

isc N-Channel MOSFET Transistor

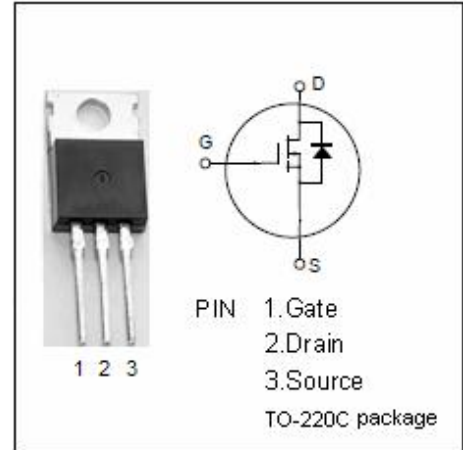
2SK2019-01

DESCRIPTION

- Drain Current $-I_D = 3.5A @ T_C = 25^\circ C$
- Drain Source Voltage-
: $V_{DSS} = 500V(\text{Min})$
- Fast Switching Speed

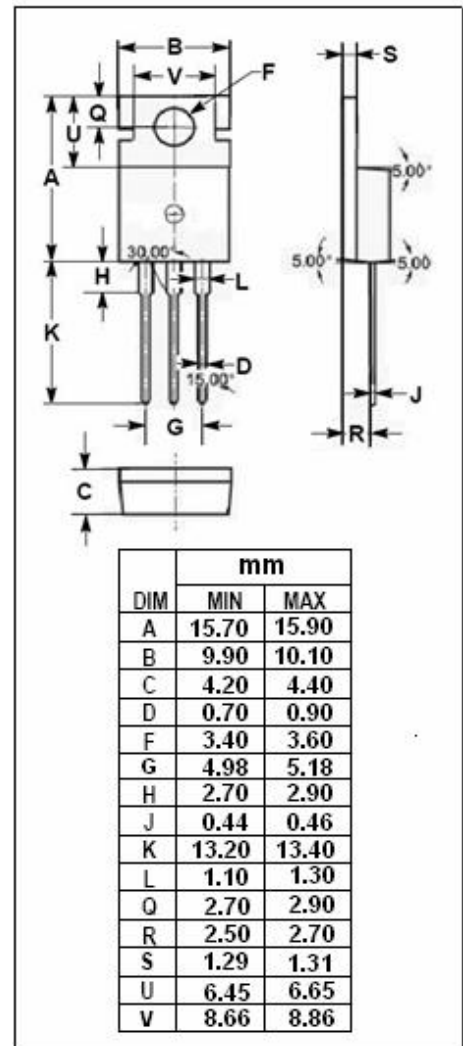
APPLICATIONS

- Switching regulators
- UPS
- DC-DC converters
- General purpose power amplifier



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

SYMBOL	PARAMETER	VALUE	UNIT
V_{DSS}	Drain-Source Voltage ($V_{GS} = 0$)	500	V
V_{GS}	Gate-Source Voltage	± 30	V
I_D	Drain Current-continuous @ $T_C = 25^\circ C$	3.5	A
$I_{D(puls)}$	Pulsed drain current	14	A
P_{tot}	Total Dissipation @ $T_C = 25^\circ C$	40	W
T_j	Max. Operating Junction Temperature	150	$^\circ C$
T_{stg}	Storage Temperature Range	-55~150	$^\circ C$



• THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th j-c}$	Thermal Resistance, Junction to Case	3.125	$^\circ C/W$
$R_{th j-a}$	Thermal Resistance, Junction to Ambient	75	$^\circ C/W$

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• ELECTRICAL CHARACTERISTICS ($T_C=25^\circ\text{C}$)

SYMBOL	PARAMETER	CONDITIONS	MIN	TYPE	MAX	UNIT
$V_{(BR)DSS}$	Drain-Source Breakdown Voltage	$V_{GS}=0; I_D=1\text{mA}$	500			V
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS}=V_{GS}; I_D=1\text{mA}$	2.5	3.0	3.5	V
V_{SD}	Diode Forward On-voltage	$I_S=3.5\text{A}; V_{GS}=0$		1.1	1.65	V
$R_{DS(on)}$	Drain-Source On-Resistance	$V_{GS}=10\text{V}; I_D=1.5\text{A}$		2.0	3.0	Ω
I_{GSS}	Gate-Body Leakage Current	$V_{GS}=\pm 30\text{V}; V_{DS}=0$			± 100	nA
I_{DSS}	Zero Gate Voltage Drain Current	$V_{DS}=500\text{V}; V_{GS}=0$			500	μA
C_{iss}	Input Capacitance	$V_{DS}=25\text{V};$ $V_{GS}=0\text{V};$ $f_T=1\text{MHz}$		600	900	pF
C_{rss}	Reverse Transfer Capacitance			10	15	
C_{oss}	Output Capacitance			50	75	
t_r	Rise Time	$V_{GS}=10\text{V};$ $I_D=3.5\text{A};$ $V_{DD}=300\text{V};$ $R_L=10\Omega$		10	15	ns
$t_{d(on)}$	Turn-on Delay Time			15	25	
t_f	Fall Time			15	25	
$t_{d(off)}$	Turn-off Delay Time			40	60	