

isc N-Channel MOSFET Transistor

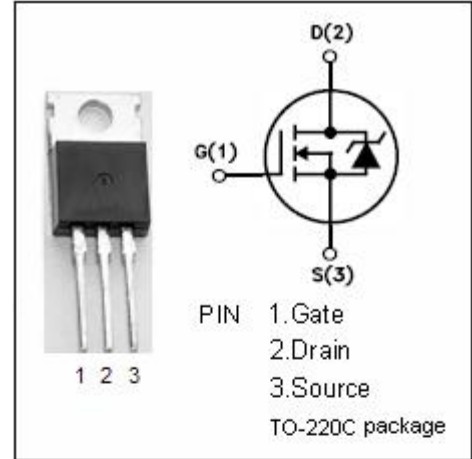
12N20

• FEATURES

- Drain Current $I_D = 12A @ T_C = 25^\circ C$
- Drain Source Voltage-
: $V_{DSS} = 200V (Min)$
- Static Drain-Source On-Resistance
: $R_{DS(on)} = 0.25 \Omega (Max)$
- Fast Switching

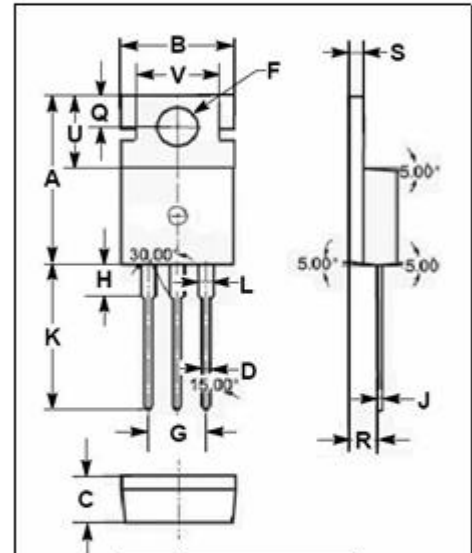
• APPLICATIONS

- Switch mode power supply.



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

SYMBOL	PARAMETER	VALUE	UNIT
V_{DSS}	Drain-Source Voltage	200	V
V_{GS}	Gate-Source Voltage-Continuous	± 30	V
I_D	Drain Current-Continuous	12	A
I_{DM}	Drain Current-Single Pulsed	40	A
P_D	Total Dissipation @ $T_C = 25^\circ C$	100	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	1.25	$^\circ C/W$

isc N-Channel MOSFET Transistor**12N20****• ELECTRICAL CHARACTERISTICS****T_C=25°C unless otherwise specified**

SYMBOL	PARAMETER	CONDITIONS	MIN	TYPE	MAX	UNIT
V _{(BR)DSS}	Drain-Source Breakdown Voltage	V _{GS} = 0; I _D =250μA	200			V
V _{GS(th)}	Gate Threshold Voltage	V _{DS} = V _{GS} ; I _D =250μA	2.0		4.0	V
V _{SD}	Diode Forward On-voltage	I _S = 11A; V _{GS} = 0			1.4	V
R _{DS(on)}	Drain-Source On-Resistance	V _{GS} = 10V; I _D = 6A			0.35	Ω
I _{GSS}	Gate-Body Leakage Current	V _{GS} = ±30V; V _{DS} = 0			±100	nA
I _{DSS}	Zero Gate Voltage Drain Current	V _{DS} =200V; V _{GS} = 0			250	μA
C _{iss}	Input Capacitance	V _{DS} =25V;		800		pF
C _{rss}	Reverse Transfer capacitance	V _{GS} =0V;		150		
C _{oss}	Output Capacitance	f _T =1MHz		450		
t _r	Rise Time	V _{GS} =10V;			50	ns
t _{d(on)}	Turn-on Delay Time	I _D =5.0A;			30	
t _f	Fall Time	V _{DD} =90V;			40	
t _{d(off)}	Turn-off Delay Time	R _L =15 Ω			50	