

isc N-Channel Mosfet Transistor

BUZ305

• FEATURES

- High speed switching
- Low $R_{DS(ON)}$
- Easy driver for cost effective application
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

• DESCRIPTION

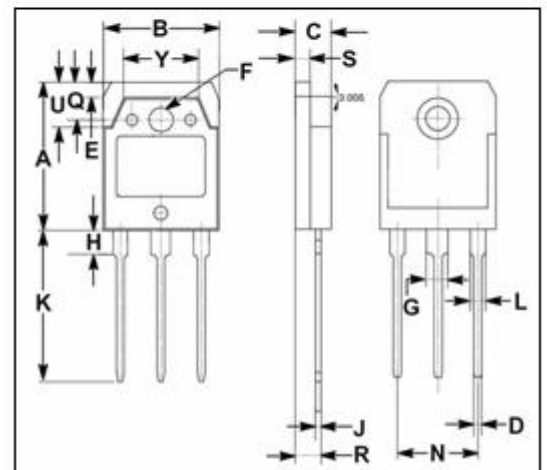
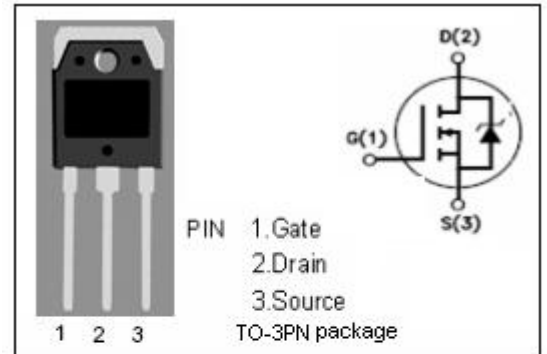
- Automotive power actuator drivers
- Motor controls
- DC-DC converters

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{DSS}	Drain-Source Voltage ($V_{GS}=0$)	800	V
V_{GS}	Gate-Source Voltage	± 20	V
I_D	Drain Current-continuous@ $TC=31^{\circ}C$	7.5	A
I_{DM}	Drain Current-Single Pulsed	30	A
P_{tot}	Total Dissipation@ $TC=25^{\circ}C$	150	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	0.83	$^{\circ}C/W$
$R_{th j-a}$	Thermal Resistance,Junction to Ambient	75	$^{\circ}C/W$



DIM	mm	
	MIN	MAX
A	19.60	20.10
B	15.50	15.70
C	4.70	4.90
D	0.90	1.10
E	1.90	2.10
F	3.40	3.60
G	2.90	3.20
H	3.20	3.40
J	0.595	0.605
K	20.00	20.70
L	1.90	2.20
N	10.89	10.91
Q	4.90	5.10
R	3.35	3.45
S	1.995	2.100
U	5.90	6.10
Y	9.90	10.10

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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	800			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 = 15A; V _{GS} = 0			1.4	V
R _{DS(on)}	Drain-Source On-Resistance	V _{GS} = 10V; I _D = 5A			1.0	Ω
I _{GSS}	Gate-Body Leakage Current	V _{GS} = ±20V; V _{DS} = 0			±100	nA
I _{DSS}	Zero Gate Voltage Drain Current	V _{DS} =800V; V _{GS} = 0			1	μA
G _{fs}	Forward Transconductance	V _{DS} = 25V; I _D =5A	2.5			S
t _{d(on)}	Turn-on Delay Time	V _{GS} =10V; I _D =2.7A; V _{DD} =30V; R _{GS} =50 Ω			45	ns
t _r	Rise Time				180	
t _{d(off)}	Turn-off Delay Time				670	
t _f	Fall Time				200	

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