

# isc N-Channel MOSFET Transistor

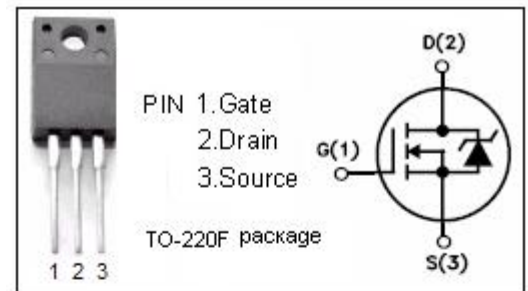
## 2SK1982

### 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

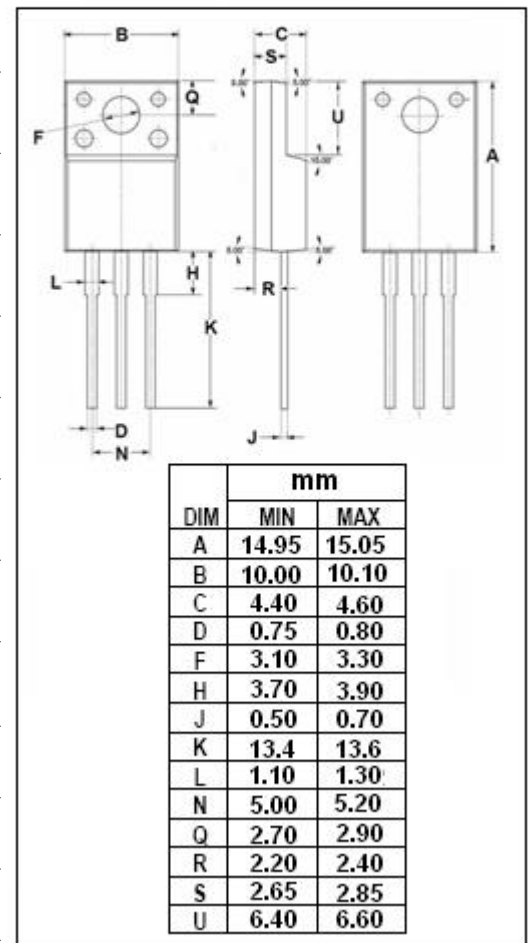
### APPLICATIONS

- Switching regulators
- UPS
- 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	$\pm 30$	V
$I_D$	Drain Current-continuous@ $T_C = 25^\circ C$	10	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	$\Omega$
$I_{GSS}$	Gate-Body Leakage Current	$V_{GS}= \pm 30V; V_{DS}=0$			$\pm 100$	nA
$I_{DSS}$	Zero Gate Voltage Drain Current	$V_{DS}=500V; V_{GS}=0$			500	$\mu A$
$C_{iss}$	Input capacitance	$V_{DS}=25V; V_{GS}=0V; f_r=1MHz$		1500	220	pF
$C_{rss}$	Reverse transfer capacitance			35	50	
$C_{oss}$	Output capacitance			160	240	
$t_r$	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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