

isc N-Channel MOSFET Transistor

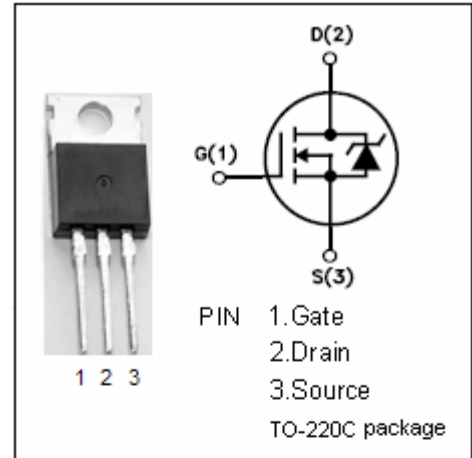
MTP50N06V

FEATURES

- Drain Current $-I_D=42A @ T_C=25^\circ C$
- Drain Source Voltage-
: $V_{DSS}= 60V(\text{Min})$
- Static Drain-Source On-Resistance
: $R_{DS(on)} = 0.028 \Omega (\text{Max})$

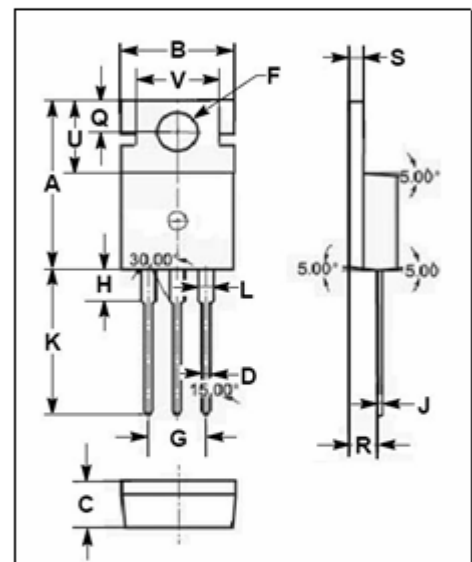
DESCRIPTION

- Designed for low voltage, high speed switching applications in power supplies, converters and power motor controls, these devices are particularly well suited for bridge circuits where diode speed and commutating safe operating areas are critical and offer additional safety margin against unexpected voltage transients.



ABSOLUTE MAXIMUM RATINGS($T_a=25^\circ C$)

SYMBOL	PARAMETER	VALUE	UNIT
V_{DSS}	Drain-Source Voltage	60	V
V_{GS}	Gate-Source Voltage-Continuous	± 20	V
I_D	Drain Current-Continuous	42	A
I_{DM}	Drain Current-Single Pluse ($t_p \le 10 \mu s$)	147	A
P_D	Total Dissipation @ $T_C=25^\circ C$	125	W
T_J	Max. Operating Junction Temperature	150	$^\circ C$
T_{stg}	Storage Temperature	-55~150	$^\circ C$



DIM	mm	
	MIN	MAX
A	15.70	15.90
B	9.90	10.10
C	4.20	4.40
D	0.70	0.90
F	3.40	3.60
G	4.98	5.18
H	2.70	2.90
J	0.44	0.46
K	13.20	13.40
L	1.10	1.30
Q	2.70	2.90
R	2.50	2.70
S	1.29	1.31
U	6.45	6.65
V	8.66	8.86

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th j-c}$	Thermal Resistance, Junction to Case	1.2	$^\circ C/W$
$R_{th j-a}$	Thermal Resistance, Junction to Ambient	62.5	$^\circ C/W$

isc N-Channel Mosfet Transistor**MTP50N06V****ELECTRICAL CHARACTERISTICS** $T_C=25^{\circ}\text{C}$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
$V_{(BR)DSS}$	Drain-Source Breakdown Voltage	$V_{GS}=0; I_D=0.25\text{mA}$	60		V
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS}=V_{GS}; I_D=0.25\text{mA}$	2	4	V
$R_{DS(on)}$	Drain-Source On-Resistance	$V_{GS}=10\text{V}; I_D=21\text{A}$		0.028	Ω
I_{GSS}	Gate-Body Leakage Current	$V_{GS}=\pm 20\text{V}; V_{DS}=0$		± 100	nA
I_{DSS}	Zero Gate Voltage Drain Current	$V_{DS}=60\text{V}; V_{GS}=0$ $V_{DS}=60\text{V}; V_{GS}=0; T_J=150^{\circ}\text{C}$		10 100	μA
V_{SD}	Forward On-Voltage	$I_S=42\text{A}; V_{GS}=0$		2.5	V