

isc N-Channel MOSFET Transistor

2SK1442

DESCRIPTION

- Drain Current $-I_D=12A @ T_C=25^\circ C$
- Drain Source Voltage-
: $V_{DSS}= 450V(\text{Min})$
- Fast Switching Speed

APPLICATIONS

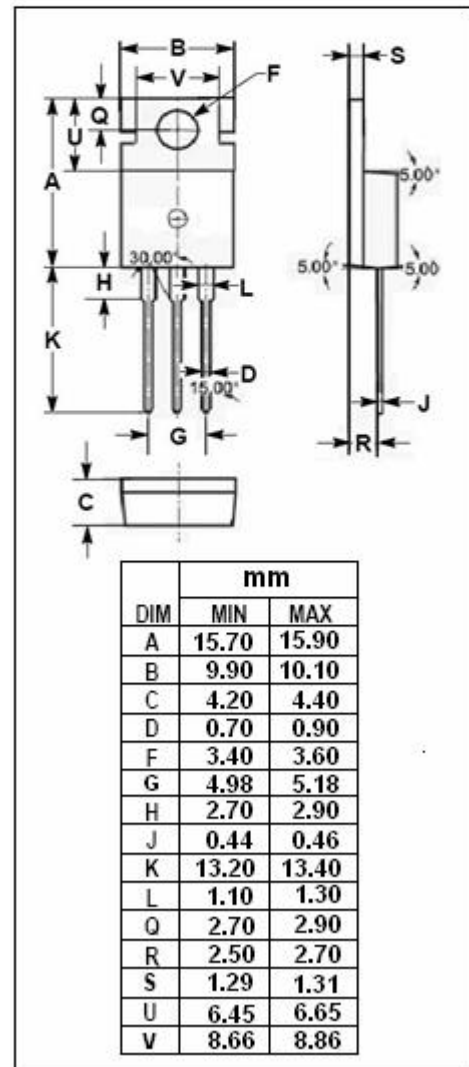
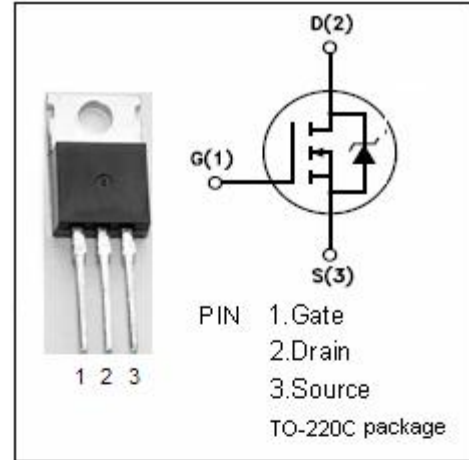
- Designed for high voltage, high speed power switching

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

SYMBOL	ARAMETER	VALUE	UNIT
V_{DSS}	Drain-Source Voltage ($V_{GS}=0$)	450	V
V_{GS}	Gate-Source Voltage	± 30	V
I_D	Drain Current-continuous@ $TC=25^\circ C$	12	A
P_{tot}	Total Dissipation@ $TC=25^\circ C$	70	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	1.75	$^\circ C/W$
$R_{th j-a}$	Thermal Resistance,Junction to Ambient	70	$^\circ C/W$



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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 = 10mA	450			V
V _{GS(th)}	Gate Threshold Voltage	V _{DS} =10 V _{GS} ; I _D =1mA	2.0		3.0	V
R _{DS(on)}	Drain-Source On-stage Resistance	V _{GS} =10V; I _D =6A		0.47	0.60	Ω
I _{GSS}	Gate Source Leakage Current	V _{GS} = ±30V; V _{DS} = 0			± 100	nA
I _{DSS}	Zero Gate Voltage Drain Current	V _{DS} =450V; V _{GS} = 0			1	mA
V _{SD}	Diode Forward Voltage	I _F =12A; V _{GS} =0			1.8	V
t _r	Rise time	V _{GS} =10V; I _D =6A; R _L =50 Ω		60		ns
t _{on}	Turn-on time			85		ns
t _f	Fall time			80		ns
t _{off}	Turn-off time			205		ns