_{GS} =-10V, I_D =-15A			35	45	mΩ
	$R_{DS(on)}$	V_{GS} =-4.5V, I_D =-15A			38	55	mΩ
Dynamic characteristics ④⑤							
Input capacitance	C_{iss}	V_{DS} =-20V,V_{GS} =0V, f =1MHz			6315	12630	pF
Output capacitance	C_{oss}				220	440	
Reverse transfer capacitance	C_{rss}				50	100	
Gate resistance	R_g	f =1MHz			5.5		Ω
Switching characteristics ④⑤							
Total gate charge	Q_g	V_{DS}=-20V, V_{GS}=-10V, I_D=-12A			98	196	nC
Gate-source charge	Q_{gs}				16.2	32	
Gate-drain charge	Q_{gd}				13.8	28	
Turn-on delay time	$t_{d(on)}$	V_{DD}=-20V,V_{GS}=-10V, R_G=3Ω, I_D=-20A			10		ns
Turn-on rise time	t_r				18		
Turn-off delay time	$t_{d(off)}$				38		
Turn-off fall time	t_f				24		
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					-30	A
Pulsed drain-source diode forward current	I_{SM} ②					-120	A

Notes:

1.T_C=25℃ Limited only by maximum temperature allowed.

2.P_W≤10μs, Duty cycle≤1%.

3.EAS condition: V_{DD}=-50V,V_{GS}=-10V, L=0.5mH, R_g=25Ω Starting T_J = 25°℃.

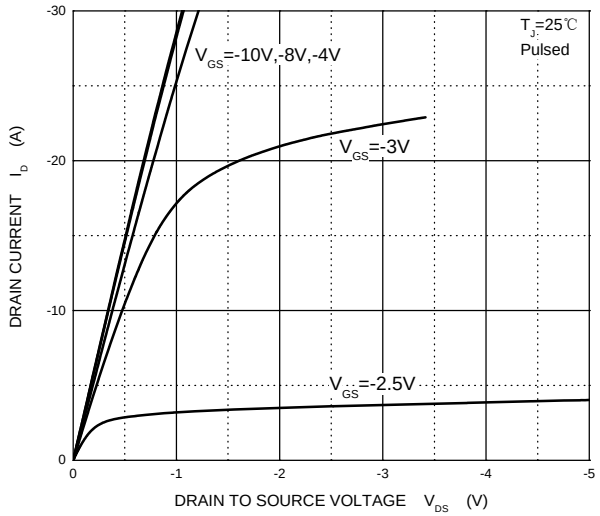
4.Pulse Test : Pulse Width≤300μs, duty cycle ≤2%.

5.Guaranteed by design, not subject to production.

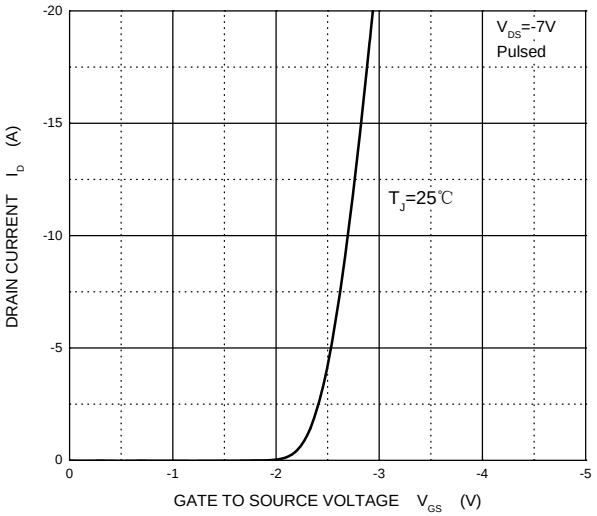
6.The value of $R_{\theta JA}$ is measured with the device mounted on 1 in 2 FR-4 board with 2oz. Copper, in a still air environment with T_a=25℃.

