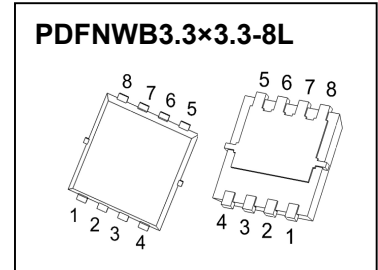


CJAB25P03 P-Channel Power MOSFET

$V_{(BR)DSS}$	$R_{DS(on)MAX}$	I_D
-30V	20mΩ@-10V	-25A



DESCRIPTION

The CJAB25P03 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

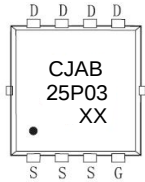
FEATURES

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

APPLICATIONS

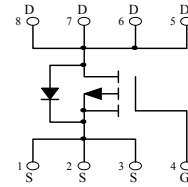
- Battery and loading switching

MARKING



CJAB25P03 = Part No.
Solid dot=Pin1 indicator
XX=Date Code

EQUIVALENT CIRCUIT



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

Parameter	Symbol	Limit	Unit
Drain-Source Voltage	V_{DS}	-30	V
Gate-Source Voltage	V_{GS}	±20	V
Continuous Drain Current	$I_D^{(1)}$	-25	A
Pulsed Drain Current	I_{DM}	-100	A
Single Pulsed Avalanche Energy	$E_{AS}^{(1)}$	150	mJ
Power Dissipation	P_D	3	W
Thermal Resistance from Junction to Ambient	$R_{\theta JA}^{(2)}$	41.67	$^\circ\text{C/W}$
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).EAS condition: $V_{DD}=15\text{V}$, $L=0.1\text{mH}$, $R_G=25\Omega$, Starting $T_J = 25^\circ\text{C}$

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

MOSFET ELECTRICAL CHARACTERISTICS

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

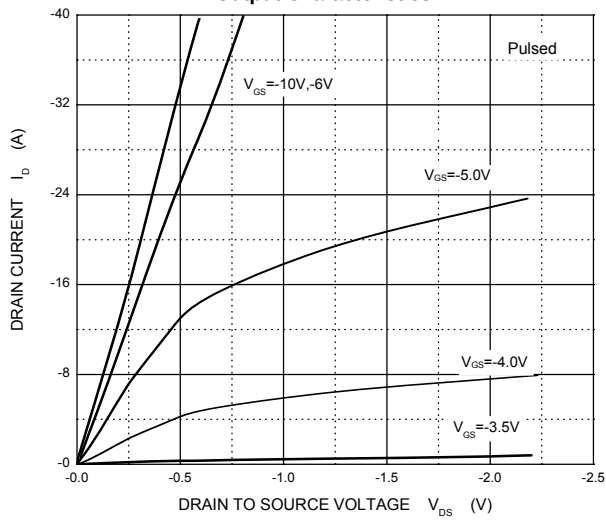
Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Off characteristics						
Drain-source breakdown voltage	V _{(BR) DSS}	V _{GS} = 0V, I _D =-250μA	-30			V
Zero gate voltage drain current	I _{DSS}	V _{DS} =-24V, V _{GS} =0V			-1	μA
Gate-body leakage current	I _{GSS}	V _{DS} =0V, V _{GS} =±20V			±100	nA
On characteristics (note1)						
Gate-threshold voltage	V _{GS(th)}	V _{DS} =V _{GS} , I _D =-250μA	-1.0	-1.6	-3	V
Static drain-source on-sate resistance	R _{DS(on)}	V _{GS} =-10V, I _D =-10A		14	20	mΩ
		V _{GS} =-4.5V, I _D =-10A		21	34	mΩ
Forward transconductance	g _{FS}	V _{DS} =-10V, I _D =-10A		22		S
Dynamic characteristics (note 2)						
Input capacitance	C _{iss}	V _{DS} =-15V,V _{GS} =0V, f =1MHz		1700		pF
Output capacitance	C _{oss}			296		
Reverse transfer capacitance	C _{rss}			205		
Switching characteristics (note 2)						
Total gate charge	Q _g	V _{DS} =-15V,I _D =-10A, V _{GS} =-10V		30		nC
Gate-source charge	Q _{gs}			6		
Gate-drain charge	Q _{gd}			9		
Turn-on delay time	t _{d(on)}	V _{DD} =-15V,I _D =-1A,R _L =15Ω V _{GS} =-10V,R _G =2.5Ω		10		ns
Turn-on rise time	t _r			26		
Turn-off delay time	t _{d(off)}			35		
Turn-off fall time	t _f			8		
Drain-Source Diode Characteristics						
Drain-source diode forward voltage(note1)	V _{SD}	V _{GS} =0V, I _S =-10A		-0.8	-1.2	V
Continuous drain-source diode forward current(note3)	I _S				-25	A
Pulsed drain-source diode forward current	I _{SM}				-100	A

