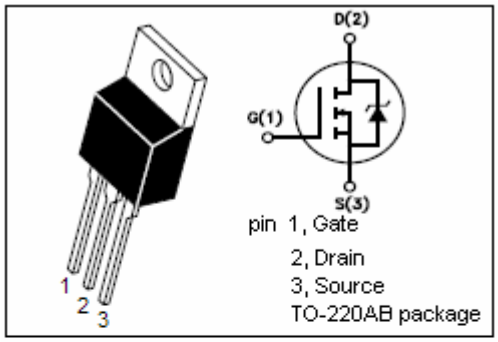
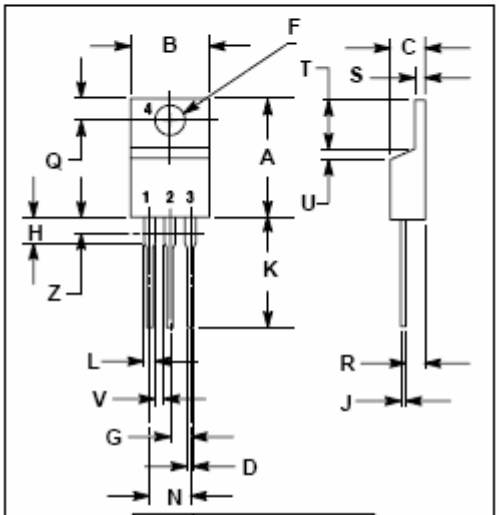
isc N-Channel Mosfet Transistor IRF654A

• **FEATURES**
• Avalanche Rugged Technology
• Lower Input Capacitance
• Improved Gate Charge
• Extended Safe Operating Area
• Low $R_{DS(ON)}$: 0.108 Ω (Typ.)



• **DESCRITION**
• designed for applications such as switching regulators, switching convertors, motor drivers,relay drivers, and drivers for high power bipolar switching transistors requiring high speed and low gate drive power. These types can be operated directly from integrated circuits.



DIM	mm MIN	mm MAX
A	14.48	15.75
B	9.66	10.28
C	4.07	4.82
D	0.64	0.88
F	3.61	3.73
G	2.42	2.66
H	2.80	3.93
J	0.46	0.64
K	12.70	14.27
L	1.15	1.52
N	4.83	5.33
Q	2.54	3.04
R	2.04	2.79
S	1.15	1.39
T	5.97	6.47
U	0.00	1.27
V	1.15	---
Z	---	2.04

• **ABSOLUTE MAXIMUM RATINGS(T_a=25℃)**

SYMBOL	PARAMETER	VALUE	UNIT
V_{DSS}	Drain-Source Voltage	250	V
V_{GS}	Gate-Source Voltage-Continuous	±30	V
I_D	Drain Current-Continuous	21	A
I_{DM}	Drain Current-Single Plused	84	A
P_D	Total Dissipation @T_C=25℃	156	W
T_j	Max. Operating Junction Temperature	-55~150	℃
T_{stg}	Storage Temperature	-55~150	℃

• **THERMAL CHARACTERISTICS**

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j\text{-}c}$	Thermal Resistance,Junction to Case	0.8	℃/W
$R_{\theta JA}$	Junction-to-Ambient	62.5	℃/W

isc N-Channel Mosfet Transistor IRF654A

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	250		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= 10.5 A		0.14	Ω
I_{GSS}	Gate-Body Leakage Current	V_{GS}= ±30V;V_{DS}= 0		±100	nA
I_{DSS}	Zero Gate Voltage Drain Current	V_{DS}= 250V; V_{GS}=0		10	uA
V_{SD}	Forward On-Voltage	I_S= 21A; V_{GS}=0		1.5	V
Ciss	Input Capacitance	V_{DS}=25V,V_{GS}=0V, F=1.0MHz		3000	pF
Coss	Output Capacitance			400	pF
Crss	Reverse Transfer Capacitance			180	pF

• SWITCHING CHARACTERISTICS (T_C=25℃)

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
Td(on)	Turn-on Delay Time	V_{DD}=125V,I_D=25A R_G=5.3Ω		21	60	ns
Tr	Rise Time			20	60	ns
Td(off)	Turn-off Delay Time			86	190	ns
Tf	Fall Time			40	100	ns