

# isc N-Channel MOSFET Transistor

# 2SK1441

### DESCRIPTION

- Drain Current  $-I_D=8A@ T_C=25^{\circ}C$
- Drain Source Voltage-  
:  $V_{DSS}= 450V(\text{Min})$
- Fast Switching Speed
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

### APPLICATIONS

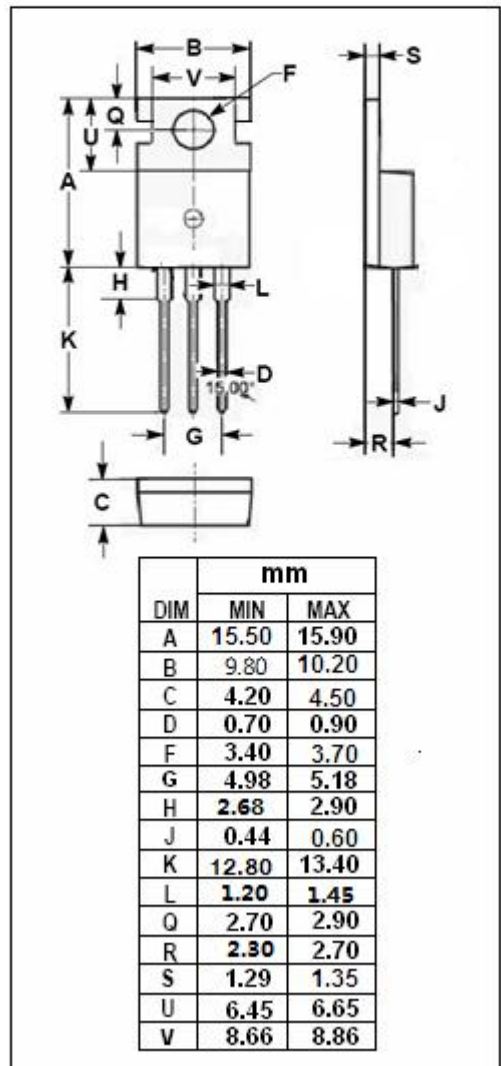
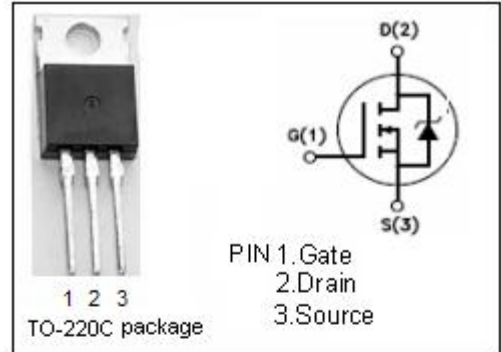
- Designed for high voltage, high speed power switching

### 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	$\pm 30$	V
$I_D$	Drain Current-continuous@ $TC=25^{\circ}C$	8	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<sub>c</sub>=25°C)

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
V <sub>(BR)DSS</sub>	Drain-Source Breakdown Voltage	V <sub>GS</sub> =0; I <sub>D</sub> = 10mA	450			V
V <sub>GS(th)</sub>	Gate Threshold Voltage	V <sub>DS</sub> =10 V <sub>GS</sub> ; I <sub>D</sub> =1mA	2.0		3.0	V
R <sub>DS(on)</sub>	Drain-Source On-stage Resistance	V <sub>GS</sub> =10V; I <sub>D</sub> =4A		0.6	0.8	Ω
I <sub>GSS</sub>	Gate Source 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> =450V; V <sub>GS</sub> = 0			1	mA
V <sub>SD</sub>	Diode Forward Voltage	I <sub>F</sub> =8A; V <sub>GS</sub> =0			1.8	V
t <sub>r</sub>	Rise time	V <sub>GS</sub> =10V; I <sub>D</sub> =4A; R <sub>L</sub> =50 Ω		40		ns
t <sub>on</sub>	Turn-on time			60		ns
t <sub>f</sub>	Fall time			60		ns
t <sub>off</sub>	Turn-off time			220		ns

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