

**isc N-Channel MOSFET Transistor**

**3N40**

**• FEATURES**

- Drain Current  $I_D = 3A @ T_C = 25^\circ C$
- Drain Source Voltage-  
:  $V_{DSS} = 400V(\text{Min})$
- Static Drain-Source On-Resistance  
:  $R_{DS(on)} = 2.6 \Omega (\text{Max})$
- Fast Switching

**• APPLICATIONS**

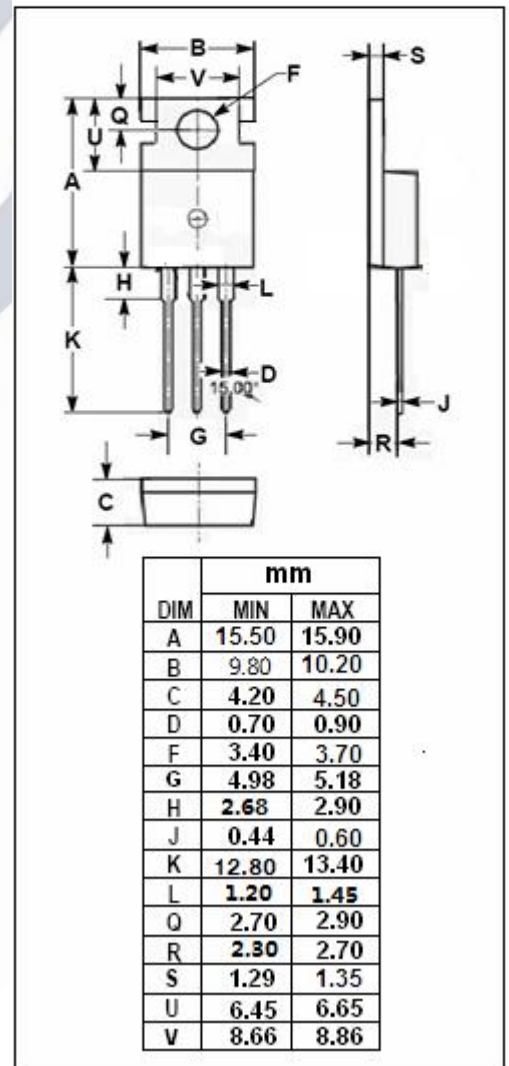
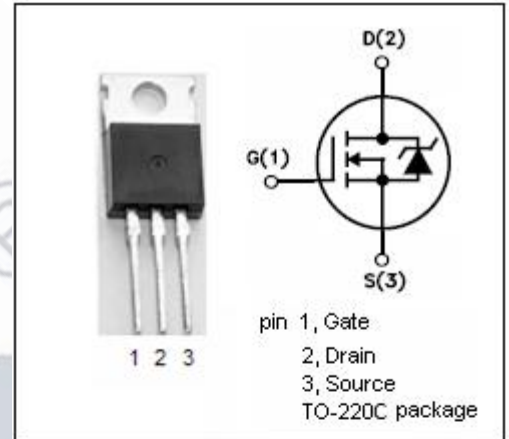
- Switch regulators
- Switching converters motor drivers and relay drivers

**• 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	$\pm 30$	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	$\Omega$
$I_{GSS}$	Gate-Body Leakage Current	$V_{GS}=\pm 30\text{V}; V_{DS}=0$			$\pm 100$	nA
$I_{DSS}$	Zero Gate Voltage Drain Current	$V_{DS}=400\text{V}; V_{GS}=0$			10	$\mu\text{A}$
$t_r$	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	