

isc N-Channel Mosfet Transistor

BUZ31

• FEATURES

- Static Drain-Source On-Resistance
: $R_{DS(on)} = 0.2 \Omega$ (Max)
- High current capability
- 150°C operating temperature
- High speed switching
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

• DESCRIPTION

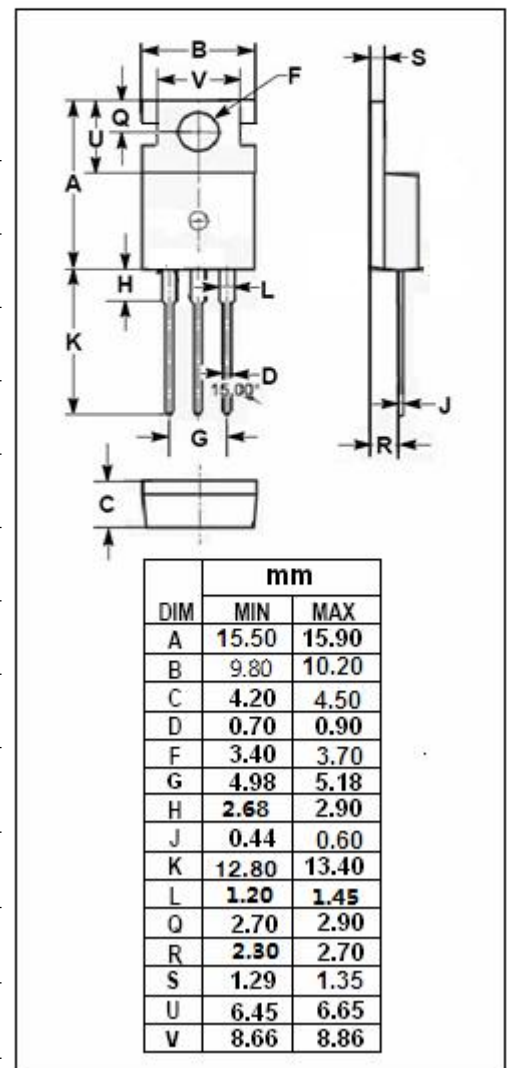
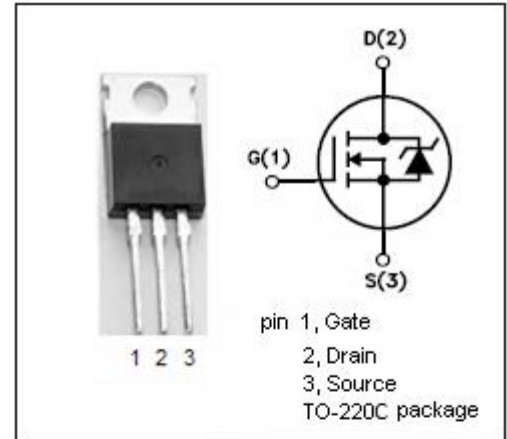
- High current , high speed switching
- Solenoid and relay drivers
- DC-DC & DC-AC converters

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{DSS}	Drain-Source Voltage ($V_{GS}=0$)	200	V
V_{GS}	Gate-Source Voltage	± 20	V
I_D	Drain Current-continuous@ $TC=37^\circ\text{C}$	14.5	A
I_{DM}	Drain Current-Single Pulsed	58	A
P_{tot}	Total Dissipation@ $TC=25^\circ\text{C}$	95	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	1.32	$^\circ\text{C/W}$
$R_{th\ j-a}$	Thermal Resistance,Junction to Ambient	75	$^\circ\text{C/W}$



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ELECTRICAL CHARACTERISTICS

 T_C=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYPE	MAX	UNIT
V _{(BR)DSS}	Drain-Source Breakdown Voltage	V _{GS} = 0; I _D =0.25mA	200			V
V _{GS(th)}	Gate Threshold Voltage	V _{DS} = V _{GS} ; I _D =1mA	2.1		4.0	V
V _{SD}	Diode Forward On-voltage	I _S = 29A; V _{GS} = 0			1.6	V
R _{DS(on)}	Drain-Source On-Resistance	V _{GS} = 10V; I _D = 9A			0.2	Ω
I _{GSS}	Gate-Body Leakage Current	V _{GS} = ±20V; V _{DS} = 0			±100	nA
I _{DSS}	Zero Gate Voltage Drain Current	V _{DS} =200V; V _{GS} = 0			1	μA
G _{fs}	Forward Transconductance	V _{DS} = 25V; I _D =9A	3.0			S
t _{d(on)}	Turn-on Delay Time	V _{GS} =10V; I _D =3A; V _{DD} =30V; R _{GS} =50 Ω			20	ns
t _r	Rise Time				75	
t _{d(off)}	Turn-off Delay Time				200	
t _f	Fall Time				80	

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