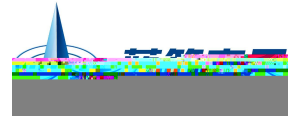


BRCS080N04ZB

Rev.A May.-2022

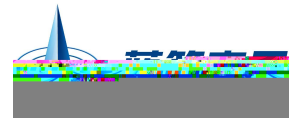


DATA SHEET



BRCS080N04ZB

Rev.A May.-2022



DATA SHEET

描述 / Descriptions

DFN3×3A-8L 塑封封装 N 沟道 MOS 场效应管。

N-Channel Enhancement Mode Field Effect Transistor in a DFN3×3A-8L Plastic Package.

特 / Features

$V_{DS} (V) = 40V$

$I_D = 40A (V_{GS} = \pm 20V)$

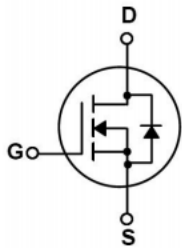
无卤产品。HF Product.

用途 / Applications

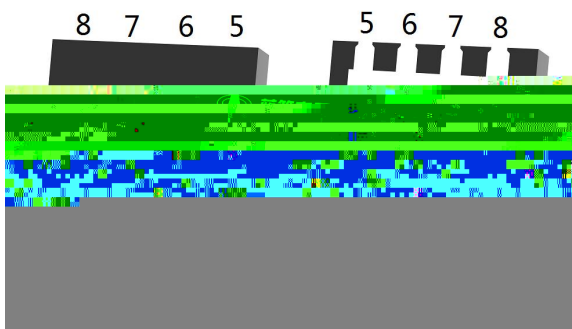
用于低压电路如：汽车电路、DC/DC 转换、便携式产品的电源高效转换。

Suited for low voltage applications such as automotive, DC/DC Converters, and high efficiency switching for power management in portable and battery operated products.

内部等效 路 / Equivalent Circuit



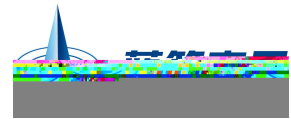
引 排列 / Pinning



出脚	定义
Pin1	S
Pin2	S
Pin3	S
Pin4	G
Pin5	D
Pin6	D
Pin7	D
Pin8	D

印章代码 / Marking

见印章说明。See Marking Instructions.



极 数 / Absolute Maximum Ratings(Ta=25°C)

Parameter		Symbol	Rating	Unit
Drain-Source Voltage		V_{DSS}	40	V
Drain Current		$I_D(T_C=25^\circ C)$	40	A
Drain Current - Pulsed		I_{DM}	105	A
Gate-Source Voltage		V_{GS}	± 20	V
Avalanche Current		I_{AS}	18.3	A
Single Pulsed Avalanche Energy		E_{AS}	117	mJ
Power Dissipation		$P_D(T_C=25^\circ C)$	27	W
Junction Temperature Range		T_j	150	$^\circ C$
Storage Temperature Range		T_{stg}	-55~150	$^\circ C$
Maximum Junction-to-Ambient	$t \leq 10s$	$R_{\theta JA}$	25	$^\circ C/W$
	Steady-State		55	
Maximum Junction-to-Case	Steady-State	$R_{\theta JC}$	4.6	

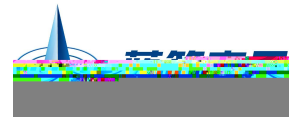
性 数 / Electrical Characteristics(Ta=25°C)

