5 é / Descriptions

* , 4 ˜ ' 2 .> / / x 4 ?ú 3 3 5 9 « | • 'ož

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

¤ ª / Features

V_{DS} (V) = 20V I_D = 43A (V_{GS} = f 12V)

$R_{DS(ON)}$@10V 0 10m S(Typ.8.0m S)

$R_{DS(ON)}$@4.5V 0 11m S(Typ.9.5m S)

$R_{DS(ON)}$@2.5V 0 16m S(Typ.14m S)

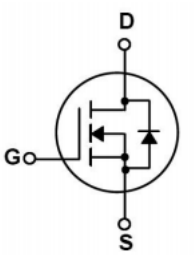
—)í D } oŽHF Product.

Ð ÷ / Applications

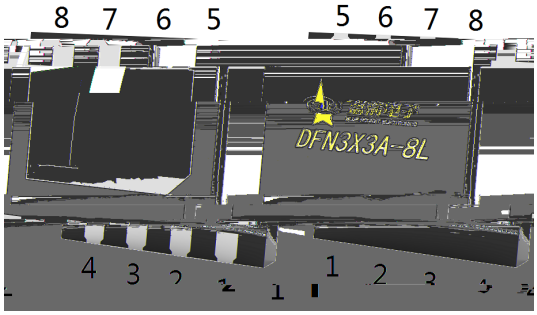
9 z 9 è ò y V ñ èo• *) *) ô Eo• Ž ` " D } › ä | ô Eož

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

Ã W] Ô · / Equivalent Circuit



• Û - æ / Pinning



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

, M V / Marking

• - ~ ª ¢ož

See Marking Instructions.

Ã a ? d / Absolute Maximum Ratings(Ta=25 ;)

@ ƒ 6GXGSKZKX		… Z 9_SHUR	ƒ › 8GZOTM	% y ;TOZ
*XGOT 9U[XIK <URZGMK		*99	<	<
*XGOT)[XXKTZ		* :I# -/		'
*XGOT)[XXKTZ 6[RYKJ		*3	/	'
-GZK 9U[XIK <URZGMK		-9	< r	<
'\GRGTINK)[XXKTZ		'9	/	'
9OTMRK 6[RYKJ '\GRGTINK +TKXM_		'9	+	S0
6U]KX *OYYOVGZOUT		* :I# -	6	=
0[TIZOUT :KSVKXGZ[XK 8GTMK		:P		-
9ZUXGMK :KSVKXGZ[XK 8GTMK		:YZM	½	-
3G^OS[S	Z‡ Y	8b0'		- =
0[TIZOUT ZU 'SHOKTZ	9ZKGJ_ 9ZGZK			
3G^OS[S 0[TIZOUT ZU)GYK		9ZKGJ0) 9ZGZK	8	

Ô4ì × ? d / Electrical Characteristics(Ta=25 ;)

@ ƒ Parameter	… Z Symbol	y ¡ Ú ^ Test Conditions	Â 4 › Min	Á º › Typ	Â Ý › Max	% y Unit
Drain-Source Breakdown Voltage	BV_{DSS}	V_{GS}=0V I_D=250 A	20	25		V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=20V V_{GS}=0V			1.0	A
Gate-Body Leakage Current Forward	I_{GSS}	V_{GS}=±12V V_{DS}=0V			±0.1	A
Static Drain-Source On-Resistance	$R_{DS(on)}$	V_{GS}=10V I_D=10.0A		8	10	m
		V_{GS}=4.5V I_D=10.0A		9.5	11	m
		V_{GS}=2.5V I_D=10.0A		14	16	m
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS} I_D=250 A	0.5	0.8	1.1	V
Drain-Source Diode Forward Voltage	V_{SD}	V_{GS}=0V I_F=1.0A		0.75	1.2	V
Signal Source Resistance	Rg	F=1MHz		2.7		
Input Capacitance	C_{iss}	V_{DS}=15V V_{GS}=0V f=1.0MHz		1100		pF
Output Capacitance	C_{oss}			160		
Reverse Transfer Capacitance	C_{rss}			130		

