

## isc N-Channel MOSFET Transistor

## IRF540FI

### • FEATURES

- Low  $R_{DS(on)}$
- $V_{GS}$  Rated at  $\pm 20V$
- Silicon Gate for Fast Switching Speed
- Rugged
- Low Drive Requirements
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

### • DESCRIPTION

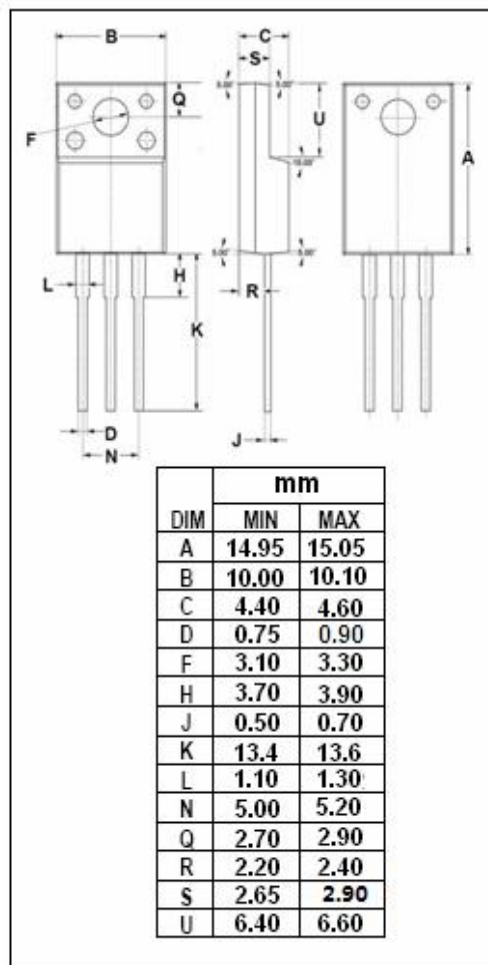
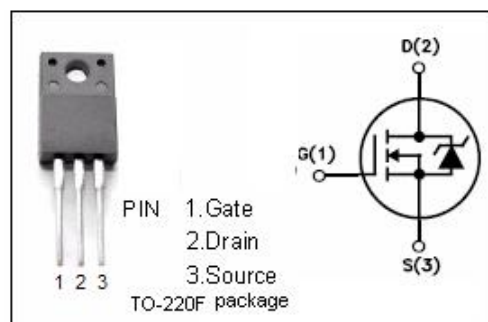
- Designed especially for high voltage,high speed applications, such as off-line switching power supplies , UPS,AC and DC motor controls,relay and solenoid drivers.

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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{DS}$	Drain-Source Voltage	100	V
$V_{GS}$	Gate-Source Voltage-Continuous	$\pm 20$	V
$I_D$	Drain Current-Continuous	16	A
$I_{DM}$	Drain Current-Single Plused	120	A
$P_D$	Total Dissipation @ $T_c=25^{\circ}C$	45	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	1.0	$^{\circ}C/W$
$R_{th j-a}$	Thermal Resistance,Junction to Ambient	80	$^{\circ}C/W$



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## ELECTRICAL CHARACTERISTICS

 $T_C=25^{\circ}\text{C}$  unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
$V_{(BR)DSS}$	Drain-Source Breakdown Voltage	$V_{GS}=0; I_D=0.25\text{mA}$	100		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	$V_{GS}=10\text{V}; I_D=15\text{A}$		0.077	$\Omega$
$I_{GSS}$	Gate-Body Leakage Current	$V_{GS}=\pm 20\text{V}; V_{DS}=0$		$\pm 500$	nA
$I_{DSS}$	Zero Gate Voltage Drain Current	$V_{DS}=100\text{V}; V_{GS}=0$		250	$\mu\text{A}$
$V_{SD}$	Forward On-Voltage	$I_S=16\text{A}; V_{GS}=0$		2.5	V

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