

## Descriptions

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

## Features

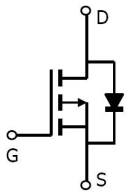
$V_{DS}$  (V) = 30V

$I = 34$  A ( $V = \pm 20$ V)

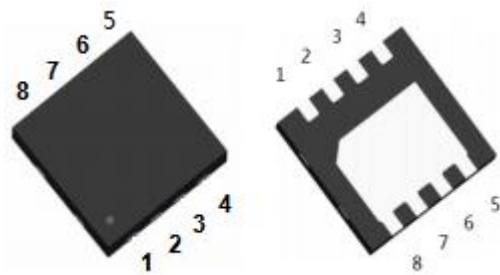
## Applications

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



PIN	Description
Pin1	S
Pin2	S
Pin3	S
Pin4	G
Pin5	D
Pin6	D
Pin7	D
Pin8	D

**Absolute Maximum Ratings(Ta=25°C)**

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V <sub>DSS</sub>	30	V
Drain Current	I <sub>D</sub> (Tc=25°C)	34	A
Gate-Source Voltage	V <sub>GS</sub>	±20	V
Avalanche Current	I <sub>AS</sub>	12.9	A
Single Pulsed Avalanche Energy	E <sub>AS</sub>	199	mJ
Power Dissipation	P <sub>D</sub> (Tc=25°C)	23	W
Junction Temperature Range	T <sub>J</sub>	150	°C
Storage Temperature Range	T <sub>stg</sub>	-55~150	°C
Maximum Junction-to-Ambient	t ≤ 10s	R <sub>θJA</sub>	40
	Steady-State	R <sub>θJA</sub>	75
Maximum Junction-to-Case	Steady-State	R <sub>θJC</sub>	5.4

**Electrical Characteristics(Ta=25°C)**

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV <sub>DSS</sub>	V <sub>GS</sub> =0V I <sub>D</sub> =250μA	30			V
Zero Gate Voltage Drain Current	I <sub>DSS</sub>	V <sub>DS</sub> =30V V <sub>GS</sub> =0V			1.0	μA
		V <sub>DS</sub> =30V T <sub>J</sub> =150°C			50	
Gate-Body Leakage Current Forward	I <sub>GSS</sub>	V <sub>GS</sub> =±20V V <sub>DS</sub> =0V			±0.1	μA
Static Drain-Source On-Resistance	R <sub>DS(on)</sub>	V <sub>GS</sub> =10V I <sub>D</sub> =20.0A		11	13	mΩ
		V <sub>GS</sub> =4.5V I <sub>D</sub> =10.0A		16	20	mΩ
Gate Threshold Voltage	V <sub>GS(th)</sub>	V <sub>DS</sub> =V <sub>GS</sub> I <sub>D</sub> =250μA	1	1.8	3	V
Drain-Source Diode Forward Voltage	V <sub>SD</sub>	V <sub>GS</sub> =0V I <sub>F</sub> =1.0A		0.7	1.2	V
Signal Source Resistance	R <sub>g</sub>	F=1MHz		1.67		Ω
Input Capacitance	C <sub>iss</sub>	V <sub>DS</sub> =25V V <sub>GS</sub> =0V f=1.0MHz		666		pF
Output Capacitance	C <sub>oss</sub>			26		
Reverse Transfer Capacitance	C <sub>rss</sub>			63		
Turn-On Delay Time	t <sub>d(on)</sub>	V <sub>DS</sub> =15V V <sub>GS</sub> =10V R <sub>L</sub> =0.75Ω R <sub>GEN</sub> =3.0Ω		4.4		ns
Turn-On Rise Time	t <sub>r</sub>			9		
Turn-Off Delay Time	t <sub>d(off)</sub>			17		
Turn-Off Fall Time	t <sub>f</sub>			6		

## Electrical Characteristics(Ta=25°C)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Total Gate Charge	$Q_{g(10V)}$	$V_{DS}=15V$ $V_{GS}=10V$ $I_D=20.0A$		14		nC
Total Gate Charge	$Q_{g(4.5V)}$			6.6		
Gate-Source Charge	$Q_{gs}$			2.4		
Gate-Drain Charge	$Q_{gd}$			3		