Ô4ì × ? d / Electrical Characteristics(Ta=25 ;)

@ ƒ Parameter	… Z Symbol	y ¡ Ú ^ Test Conditions	Â 4 › Min	Á º › Typ	Â Ý › Max	% y 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		

Ô ? d • Ž ¢ / Electrical Characteristic Curve

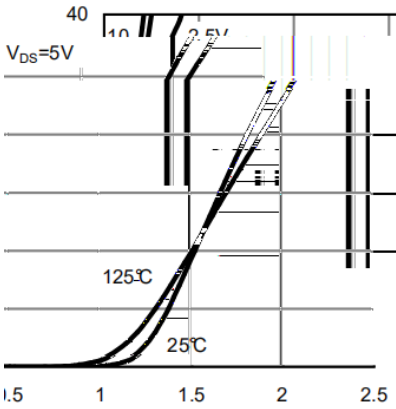


Figure 2: Transfer Characteristics

Fig 1: On-Region Characteristics

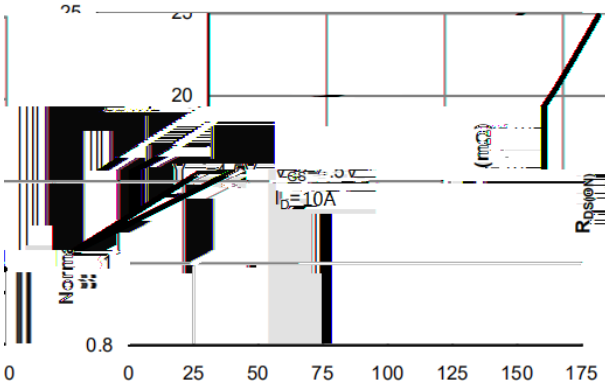


Figure 4: On-Resistance vs. Junction Temperature

