

isc N-Channel MOSFET Transistor

3N40

• FEATURES

- Drain Current $I_D = 3A @ T_C = 25^\circ C$
- Drain Source Voltage-
: $V_{DSS} = 400V (Min)$
- Static Drain-Source On-Resistance
: $R_{DS(on)} = 2.6 \Omega (Max)$
- Fast Switching
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

• APPLICATIONS

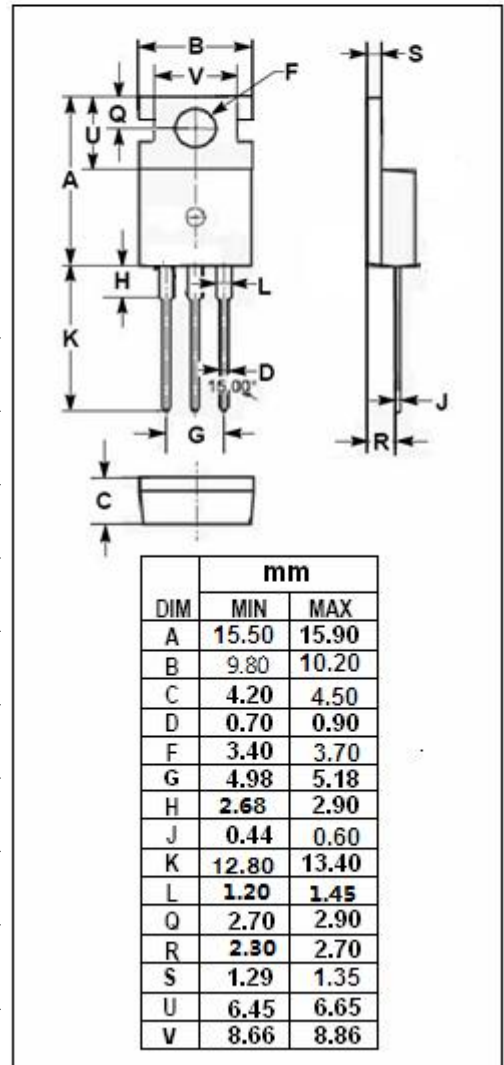
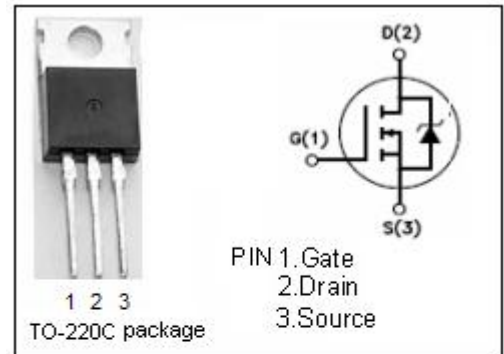
- Switch regulators
- Switching converters motor drivers and relay drivers

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{DSS}	Drain-Source Voltage	400	V
V_{GS}	Gate-Source Voltage-Continuous	± 30	V
I_D	Drain Current-Continuous	3	A
I_{DM}	Drain Current-Single Plused	12	A
P_D	Total Dissipation @ $T_C = 25^\circ C$	28	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	4.9	$^\circ C/W$
$R_{th j-a}$	Thermal Resistance, Junction to Ambient	62.5	$^\circ C/W$



isc N-Channel MOSFET Transistor**3N40****• ELECTRICAL CHARACTERISTICS** $T_C=25^{\circ}\text{C}$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYPE	MAX	UNIT
$V_{(BR)DSS}$	Drain-Source Breakdown Voltage	$V_{GS}=0$; $I_D=250\mu\text{A}$	400			V
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS}=V_{GS}$; $I_D=250\mu\text{A}$	2.0		4.0	V
V_{SD}	Diode Forward On-voltage	$I_S=3\text{A}$; $V_{GS}=0$			1.4	V
$R_{DS(on)}$	Drain-Source On-Resistance	$V_{GS}=10\text{V}$; $I_D=1.5\text{A}$			1.6	Ω
I_{GSS}	Gate-Body Leakage Current	$V_{GS}=\pm 30\text{V}$; $V_{DS}=0$			± 100	nA
I_{DSS}	Zero Gate Voltage Drain Current	$V_{DS}=400\text{V}$; $V_{GS}=0$			10	μA
t_r	Rise Time	$V_{GS}=10\text{V}$; $R_{GS}=25\Omega$ $I_D=3\text{A}$; $V_{DD}=200\text{V}$;			130	ns
$t_{d(on)}$	Turn-on Delay Time				30	
t_f	Fall Time				70	
$t_{d(off)}$	Turn-off Delay Time				50	

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