

BRCS200P03YB

Rev.A May.-2022

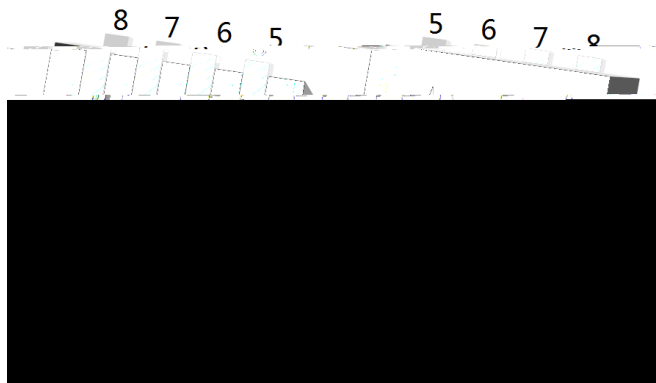
PDFN3×3A-8L P

P-Channel MOSFET in a PDFN3×3A-8L Plastic Package .

Low $R_{DS(ON)}$ to minimize conductive loss;low Gate Charge for fast switching;Low Thermal resistance;HF Product.

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Notebook AC-in Load Switch,Battery Protection Charge/Discharge



PIN1 2 3 S PIN4 G PIN5 6 7 8 D


/ Absolute Maximum Ratings($T_a=25^\circ\text{C}$)

Parameter		Symbol	Rating	Unit
Drain-Source Voltage		V _{DS}	-30	V
Drain Current - Continuous		I _D (T _c =25)	-24	A
Drain Current – Pulsed		I _{DM}	-80	A
Gate-Source Voltage		V _{GS}	± 20	V
Power Dissipation		P _D (T _c =25)	20	W
Single Pulse Avalanche Energy(L=0.5mH)		E _{AS}	152	mJ
Avalanche Current(L=0.5mH)		I _{AS}	19.5	A
Junction and Storage Temperature Range		T _j , T _{stg}	-55 to 150	
Thermal resistance, junction - ambient	t ≤ 10s	R _{dJA}	30	/ W
	Steady-State		65	
Thermal resistance, junction - case	Steady-State	R _{dJC}	7	

/ Electrical Characteristics($T_a=25^\circ\text{C}$)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	$I_D=-250\mu\text{A}$ $V_{GS}=0\text{V}$	-30	-33		V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=-30\text{V}$ $V_{GS}=0\text{V}$			-1.0	μA
Gate-Body leakage current	I_{GSS}	$V_{DS}=0\text{V}$, $V_{GS}=\pm 20\text{V}$			± 100	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$ $I_D=-250\mu\text{A}$	-1.0	-1.3	-3.0	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	$V_{GS}=-10\text{V}$, $I_D=-10\text{A}$		17.5	20	m
		$V_{GS}=-4.5\text{V}$, $I_D=-10\text{A}$		25.5	30	
Diode Forward Voltage	V_{SD}	$I_S=-1\text{A}$, $V_{GS}=0\text{V}$			-1.2	V
Input Capacitance	C_{iss}	$V_{DS}=-25\text{V}$ $V_{GS}=0\text{V}$ $f=1.0\text{MHz}$		1430		pF
Output Capacitance	C_{oss}			580		
Reverse Transfer Capacitance	C_{rss}			350		
Gate resistance	R_g	$V_{GS}=0\text{V}$ $V_{DS}=0\text{V}$ $f=1\text{MHz}$		13		Ω
Total Gate Charge	$Q_{g(10V)}$	$V_{GS}=-10\text{V}$, $V_{DS}=-15\text{V}$, $I_D=-9.7\text{A}$		20		nC
Total Gate Charge	$Q_{g(4.5V)}$			9.5		
Gate Source Charge	Q_{gs}			3.5		
Gate Drain Charge	Q_{gd}			4.5		