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

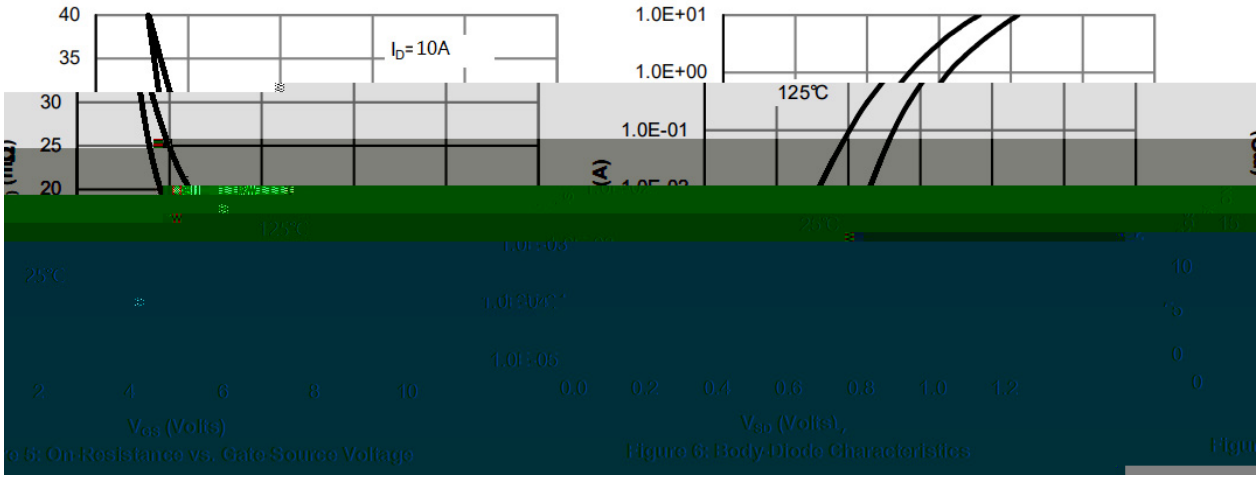


Figure 5: On-Resistance vs. Gate-Source Voltage

Figure 6: Body Diode Characteristics

Ô ? d • Ž ¢ / Electrical Characteristic Curve

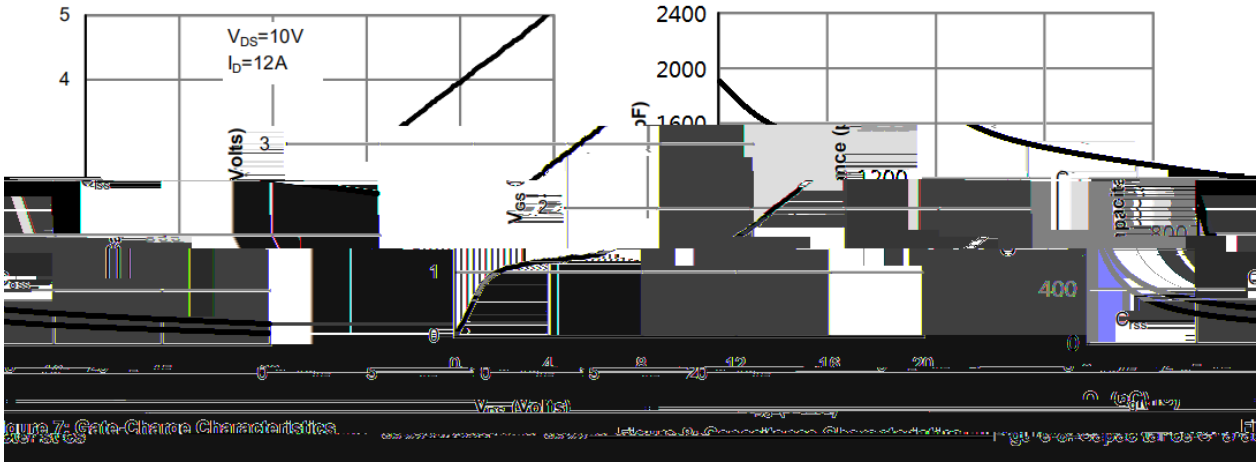


Figure 7: Gate-Charge Characteristics

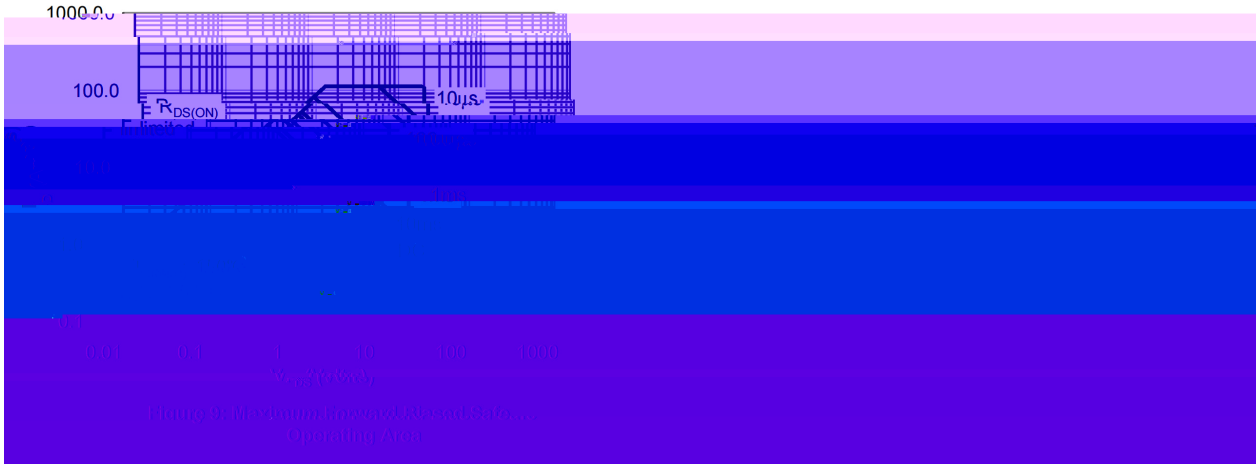
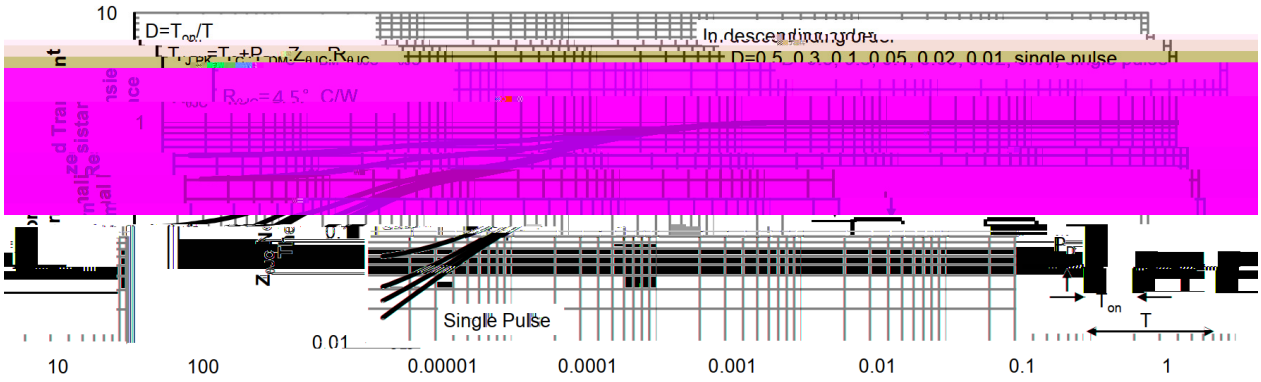


