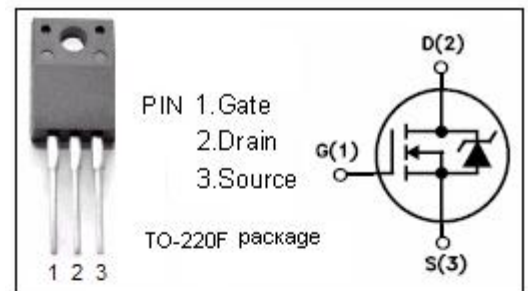


**isc N-Channel MOSFET Transistor**
**2SK2020-01MR**
**DESCRIPTION**

- Drain Current  $-I_D = 3.5A @ T_C = 25^\circ C$
- Drain Source Voltage-  
:  $V_{DSS} = 500V(\text{Min})$
- Fast Switching Speed
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**APPLICATIONS**

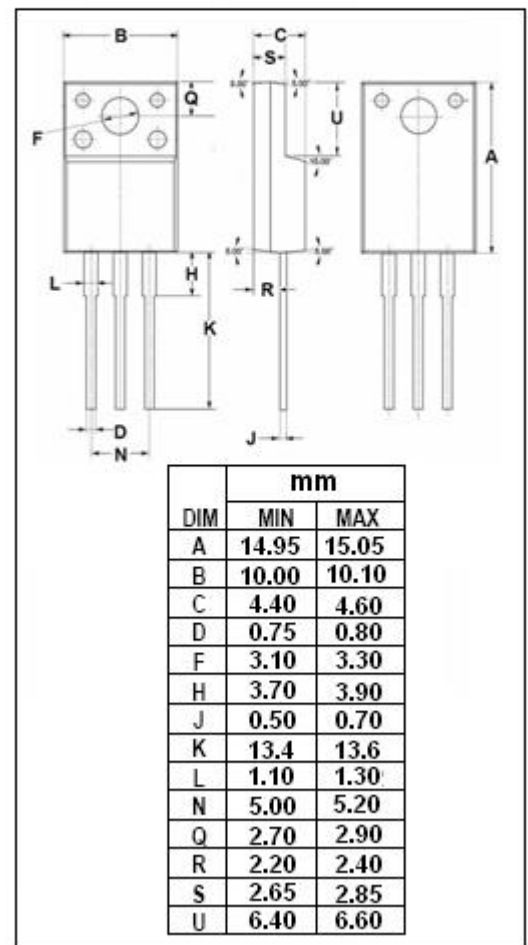
- Switching regulators
- UPS
- DC-DC converters
- General purpose power amplifier


**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@ $T_C = 25^\circ C$	3.5	A
$I_{D(\text{puls})}$	Pulsed drain current	14	A
$P_{\text{tot}}$	Total Dissipation@ $T_C = 25^\circ C$	30	W
$T_j$	Max. Operating Junction Temperature	150	$^\circ C$
$T_{\text{stg}}$	Storage Temperature Range	-55~150	$^\circ C$

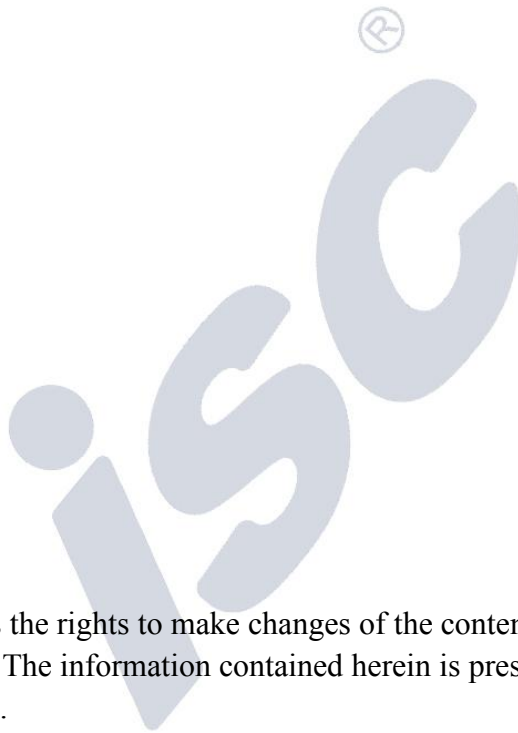
**• THERMAL CHARACTERISTICS**

SYMBOL	PARAMETER	MAX	UNIT
$R_{\text{th j-c}}$	Thermal Resistance, Junction to Case	4.17	$^\circ C/W$
$R_{\text{th j-a}}$	Thermal Resistance, Junction to Ambient	62.5	$^\circ C/W$



**isc N-Channel Mosfet Transistor**
**2SK2020-01MR**
**• 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> = 1.5A		2	3	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
V <sub>SD</sub>	Forward On-Voltage	I <sub>S</sub> =7A; V <sub>GS</sub> =0			1.65	V
G <sub>fs</sub>	Forward Transconductance	V <sub>DS</sub> = 25V; I <sub>D</sub> =1.5A	1.5			S
t <sub>r</sub>	Rise Time	V <sub>GS</sub> =10V; I <sub>D</sub> =3.5A; V <sub>DD</sub> =300V; R <sub>L</sub> =10Ω		10	15	ns
t <sub>d(on)</sub>	Turn-on Delay Time			15	25	
t <sub>f</sub>	Fall Time			15	25	
t <sub>d(off)</sub>	Turn-off Delay Time			40	60	

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