

General Description

The MY3N06A is the high cell density trenchd N-CH MOSFET, which provides excellent $R_{DS(ON)}$ and efficiency for most of the small power switching and load switch applications.

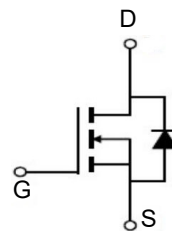
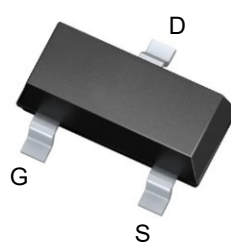


Features

V_{DSS}	60	V
I_D	3	A
$R_{DS(ON)}$ (at $V_{GS}=10V$)	<80	m Ω
$R_{DS(ON)}$ (at $V_{GS}=4.5V$)	<100	m Ω

Application

- DC-DC Converters
- Power management functions



Package Marking and Ordering Information

Product ID	Pack	Marking	Qty(PCS)
MY3N06A	SOT-23-3L	080FN	3000

Absolute Maximum Ratings ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbol	Limit	Unit
Drain-source Voltage	V_{DS}	60	V
Gate-source Voltage	V_{GS}	± 20	V
Drain Current	I_D	3.0	A
Pulsed Drain Current ^A	I_{DM}	12	A
Total Power Dissipation @ $T_C=25^{\circ}\text{C}$	P_D	1.2	W
Thermal Resistance Junction-to-Ambient ^B	$R_{\theta JA}$	105	$^{\circ}\text{C}/\text{W}$
Junction and Storage Temperature Range	T_J, T_{STG}	-55~+150	$^{\circ}\text{C}$

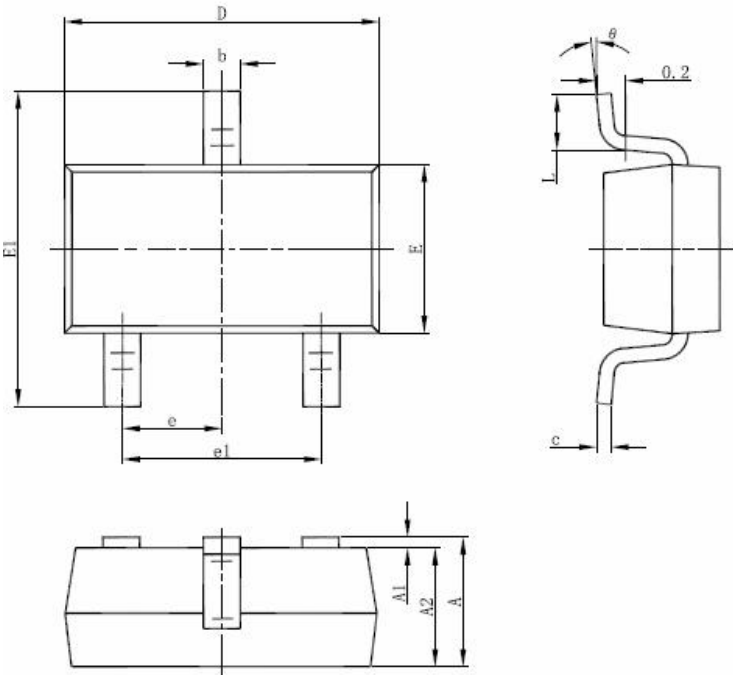
Electrical Characteristics ($T_J=25\text{ }^{\circ}\text{C}$, unless otherwise noted)

Parameter	Symbol	Conditions	Min	Typ	Max	Units
Static Parameter						
Drain-Source Breakdown Voltage	BV_{DSS}	$V_{GS}=0V, I_D=250\mu A$	60			V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=60V, V_{GS}=0V$			1	μA
Gate-Body Leakage Current	I_{GSS1}	$V_{GS}= \pm 20V, V_{DS}=0V$			± 100	nA
	I_{GSS2}	$V_{GS}= \pm 12V, V_{DS}=0V$			± 50	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}= V_{GS}, I_D=250\mu A$	1.1	1.7	2.3	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}= 10V, I_D=2A$			80	m Ω
		$V_{GS}= 4.5V, I_D=1.5A$			100	
Diode Forward Voltage	V_{SD}	$I_S=2.0A, V_{GS}=0V$		0.8	1.2	V
Maximum Body-Diode Continuous Current	I_S				2.0	A
Dynamic Parameters						
Input Capacitance	C_{iss}	$V_{DS}=30V, V_{GS}=0V, f=1MHz$		330		pF
Output Capacitance	C_{oss}			90		
Reverse Transfer Capacitance	C_{rss}			17		
Switching Parameters						
Total Gate Charge	Q_g	$V_{GS}=10V, V_{DS}=30V, I_D=2.0A$		5.1		nC
Gate-Source Charge	Q_{gs}			1.3		
Gate-Drain Charge	Q_{gd}			1.7		
Turn-on Delay Time	$t_{D(on)}$	$V_{GS}=10V, V_{DD}=30V, I_D=1.5A, R_L=1\Omega$ $R_{GEN}=3\Omega$		13		ns
Turn-on Rise Time	t_r			51		
Turn-off Delay Time	$t_{D(off)}$			19		
Turn-off fall Time	t_f			12		

A. Pulse Test: Pulse Width $\leq 300\mu s$, Duty cycle $\leq 2\%$.

B. Device mounted on FR-4 PCB, 1 inch x 0.85 inch x 0.062 inch.

Package Mechanical Data-SOT-23-3L



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	1.050	1.250	0.041	0.049
A1	0.000	0.100	0.000	0.004
A2	1.050	1.150	0.041	0.045
b	0.300	0.500	0.012	0.020
c	0.100	0.200	0.004	0.008
D	2.820	3.020	0.111	0.119
E	1.500	1.700	0.059	0.067
E1	2.650	2.950	0.104	0.116
e	0.950(BSC)		0.037(BSC)	
e1	1.800	2.000	0.071	0.079
L	0.300	0.600	0.012	0.024
θ	0°	8°	0°	8°