

isc N-Channel MOSFET Transistor

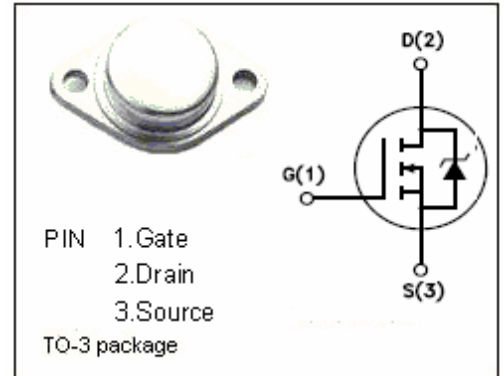
IRFAC42R

DESCRIPTION

- Repetitive Avalanche Ratings
- Dynamic dv/dt Rating
- Hermetically Sealed
- Simple Drive Requirements
- Ease of Paralleling

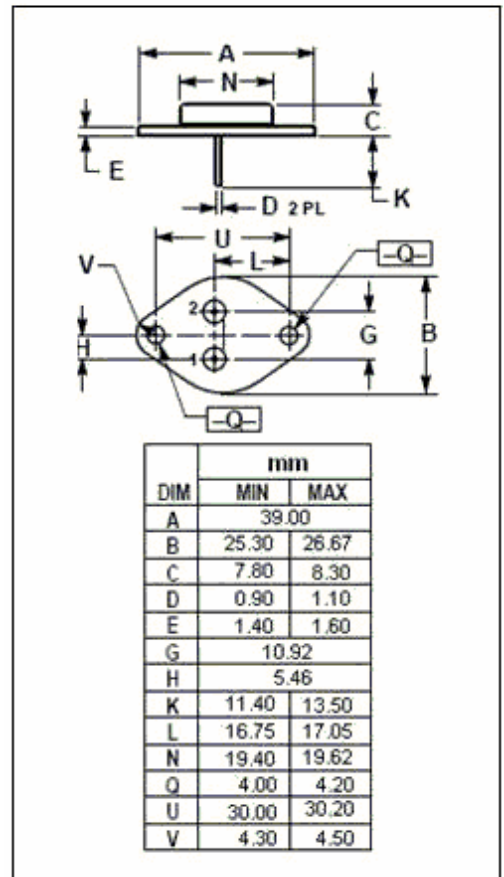
APPLICATIONS

- Designed for applications such as switching power Supplies ,motor controls ,inverters ,choppers ,audio amplifiers and high energy pulse circuits.



ABSOLUTE MAXIMUM RATINGS(T_a=25°C)

SYMBOL	PARAMETER	VALUE	UNIT
V _{DSS}	Drain-Source Voltage (V _{GS} =0)	600	V
V _{GS}	Gate-Source Voltage	±20	V
I _D	Drain Current-continuous@ TC=25°C	5.4	A
P _{tot}	Total Dissipation@TC=25°C	125	W
T _j	Max. Operating Junction Temperature	-55~150	°C
T _{stg}	Storage Temperature Range	-55~150	°C



THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
R _{th j-c}	Thermal Resistance,Junction to Case	1	°C/W
R _{th j-A}	Thermal Resistance,Junction to Ambient	30	°C/W

isc N-Channel Mosfet Transistor

IRFAC42R

• ELECTRICAL CHARACTERISTICS ($T_C=25^\circ\text{C}$)

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
$V_{(BR)DSS}$	Drain-Source Breakdown Voltage	$V_{GS}=0; I_D=0.25\text{mA}$	600			V
$V_{GS(TH)}$	Gate Threshold Voltage	$V_{DS}=V_{GS}; I_D=0.25\text{mA}$	2		4	V
$R_{DS(ON)}$	Drain-Source On-stage Resistance	$V_{GS}=10\text{V}; I_D=3.4\text{A}$			1.6	Ω
I_{GSS}	Gate Source Leakage Current	$V_{GS}=\pm 20\text{V}; V_{DS}=0$			± 100	nA
I_{DSS}	Zero Gate Voltage Drain Current	$V_{DS}=600\text{V}; V_{GS}=0$			250	μA
V_{SD}	Diode Forward Voltage	$I_F=6.2\text{A}; V_{GS}=0$			1.5	V
C_{iss}	Input Capacitance	$V_{DS}=250\text{V}, V_{GS}=10\text{V}, F=1.0\text{MHz}$		1300		pF
C_{oss}	Output Capacitance			160		pF
C_{rss}	Reverse Transfer Capacitance			30		pF

• SWITCHING CHARACTERISTICS ($T_C=25^\circ\text{C}$)

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
$T_d(\text{on})$	Turn-on Delay Time	$V_{DD}=300\text{V}, I_D=6.2\text{A}$ $R_G=9.1\Omega$		13	20	ns
T_r	Rise Time			18	27	ns
$T_d(\text{off})$	Turn-off Delay Time			55	83	ns
T_f	Fall Time			20	30	ns