

BRCS080N02ZB

Rev.D May.-2025

/ Descriptions

; =E *2 *8\$/C ' E D F J

N-Channel Enhancement Mode Field Effect Transistor in a DFN3² 3A-8L Plastic Package.

/ Features

$V_{DS} (V) = 20V$ $I_D = 43A (V_{GS} = \pm 12V)$

$R_{DS(ON)}@10V$ 10m (Typ.8.0m)

$R_{DS(ON)}@4.5V$ 11m (Typ.9.5m)

$R_{DS(ON)}@2.5V$ 16m (Typ.14m)

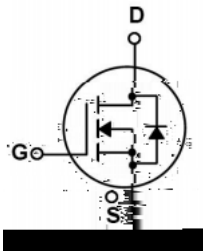
HF Product.

/ Applications

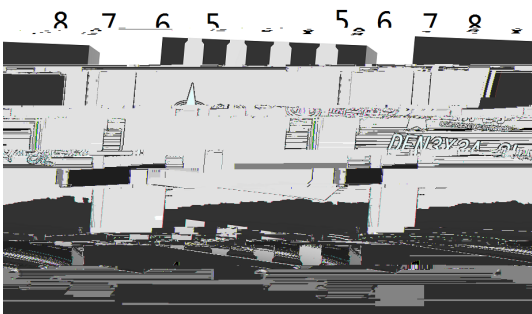
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Suited for low voltage applications such as automotive, DC/DC Converters, and high efficiency switching for power management in portable and battery operated products.

/ Equivalent Circuit



/ Pinning



出脚	定义
Pin1	S
Pin2	S
4	S
5	3C
6	3C
7	3C

/ Marking

See Marking Instructions.

GXIXd \kI'		Jpd Yf c'	I Xke^'	Le'k'
; iXe\$JfI iZ\ 'Mf dX^\'		M _{JJ} ')'	M
; iXe': Iii\ek'		@Z4), ž'	+*'	8'
; iXe': Iii\ek'\$GI ġ\['		@D'	('.'	8'
>XK\ \$JfI iZ\ 'Mf dX^\'		M _J '	..()'	M
8mX\XeZ_\': Iii\ek'		@J'	()%'	8'
J`e^Δ`GI ġ\[' 8mX\XeZ_\`<e\i^p'		<8J'	((('	d A'
Gf n\i'; j`j`gXkfe'		G, Z4), ž')/'	N'
A eZkfe`K\ d g\iXk i\`I Xe^\'		K _a	(, '.'	
JkfiX^`K\ d g\iXk i\`I Xe^\'		K _j k^'	\$, (, '.'	
D Xo`d I d'	k ('j'	I A8'	, '.'	&N'
A eZkfe`\$f \$8d Y\`ek'	JKX[p\$JKX'		, '.'	
D Xo`d I d` A eZkfe`\$f \$ Xj\`	JKX[p\$JKX'	I A'	+%'	&N'

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV _{DSS}	V _{GS} =0V I _D =250				

/ Electrical Characteristics(Ta=25)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Turn-On Delay Time	$t_{d(on)}$	$V_{DS}=10V$ $V_{GS}=10V$ $R_L=1.0$ $R_{GEN}=3.0$		2.5		ns
Turn-On Rise Time	t_r			7.2		
Turn-Off Delay Time	$t_{d(off)}$			49		
Turn-Off Fall Time	t_f			10.8		
Total Gate Charge	$Q_{g(4.5V)}$	$V_{DS}=10V$ $V_{GS}=4.5V$ $I_D=12.0A$		17.9		nC
Gate-Source Charge	Q_{gs}			1.5		
Gate-Drain Charge	Q_{gd}			4.7		

