

**isc N-Channel MOSFET Transistor**
**BUK454-500A/B**
**DESCRIPTION**

- Drain Source Voltage  
:  $V_{DSS} = 500V(\text{Min})$
- Low  $R_{DS(\text{ON})}$
- Fast Switching Speed
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**APPLICATIONS**

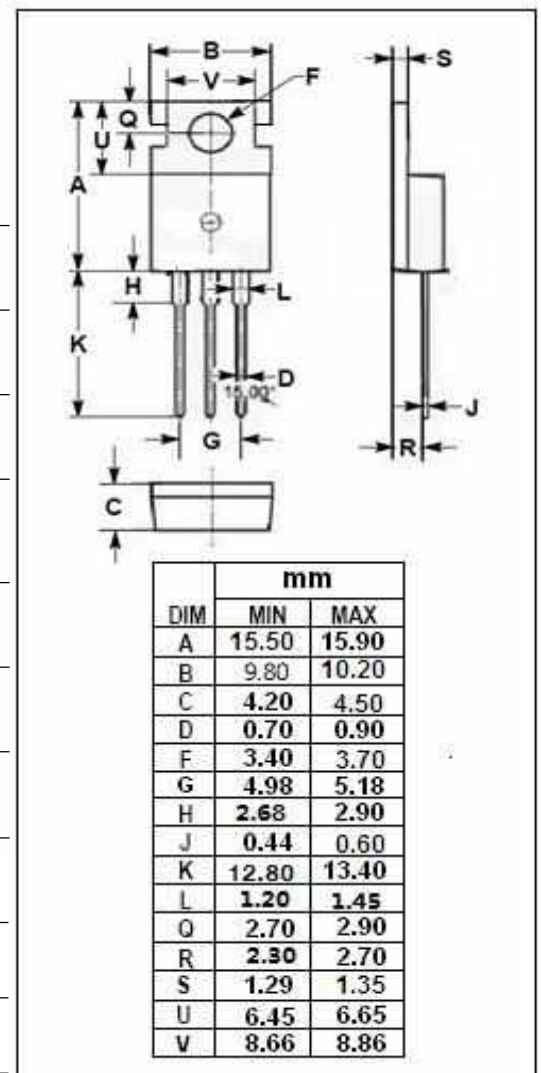
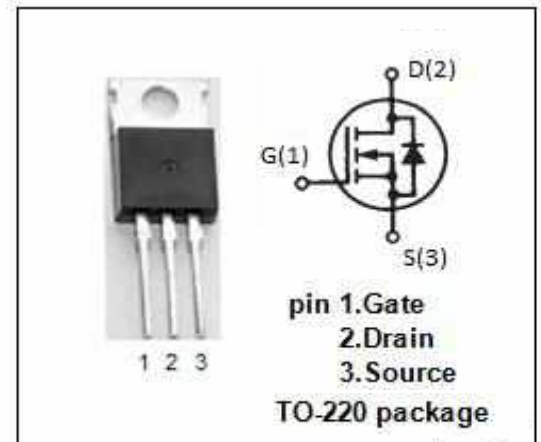
- Designed for Switched Mode Power Supplies (SMPS), motor control, welding, and in general purpose switching resistance applications

**ABSOLUTE MAXIMUM RATINGS( $T_a=25^\circ\text{C}$ )**

SYMBOL	PARAMETER	VALUE	UNIT
$V_{DSS}$	Drain-Source Voltage ( $V_{GS}=0$ )	500	V
$V_{GS}$	Gate-Source Voltage	$\pm 30$	V
$I_D$	Drain Current-continuous @ $TC=25^\circ\text{C}$	BUK454-500A	3.7
		BUK454-500B	3.3
$P_{tot}$	Total Dissipation @ $TC=25^\circ\text{C}$	75	W
$T_j$	Max. Operating Junction Temperature	150	$^\circ\text{C}$
$T_{stg}$	Storage Temperature Range	-55-150	$^\circ\text{C}$

**THERMAL CHARACTERISTICS**

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	1.67	$^\circ\text{C}/\text{W}$



## isc N-Channel Mosfet Transistor

## BUK454-500A/B

ELECTRICAL CHARACTERISTICS (T<sub>c</sub>=25°C)

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT	
V <sub>(BR)DSS</sub>	Drain-Source Breakdown Voltage	V <sub>GS</sub> = 0; I <sub>D</sub> = 0.25mA	500	--	V	
V <sub>GS(th)</sub>	Gate Threshold Voltage	V <sub>DS</sub> = V <sub>GS</sub> ; I <sub>D</sub> = 1.0mA	2.1	4.0	V	
R <sub>DS(on)</sub>	Drain-Source On-stage Resistance	V <sub>GS</sub> = 10V; I <sub>D</sub> = 1.5A	BUK454-500A	--	2.3	Ω
			BUK454-500B	--	2.8	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> = 500V; V <sub>GS</sub> = 0	--	20	μA	
V <sub>SD</sub>	Forward On-Voltage	I <sub>S</sub> = 3.7A; V <sub>GS</sub> = 0	--	1.3	V	

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