## Electrical Characteristic Curve

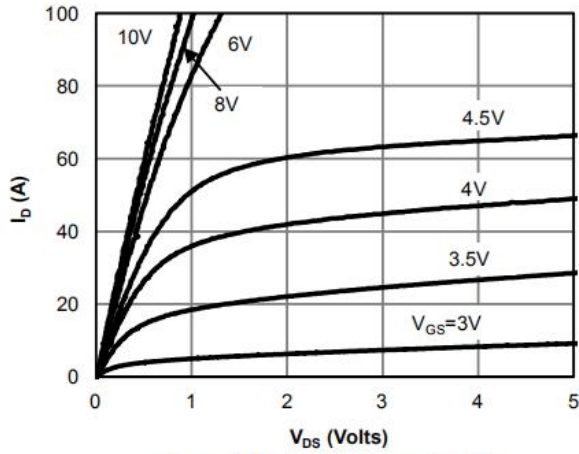


Figure 1: On-Region Characteristics

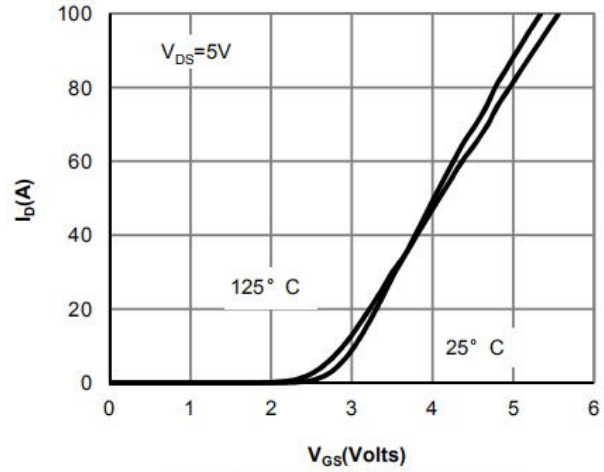


Figure 2: Transfer Characteristics

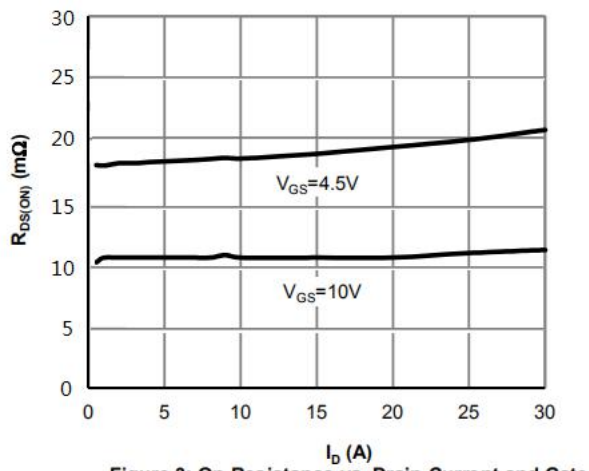


Figure 3: On-Resistance vs. Drain Current and Gate Voltage

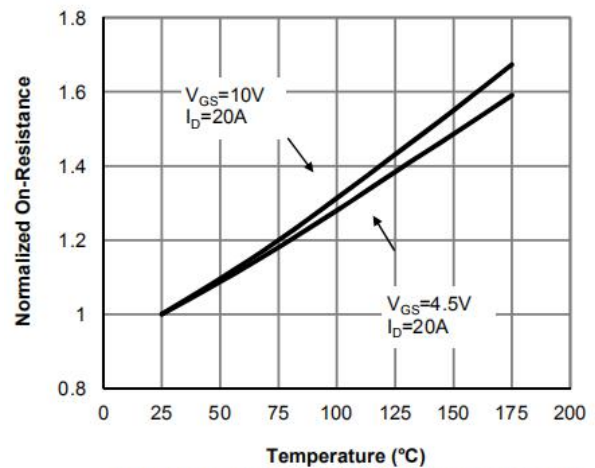


