BRCS120P04YB

Rev.A Dec.-2022

DATA SHEET

/ Descriptions

PDFN 3×3A-8L P MOS

P-Channel Enhancement Mode Field Effect Transistor in a PDFN 3×3A-8L Plastic Package.

/ Features

V_{DS} (V) = -40V

I_D =-41A (V_{GS} = ±20V)

$R_{DS(ON)}$@-10V ≤ 13.5mR(Typ.11.6mR)

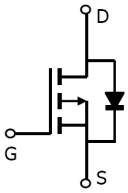
HF Product.

/ Applications

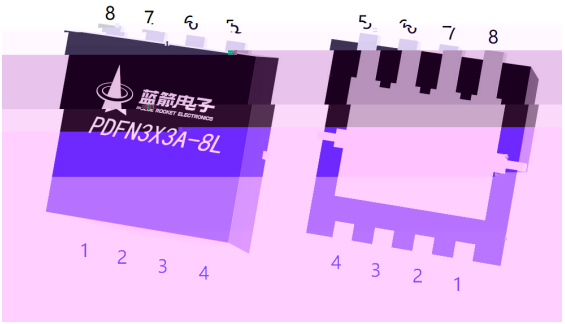
/

Notebook AC-in load switch,Battery protection charge/discharge.

/ Equivalent Circuit



/ Pinning



出脚	定义
Pin1	S
Pin2	S

/ Marking

See Marking Instructions.

Parameter		Symbol	Rating	Unit
Drain-Source Voltage		V_{DS}	-40	V
Drain Current - Continuous		I_D(T_c=25)	-41	A
Drain Current – Pulsed		I_{DM}	-72	A
Gate-Source Voltage		V_{GS}	± 20	V
Power Dissipation		P_D(T_c=25)	30	W
Single Pulse Avalanche Energy(L=0.5mH)		E_{AS}	317.5	mJ
Avalanche Current(L=0.5mH)		I_{AS}	-31.5	A
Junction and Storage Temperature Range		T_j, T_{stg}	-55 to 150	
Thermal resistance, junction - ambient	t ≤ 10s	$R_{\theta JA}$	22	/ W
	Steady-State		55	
Thermal resistance, junction - case				

/ Electrical Characteristics(Ta=25

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Turn-On Delay Time	$t_{d(on)}$	V_{GS}=-10V V_{DS}=-20V R_L=0.75Ω R_{GEN}=3Ω		11		ns
Turn-On Rise Time	t_r			7.8		
Turn-Off Delay Time	$t_{d(off)}$			44		
Turn-Off Fall Time	t_f			18		

