

isc N-Channel Mosfet Transistor

BUZ12

• FEATURES

- Static Drain-Source On-Resistance
: $R_{DS(on)} = 0.028 \Omega$ (Max)
- SOA is Power Dissipation Limited
- High input impedance
- High speed switching
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

• DESCRIPTION

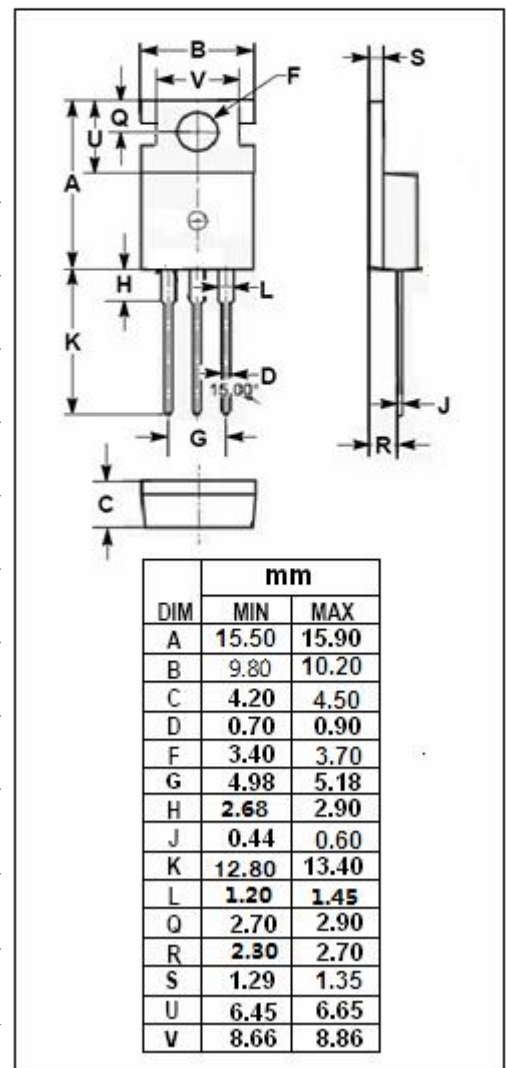
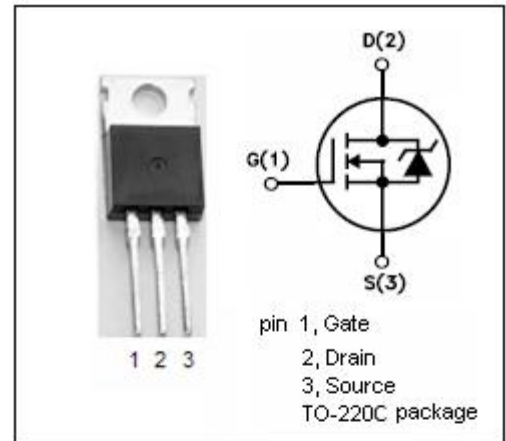
Designed for applications such as switching regulators, switching converters, motor drivers, relay drivers and drivers for high power bipolar switching transistors requiring high speed and low gate drive power .

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{DSS}	Drain-Source Voltage ($V_{GS}=0$)	50	V
V_{GS}	Gate-Source Voltage	± 20	V
I_D	Drain Current-continuous@ $TC=65^\circ\text{C}$	42	A
I_{DM}	Drain Current-Single Pulsed	168	A
P_{tot}	Total Dissipation@ $TC=25^\circ\text{C}$	125	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	$^\circ\text{C/W}$
$R_{th j-a}$	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	50			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 = 84A ;V _{GS} = 0			2.2	V
R _{DS(on)}	Drain-Source On-Resistance	V _{GS} = 10V; I _D = 32A			0.028	Ω
I _{GSS}	Gate-Body Leakage Current	V _{GS} = ±20V;V _{DS} = 0			±100	nA
I _{DSS}	Zero Gate Voltage Drain Current	V _{DS} =50V; V _{GS} = 0			1	μA
G _{fs}	Forward Transconductance	V _{DS} = 25V; I _D =32A	12			S
t _{d(on)}	Turn-on Delay Time	V _{GS} =10V;			50	ns
t _r	Rise Time	I _D =3A;			130	
t _{d(off)}	Turn-off Delay Time	V _{DD} =30V; R _{GS} =50 Ω			280	
t _f	Fall Time				180	

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