MOSFET ELECTRICAL CHARACTERISTICS

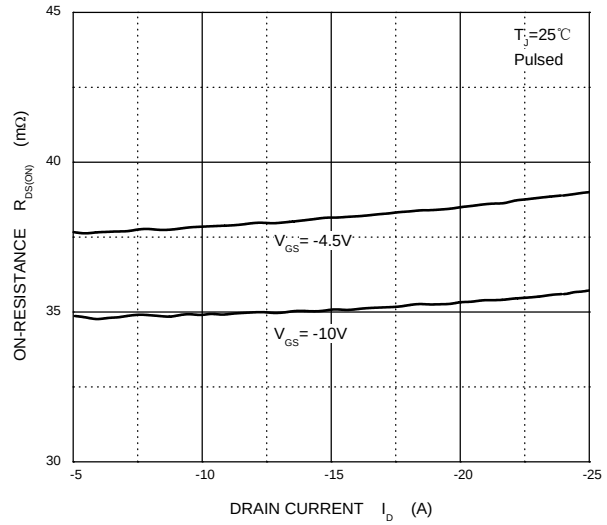
Output Characteristics



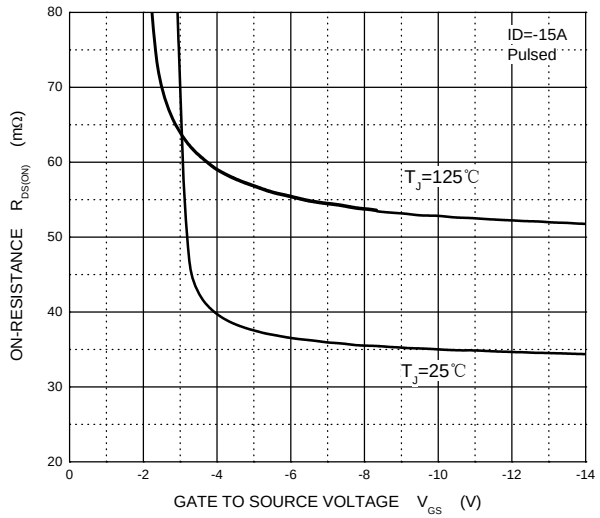
Transfer Characteristics



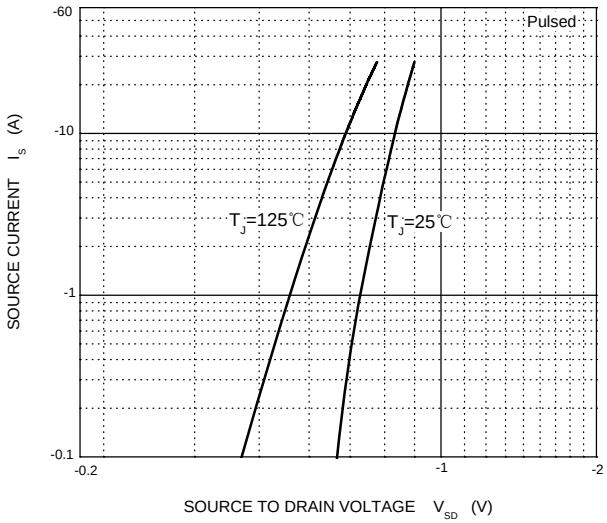
$R_{DS(ON)}$ —— I_D



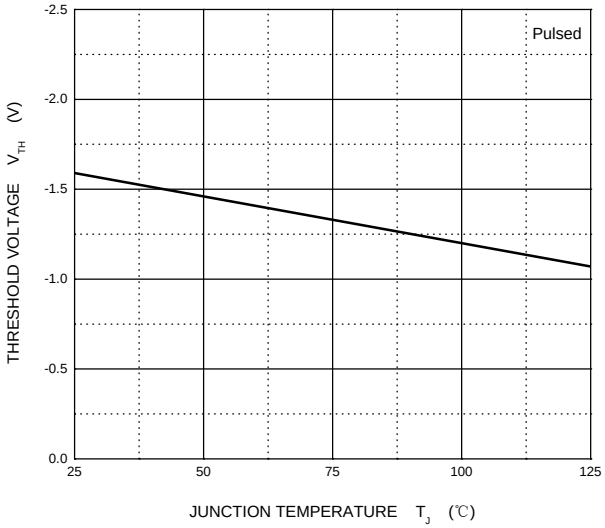
$R_{DS(ON)}$—— V_{GS}



I_S —— V_{SD}

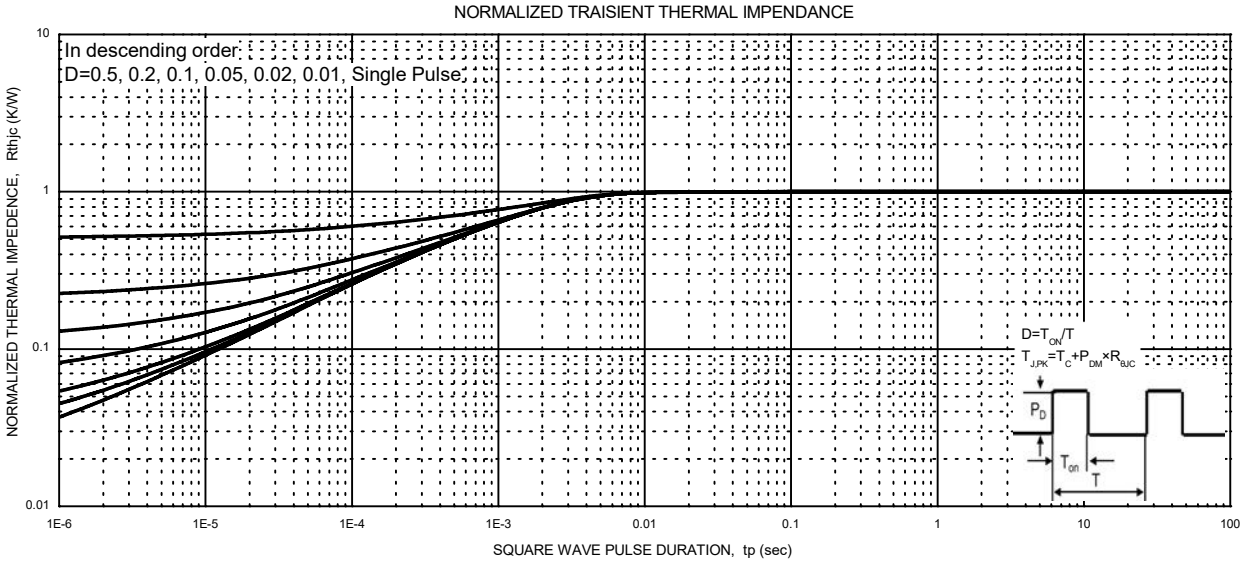


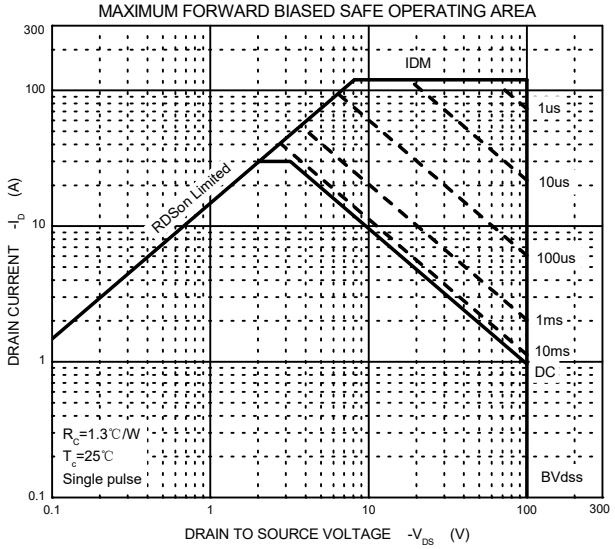
Threshold Voltage



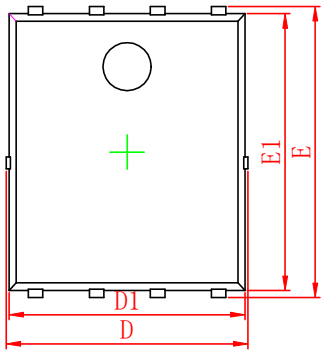
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Typical Characteristics

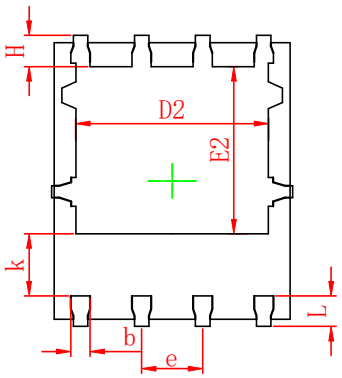




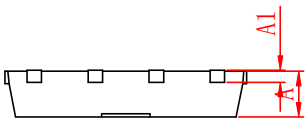
