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N-Channel MOSFET Transistor

IRF530

FEATURES

- Drain Current $-I_D = 14A @ T_C = 25^\circ C$
- Drain Source Voltage-
 : $V_{DSS} = 100V(\text{Min})$
- Static Drain-Source On-Resistance
 : $R_{DS(on)} = 0.18 \Omega (\text{Max}) @ V_{GS} = 10V$
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

DESCRIPTION

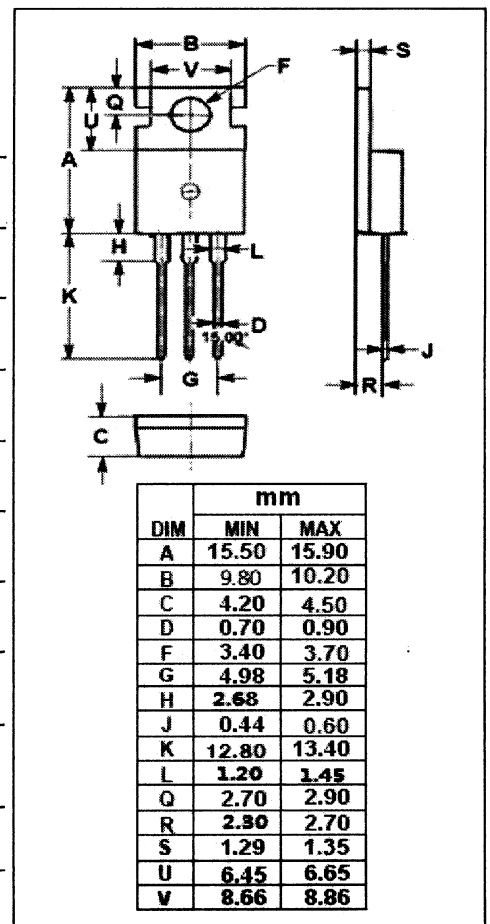
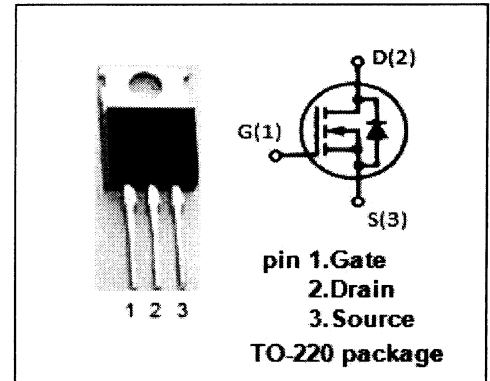
- motor drive, DC-DC converter, power switch and solenoid drive.

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	± 20	V
I_D	Drain Current-Continuous	14	A
I_{DM}	Drain Current-Single Pulse	56	A
P_D	Total Dissipation @ $T_c = 25^\circ C$	75	W
T_J	Max. Operating Junction Temperature	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	1.67	$^\circ C/W$



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	$V_{DS}=V_{GS}; I_D=0.25\text{mA}$	2.0	4.0	V
$R_{DS(on)}$	Drain-Source On-Resistance	$V_{GS}=10\text{V}; I_D=8\text{A}$	--	0.18	Ω
I_{GSS}	Gate-Body Leakage Current	$V_{GS}=\pm 20\text{V}; V_{DS}=0$	--	± 0.5	μA
I_{DSS}	Zero Gate Voltage Drain Current	$V_{DS}=100\text{V}; V_{GS}=0$	--	0.25	mA
V_{SD}	Forward On-Voltage	$I_S=14\text{A}; V_{GS}=0$	--	2.5	V