

**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**

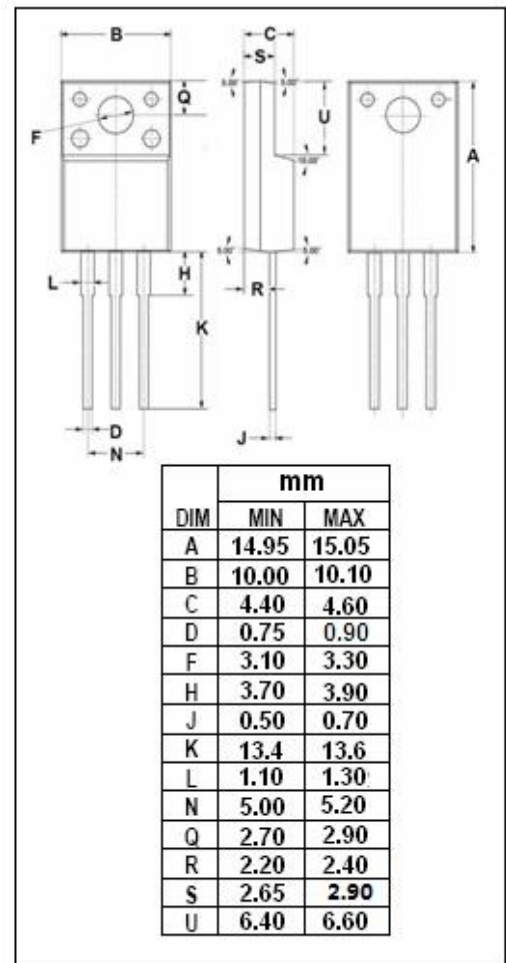
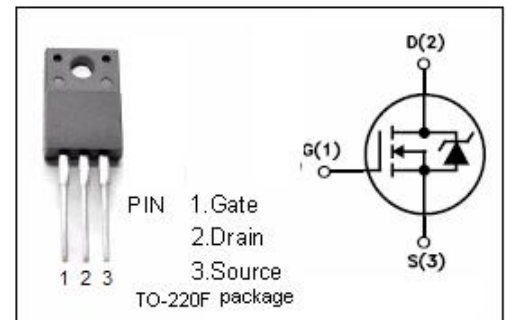
- Designed especially for high voltage, high speed applications, such as off-line switching power supplies, UPS, AC and DC motor controls, relay and solenoid drivers.

**• ABSOLUTE MAXIMUM RATINGS ( $T_a=25^\circ C$ )**

SYMBOL	PARAMETER	VALUE	UNIT
$V_{DSS}$	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 Pulsed	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<sub>C</sub>=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
V <sub>(BR)DSS</sub>	Drain-Source Breakdown Voltage	V <sub>GS</sub> = 0; I <sub>D</sub> = 0.25mA	100		V
V <sub>GS(th)</sub>	Gate Threshold Voltage	V <sub>DS</sub> = V <sub>GS</sub> ; I <sub>D</sub> = 0.25mA	2	4	V
R <sub>DS(on)</sub>	Drain-Source On-Resistance	V <sub>GS</sub> = 10V; I <sub>D</sub> = 15A		0.077	Ω
I <sub>GSS</sub>	Gate-Body Leakage Current	V <sub>GS</sub> = ±20V; V <sub>DS</sub> = 0		±500	nA
I <sub>DSS</sub>	Zero Gate Voltage Drain Current	V <sub>DS</sub> = 100V; V <sub>GS</sub> =0		250	uA
V <sub>SD</sub>	Forward On-Voltage	I <sub>S</sub> = 16A; V <sub>GS</sub> =0		2.5	V

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