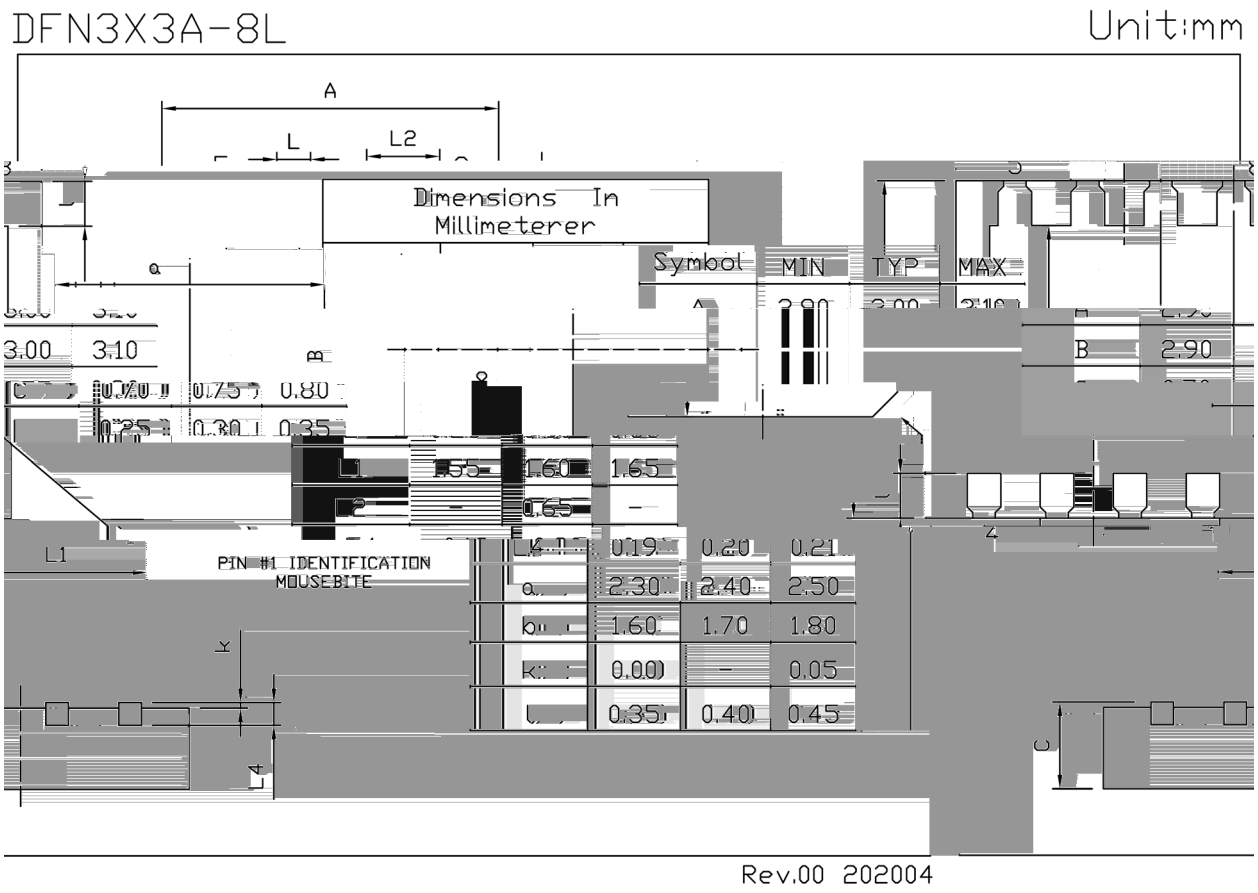
Figure 9: Maximum Forward Biased Safe Operating Area



