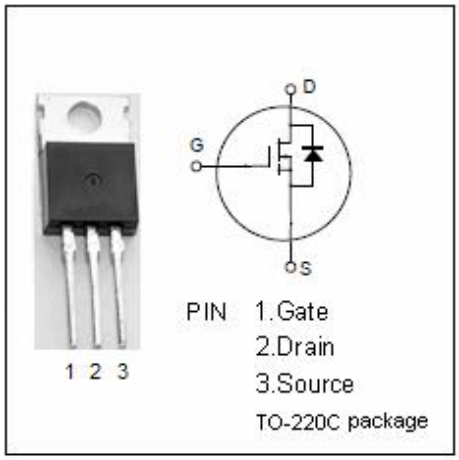
isc N-Channel MOSFET Transistor 2SK1981-01

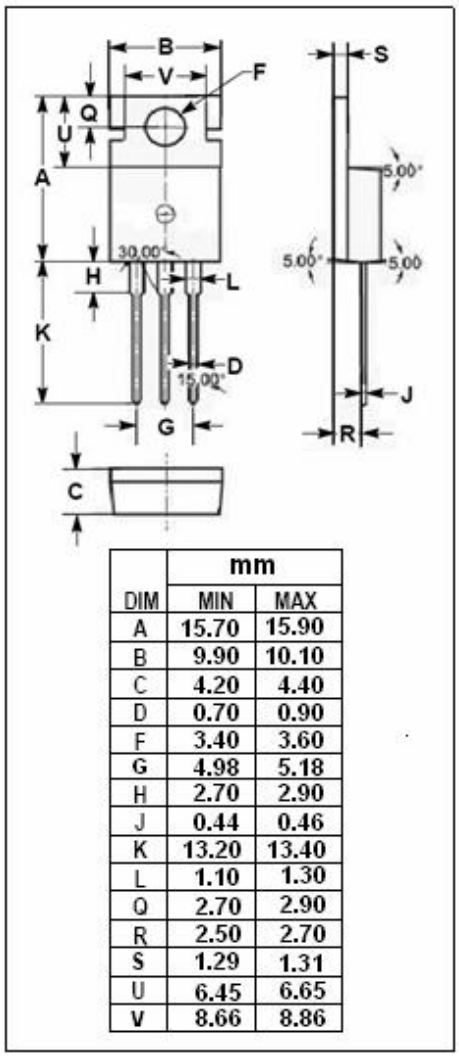
DESCRIPTION

- Drain Current $-I_D$= 10A@ T_C=25℃
- Drain Source Voltage-
  : V_{DSS}= 500V(Min)
- Fast Switching Speed



APPLICATIONS

- Switching regulators



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

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	ARAMETER	VALUE	UNIT
V_{DSS}	Drain-Source Voltage (V_{GS}=0)	500	V
V_{GS}	Gate-Source Voltage	±30	V
I_D	Drain Current-continuous@ TC=25℃	10	A
P_{tot}	Total Dissipation@TC=25℃	80	W
T_j	Max. Operating Junction Temperature	150	℃
T_{stg}	Storage Temperature Range	-55~150	℃

• THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j\text{-}c}$	Thermal Resistance, Junction to Case	1.56	℃/W
$R_{th\ j\text{-}a}$	Thermal Resistance, Junction to Ambient	75	℃/W

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• **ELECTRICAL CHARACTERISTICS (T_C=25℃)**

SYMBOL	PARAMETER	CONDITIONS	MIN	TYPE	MAX	UNIT
$V_{(BR)DSS}$	Drain-Source Breakdown Voltage	V_{GS}= 0; I_D= 10mA	500			V
$V_{GS(th)}$	Gate Threshold Voltage	V_{DS}= V_{GS}; I_D=1mA	2.5		3.5	V
$R_{DS(on)}$	Drain-Source On-Resistance	V_{GS}= 10V; I_D= 5A		0.6	0.76	Ω
I_{GSS}	Gate-Body Leakage Current	V_{GS}= ±30V;V_{DS}= 0			±100	nA
I_{DSS}	Zero Gate Voltage Drain Current	V_{DS}= 500V; V_{GS}= 0			500	μA
Ciss	Input capacitance	V_{DS}=25V;V_{GS}=0V;f_T=1MHz			2200	pF
Crss	Reverse transfer capacitance				50	
Coss	Output capacitance				240	
t_r	Rise time	V_{GS}=10V;I_D=4A; V_{DD}=200V; R_L=50Ω			60	ns
$t_{d(on)}$	Turn-on delay time				25	
t_f	Fall time				90	
$t_{d(off)}$	Turn-off delay time				100	