

isc N-Channel MOSFET Transistor

40N15

• FEATURES

- Drain Current $I_D = 40A @ T_C = 25^\circ C$
- Drain Source Voltage-
: $V_{DSS} = 150V(\text{Min})$
- Static Drain-Source On-Resistance
: $R_{DS(on)} = 0.08 \Omega (\text{Max})$
- Fast Switching
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

• APPLICATIONS

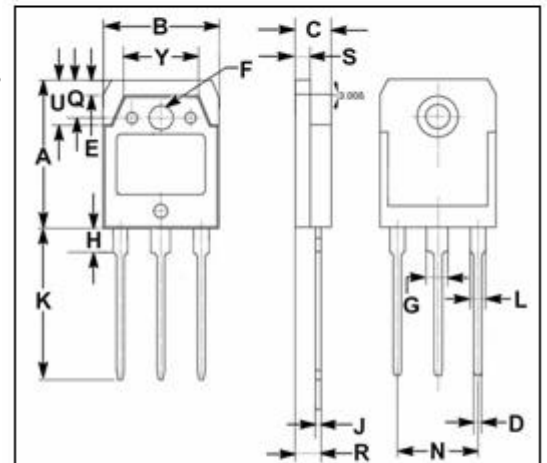
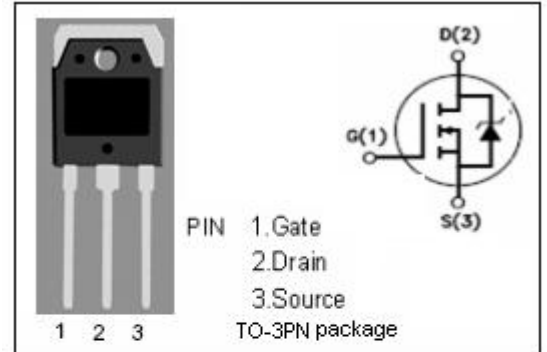
- Switching power supplies, converters, AC and DC motor controls

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{DSS}	Drain-Source Voltage	150	V
V_{GS}	Gate-Source Voltage-Continuous	± 30	V
I_D	Drain Current-Continuous	40	A
I_{DM}	Drain Current-Single Plused	100	A
P_D	Total Dissipation @ $T_C = 25^\circ C$	150	W
T_j	Max. Operating Junction Temperature	150	$^\circ C$
T_{stg}	Storage Temperature	-55~150	$^\circ C$

• THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th j-c}$	Thermal Resistance, Junction to Case	0.63	$^\circ C/W$
$R_{th j-a}$	Thermal Resistance, Junction to Ambient	62.5	$^\circ C/W$



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 =250μA	150			V
V _{GS(th)}	Gate Threshold Voltage	V _{DS} = V _{GS} ; I _D =250μA	2.0		4.5	V
V _{SD}	Diode Forward On-voltage	I _S = 40A; V _{GS} = 0			2.5	V
R _{DS(on)}	Drain-Source On-Resistance	V _{GS} = 10V; I _D = 20A			0.08	Ω
I _{GSS}	Gate-Body Leakage Current	V _{GS} = ±20V; V _{DS} = 0			±500	nA
I _{DSS}	Zero Gate Voltage Drain Current	V _{DS} =150V; V _{GS} = 0			250	μA
C _{iss}	Input Capacitance	V _{DS} =25V;			4500	pF
C _{rss}	Reverse Transfer capacitance	V _{GS} =0V;			200	
C _{oss}	Output Capacitance	f _T =1MHz			800	
t _r	Rise Time	V _{GS} =10V;			280	ns
t _{d(on)}	Turn-on Delay Time	I _D =20A;			130	
t _f	Fall Time	V _{DD} =75V;			210	
t _{d(off)}	Turn-off Delay Time	R _L =4.7 Ω			630	

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