/ Electrical Characteristic Curve



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

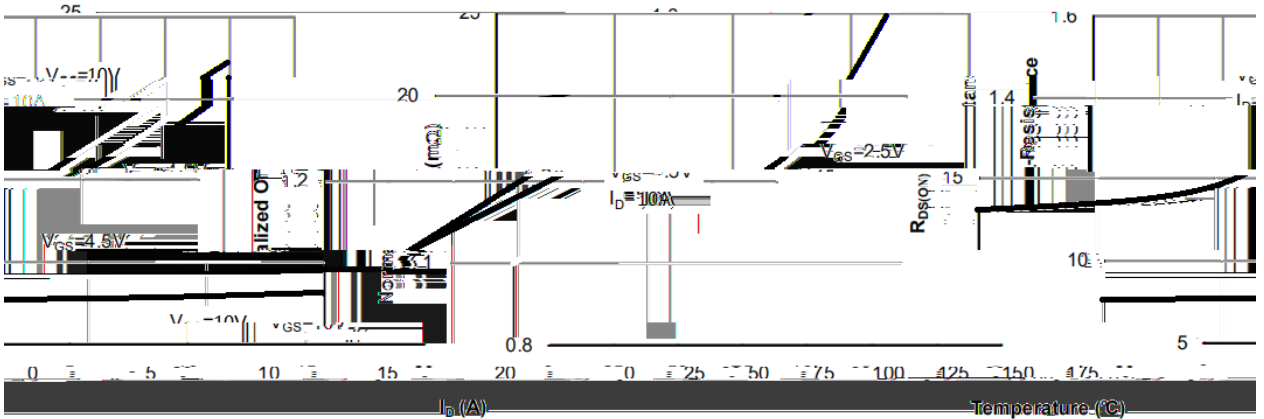