Notes:

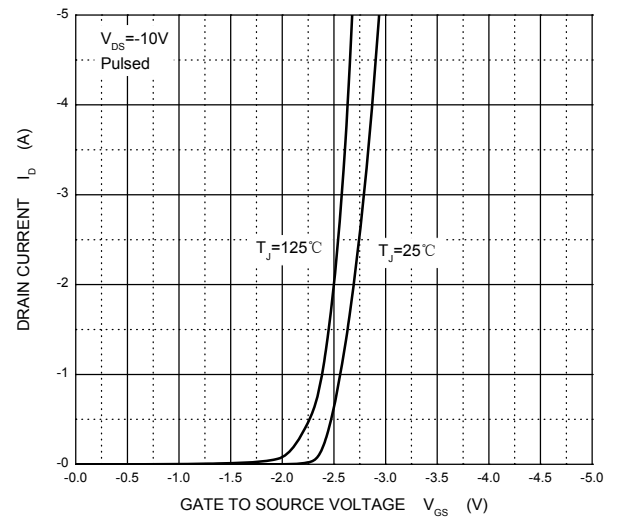
1. Pulse Test : Pulse Width $\leq 300\mu s$, duty cycle $\leq 2\%$.
2. Guaranteed by design, not subject to production.
3. Surface Mounted on FR4 Board, $t \leq 10$ sec.