Parameter	Symbol	Test Conditions		Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	$V_{GS}=0V$	$I_D=250\mu A$	40	48		V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=40V$	$V_{GS}=0V$			1.0	μA
Gate-Body Leakage Current Forward	I_{GSS}	$V_{GS}=\pm 20V$	$V_{DS}=0V$			± 0.1	μA
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=10V$	$I_D=20.0A$		8.2	9.5	m
		$V_{GS}=4.5V$	$I_D=10.0A$		12.3	14	m
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$	$I_D=250\mu A$	1.0	1.6	2.5	V
Drain-Source Diode Forward Voltage	V_{SD}	$V_{GS}=0V$	$I_F=1.0A$		0.73	1.2	V
Signal Source Resistance	R_g	$f=1MHz$			1.92		
Input Capacitance	C_{iss}	$V_{DS}=25V$ $f=1.0MHz$ $V_{GS}=0V$			1570		pF
Output Capacitance	C_{oss}				490		
Reverse Transfer Capacitance	C_{rss}				120		
Turn-On Delay Time	$t_{d(on)}$	$V_{DS}=20V$ $R_L=1.0$ $V_{GS}=10V$ $R_{GEN}=3$			7.5		ns
Turn-On Rise Time	t_r				2		
Turn-Off Delay Time	$t_{d(off)}$				23		
Turn-Off Fall Time	t_f				3		



性 数 / Electrical Characteristics(Ta=25°C)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Total Gate Charge	$Q_{g(10V)}$	$V_{DS}=20V$ $V_{GS}=4.5V$ $I_D=20A$		20		nC
Total Gate Charge	$Q_{g(4.5V)}$			8.5		
Gate-Source Charge	Q_{gs}			5.5		
Gate-Drain Charge	Q_{gd}			3		



