

PDFN5×6 / x N ?ú 3 « | • ' ož

N-Channel MOSFET in a PDFN5×6 Plastic Package.

$V_{DS}(V)=30\text{ V}$ $I_D=95A$

$R_{DS(ON)}@10V$ "3.6m Ÿ(Typ.3.5mR)

$R_{DS(ON)}@4.5V$ "6.5m Ÿ(Typ.5.0mR)

—)í D } ÄHF Product.

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Battery Management,High Frequency Point-of-

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

@ f Parameter		... Z Symbol	f › Rating	% y Unit
Drain-Source Voltage		V _{DS}	30	V
Continuous Drain Current		I _D	95	A
Pulsed Drain Current		I _{DM}	175	A
Gate-Source Voltage		V _{GS}	f 20	V
Power Dissipation		P _D (T _c =25 °C)	55	W
Avalanche energy(L=0.5mH)		E _{AS}	281	mJ
Avalanche Current(L=0.5mH)		I _{AS}	26.5	A
Junction and Storage Temperature Range		T _j , T _{stg}	-55 to 150	-
Maximum Junction-to-Ambient	t 0 10s	R θJA	25	/ W
	Steady-State		55	
Maximum Junction-to-Case	Steady-State	R θJC	2.3	

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	1.7	3.0	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=10\text{V}, I_D=20\text{A}$		3.5	3.6	m Ω
		$V_{GS}=4.5\text{V}, I_D=10\text{A}$		5.0	6.5	
Diode Forward Voltage	V_{SD}	$I_S=1\text{A}, V_{GS}=0\text{V}$			1.4	V
Input Capacitance	C_{iss}	$V_{DS}=25\text{V}, V_{GS}=0\text{V}, f=1.0\text{MHz}$		2200		pF
Output Capacitance	C_{oss}			145		
Reverse Transfer Capacitance	C_{rss}			210		
Gate resistance	R_g	$V_{GS}=0\text{V}, V_{DS}=0\text{V}, f=1\text{MHz}$		2.0		

Electrical Characteristics(Ta=25℃ ;)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Total Gate Charge	$Q_{g(10V)}$	$V_{GS}=10V$ $I_D=20A$ $V_{DS}=15V$		32		nC
Total Gate Charge	$Q_{g(4.5V)}$			15		
Gate Source Charge	Q_{gs}			5.2		
Gate Drain Charge	Q_{gd}			6.5		
Turn-On Delay Time	$t_{d(on)}$	$V_{GS}=10V$ $R_L=0.75 \Omega$ $V_{DS}=15V$ $R_{GEN}=3 \Omega$		8.5		ns
Turn-On Rise Time	t_r			4.2		
Turn-Off Delay Time	$t_{d(off)}$			30		
Turn-Off Fall Time	t_f			5.7		

Ô ? d • Ž ¢ / Electrical Characteristic Curve

BRCS035N03ZC
Rev.A Dec.-2023

Ø □ =) ¢ / Package Dimensions

, M y f / Marking Instructions

BR
035N03

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035N03 y D } ° Z
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Note y
BR y Company Code
035N03 y Product Type Code
*****: Lot No. Code, code change with Lot No

ŠWD t... • Ž Ć (x /) / :KSVKXGZ[XK 6XULORK LUX /8 8KLRU] 9URJKXOTM 6

^a Ć y

10• Ä ½ “ † 150 ½180 - k ž • 60 ½90sec;

20• Q > “ † 245 r5 - k ž • 4 Ò 5 r0.5sec;

30•D N ò i Ò 0 , † 2 ½10 - /sec.

Note:

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

2.Peak Temp.:245 r5 - , Duration:5 r0.5sec.

3. Cooling Speed: 2~10 - /sec.

ÂD /Cã p ¯ »] / Resistance to Soldering Heat Test Conditions

“ † y 260 r5 -

ž • y 10 r1 sec.

Temp.:260±5

Time:10±1 sec

G P á / Packaging SPEC.

2 & x / REEL

Package Type / x ¥ "	Units ;>û ¡H	Dimension ;>û p . (unit Ånm ³)
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