

# isc N-Channel Mosfet Transistor

# IRFAC30

### • FEATURES

- Lower Input Capacitance
- Improved Gate Charge
- Extended Safe Operating Area
- Rugged Gate Oxide Technology
- High speed switching
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

### • DESCRIPTION

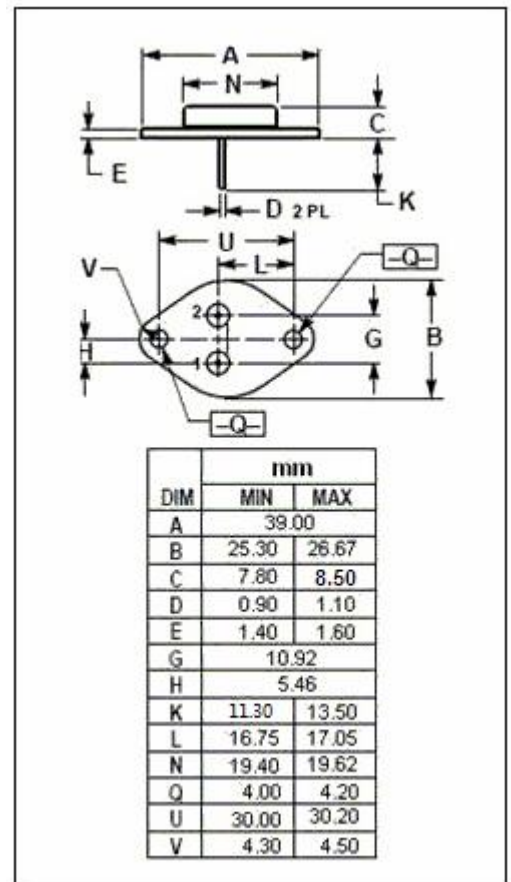
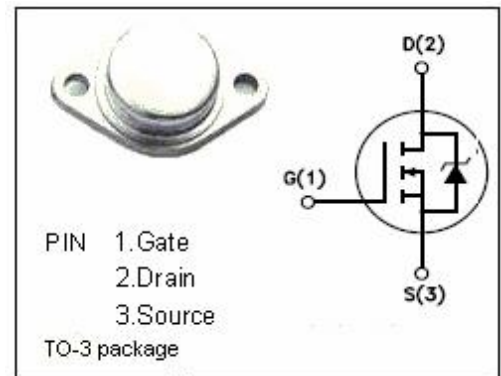
- High current ,high speed switching
- Switch mode power supplies
- DC-AC converters for welding equipment and Uninterruptible power supplies and motor Driver.

### • ABSOLUTE MAXIMUM RATINGS(T<sub>a</sub>=25°C)

SYMBOL	ARAMETER	VALUE	UNIT
V <sub>DSS</sub>	Drain-Source Voltage (V <sub>GS</sub> =0)	600	V
V <sub>GS</sub>	Gate-Source Voltage	±20	V
I <sub>D</sub>	Drain Current-continuous@ TC=25°C	3.6	A
I <sub>DM</sub>	Drain Current-Single Plused	14	A
P <sub>tot</sub>	Total Dissipation@TC=25°C	75	W
T <sub>j</sub>	Max. Operating Junction Temperature	150	°C
T <sub>stg</sub>	Storage Temperature Range	-55~150	°C

### THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
R <sub>th j-c</sub>	Thermal Resistance,Junction to Case	1.67	°C/W
R <sub>th j-a</sub>	Thermal Resistance,Junction to Ambient	35	°C/W



**isc N-Channel Mosfet Transistor**
**IRFAC30**
**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	600			V
V <sub>GS(th)</sub>	Gate Threshold Voltage	V <sub>DS</sub> = V <sub>GS</sub> ; I <sub>D</sub> =0.25mA	2.0		4.0	V
V <sub>SD</sub>	Diode Forward On-voltage	I <sub>S</sub> = 3.6A; V <sub>GS</sub> = 0			1.6	V
R <sub>DS(on)</sub>	Drain-Source On-Resistance	V <sub>GS</sub> = 10V; I <sub>D</sub> = 3.6A			2.5	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> =480V; V <sub>GS</sub> = 0			25	μA
G <sub>fs</sub>	Forward Transconductance	V <sub>DS</sub> = 25V; I <sub>D</sub> =2.3A	2.4			S
t <sub>d(on)</sub>	Turn-on Delay Time	I <sub>D</sub> =3.6A; V <sub>DD</sub> =300V; R <sub>G</sub> =7.5 Ω			17	ns
t <sub>r</sub>	Rise Time				20	
t <sub>d(off)</sub>	Turn-off Delay Time				53	
t <sub>f</sub>	Fall Time				21	

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