PDFNWB5×6-8L PACKAGE OUTLINE DIMENSIONS



Top View
[顶视图]



Bottom View
[背视图]

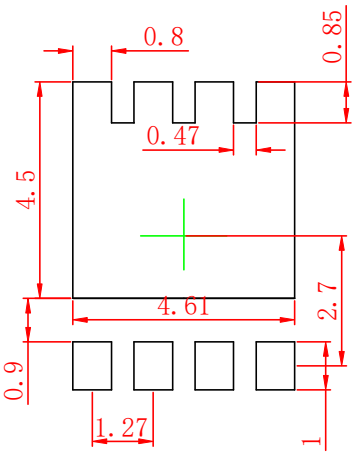


Side View
[侧视图]

Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.90	1.10	0.035	0.043
A1	0.25 REF.		0.010 REF.	
D4.90		5.10	0.193 0.201	
D14.80		5.00	0.189 0.197	
D23.90		4.10	0.154 0.161	
E	5.90	6.10	0.232	0.240
E15.65		5.85	0.222 0.230	
E23.35		3.65	0.132 0.144	
k1.20		1.50	0.047 0.059	
b0.20		0.45	0.008 0.018	
e	1.27 BSC		0.050 BSC	
L0.55		0.75	0.022 0.030	
H0.45		0.75	0.018 0.030	

Notes：
1 Dimensions exclusive of mold gate burrs.
2 Dimensions exclusive of mold flash and cutting burrs.

