MY18N20P

200V N-Channel Enhancement Mode MOSFET

MAOYUAN semiconductor

General Description

The MY18N20P is silicon N-channel Enhanced VDMOSFETs, obtained by the self-aligned planar Technology which reduce the conduction loss, improve switching performance and enhance the avalanche energy.

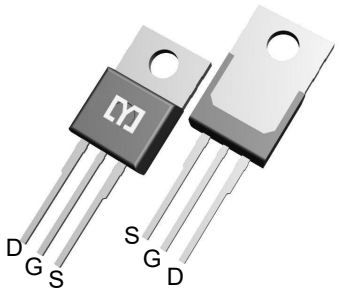
RoHS Compliant

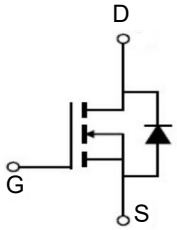
Features

V_{DSS}	200	V
I_D	18	A
P_D(T_C=25℃)	125	W
$R_{DS(ON)}$(atV_{GS} = 10V)	<0.2	Ω

Application

- High efficiency switch mode power supplies
- Power factor correction
- Electronic lamp ballast





Package Marking and Ordering Information

Product ID	Pack	Marking	Qty(PCS)
MY18N20P	TO-220	MY18N20P	1000

Absolute Maximum Ratings (T_C=25℃unless otherwise noted)

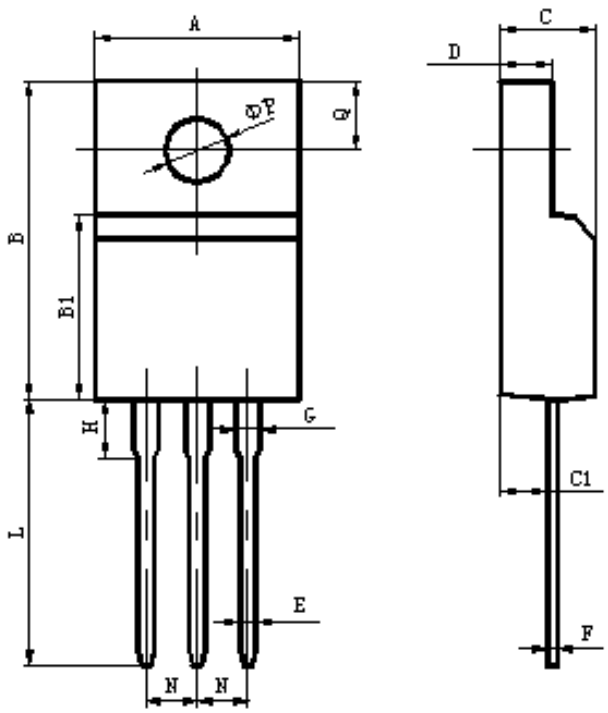
Symbol	Parameters	Ratings	Unit
V_{DSS}	Drain-Source Voltage	200	V
V_{GS}	Gate-Source Voltage-Continuous	±20	V
I_D	Drain Current-Continuous（Note 2）	18	A
I_{DM}	Drain Current-Single Plused（Note 1）	72	A
P_D	Power Dissipation （Note 2）	125	W
T_j	Max.Operating junction temperature	150	℃/W

Electrical Characteristics (T_C=25 ℃, unless otherwise noted)

Symbol	Parameters	Min	Typ	Max	Units	Conditions
Static Characteristics						
B_{VDSS}	Drain-Source Breakdown VoltageCurrent （Note 1）	200	--	--	mA	I_D=250μA V_{GS}=0V， T_J=25°C
$V_{GS(th)}$	Gate Threshold Voltage	2.0	--	4.0	V	V_{DS}=V_{GS}， I_D=250μA
$R_{DS(on)}$	Drain-Source On-Resistance	--	0.15	0.2	Ω	V_{GS}=10V， I_D=9A
I_{GSS}	Gate-Body Leakage Current	--	--	±100	nA	V_{GS}=±20V， V_{DS}=0
I_{DSS}	Zero Gate Voltage Drain Current	--	--	1	μA	V_{DS}=200V， V_{GS}=0
Switching Characteristics						
$T_{d\ (on)}$	Turn-On Delay Time	--	10	14	ns	V_{DS}=160V，I_D=18A，R_G=4.7Ω,V_{GS}=10V （Note 2）
T_r	Rise Time	--	15	20	ns	
$T_{d\ (off)}$	Turn-Off Delay Time	--	12	17	ns	
T_f	Fall Time	--	12	17	ns	
Qg	Total Gate Charge	--	31	--	nC	V_{DS}=160VV_{GS}=10V I_D=18A（Note 2）
Qgs	Gate-Source Charge	--	7.5	--	nC	
Qgd	Gate-Drain Charge	--	9	--	nC	
Dynamic Characteristics						
Ciss	Input Capacitance	--	540	700	pF	V_{DS}=25V， V_{GS}=0，f=1MHz
Coss	Output Capacitance	--	90	120	pF	
Crss	Reverse Transfer Capacitance	--	35	50	pF	
Is	Continuous Drain-Source Diode ForwardCurrent （Note 2）	--	--	18	A	
V_{SD}	Diode Forward On-Voltage	--	--	1.4	V	I_S=9A， V_{GS}=0
Rth(j-c)	Thermal Resistance, Junction to Case	--	--	2.0	C/ W	

Note 1: Repetitive Rating : Pulse width limited by maximum junction temperature
Note 2: Pulse test: PW <= 300us , duty cycle <= 2%.

Package Mechanical Data-TO-220 Single



Items	Values(mm)	
	MIN	MAX
A	9.60	10.4
B	15.4	16.2
B1	8.90	9.50
C	4.30	4.90
C1	2.10	3.00
D	2.40	3.00
E	0.60	1.00
F	0.30	0.60
G	1.12	1.42
H	3.40	3.80
	2.40	2.90
L*	12.0	14.0
N	2.34	2.74
Q	3.15	3.55
Φ P	2.90	3.30