Pulse Width (s)

Figure 10: Normalized Maximum Transient Thermal Impedance

Ø ¤ =) ¢ / Package Dimensions



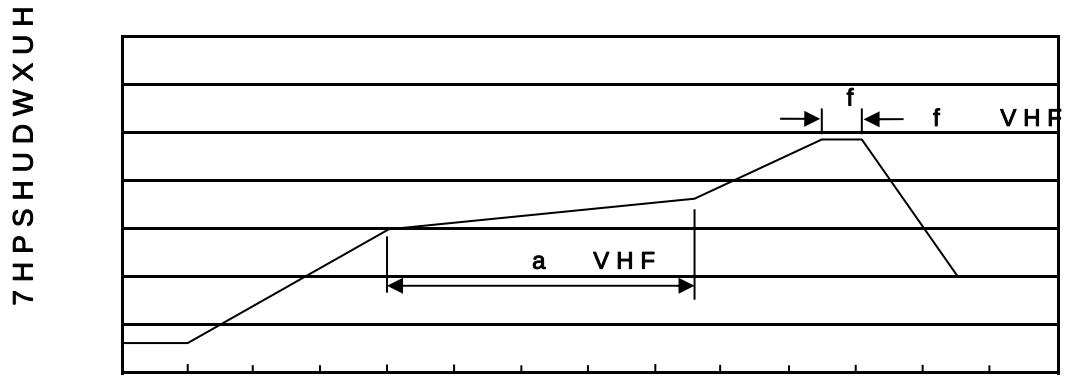
, M y ƒ / Marking Instructions

ª ¢ y	
BR y	¸ [W A
080N02 y	º Z W A
**** y	ÿ D Z W A k š ÿ D Z J

Note:

BR:	Company Code
080N02:	Product Type Code
****:	Lot No. Code, code change with Lot No

š WD t … • Ž ¢ (x /) / : K S V K X G Z [X K 6 X U L O R K L U X / 8 8 K L R U] 9 U R J K X O T M 6



7 L P H V H F

ª ¢ y

Note:

1o• Ä ½ “ † 150 ½180 - k ž • 60 ½90sec;

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

2o• Q › “ † 245 r5 - k ž • 4 Ò 5 r0.5sec;

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

3o•D N ò i Ò 0 , † 2 ½10 - /sec.

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 7>û ˜ E	Units ;>û ¦H					Dimension ;>û p . (unit Æmm³)		
	Units/Reel / --	Reels/Inner Box -- /-	Units/Inner Box /-	Inner Boxes/Outer Box - /1ç	Units/Outer Box /1ç	Reel	Inner Box×	Outer Box1ç
DFN3×3A-8L	5,000	2	10,000	6	60,000	13 s ×12	360×360×50	380×335×366

„ Ð y ƒ / Notices