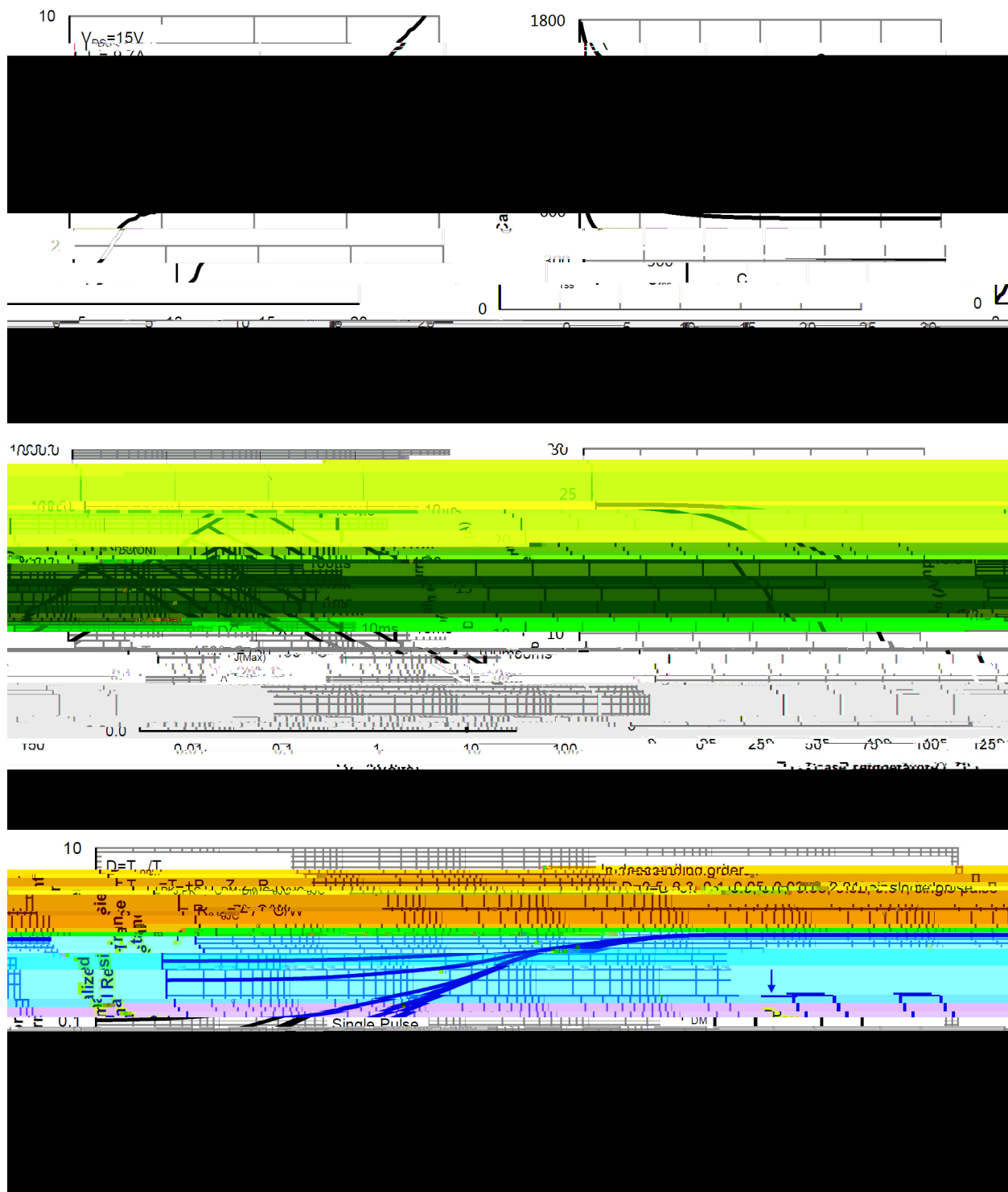
/ Electrical Characteristics(Ta=25)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Turn-On Delay Time	$t_{d(on)}$	$V_{GS}=-10V$ $V_{DS}=-15V$ $R_L=1.5\Omega$ $R_{GEN}=3\Omega$		10		ns
Turn-On Rise Time	t_r			5.5		
Turn-Off Delay Time	$t_{d(off)}$			26.1		
Turn-Off Fall Time	t_f			9.1		

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/ Electrical Characteristic Curve



/ Marking Instructions



BR

200P03

Note:

BR: Company Code.

200P03: Product Type Code

****: Lot No. Code, code change with Lot No



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Note:

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|---|---------|-----------|---|
| 1 | 150 180 | 60 90sec; | 1.Preheating:150~180 , Time:60~90sec. |
| 2 | 245 5 | 5 0.5sec; | 2.Peak Temp.:245 5 , Duration:5 0.5sec. |
| 3 | 2 10 | /sec. | 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 mm ³)		
	Units/Reel /	Reels/Inner Box /	Units/Inner Box /	Inner Boxes/Outer Box /	Units/Outer Box /	Reel	Inner Box	Outer Box