/ Electrical Characteristic Curve

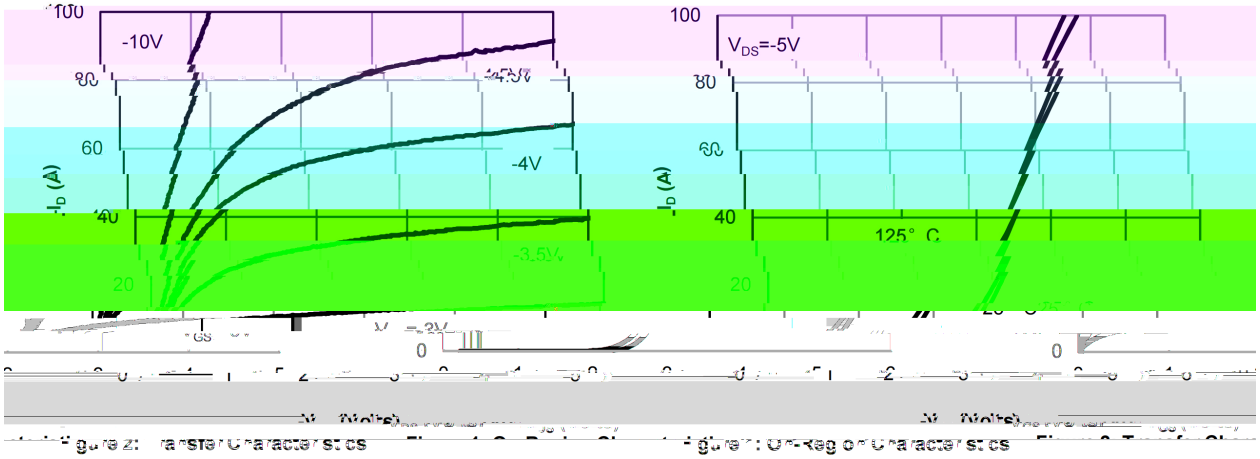


Figure 2: Transfer Characteristics

Figure 1: On-Region Characteristics

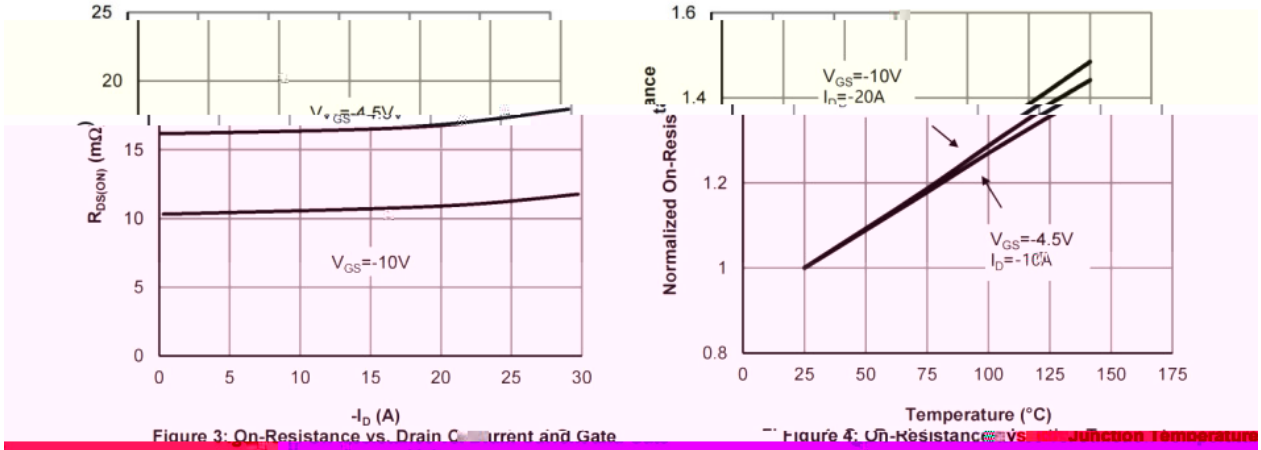
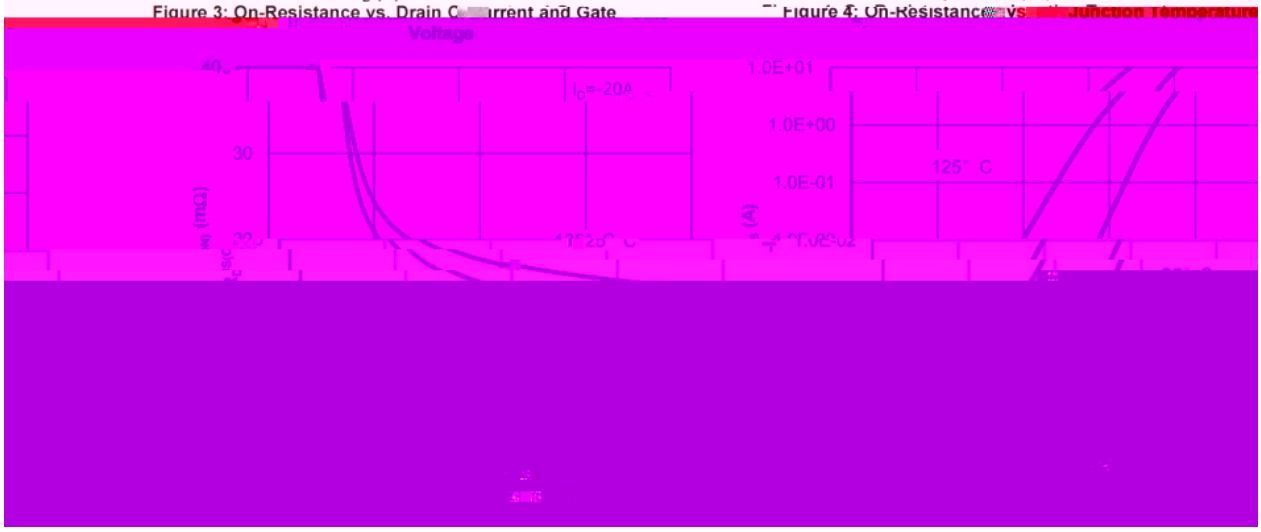