Figure 4: On-Resistance vs. Junction Temperature

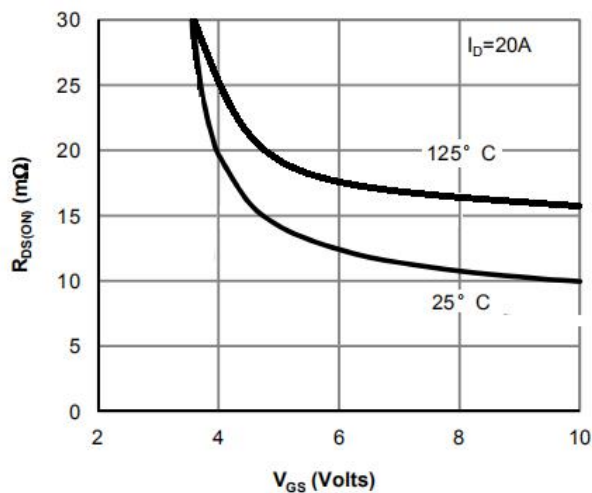


Figure 5: On-Resistance vs. Gate-Source Voltage

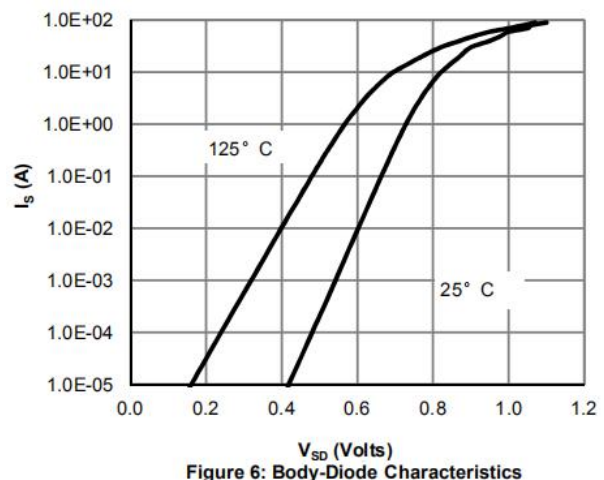


Figure 6: Body-Diode Characteristics

## Electrical Characteristic Curve

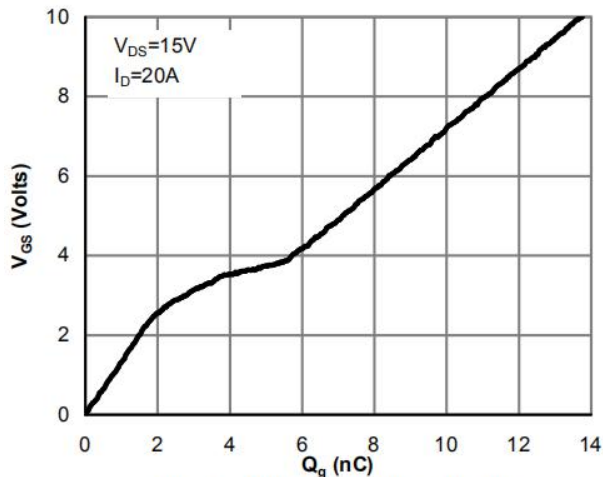


Figure 7: Gate-Charge Characteristics

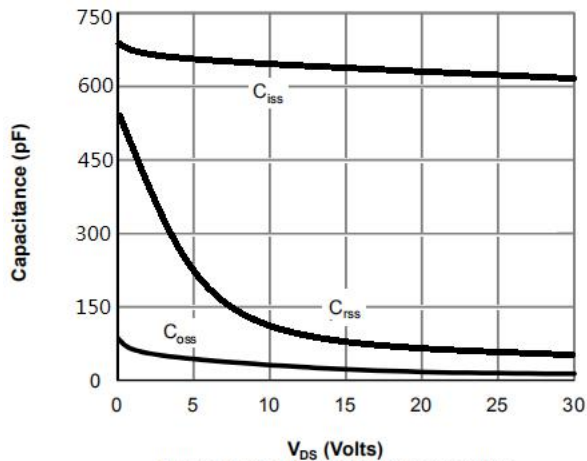


