

isc N-Channel MOSFET Transistor

FDP5N50NZ

FEATURES

- Drain Current $-I_D = 4.5A @ T_C = 25^\circ C$
- Drain Source Voltage-
: $V_{DS} = 500V(\text{Min})$
- Static Drain-Source On-Resistance
: $R_{DS(on)} = 1.5 \Omega (\text{Max}) @ V_{GS} = 10V$
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

DESCRIPTION

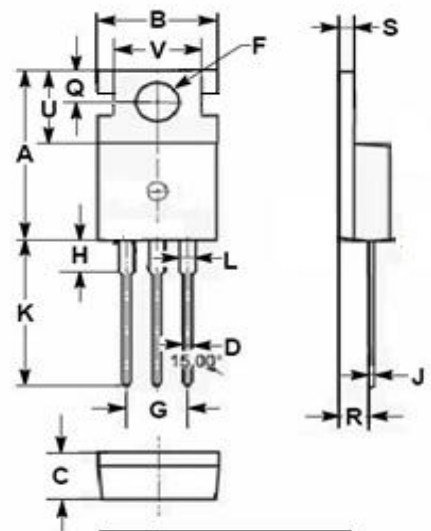
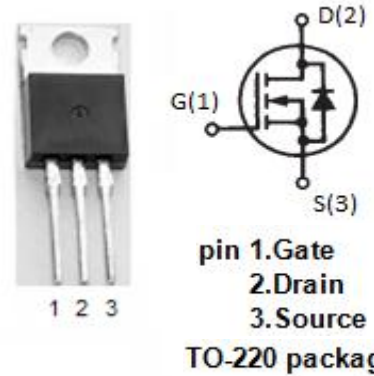
- motor drive, DC-DC converter, power switch and solenoid drive.

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{DS}	Drain-Source Voltage	500	V
V_{GS}	Gate-Source Voltage-Continuous	± 25	V
I_D	Drain Current-Continuous	4.5	A
I_{DM}	Drain Current-Single Pluse	18	A
P_D	Total Dissipation @ $T_C = 25^\circ C$	78	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	1.6	$^\circ C/W$



DIM	mm	
	MIN	MAX
A	15.50	15.90
B	9.80	10.20
C	4.20	4.50
D	0.70	0.90
F	3.40	3.70
G	4.98	5.18
H	2.68	2.90
J	0.44	0.60
K	12.80	13.40
L	1.20	1.45
Q	2.70	2.90
R	2.30	2.70
S	1.29	1.35
U	6.45	6.65
V	8.66	8.86

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ELECTRICAL CHARACTERISTICS

 $T_C=25^{\circ}\text{C}$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
$V_{(BR)DSS}$	Drain-Source Breakdown Voltage	$V_{GS}=0$; $I_D=1\text{mA}$	500	--	V
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS}=V_{GS}$; $I_D=1\text{mA}$	3.0	5.0	V
$R_{DS(on)}$	Drain-Source On-Resistance	$V_{GS}=10\text{V}$; $I_D=2.25\text{A}$	--	1.5	Ω
I_{GSS}	Gate-Body Leakage Current	$V_{GS}=\pm 25\text{V}$; $V_{DS}=0$	--	± 10	μA
I_{DSS}	Zero Gate Voltage Drain Current	$V_{DS}=500\text{V}$; $V_{GS}=0$	--	1	μA
V_{SD}	Forward On-Voltage	$I_S=4.5\text{A}$; $V_{GS}=0$	--	1.4	V

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