数曲线 / Electrical Characteristic Curve

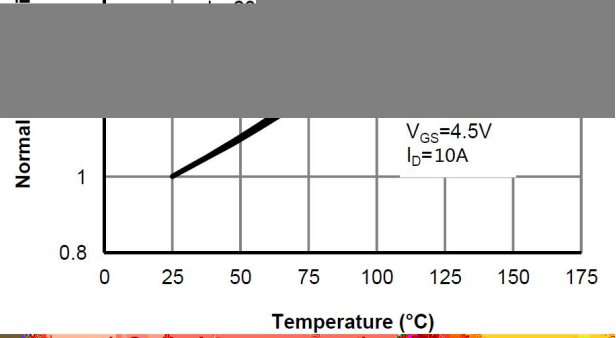
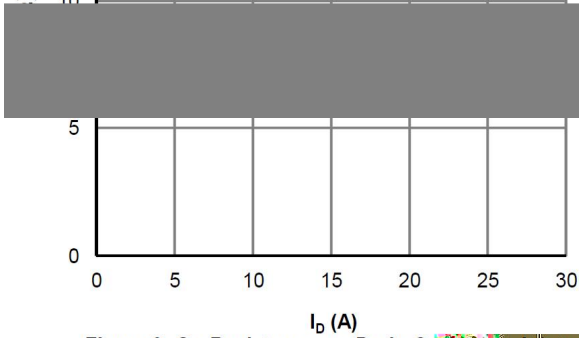
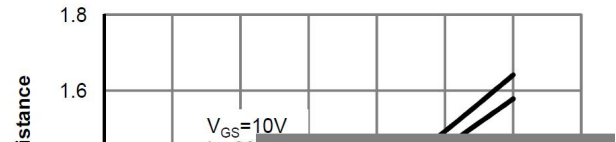
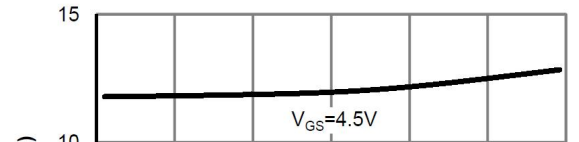
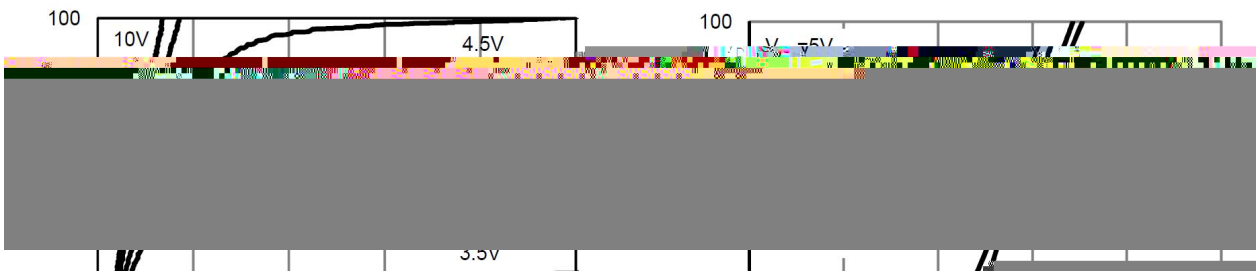
