

# isc N-Channel Mosfet Transistor

# IRF540NPBF

### • FEATURES

- Drain Current  $I_D = 33A @ T_C = 25^\circ C$
- Static Drain-Source On-Resistance  
:  $R_{DS(on)} = 44m\Omega$  (Max)
- Fast Switching Speed
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

### • DESCRIPTION

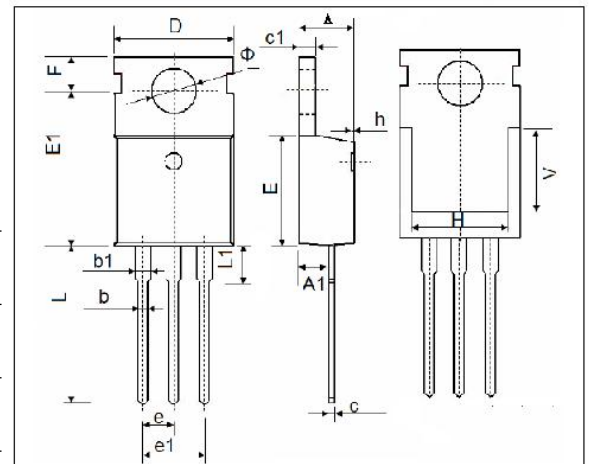
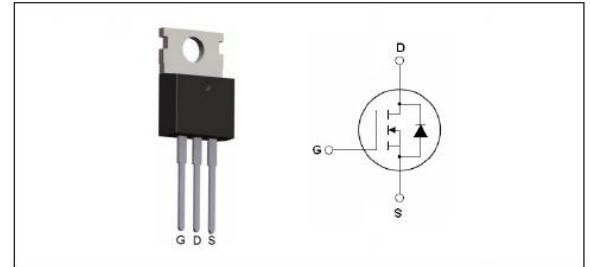
- Designed especially for high voltage, high speed applications, such as off-line switching power supplies, UPS, AC and DC motor controls, relay and solenoid drivers.

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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{DSS}$	Drain-Source Voltage	100	V
$V_{GS}$	Gate-Source Voltage-Continuous	$\pm 20$	V
$I_D$	Drain Current-Continuous@ $T_C = 25^\circ C$	33	A
	Drain Current-continuous@ $T_C = 100^\circ C$	23	
$I_{DM}$	Drain Current-Single Plused	110	A
$P_D$	Total Dissipation @ $T_C = 25^\circ C$	130	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	1.15	$^\circ C/W$
$R_{th j-a}$	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.	
$\Phi$	3.400	3.800

**isc N-Channel Mosfet Transistor****IRF540NPBF****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> = 250uA	100		V
V <sub>GS(th)</sub>	Gate Threshold Voltage	V <sub>DS</sub> = V <sub>GS</sub> ; I <sub>D</sub> = 250uA	2	4	V
R <sub>DS(on)</sub>	Drain-Source On-Resistance	V <sub>GS</sub> = 10V; I <sub>D</sub> = 16A		44	mΩ
I <sub>GSS</sub>	Gate-Body Leakage Current	V <sub>GS</sub> = ±20V; V <sub>DS</sub> = 0		±100	nA
I <sub>DSS</sub>	Zero Gate Voltage Drain Current	V <sub>DS</sub> = 100V; V <sub>GS</sub> =0		25	uA
V <sub>SD</sub>	Forward On-Voltage	I <sub>S</sub> = 16A; V <sub>GS</sub> =0		1.2	V

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