

isc N-Channel MOSFET Transistor
BUK453-100A/B
DESCRIPTION

- Drain Source Voltage-
: $V_{DSS}=100V(\text{Min})$
- LOW $R_{DS(\text{ON})}$
- Fast Switching Speed
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

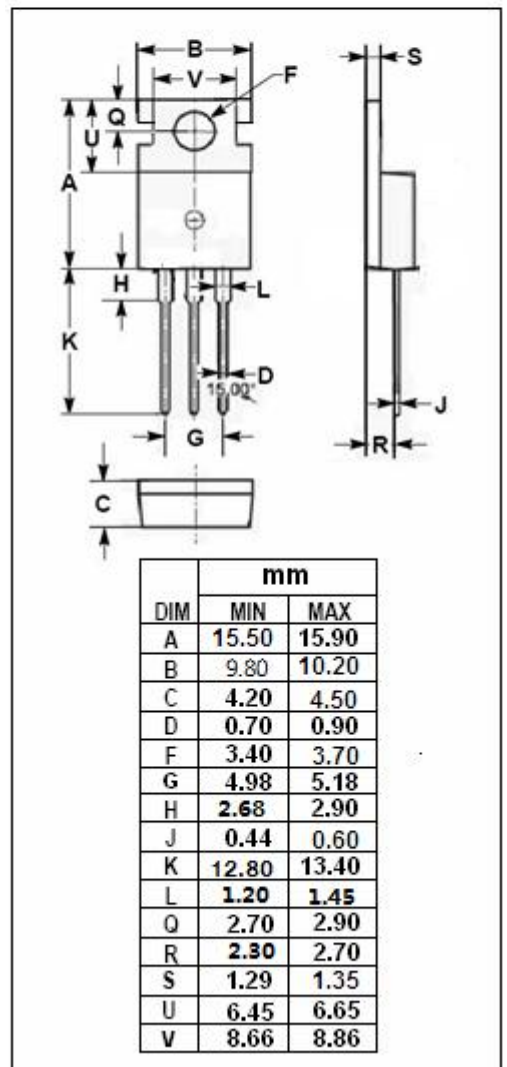
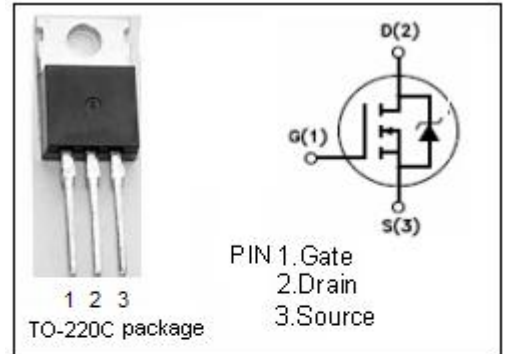
- Designed for Switched Mode Power Supplies (SMPS), motor control, welding, and in general purpose switching resistance application

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{DSS}	Drain-Source Voltage ($V_{GS}=0$)	100	V
V_{GS}	Gate-Source Voltage	± 30	V
I_D	Drain Current-continuous@ $TC=25^\circ\text{C}$	BUK453-100A	14
		BUK453-100B	13
P_{tot}	Total Dissipation@ $TC=25^\circ\text{C}$	75	W
T_j	Max. Operating Junction Temperature	175	$^\circ\text{C}$
T_{stg}	Storage Temperature Range	175	$^\circ\text{C}$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	2.0	$^\circ\text{C}/\text{W}$
$R_{th\ j-a}$	Thermal Resistance, Junction to Ambient	60	$^\circ\text{C}/\text{W}$



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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 = 0.25mA	100			V
V _{GS(th)}	Gate Threshold Voltage	V _{DS} =V _{GS} ; I _D =1mA	2.1		4.0	V
R _{DS(on)}	Drain-Source On-stage Resistance	V _{GS} =10V; I _D =5A	BUK453-100A		0.16	Ω
			BUK453-100B		0.20	Ω
I _{GSS}	Gate Source Leakage Current	V _{GS} = ±30V; V _{DS} = 0			±100	nA
I _{DSS}	Zero Gate Voltage Drain Current	V _{DS} =100V; V _{GS} = 0			10	uA
V _{SD}	Diode Forward Voltage	I _F =14A; V _{GS} =0			1.5	V
G _{fs}	Forward Transconductance	V _{DS} = 25V; I _D = 5A	4.0			S
t _r	Rise time	V _{GS} =10V; I _D =3A; R _{GS} =50 Ω		25	40	ns
t _{on}	Turn-on time			10	20	ns
t _f	Fall time			40	55	ns
t _{off}	Turn-off time			60	90	ns

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