

isc N-Channel MOSFET Transistor
2SK1014
DESCRIPTION

- Drain Current $-I_D=12A@ T_C=25^\circ C$
- Drain Source Voltage-
: $V_{DSS}=500V(\text{Min})$
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

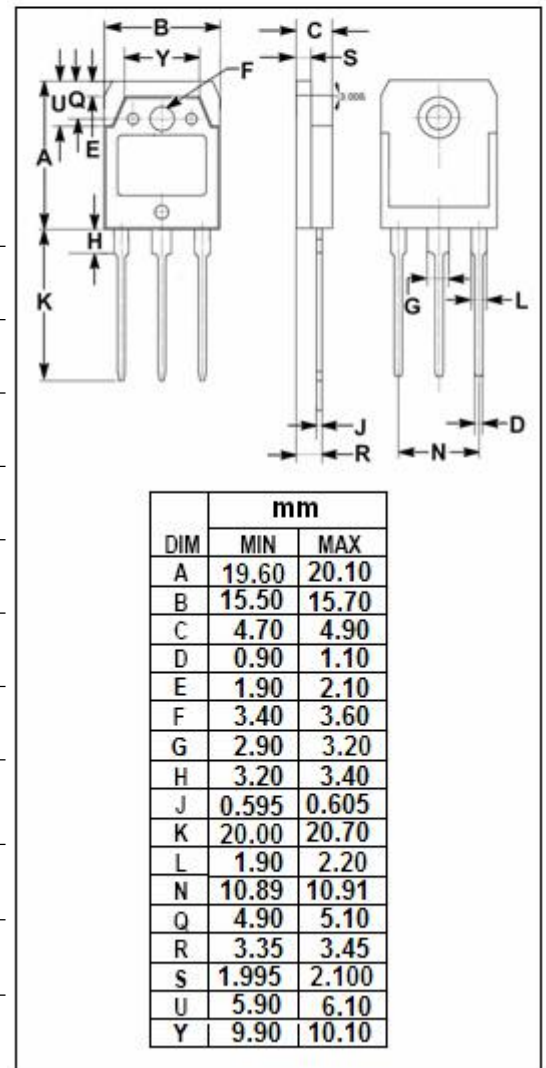
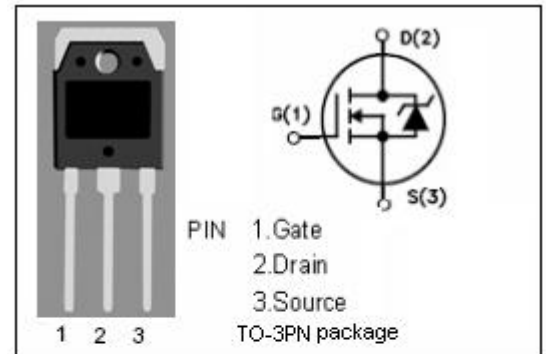
- high voltage, high speed power switching

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@ $T_C=25^\circ C$	12	A
P_{tot}	Total Dissipation@ $T_C=25^\circ C$	125	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	1.00	$^\circ C/W$
$R_{th\ j-a}$	Thermal Resistance,Junction to Ambient	35	$^\circ C/W$



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• ELECTRICAL CHARACTERISTICS (T_c=25°C)

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	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	5.0	V
R _{DS(on)}	Drain-Source On-stage Resistance	V _{GS} =10V; I _D = 6A		0.59	0.74	Ω
I _{GSS}	Gate Source Leakage Current	V _{GS} = ±30V; V _{DS} = 0			±100	nA
I _{DSS}	Zero Gate Voltage Drain Current	V _{DS} =500V; V _{GS} = 0			500	uA
V _{SD}	Forward On-Voltage	I _S =12A; V _{GS} =0		1.1	1.5	V
t _r	Rise time	V _{GS} =10V; I _D =12A; R _L =25 Ω		110	170	ns
t _{on}	Turn-on time			140	215	ns
t _f	Fall time			90	140	ns
t _{off}	Turn-off time			240	370	ns

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