

isc N-Channel MOSFET Transistor

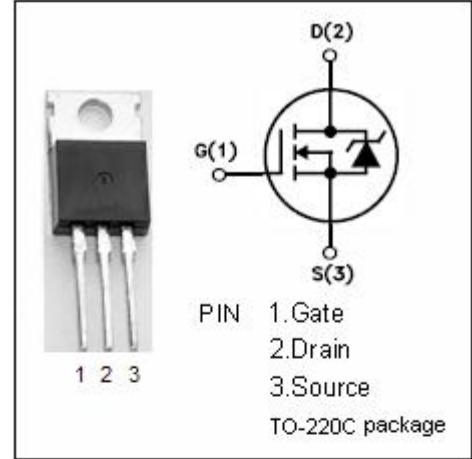
40N10

• FEATURES

- Drain Current  $I_D = 40A @ T_C = 25^\circ C$
- Drain Source Voltage-  
:  $V_{DSS} = 100V(\text{Min})$
- Static Drain-Source On-Resistance  
:  $R_{DS(on)} = 0.04 \Omega (\text{Max})$
- Fast Switching

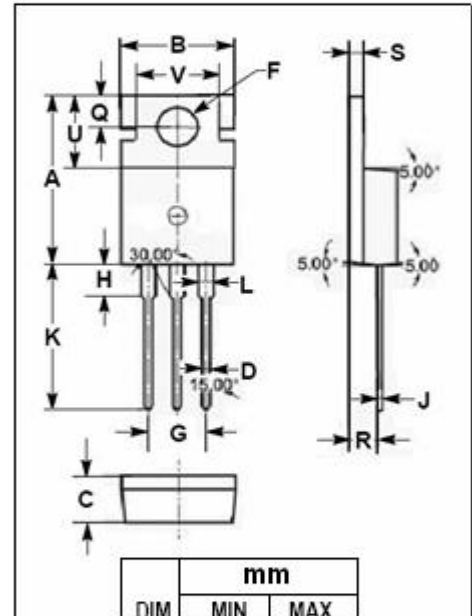
• APPLICATIONS

- 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	100	V
$V_{GS}$	Gate-Source Voltage-Continuous	$\pm 30$	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	0.833	$^\circ C/W$
$R_{th j-a}$	Thermal Resistance, Junction to Ambient	62.5	$^\circ C/W$

**isc N-Channel MOSFET Transistor****40N10****• ELECTRICAL CHARACTERISTICS****T<sub>C</sub>=25°C unless otherwise specified**

SYMBOL	PARAMETER	CONDITIONS	MIN	TYPE	MAX	UNIT
V <sub>(BR)DSS</sub>	Drain-Source Breakdown Voltage	V <sub>GS</sub> = 0; I <sub>D</sub> =250μA	100			V
V <sub>GS(th)</sub>	Gate Threshold Voltage	V <sub>DS</sub> = V <sub>GS</sub> ; I <sub>D</sub> =250μA	2.0		4.0	V
V <sub>SD</sub>	Diode Forward On-voltage	I <sub>S</sub> = 40A ;V <sub>GS</sub> = 0			3.0	V
R <sub>DS(on)</sub>	Drain-Source On-Resistance	V <sub>GS</sub> = 10V; I <sub>D</sub> = 20A			0.04	Ω
I <sub>GSS</sub>	Gate-Body Leakage Current	V <sub>GS</sub> = ±20V;V <sub>DS</sub> = 0			±500	nA
I <sub>DSS</sub>	Zero Gate Voltage Drain Current	V <sub>DS</sub> =80V; V <sub>GS</sub> = 0			1	μA
C <sub>iss</sub>	Input Capacitance	V <sub>DS</sub> =25V; V <sub>GS</sub> =0V; f <sub>T</sub> =1MHz			5000	pF
C <sub>rss</sub>	Reverse Transfer capacitance				1000	
C <sub>oss</sub>	Output Capacitance				2500	
t <sub>r</sub>	Rise Time	V <sub>GS</sub> =10V; I <sub>D</sub> =20A; V <sub>DD</sub> =50V; R <sub>L</sub> =2.5 Ω		30		ns
t <sub>d(on)</sub>	Turn-on Delay Time			17		
t <sub>f</sub>	Fall Time			20		
t <sub>d(off)</sub>	Turn-off Delay Time			42		