

# isc N-Channel MOSFET Transistor

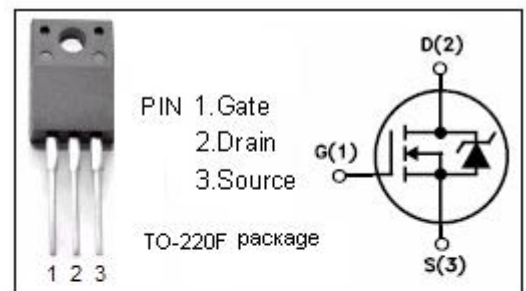
## 2SK2022-01M

### DESCRIPTION

- Drain Current  $-I_D = 5A @ T_C = 25^\circ C$
- Drain Source Voltage-  
:  $V_{DSS} = 500V(\text{Min})$
- Fast Switching Speed
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

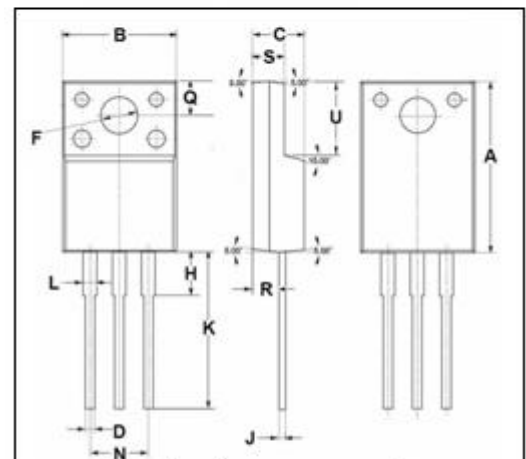
### APPLICATIONS

- 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	$\pm 30$	V
$I_D$	Drain Current-continuous@ $T_C = 25^\circ C$	5	A
$I_{D(\text{puls})}$	Pulsed Drain Current	20	A
$P_{\text{tot}}$	Total Dissipation@ $T_C = 25^\circ C$	40	W
$T_j$	Max. Operating Junction Temperature	150	$^\circ C$
$T_{\text{stg}}$	Storage Temperature Range	-55~150	$^\circ C$



DIM	mm	
	MIN	MAX
A	14.95	15.05
B	10.00	10.10
C	4.40	4.60
D	0.75	0.80
F	3.10	3.30
H	3.70	3.90
J	0.50	0.70
K	13.4	13.6
L	1.10	1.30
N	5.00	5.20
Q	2.70	2.90
R	2.20	2.40
S	2.65	2.85
U	6.40	6.60

### • THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{\text{th j-c}}$	Thermal Resistance, Junction to Case	3.125	$^\circ C/W$
$R_{\text{th j-a}}$	Thermal Resistance, Junction to Ambient	62.5	$^\circ C/W$

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• ELECTRICAL CHARACTERISTICS (T<sub>c</sub>=25°C)

SYMBOL	PARAMETER	CONDITIONS	MIN	TYPE	MAX	UNIT
V <sub>(BR)DSS</sub>	Drain-Source Breakdown Voltage	V <sub>GS</sub> = 0; I <sub>D</sub> = 1mA	500			V
V <sub>GS(th)</sub>	Gate Threshold Voltage	V <sub>DS</sub> = V <sub>GS</sub> ; I <sub>D</sub> =1mA	2.5	3.0	3.5	V
R <sub>DS(on)</sub>	Drain-Source On-Resistance	V <sub>GS</sub> = 10V; I <sub>D</sub> = 2.5A		1.2	1.6	Ω
I <sub>GSS</sub>	Gate-Body Leakage Current	V <sub>GS</sub> = ±30V; V <sub>DS</sub> = 0			±100	nA
I <sub>DSS</sub>	Zero Gate Voltage Drain Current	V <sub>DS</sub> = 500V; V <sub>GS</sub> = 0			500	μA
C <sub>iss</sub>	Input Dapacitance	V <sub>DS</sub> =25V;		1000	1500	pF
C <sub>rss</sub>	Reverse Transfer Capacitance	V <sub>GS</sub> =0V; f <sub>r</sub> =1MHz		20	30	
C <sub>oss</sub>	Output Capacitance			85	130	
t <sub>r</sub>	Rise Time	V <sub>GS</sub> =10V;		15	25	ns
t <sub>d(on)</sub>	Turn-on Delay Time	I <sub>D</sub> =5A;		20	30	
t <sub>f</sub>	Fall Time	V <sub>DD</sub> =300V; R <sub>L</sub> =10 Ω		20	30	
t <sub>d(off)</sub>	Turn-off Delay Time			45	70	

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