

isc N-Channel MOSFET Transistor

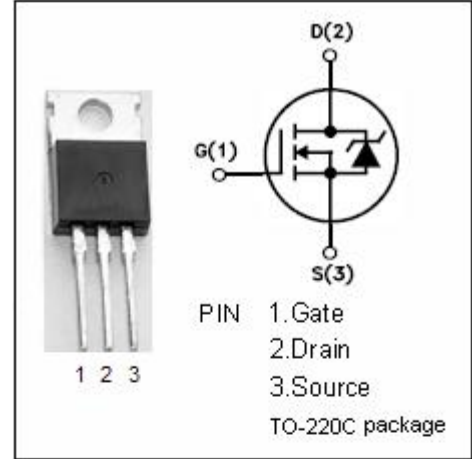
2N18

• FEATURES

- Drain Current $I_D = 2A @ T_C = 25^\circ C$
- Drain Source Voltage-
: $V_{DSS} = 180V(\text{Min})$
- Static Drain-Source On-Resistance
: $R_{DS(on)} = 3.5 \Omega (\text{Max})$
- Fast Switching

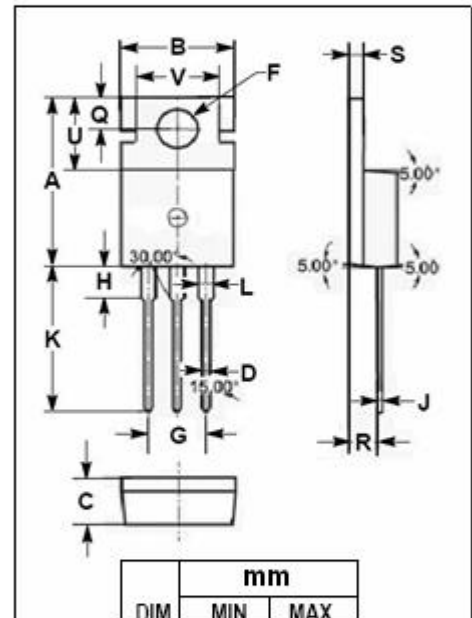
• APPLICATIONS

- Switching power supplies, converters, AC and DC motor controls



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

SYMBOL	PARAMETER	VALUE	UNIT
V_{DSS}	Drain-Source Voltage	180	V
V_{GS}	Gate-Source Voltage-Continuous	± 30	V
I_D	Drain Current-Continuous	2	A
I_{DM}	Drain Current-Single Plused	9	A
P_D	Total Dissipation @ $T_C = 25^\circ C$	25	W
T_j	Max. Operating Junction Temperature	150	$^\circ C$
T_{stg}	Storage Temperature	-55~150	$^\circ C$



• THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th j-c}$	Thermal Resistance, Junction to Case	2.5	$^\circ C/W$
$R_{th j-a}$	Thermal Resistance, Junction to Ambient	80	$^\circ C/W$

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• ELECTRICAL CHARACTERISTICS

 $T_C=25^{\circ}\text{C}$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYPE	MAX	UNIT
$V_{(BR)DSS}$	Drain-Source Breakdown Voltage	$V_{GS}=0; I_D=250\mu\text{A}$	180			V
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS}=V_{GS}; I_D=1\text{mA}$	2.0		4.0	V
V_{SD}	Diode Forward On-voltage	$I_S=2\text{A}; V_{GS}=0$			1.4	V
$R_{DS(on)}$	Drain-Source On-Resistance	$V_{GS}=10\text{V}; I_D=1\text{A}$			3.5	Ω
I_{GSS}	Gate-Body Leakage Current	$V_{GS}=\pm 20\text{V}; V_{DS}=0$			± 500	nA
I_{DSS}	Zero Gate Voltage Drain Current	$V_{DS}=180\text{V}; V_{GS}=0$			250	μA
C_{iss}	Input Capacitance	$V_{DS}=25\text{V};$ $V_{GS}=0\text{V};$ $f_T=1\text{MHz}$			200	pF
C_{rss}	Reverse Transfer capacitance				25	
C_{oss}	Output Capacitance				80	
t_r	Rise Time	$V_{GS}=10\text{V};$ $I_D=1.25\text{A};$ $V_{DD}=50\text{V};$ $R_L=50\Omega$			25	ns
$t_{d(on)}$	Turn-on Delay Time				15	
t_f	Fall Time				15	
$t_{d(off)}$	Turn-off Delay Time				15	