

isc N-Channel MOSFET Transistor

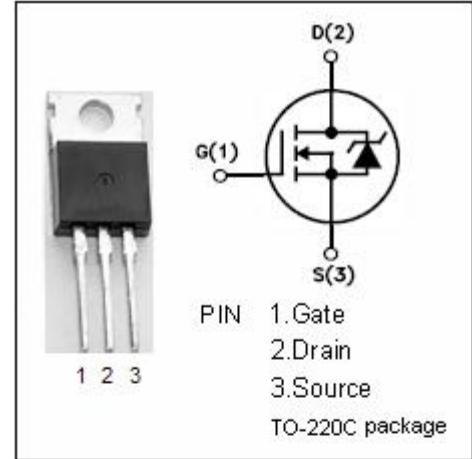
13N40

• 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

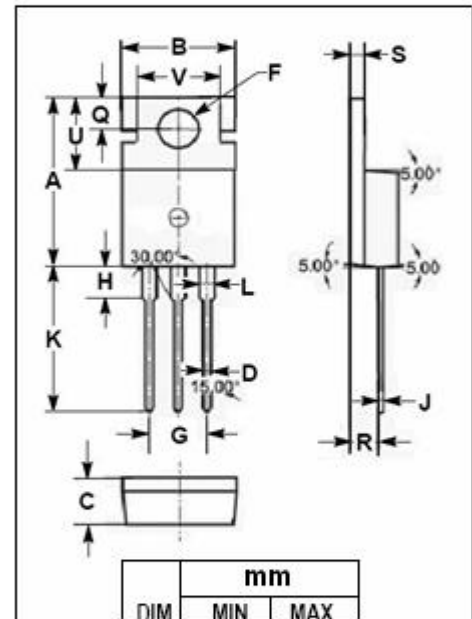
• APPLICATIONS

- 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	$\pm 30$	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	$\Omega$
$I_{GSS}$	Gate-Body Leakage Current	$V_{GS}=\pm 30\text{V}; V_{DS}=0$			$\pm 100$	nA
$I_{DSS}$	Zero Gate Voltage Drain Current	$V_{DS}=400\text{V}; V_{GS}=0$			1	$\mu\text{A}$
$C_{iss}$	Input Capacitance	$V_{DS}=25\text{V};$		1283		pF
$C_{rss}$	Reverse Transfer capacitance	$V_{GS}=0\text{V};$		120		
$C_{oss}$	Output Capacitance	$f_T=1\text{MHz}$		218		
$t_r$	Rise Time	$V_{GS}=10\text{V};$		20		ns
$t_{d(on)}$	Turn-on Delay Time	$I_D=13\text{A};$		16		
$t_f$	Fall Time	$V_{DD}=200\text{V};$		42		
$t_{d(off)}$	Turn-off Delay Time	$R_{GS}=25\Omega$		100		