Typical Characteristics

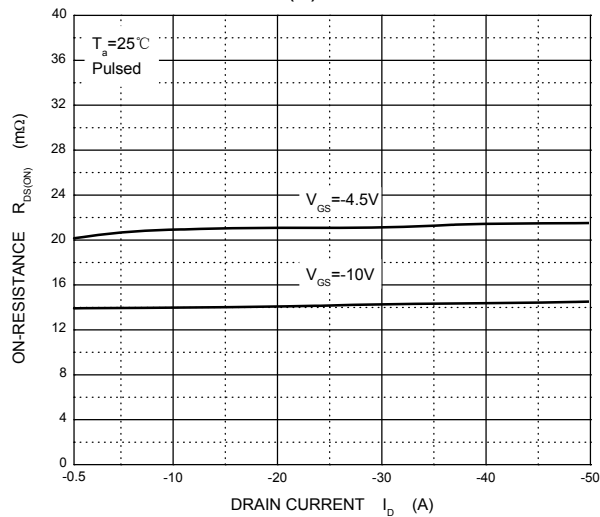
Output Characteristics



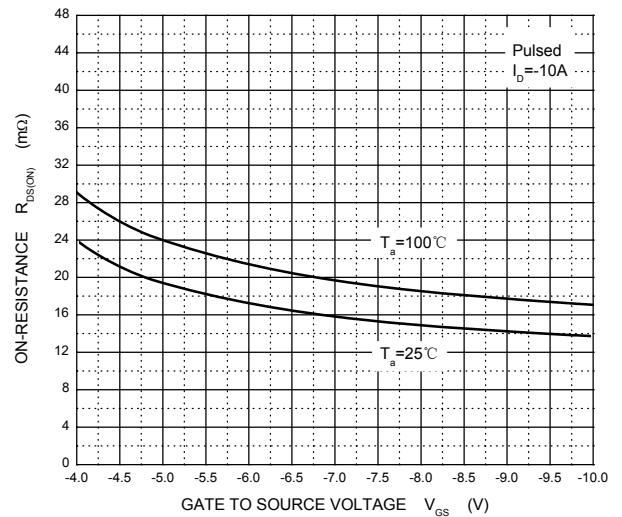
Transfer Characteristics



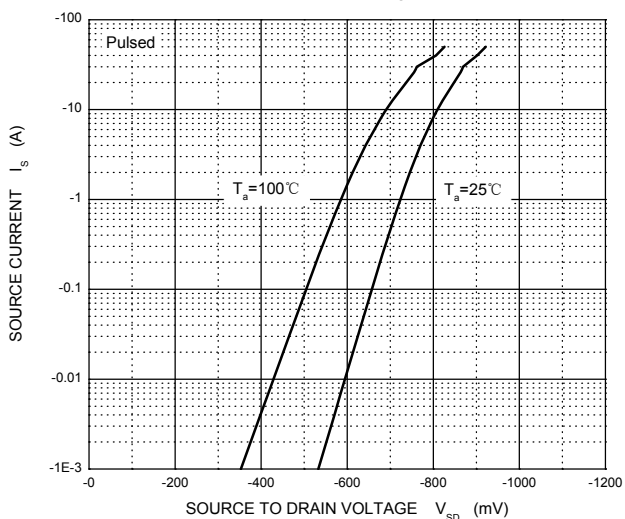
$R_{DS(ON)}$ — I_D



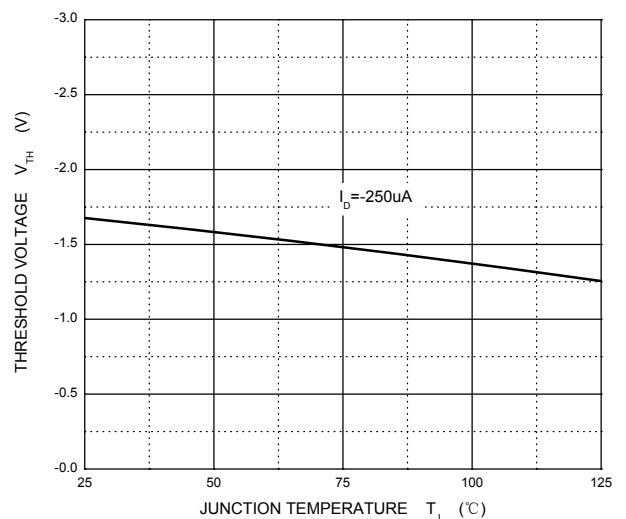
$R_{DS(ON)}$ — V_{GS}



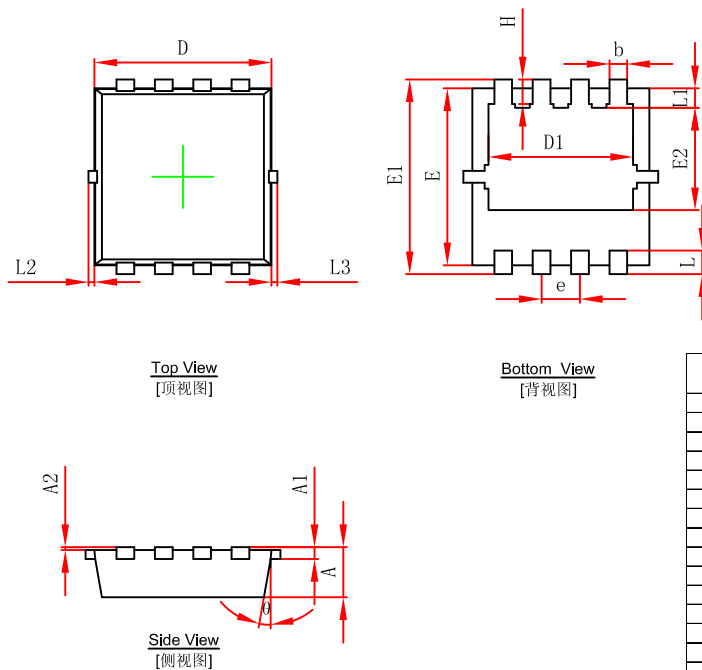
I_S — V_{SD}



Threshold Voltage

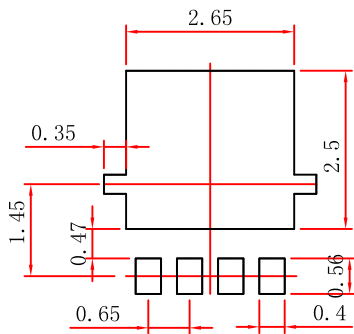


PDFNWB3.3x3.3-8L Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.650	0.850	0.026	0.033
A1	0.152 REF.		0.006 REF.	
A2	0~0.05		0~0.002	
D	2.900	3.100	0.114	0.122
D1	2.300	2.600	0.091	0.102
E	2.900	3.100	0.114	0.122
E1	3.150	3.450	0.124	0.136
E2	1.535	1.935	0.060	0.076
b	0.200	0.400	0.008	0.016
e	0.550	0.750	0.022	0.030
L	0.300	0.500	0.012	0.020
L1	0.180	0.480	0.007	0.019
L2	0~0.100		0~0.004	
L3	0~0.100		0~0.004	
H	0.315	0.515	0.012	0.020
θ	9°	13°	9°	13°

PDFNWB3.3x3.3-8L Suggested Pad Layout



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

NOTICE

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