Figure 3: On-Resistance vs. Drain Current and Gate Voltage

Figure 4: On-Resistance vs. Junction Temperature

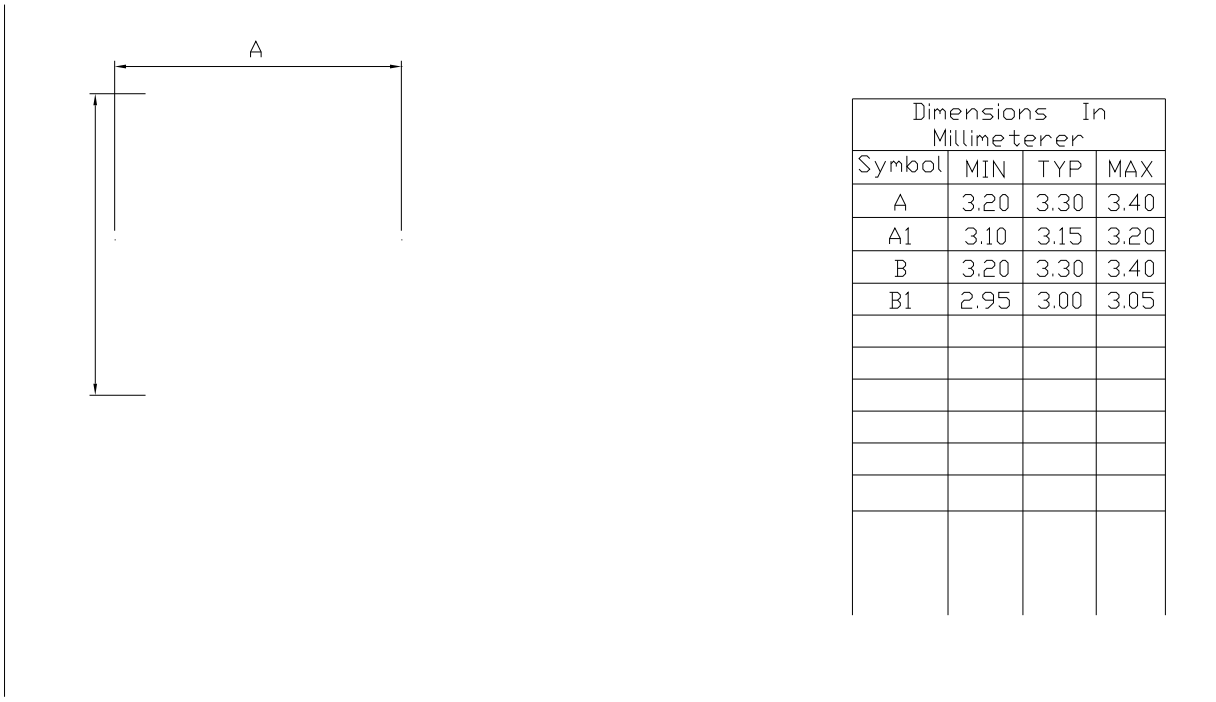


BRCS120P04YB

/ Package Dimensions

PDFN3X3A-8L

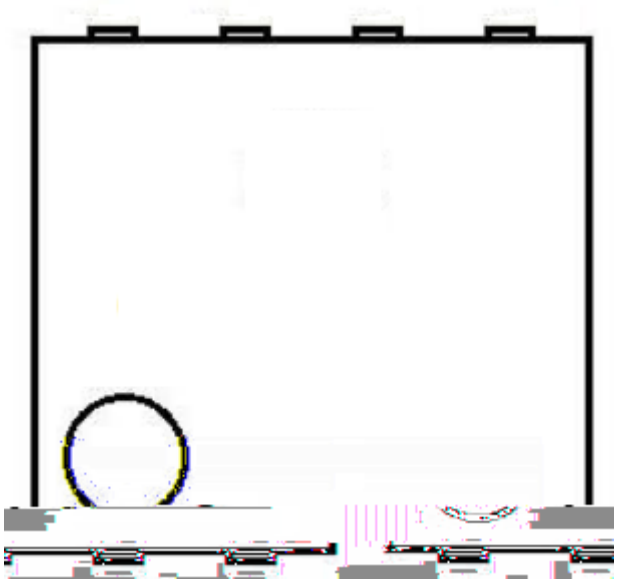
Unit:mm



Dimensions In Millimeterer			
Symbol	MIN	TYP	MAX
A	3.20	3.30	3.40
A1	3.10	3.15	3.20
B	3.20	3.30	3.40
B1	2.95	3.00	3.05

Rev.00 202011

/ Marking Instructions



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( ) / Temperature Profile for IR Reflow Soldering(Pb-Free)

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1	150	180	60	90sec;
2	245±5			5±0.5sec;
3		2	10	/sec.

Note:

1.Preheating:150~180 , Time:60~90sec.

2.Peak Temp.:245±5 , Duration:5±0.5sec.

3. Cooling Speed: 2~10 /sec.

/ Resistance to Soldering Heat Test Conditions

260±5	10±1 sec.	Temp.:260±5	Time:10±1 sec

/ Packaging SPEC.

/ REEL

Package Type	Units					Dimension		(unit：mm³)
	Units/Reel	Reels/Inner Box	Units/Inner Box	Inner Boxes/Outer Box	Units/Outer Box	Reel	Inner Box	Outer Box
PDFN 3								