

**isc N-Channel MOSFET Transistor**

**3N45**

**• FEATURES**

- Drain Current  $I_D = 3A @ T_C = 25^\circ C$
- Drain Source Voltage-  
:  $V_{DSS} = 450V(\text{Min})$
- Static Drain-Source On-Resistance  
:  $R_{DS(on)} = 3.0 \Omega (\text{Max})$
- Fast Switching

**• APPLICATIONS**

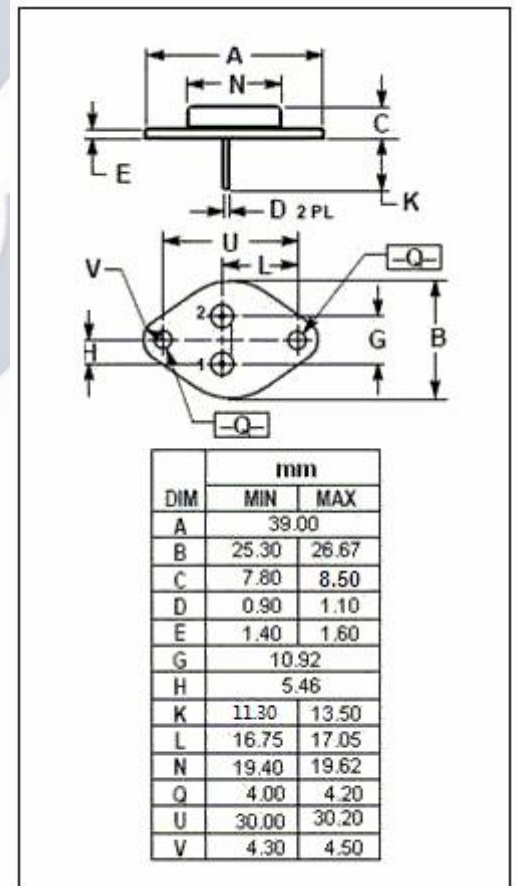
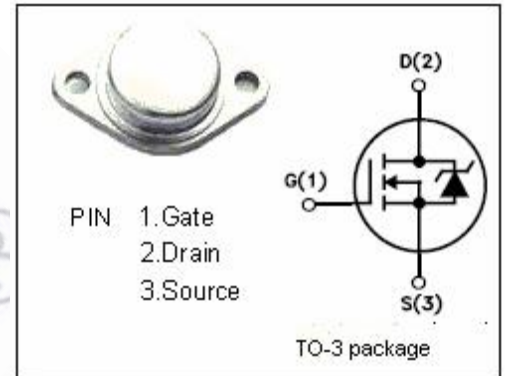
- Switching power supplies, converters, AC and DC motor controls

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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{DSS}$	Drain-Source Voltage	450	V
$V_{GS}$	Gate-Source Voltage-Continuous	$\pm 30$	V
$I_D$	Drain Current-Continuous	3	A
$I_{DM}$	Drain Current-Single Plused	5	A
$P_D$	Total Dissipation @ $T_C = 25^\circ C$	75	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	1.67	$^\circ C/W$



**isc N-Channel MOSFET Transistor****3N45****• 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> =1mA	450			V
V <sub>GS(th)</sub>	Gate Threshold Voltage	V <sub>DS</sub> = V <sub>GS</sub> ; I <sub>D</sub> =1mA	2.0		4.0	V
V <sub>SD</sub>	Diode Forward On-voltage	I <sub>S</sub> = 1.5A; V <sub>GS</sub> = 0			1.4	V
R <sub>DS(on)</sub>	Drain-Source On-Resistance	V <sub>GS</sub> = 10V; I <sub>D</sub> = 1.5A			3.0	Ω
I <sub>GSS</sub>	Gate-Body Leakage Current	V <sub>GS</sub> = ±20V; V <sub>DS</sub> = 0			±100	nA
I <sub>DSS</sub>	Zero Gate Voltage Drain Current	V <sub>DS</sub> =360V; V <sub>GS</sub> = 0			10	μA
t <sub>r</sub>	Rise Time	V <sub>GS</sub> =10V; I <sub>D</sub> =1.5A; V <sub>DD</sub> =250V; R <sub>L</sub> =50 Ω			60	ns
t <sub>d(on)</sub>	Turn-on Delay Time				45	
t <sub>f</sub>	Fall Time				75	
t <sub>d(off)</sub>	Turn-off Delay Time				135	