PDFNWB5×6-8L Suggested Pad Layout



Notes：
1 Controlling dimension：in millimeters.
2 General tolerance:±0.05mm.
3 The pad layout is for referance purpose only.

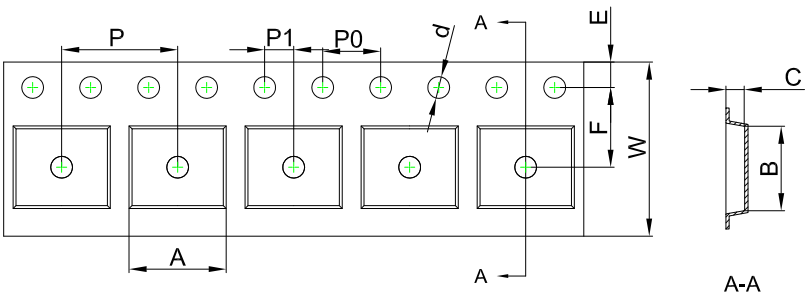
NOTICE

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PDFNWB5×6 Tape and Reel

PDFNWB5×6-8L Embossed Carrier Tape

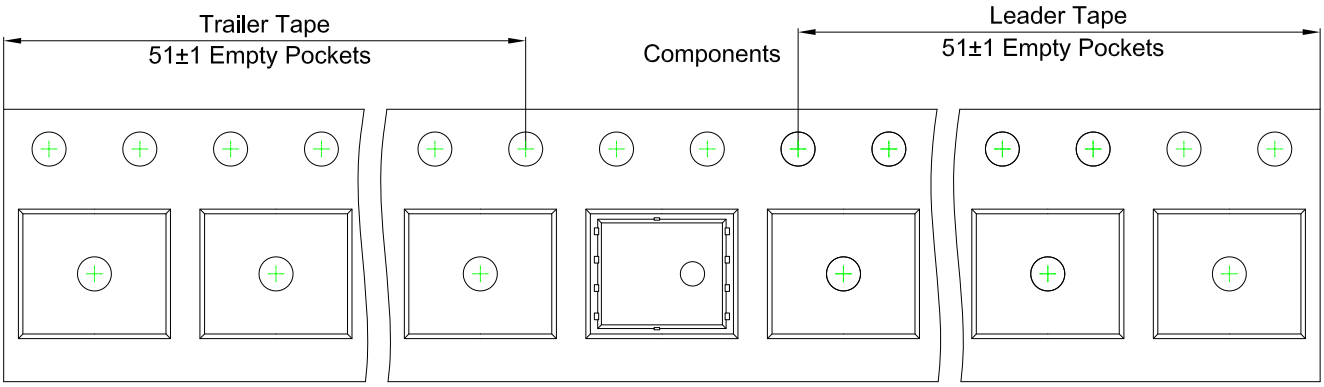


Packaging Description:

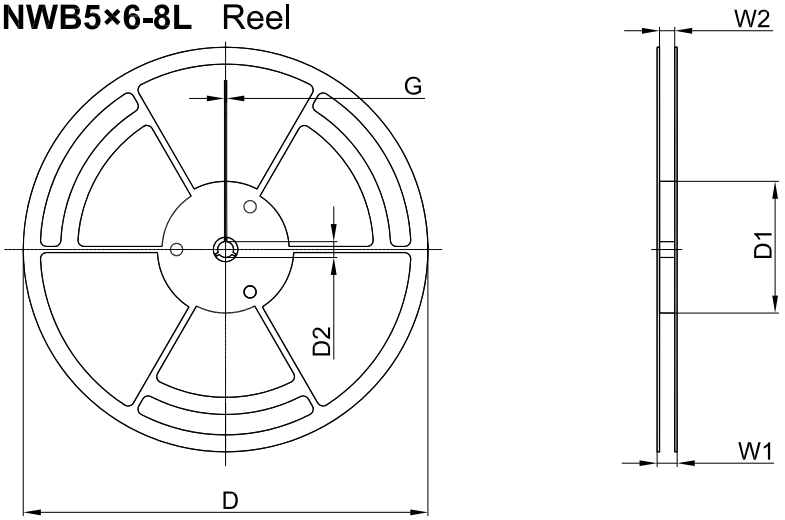
PDFNWB5×6-8L parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Heat Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. These reeled parts 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	**10,000 pcs**	**360×360×65**	50,000 pcs	**378×358×382**