

# isc N-Channel MOSFET Transistor

# IRL540N, IIRL540N

**• FEATURES**

- Static drain-source on-resistance:  
 $R_{DS(on)} \leq 0.044\Omega$
- Enhancement mode
- Fast Switching Speed
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**• DESCRIPTION**

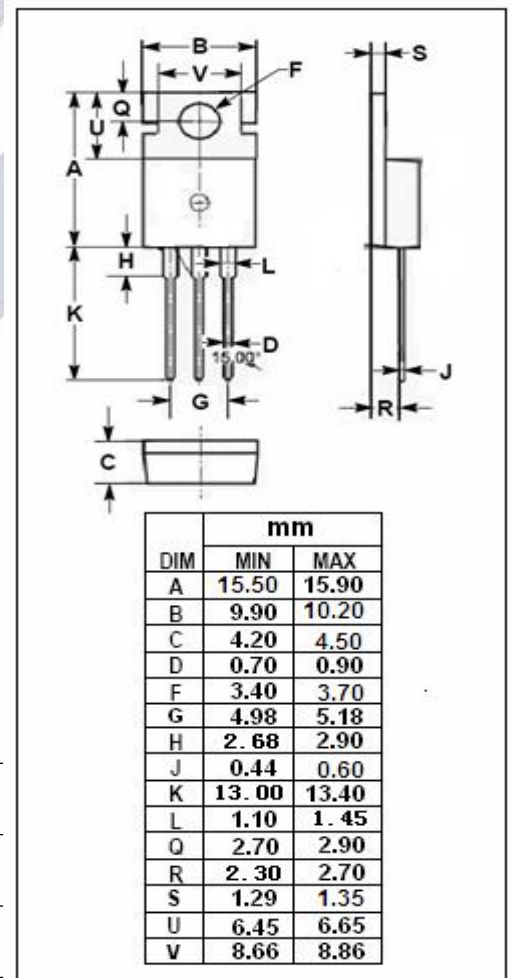
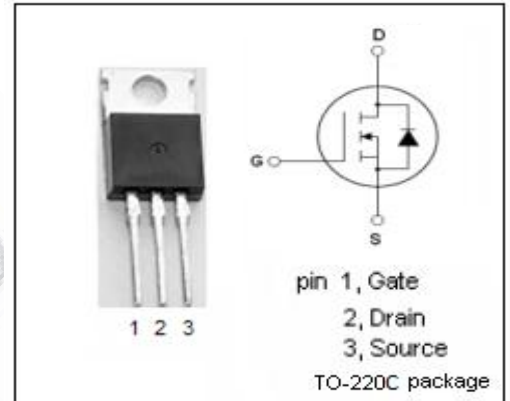
- reliable device for use in a wide variety of applications

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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{DS}$	Drain-Source Voltage	100	V
$V_{GS}$	Gate-Source Voltage	$\pm 16$	V
$I_D$	Drain Current-Continuous	36	A
$I_{DM}$	Drain Current-Single Pulsed	120	A
$P_D$	Total Dissipation @ $T_c=25^\circ\text{C}$	140	W
$T_j$	Max. Operating Junction Temperature	175	$^\circ\text{C}$
$T_{stg}$	Storage Temperature	-55~175	$^\circ\text{C}$

**• THERMAL CHARACTERISTICS**

SYMBOL	PARAMETER	MAX	UNIT
$R_{th(ch-c)}$	Channel-to-case thermal resistance	1.1	$^\circ\text{C/W}$
$R_{th(ch-a)}$	Channel-to-ambient thermal resistance	62	$^\circ\text{C/W}$



**isc N-Channel MOSFET Transistor**
**IRL540N, IIRL540N**
**ELECTRICAL CHARACTERISTICS**

 T<sub>C</sub>=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
BV <sub>DSS</sub>	Drain-Source Breakdown Voltage	V <sub>GS</sub> =0V; I <sub>D</sub> =250 μ A	100			V
V <sub>GS(th)</sub>	Gate Threshold Voltage	V <sub>DS</sub> =V <sub>GS</sub> ; I <sub>D</sub> =250 μ A	1.0		2.0	V
R <sub>DS(on)</sub>	Drain-Source On-Resistance	V <sub>GS</sub> =10V; I <sub>D</sub> =18A			0.044	Ω
I <sub>GSS</sub>	Gate-Source Leakage Current	V <sub>GS</sub> =±16V			±0.1	μ A
I <sub>DSS</sub>	Drain-Source Leakage Current	V <sub>DS</sub> =100V; V <sub>GS</sub> = 0V			25	μ A
V <sub>SD</sub>	Diode forward voltage	I <sub>S</sub> =18A, V <sub>GS</sub> = 0V			1.3	V