

isc N-Channel MOSFET Transistor

2SK1020

DESCRIPTION

- Drain Current $-I_D=30A @ T_C=25^\circ C$
- Drain Source Voltage-
: $V_{DSS}=500V(\text{Min})$

APPLICATIONS

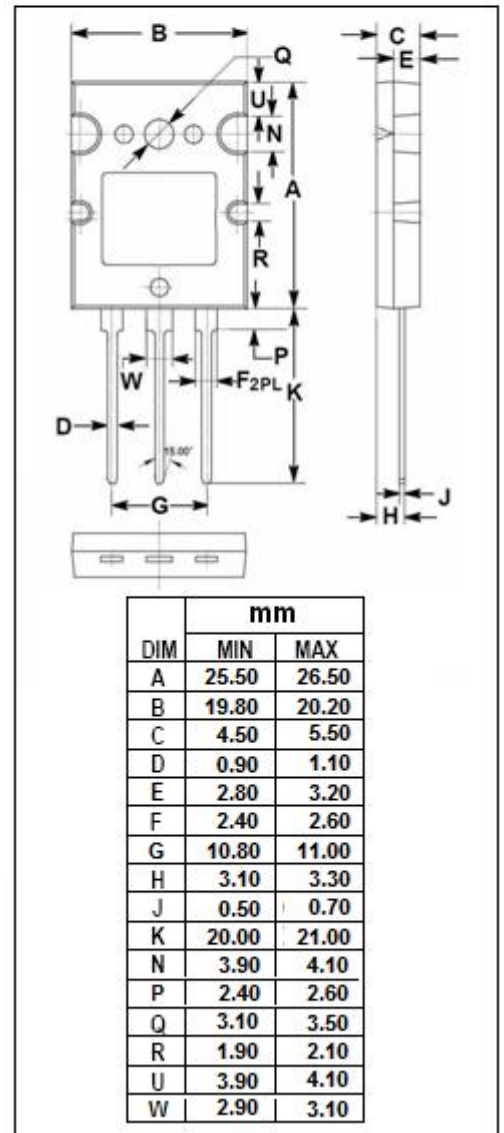
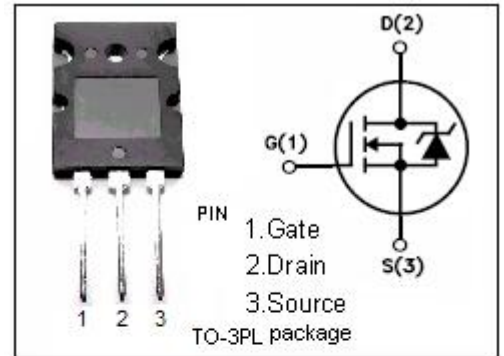
- high voltage, high speed power switching

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@ $T_C=25^\circ C$	30	A
P_{tot}	Total Dissipation@ $T_C=25^\circ C$	300	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	0.416	$^\circ C/W$
$R_{th\ j-a}$	Thermal Resistance,Junction to Ambient		$^\circ C/W$



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• ELECTRICAL CHARACTERISTICS ($T_C=25^\circ\text{C}$)

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)DSS}$	Drain-Source Breakdown Voltage	$V_{GS}=0; I_D=1\text{mA}$	500			V
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS}=V_{GS}; I_D=1\text{mA}$	2.5	3.5	5.0	V
$R_{DS(on)}$	Drain-Source On-stage Resistance	$V_{GS}=10\text{V}; I_D=15\text{A}$		0.18	0.25	Ω
I_{GSS}	Gate Source Leakage Current	$V_{GS}= \pm 30\text{V}; V_{DS}=0$			± 100	nA
I_{DSS}	Zero Gate Voltage Drain Current	$V_{DS}=500\text{V}; V_{GS}=0$			500	μA
V_{SD}	Forward On-Voltage	$I_S=30\text{A}; V_{GS}=0$		1.1	1.70	V
t_r	Rise time	$V_{GS}=10\text{V}; I_D=30\text{A};$ $R_L=25\ \Omega$		300	450	ns
t_{on}	Turn-on time			360	450	ns
t_f	Fall time			300	1350	ns
t_{off}	Turn-off time			900	400	ns