

isc N-Channel MOSFET Transistor

2SK1982-01M

DESCRIPTION

- Drain Current $-I_D = 10A @ T_C = 25^\circ C$
- Drain Source Voltage-
: $V_{DSS} = 500V(\text{Min})$
- Fast Switching Speed
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

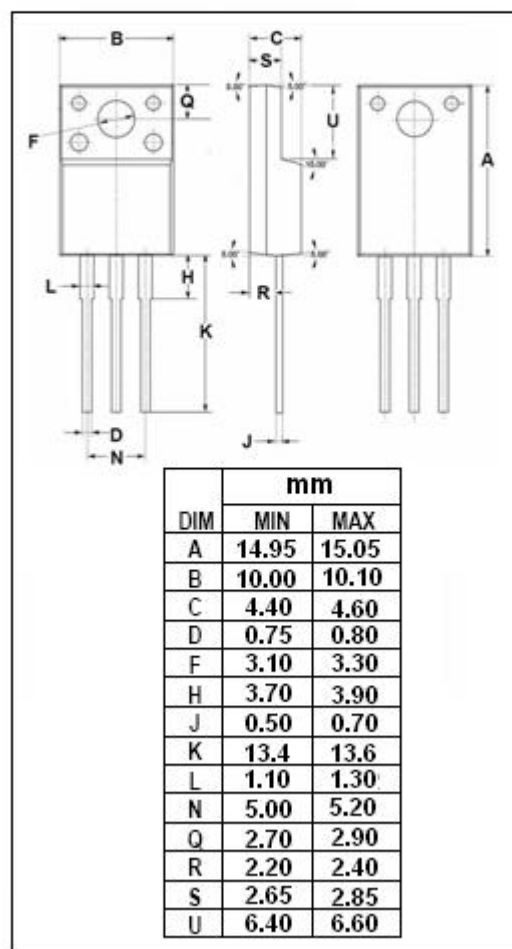
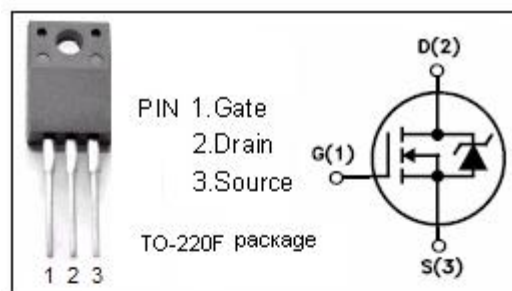
- Switching regulators
- UPS
- DC-DC converters
- General purpose power amplifier

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@ $T_C = 25^\circ C$	10	A
I_{DM}	Drain Current-Single Pulsed	40	A
P_{tot}	Total Dissipation@ $T_C = 25^\circ C$	50	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	2.5	$^\circ C/W$
$R_{th j-a}$	Thermal Resistance, Junction to Ambient	62.5	$^\circ C/W$



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• ELECTRICAL CHARACTERISTICS (TC=25°C)

SYMBOL	PARAMETER	CONDITIONS	MIN	TYPE	MAX	UNIT
$V_{(BR)DSS}$	Drain-Source Breakdown Voltage	$V_{GS}=0; I_D=1mA$	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	$V_{GS}= \pm 30V; V_{DS}=0$			± 100	nA
I_{DSS}	Zero Gate Voltage Drain Current	$V_{DS}=500V; V_{GS}=0$			500	μA
V_{SD}	Forward On-Voltage	$I_S=20A; V_{GS}=0$			1.7	V
Gfs	Forward Transconductance	$V_{DS}=25V; I_D=5A$	5.0			S
t_r	Rise time	$V_{GS}=10V; I_D=10A;$ $V_{DD}=300V;$ $R_L=10\Omega$		40	60	ns
$t_{d(on)}$	Turn-on delay time			15	25	
t_f	Fall time			60	90	
$t_{d(off)}$	Turn-off delay time			70	100	

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