

N-Channel Mosfet Transistor

IRF540N

• FEATURES

- Drain Current $I_D = 27A @ T_C = 25^\circ C$
- Static Drain-Source On-Resistance
: $R_{DS(on)} = 0.052 \Omega$ (Max)
- Fast Switching Speed
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

• DESCRIPTION

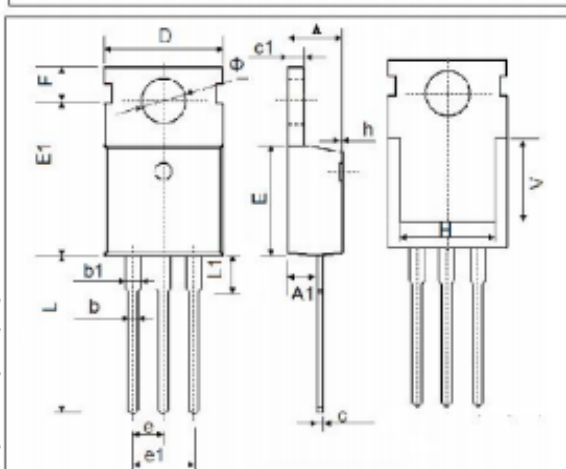
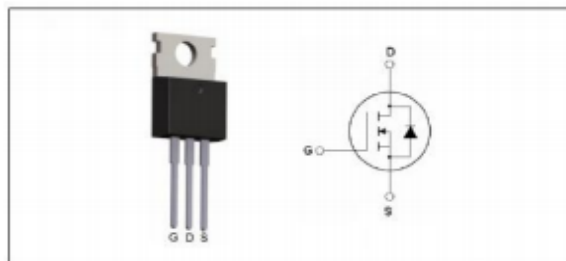
- Designed especially for high voltage, high speed applications, such as off-line switching power supplies, UPS, AC and DC motor controls, relay and solenoid drivers.

• 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	± 20	V
I_D	Drain Current-Continuous@ $T_C = 25^\circ C$	27	A
	Drain Current-continuous@ $T_C = 100^\circ C$	19	
I_{DM}	Drain Current-Single Pulsed	110	A
P_D	Total Dissipation @ $T_C = 25^\circ C$	100	W
T_J	Max. Operating Junction Temperature	-55~175	$^\circ C$
T_{stg}	Storage Temperature	-55~175	$^\circ C$

• THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th j-c}$	Thermal Resistance, Junction to Case	1.6	$^\circ C/W$
$R_{th j-a}$	Thermal Resistance, Junction to Ambient	62	$^\circ C/W$



Symbol	Dimensions in Millimeters	
	Min.	Max.
A	4.400	4.600
A1	2.250	2.550
b	0.710	0.910
b1	1.170	1.370
c	0.330	0.650
c1	1.200	1.400
D	9.910	10.250
E	8.9500	9.750
E1	12.650	12.950
e	2.540 TYP	
e1	4.980	5.180
F	2.650	2.950
H	7.900	8.100
h	0.000	0.300
L	12.900	13.400
L1	2.850	3.250
V	7.500 REF.	
Φ	3.400	3.800

N-Channel Mosfet Transistor**IRF540N****ELECTRICAL CHARACTERISTICS** **$T_C=25^{\circ}\text{C}$ unless otherwise specified**

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
$V_{(BR)DSS}$	Drain-Source Breakdown Voltage	$V_{GS}=0$; $I_D=250\mu\text{A}$	100		V
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS}=V_{GS}$; $I_D=250\mu\text{A}$	2	4	V
$R_{DS(on)}$	Drain-Source On-Resistance	$V_{GS}=10\text{V}$; $I_D=16\text{A}$		0.052	Ω
I_{GSS}	Gate-Body Leakage Current	$V_{GS}=\pm 20\text{V}$; $V_{DS}=0$		± 100	nA
I_{DSS}	Zero Gate Voltage Drain Current	$V_{DS}=100\text{V}$; $V_{GS}=0$		25	μA
V_{SD}	Forward On-Voltage	$I_S=16\text{A}$; $V_{GS}=0$		1.3	V