Figure 8: Capacitance Characteristics

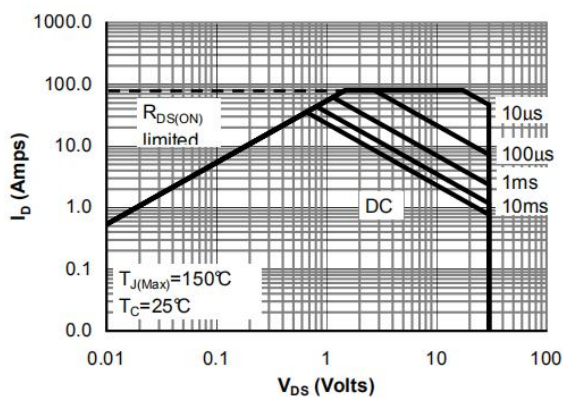


Figure 9: Maximum Forward Biased Safe Operating Area

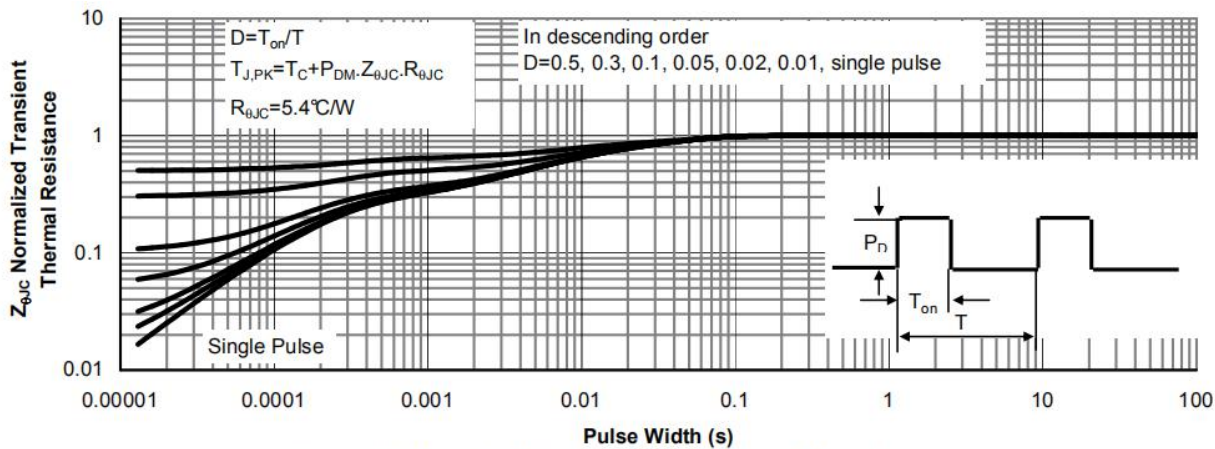
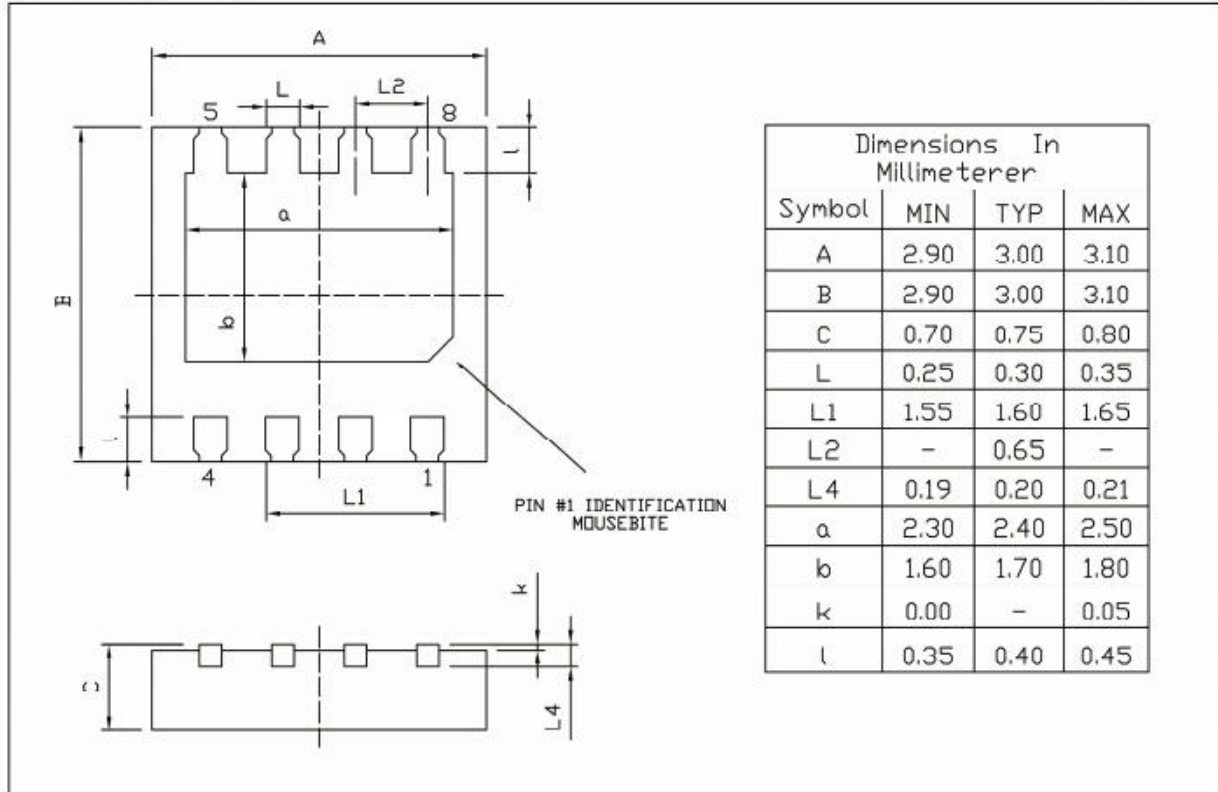


Figure 10: Normalized Maximum Transient Thermal Impedance

## Package Dimensions

DFN3X3A-8L

Unit:mm



单击下面可查看定价，库存，交付和生命周期等信息

[>>SHIKUES\(时科\)](#)