

# isc N-Channel MOSFET Transistor

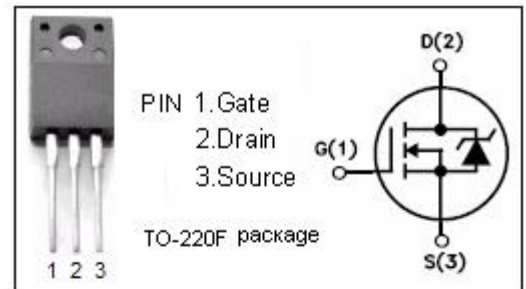
# 2SK1913

### DESCRIPTION

- Drain Current  $-I_D = 4A @ T_C = 25^\circ C$
- Drain Source Voltage-  
:  $V_{DSS} = 600V(\text{Min})$
- Fast Switching Speed
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

### APPLICATIONS

- High speed ,high current switching

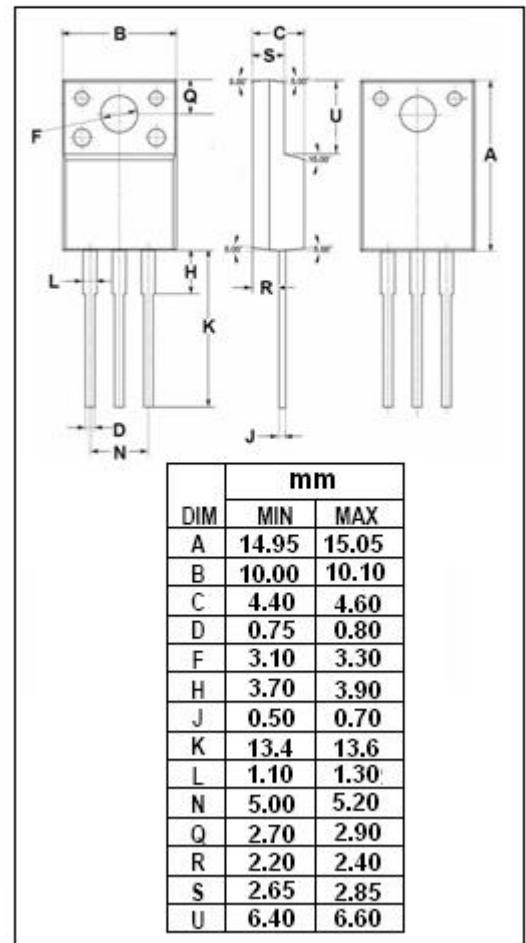


### ABSOLUTE MAXIMUM RATINGS( $T_a = 25^\circ C$ )

SYMBOL	PARAMETER	VALUE	UNIT
$V_{DSS}$	Drain-Source Voltage ( $V_{GS} = 0$ )	600	V
$V_{GS}$	Gate-Source Voltage	$\pm 30$	V
$I_D$	Drain Current-continuous@ $T_C = 25^\circ C$	4	A
$P_{tot}$	Total Dissipation@ $T_C = 25^\circ C$	40	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	3.125	$^\circ C/W$
$R_{th\ j-a}$	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> =250μA	600			V
V <sub>GS(th)</sub>	Gate Threshold Voltage	V <sub>DS</sub> = 10V; I <sub>D</sub> =1mA	2.1		4	V
V <sub>DF</sub>	Body to drain diode forward voltage	I <sub>F</sub> = 4 A, V <sub>GS</sub> = 0		0.92	1.41	V
R <sub>DS(on)</sub>	Drain-Source On-Resistance	V <sub>GS</sub> = 10V; I <sub>D</sub> = 2.5A		0.9	1.8	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> =600V; V <sub>GS</sub> = 0			100	μA
C <sub>iss</sub>	Input capacitance	V <sub>DS</sub> =25V; V <sub>GS</sub> =0V; f <sub>r</sub> =1MHz		880	1400	pF
C <sub>rss</sub>	Reverse transfer capacitance			40	60	
C <sub>oss</sub>	Output capacitance			130	200	
t <sub>r</sub>	Rise time	V <sub>GS</sub> =10V; I <sub>D</sub> =2.5A; V <sub>DD</sub> =200V; R <sub>L</sub> =80 Ω		25	18	ns
t <sub>on</sub>	Turn-on time			40	6	
t <sub>f</sub>	Fall time			45	30	
t <sub>off</sub>	Turn-off time			130	40	

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