

isc N-Channel MOSFET Transistor

2SK2081-01

DESCRIPTION

- Drain Current $I_D = 12A @ T_C = 25^\circ C$
- Drain Source Voltage-
: $V_{DSS} = 500V (Min)$
- Fast Switching Speed

APPLICATIONS

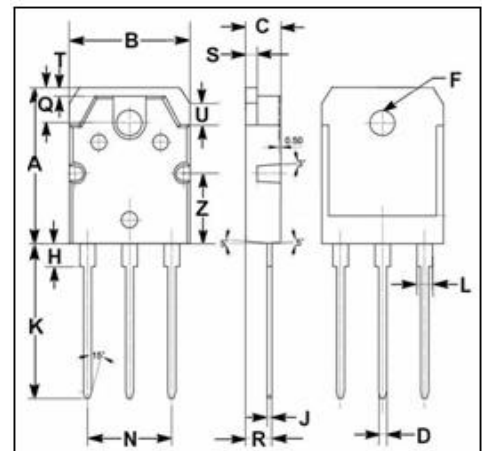
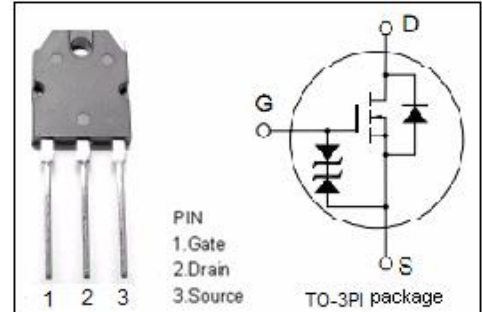
- Switching regulators
- UPS
- DC-DC Converters
- General purpose power amplifier

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

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@ $T_C = 25^\circ C$	12	A
$I_{D(puls)}$	Pulsed Drain Current	48	A
P_{tot}	Total Dissipation@ $T_C = 25^\circ C$	125	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	1.00	$^\circ C/W$
$R_{th j-a}$	Thermal Resistance, Junction to Ambient	35	$^\circ C/W$



DIM	mm	
	MIN	MAX
A	19.90	20.10
B	15.50	15.70
C	4.40	4.60
D	0.90	1.10
F	3.20	3.40
H	2.90	3.10
J	0.50	0.70
K	19.90	20.10
L	1.90	2.10
N	10.80	11.00
Q	4.40	4.60
R	3.30	3.35
S	1.40	1.60
T	1.00	1.20
U	2.10	2.30
Z	8.90	9.10

isc N-Channel Mosfet Transistor

2SK2081-01

• 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	$I_F=2I_{DR}; V_{GS}=0$		1.3	1.95	V
$R_{DS(on)}$	Drain-Source On-Resistance	$V_{GS}=10\text{V}; I_D=6\text{A}$		0.45	0.6	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	$V_{DS}=25\text{V};$ $V_{GS}=0\text{V};$ $f_T=1\text{MHz}$		2200	3300	pF
C_{rss}	Reverse Transfer Capacitance			55	85	
C_{oss}	Output Capacitance			230	345	
t_r	Rise Time	$V_{GS}=10\text{V};$ $I_D=12\text{A};$ $V_{DD}=300\text{V};$ $R_L=10\Omega$		55	85	ns
$t_{d(on)}$	Turn-on Delay Time			25	40	
t_f	Fall Time			60	90	
$t_{d(off)}$	Turn-off Delay Time			110	165	