

isc N-Channel MOSFET Transistor

45N05

• FEATURES

- Drain Current $I_D = 45A @ T_C = 25^\circ C$
- Drain Source Voltage-
: $V_{DSS} = 50V (Min)$
- Static Drain-Source On-Resistance
: $R_{DS(on)} = 0.04 \Omega (Max)$
- Fast Switching

• APPLICATIONS

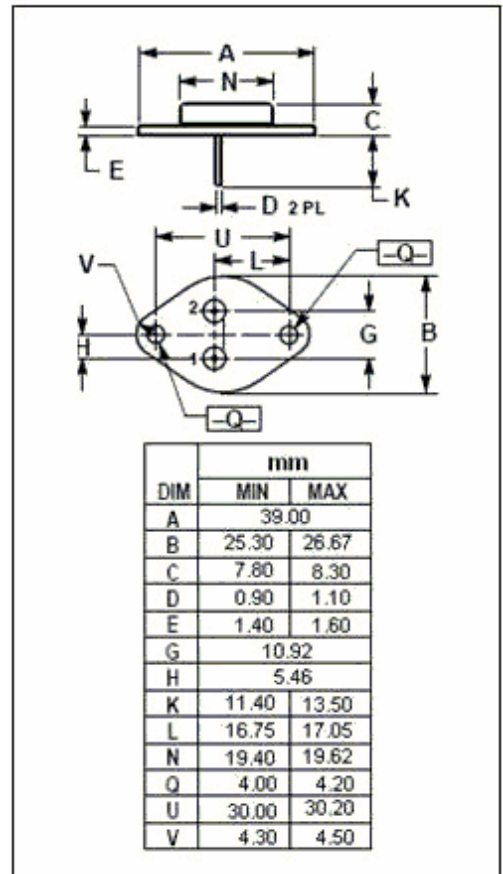
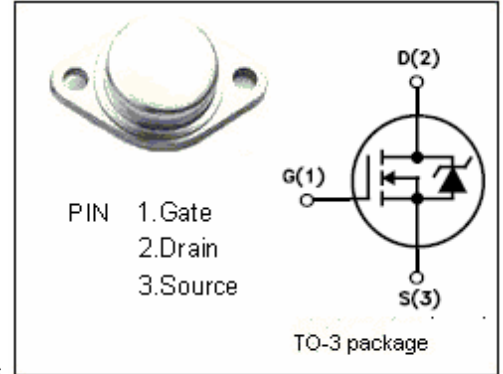
- Switching power supplies, converters, AC and DC motor controls

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{DSS}	Drain-Source Voltage	50	V
V_{GS}	Gate-Source Voltage-Continuous	± 30	V
I_D	Drain Current-Continuous	45	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	0.63	$^\circ C/W$
$R_{th j-a}$	Thermal Resistance, Junction to Ambient	62.5	$^\circ C/W$



isc N-Channel MOSFET Transistor**45N05****• 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	$V_{GS}=0; I_D=1\text{mA}$	50			V
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS}=V_{GS}; I_D=1\text{mA}$	2.0		4.0	V
V_{SD}	Diode Forward On-voltage	$I_S=22.5\text{A}; V_{GS}=0$			1.4	V
$R_{DS(on)}$	Drain-Source On-Resistance	$V_{GS}=10\text{V}; I_D=22.5\text{A}$			0.04	Ω
I_{GSS}	Gate-Body Leakage Current	$V_{GS}=\pm 20\text{V}; V_{DS}=0$			± 100	nA
I_{DSS}	Zero Gate Voltage Drain Current	$V_{DS}=40\text{V}; V_{GS}=0$			1	μA
C_{iss}	Input Capacitance	$V_{DS}=25\text{V};$ $V_{GS}=0\text{V};$ $f_T=1\text{MHz}$			3000	pF
C_{rss}	Reverse Transfer capacitance				750	
C_{oss}	Output Capacitance				1800	