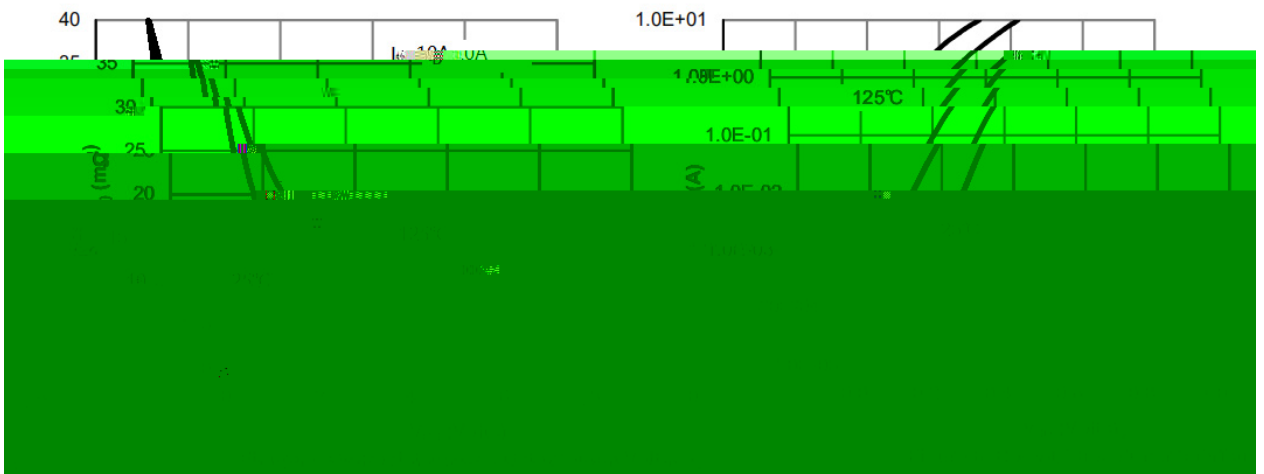
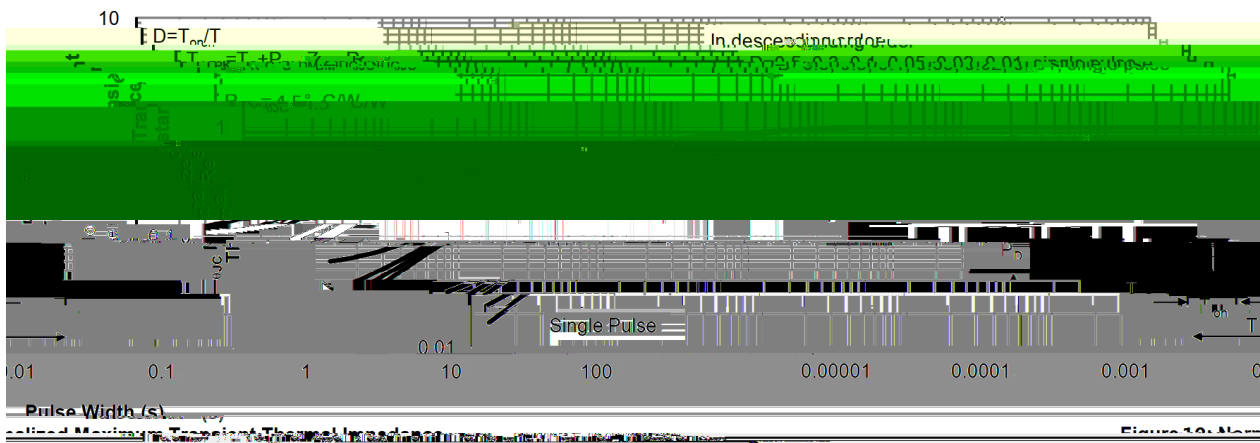
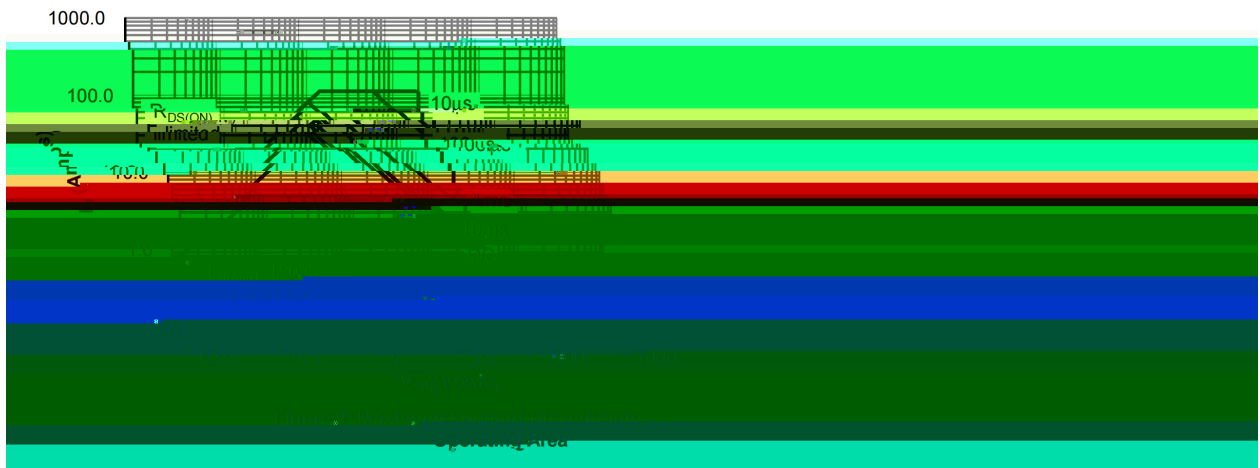
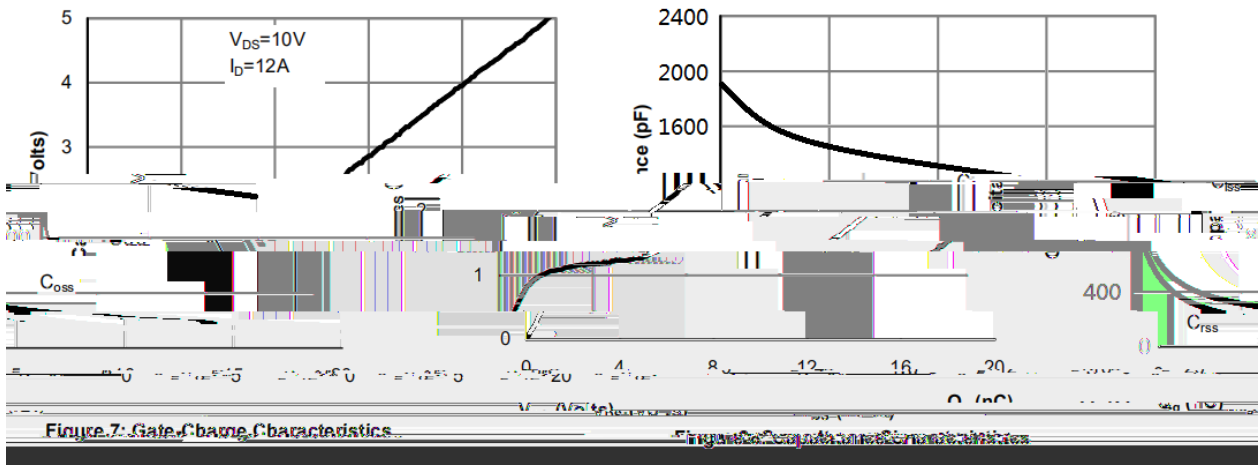


