

isc N-Channel Mosfet Transistor

IRF644A

FEATURES

- Avalanche Rugged Technology
- Rugged Gate Oxide Technology
- Lower Input Capacitance
- Improved Gate Charge
- Extended Safe Operating Area
- Lower Leakage Current: 10mA (Max.) @ $V_{DS} = 250V$
- Lower $R_{DS(ON)}$: 0.214 Ω (Typ.)

DESCRIPTION

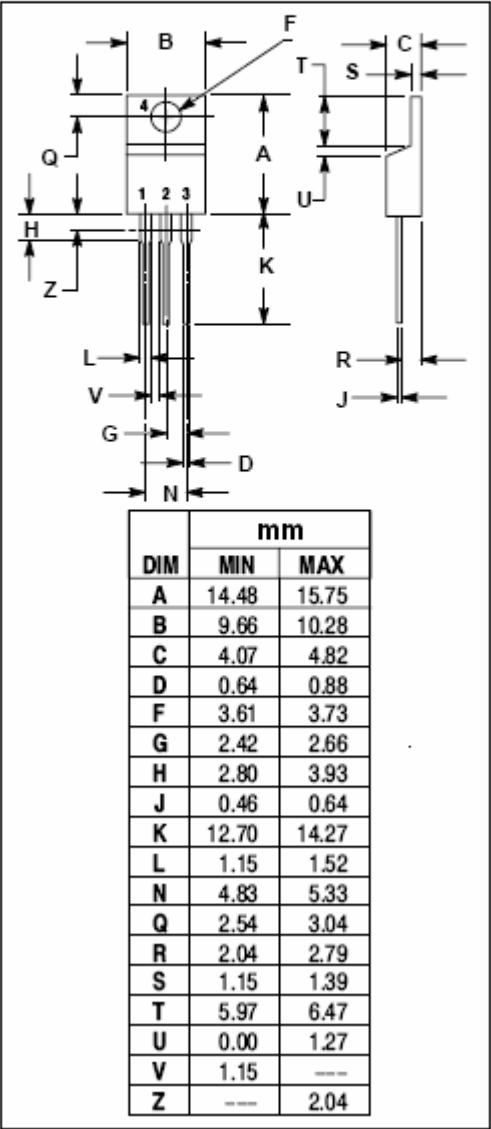
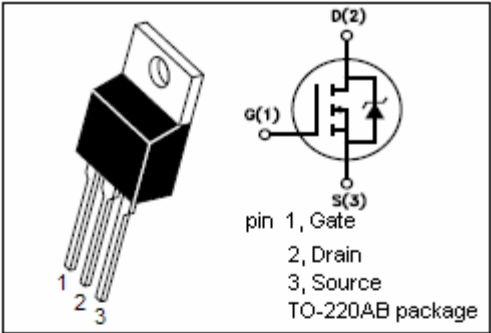
- Designed especially for high voltage,high speed applications, such as off-line switching power supplies , UPS,AC and DC motor controls,relay and solenoid drivers.

ABSOLUTE MAXIMUM RATINGS($T_a=25^{\circ}C$)

SYMBOL	PARAMETER	VALUE	UNIT
V_{DSS}	Drain-Source Voltage	250	V
V_{GS}	Gate-Source Voltage-Continuous	± 30	V
I_D	Drain Current-Continuous	14	A
I_{DM}	Drain Current-Single Plused	56	A
P_D	Total Dissipation @ $T_c=25^{\circ}C$	139	W
T_j	Max. Operating Junction Temperature	-55~150	$^{\circ}C$
T_{stg}	Storage Temperature	-55~150	$^{\circ}C$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance,Junction to Case	0.9	$^{\circ}C/W$
$R_{\theta JA}$	Junction-to-Ambient	62.5	$^{\circ}C/W$



isc N-Channel Mosfet Transistor**IRF644A****ELECTRICAL CHARACTERISTICS** $T_C=25^{\circ}\text{C}$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
$V_{(BR)DSS}$	Drain-Source Breakdown Voltage	$V_{GS}=0$; $I_D=0.25\text{mA}$	250		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-Resistance	$V_{GS}=10\text{V}$; $I_D=7\text{A}$		0.28	Ω
I_{GSS}	Gate-Body Leakage Current	$V_{GS}=\pm 30\text{V}$; $V_{DS}=0$		± 100	nA
I_{DSS}	Zero Gate Voltage Drain Current	$V_{DS}=250\text{V}$; $V_{GS}=0$		10	μA
V_{SD}	Forward On-Voltage	$I_S=14\text{A}$; $V_{GS}=0$		1.5	V
C_{iss}	Input Capacitance	$V_{DS}=25\text{V}$, $V_{GS}=0\text{V}$, $F=1.0\text{MHz}$		1600	pF
C_{oss}	Output Capacitance			210	pF
C_{rss}	Reverse Transfer Capacitance			95	pF

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

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
$T_d(on)$	Turn-on Delay Time	$V_{DD}=150\text{V}$, $I_D=14\text{A}$ $R_G=9.1\Omega$		17	50	ns
T_r	Rise Time			17	50	ns
$T_d(off)$	Turn-off Delay Time			74	160	ns
T_f	Fall Time			32	80	ns