

isc N-Channel MOSFET Transistor

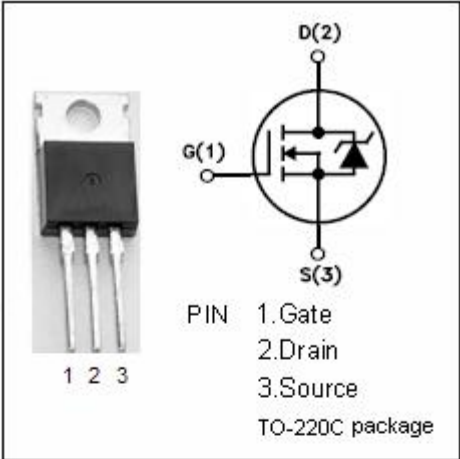
13N40

FEATURES

- Drain Current $I_D = 13A @ T_C = 25^{\circ}C$
- Drain Source Voltage-
: $V_{DSS} = 400V (Min)$
- Static Drain-Source On-Resistance
: $R_{DS(on)} = 0.35 \Omega (Max)$
- Fast Switching

APPLICATIONS

- Switch mode power supply.

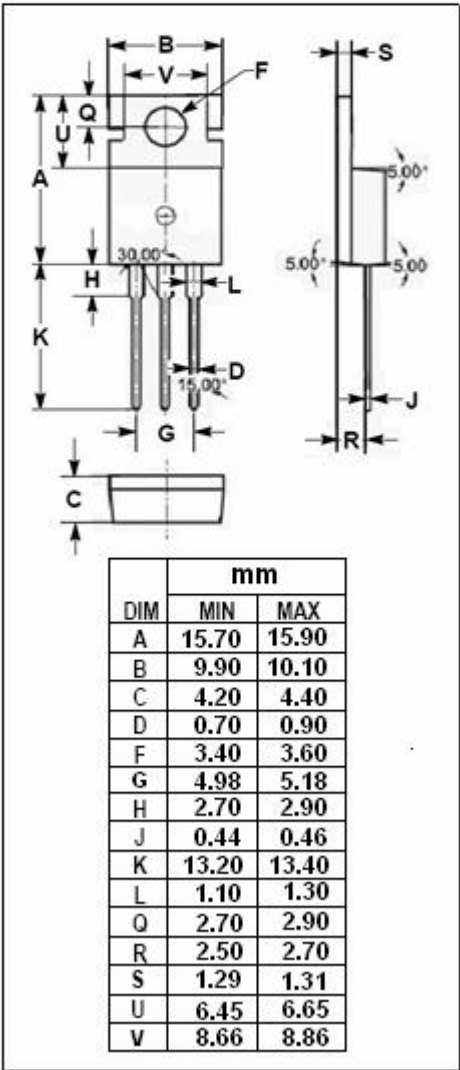


ABSOLUTE MAXIMUM RATINGS($T_a = 25^{\circ}C$)

SYMBOL	PARAMETER	VALUE	UNIT
V_{DSS}	Drain-Source Voltage	400	V
V_{GS}	Gate-Source Voltage-Continuous	± 30	V
I_D	Drain Current-Continuous	13	A
I_{DM}	Drain Current-Single Plused	52	A
P_D	Total Dissipation @ $T_C = 25^{\circ}C$	48	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	2.58	$^{\circ}C/W$
$R_{th j-a}$	Thermal Resistance, Junction to Ambient	60	$^{\circ}C/W$



isc N-Channel MOSFET Transistor**13N40****• 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	$I_S=13\text{A}; V_{GS}=0$			1.2	V
$R_{DS(on)}$	Drain-Source On-Resistance	$V_{GS}=10\text{V}; I_D=6.5\text{A}$			0.35	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	$V_{DS}=400\text{V}; V_{GS}=0$			1	μA
C_{iss}	Input Capacitance	$V_{DS}=25\text{V};$ $V_{GS}=0\text{V};$ $f_T=1\text{MHz}$		1283		pF
C_{rss}	Reverse Transfer capacitance			120		
C_{oss}	Output Capacitance			218		
t_r	Rise Time	$V_{GS}=10\text{V};$ $I_D=13\text{A};$ $V_{DD}=200\text{V};$ $R_{GS}=25\Omega$		20		ns
$t_{d(on)}$	Turn-on Delay Time			16		
t_f	Fall Time			42		
$t_{d(off)}$	Turn-off Delay Time			100		