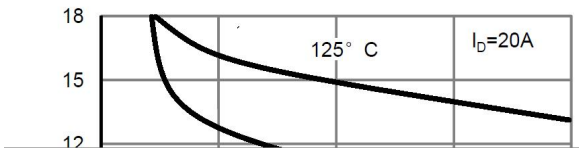
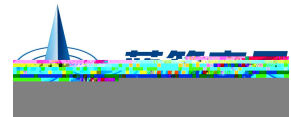
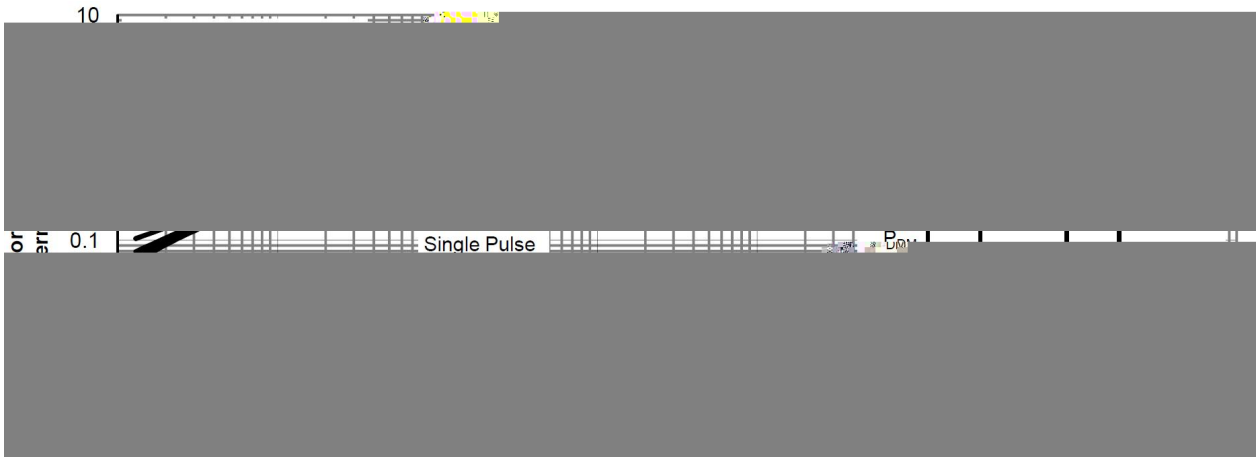
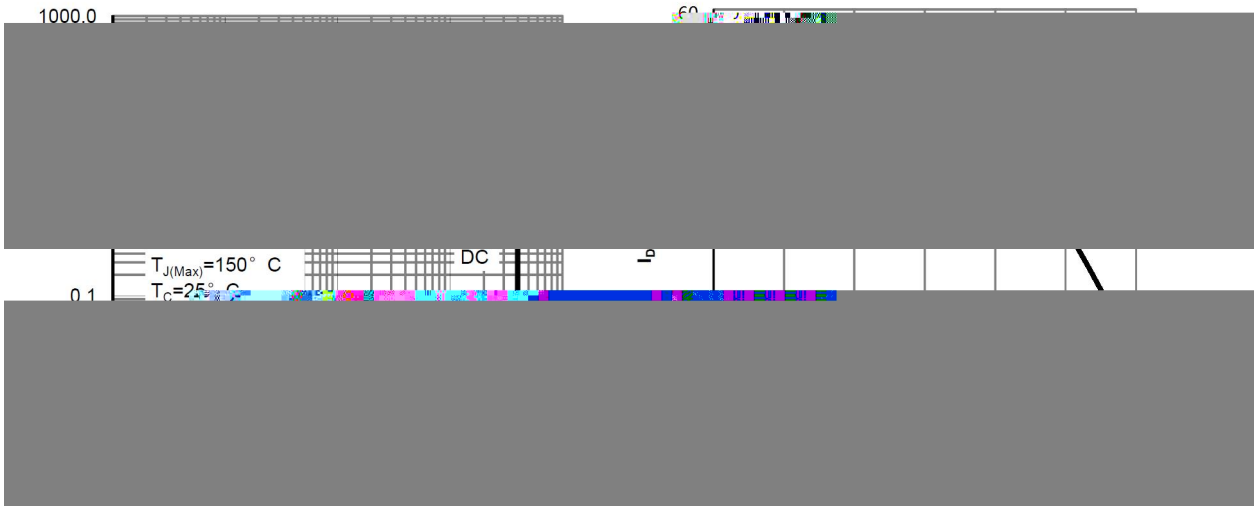
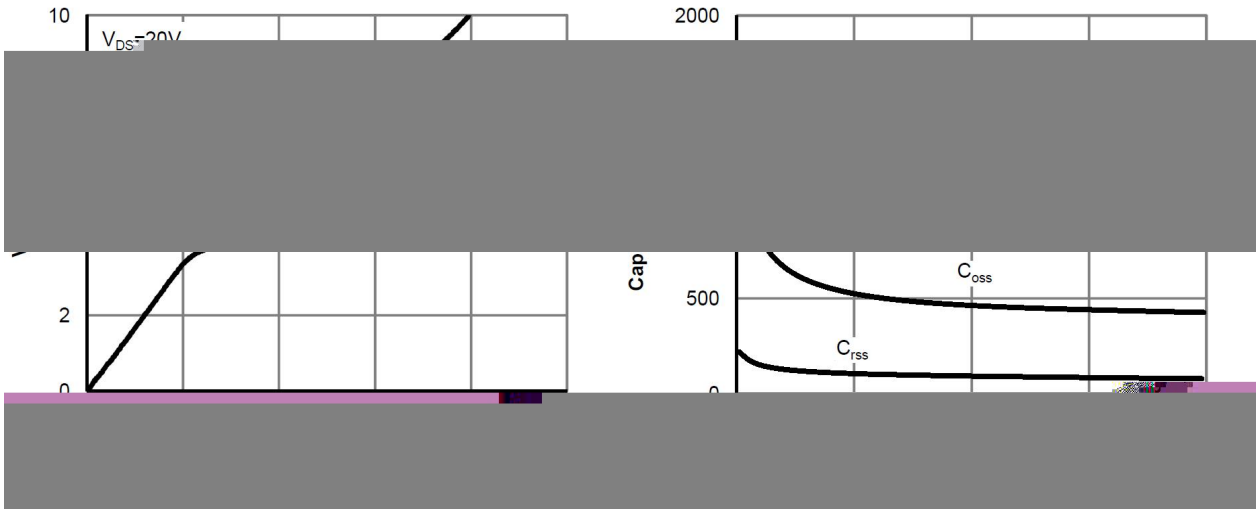


