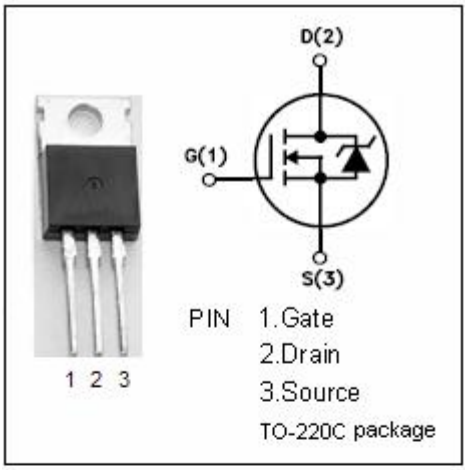
isc N-Channel MOSFET Transistor IRF640A



FEATURES

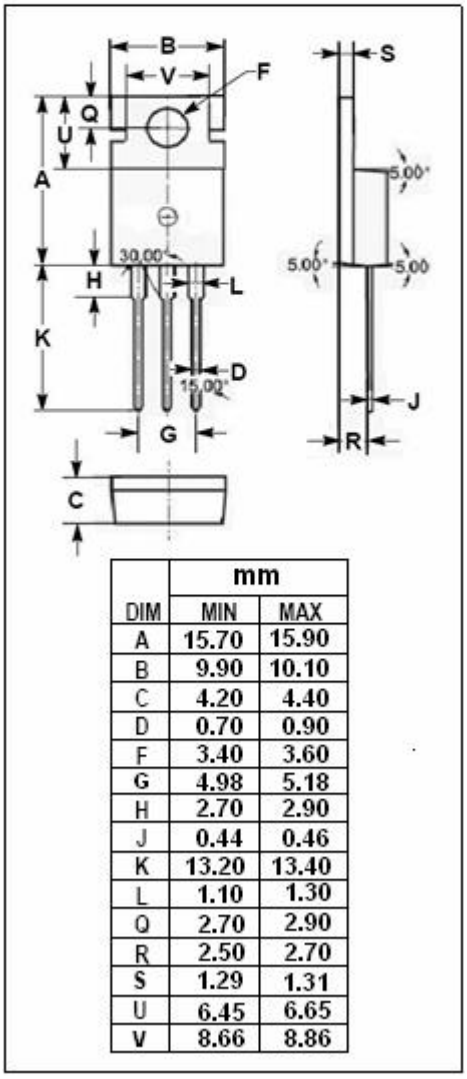
- Low RDS(on) = 0.144Ω(TYP)
- Lower Input Capacitance
- Improved Gate Charge
- Extended Safe Operating Area
- Rugged Gate Oxide Technology

DESCRIPTION

- Designed for use in switch mode power supplies and general purpose applications.

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	PARAMETER	VALUE	UNIT
V_{DSS}	Drain-Source Voltage	200	V
V_{GS}	Gate-Source Voltage-Continuous	±30	V
I_D	Drain Current-Continuous	18	A
I_{DM}	Drain Current-Single Pluse	72	A
P_D	Total Dissipation @T_C=25℃	139	W
T_J	Max. Operating Junction Temperature	-55~150	℃
T_{stg}	Storage Temperature	-55~150	℃



DIM	mm MIN	mm MAX
A	15.70	15.90
B	9.90	10.10
C	4.20	4.40
D	0.70	0.90
F	3.40	3.60
G	4.98	5.18
H	2.70	2.90
J	0.44	0.46
K	13.20	13.40
L	1.10	1.30
Q	2.70	2.90
R	2.50	2.70
S	1.29	1.31
U	6.45	6.65
V	8.66	8.86

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j\text{-}c}$	Thermal Resistance, Junction to Case	0.9	℃/W
$R_{th\ j\text{-}a}$	Thermal Resistance, Junction to Ambient	62.5	℃/W

isc N-Channel MOSFET Transistor IRF640A

ELECTRICAL CHARACTERISTICS

T_C=25℃ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
$V_{(BR)DSS}$	Drain-Source Breakdown Voltage	V_{GS}= 0; I_D= 0.25mA	200		V
$V_{GS(th)}$	Gate Threshold Voltage	V_{DS}= V_{GS}; I_D= 0.25mA	2	4	V
$R_{DS(on)}$	Drain-Source On-Resistance	V_{GS}= 10V; I_D=9A		0.18	Ω
I_{GSS}	Gate-Body Leakage Current	V_{GS}= ±30V;V_{DS}= 0		±100	nA
I_{DSS}	Zero Gate Voltage Drain Current	V_{DS}= 200V; V_{GS}= 0 V_{DS}= 160V; V_{GS}= 0; T_j= 125℃		10 100	μA
V_{SD}	Forward On-Voltage	I_S= 18A; V_{GS}= 0		1.5	V
Ciss	Input Capacitance	V_{DS}=25V,V_{GS}=0V, F=1.0MHz		1500	pF
Coss	Output Capacitance			250	pF
Crss	Reverse Transfer Capacitance			110	pF

• **SWITCHING CHARACTERISTICS (T_C=25℃)**

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
Td(on)	Turn-on Delay Time	V_{DD}=100V,I_D=18A R_G=9.1Ω		17	40	ns
Tr	Rise Time			16	40	ns
Td(off)	Turn-off Delay Time			48	110	ns
Tf	Fall Time			24	60	ns

•