Figure 4: On-Resistance vs. Junction Temperature



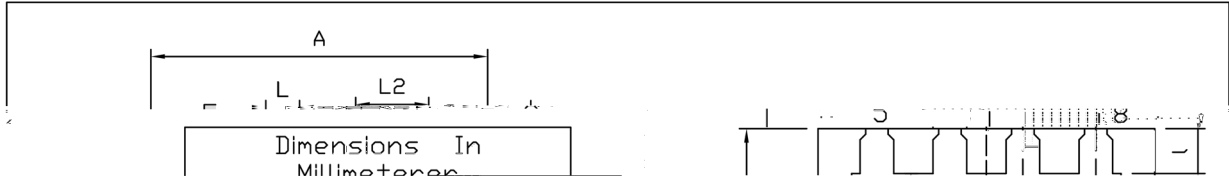
/ Electrical Characteristic Curve



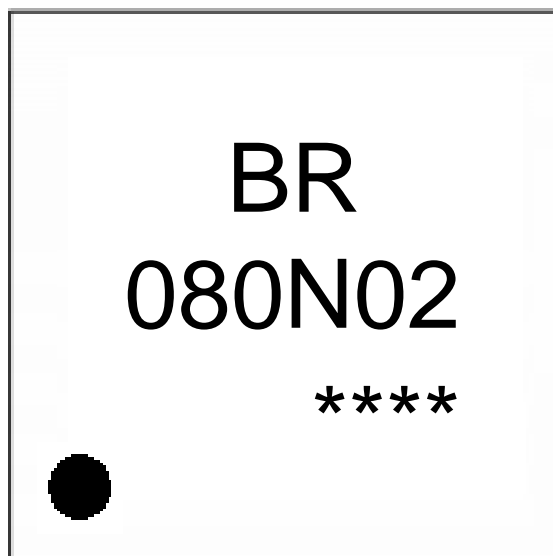
/ Package Dimensions

DFN3X3A-8L

Unit:mm



/ Marking Instructions



BR

080N02

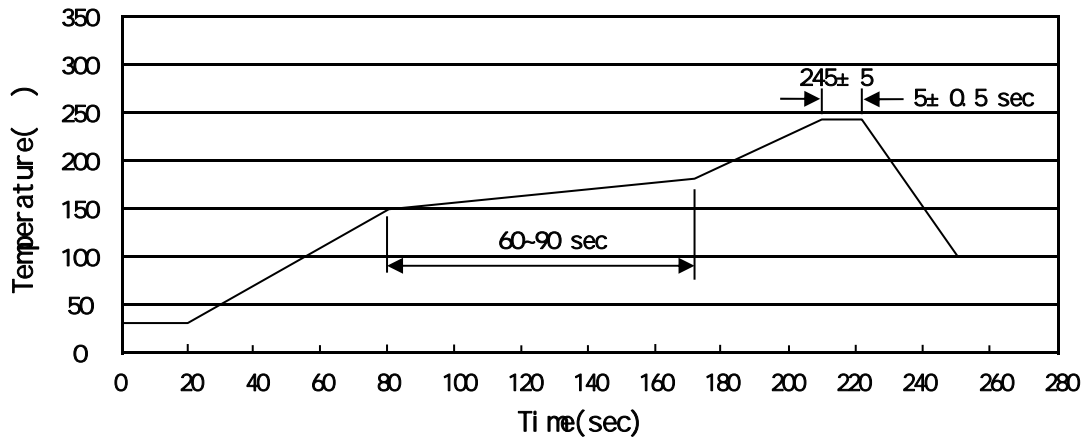
Note:

BR: Company Code

080N02: Product Type Code

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

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



Note:

- | | | | | | |
|---|--------|-----|------------|----------|---|
| 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
DFN3x3A-8L	5,000	2	10,000	6	60,000	13 x12	360x360x50	380x335x366

/ Notices