

Silicon N-Channel Power MOSFET

Description

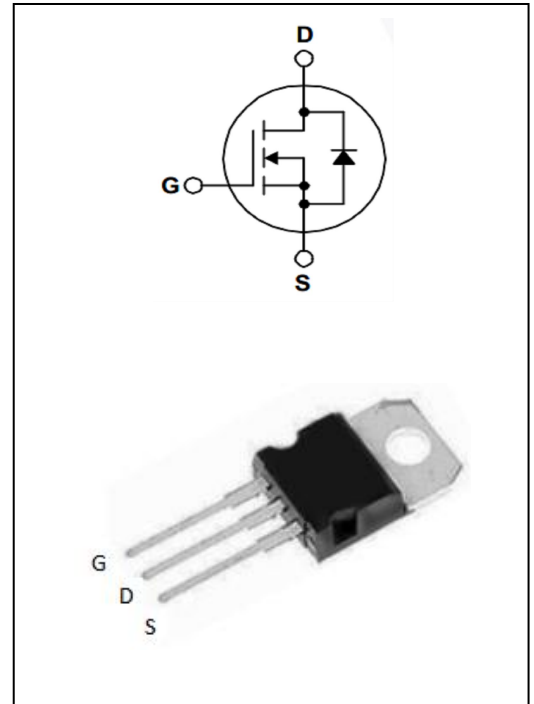
The TH50N06PW uses advanced technology and design to provide Excellent $R_{DS(ON)}$. It can be used in a wide variety of applications.

General Features

- $V_{DS}=60V, I_D=50A$
- Low ON Resistance
- Low Reverse transfer capacitances
- 100% Single Pulse avalanche energy Test

Application

- Power switching application
- Load switch



Electrical Characteristics @ $T_a=25^\circ\text{C}$ (unless otherwise specified)

a) Limited Parameters:

Symbol	Parameter	Value	Units
V_{DSS}	Drain-to-Source Breakdown Voltage	60	V
I_D	Drain Current (continuous) at $T_c=25^\circ\text{C}$	50	A
I_{DM}	Drain Current (pulsed)	200	A
V_{GS}	Gate to Source Voltage	+/-20	V
P_{tot}	Total Dissipation at $T_c=25^\circ\text{C}$	80	W
T_j	Max. Operating Junction Temperature	175	$^\circ\text{C}$
Eas	Single Pulse Avalanche Energy	400	mj

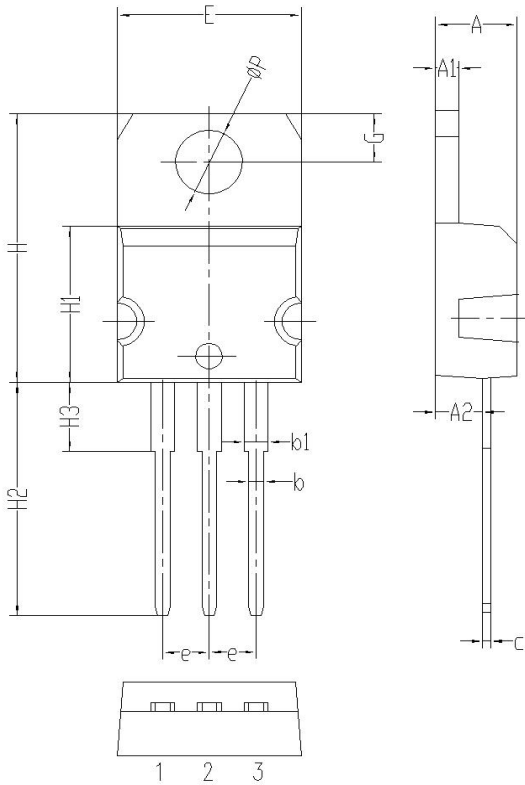
b) Electrical Parameters:

Symbol	Parameter	Test Conditions	Min	Typ	Max	Unit
V_{DS}	Drain to source Voltage	$V_{GS}=0V, I_D=250\mu A$	60			V
$R_{DS(on)}$	Static Drain-to-Source on-Resistance	$V_{GS}=10V, I_D=25A$		16.0	23.0	m Ω
$V_{GS(th)}$	Gated Threshold Voltage	$V_{DS}=V_{GS}, I_D=250\mu A$	2	3.1	4	V
V_{SD}	Diode Forward Voltage	$V_{GS}=0V, I_{DS}=25A$			1.25	V
I_{DSS}	Drain to Source leakage Current	$V_{DS}=60V, V_{GS}=0V$			1.0	μA
$I_{GSS(F)}$	Gated to Source Forward Leakage	$V_{GS}=+20V,$			100	nA
$I_{GSS(R)}$	Gated to Source Reverse Leakage	$V_{GS}=-20V,$			-100	nA
C_{iss}	Input Capacitance	$V_{GS}=0V,$		1000		pF
C_{oss}	Output Capacitance	$V_{DS}=15V,$		450		pF
C_{rss}	Reverse Transfer Capacitance	$f=1.0MHz$		80		pF
*Pulse Test: Pulse Width $\leq 300\mu s$, Duty Cycle $\leq 2\%$						

Symbol	Parameter	Typ	Units
$R_{\theta JC}$	Junction-to-Case	1.87	$^{\circ}C/W$

Package Information

TO-220W PACKAGE



Symbol	单位 mm		
	Min	Nom	Max
A	4.05	4.25	4.45
A1	1.2	1.3	1.4
A2	2.35	2.45	2.55
b	0.60	0.8	1.00
b1	1.12	1.32	1.52
c	0.25	0.45	0.65
e	2.34	2.54	2.74
E	9.8	10.0	10.2
H	15.1	15.3	15.5
H1	8.60	8.8	9.00
H2	13.0	13.5	14.0
H3	3.80	4.0	4.20
G	2.60	2.8	3.00
ΦP	3.60	3.8	4.00

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-Headquarters

WuXi Thunder Microelectronics Incorporated Limited

Building E1, No.200 LingHu Road, XinWu district, WuXi, China 214135

Tel: +86-510-85160109

Fax: +86-510-85165556