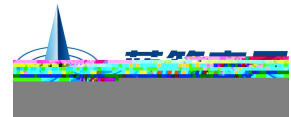
Figure 3: On-Resistance vs. Drain Current and Figure 4: On-Resistance vs. Temperature





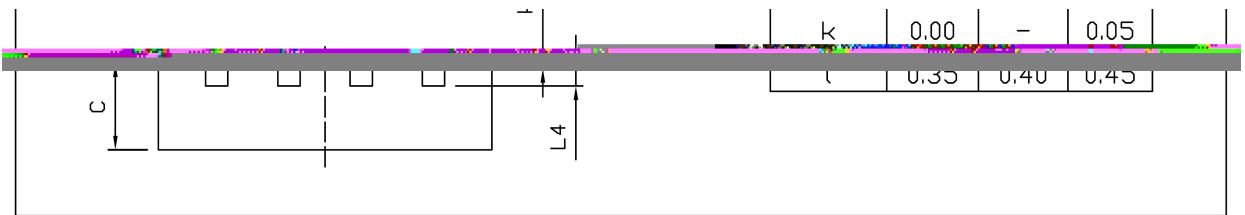
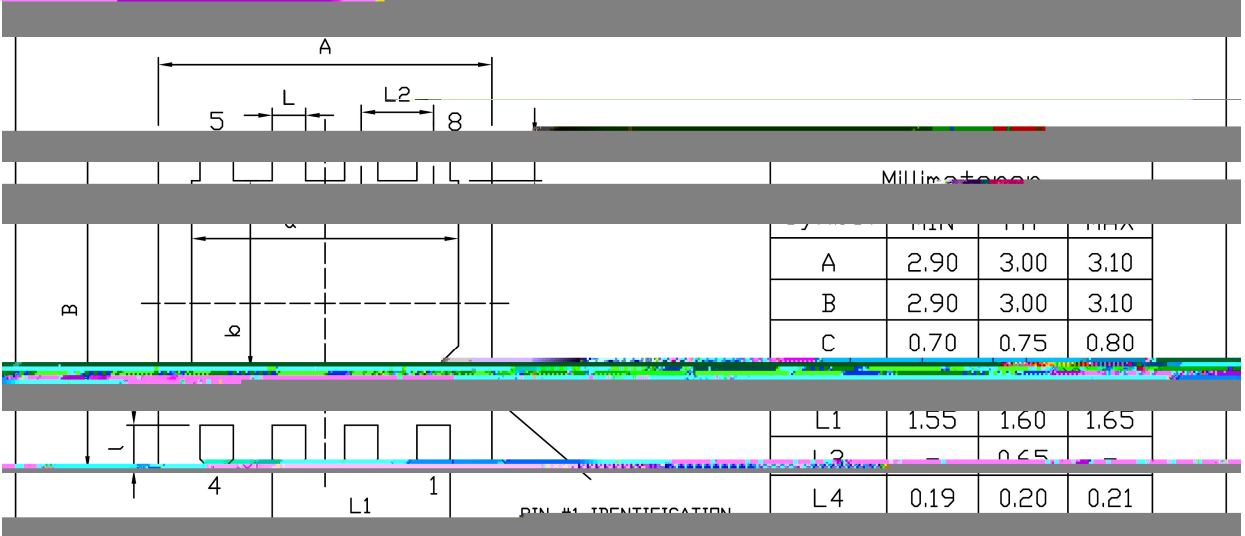
数曲线 / Electrical Characteristic Curve



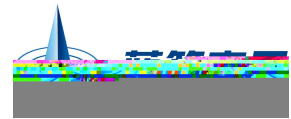


尺寸 / Package Dimensions

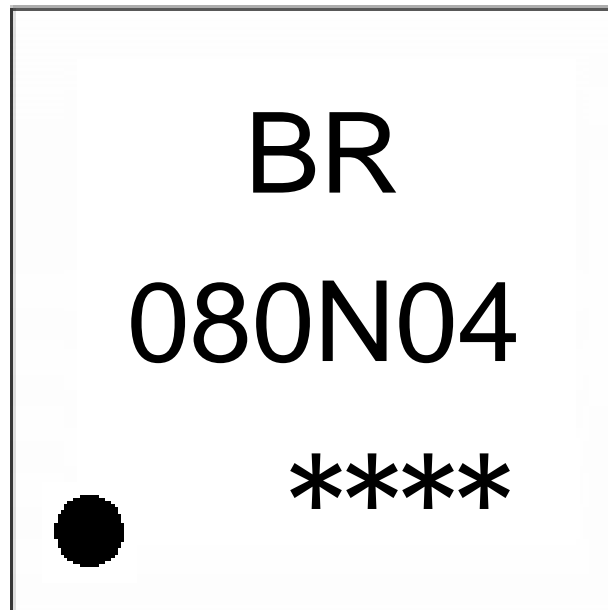
DFN3X3A=81 Unit:mm



Rev. 00 202004



印章 / Marking Instructions



BR

080N04

Note:

BR: Company Code.

080N04: Product Type

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



回 **曲线铅无) / Temperature Profile for IR Reflow Soldering(Pb-Free)**

