

## isc N-Channel MOSFET Transistor

## FDP12N50NZ

## FEATURES

- Drain Current :  $I_D = 11.5A @ T_C = 25^\circ C$
- Drain Source Voltage  
:  $V_{DSS} = 500V(\text{Min})$
- Static Drain-Source On-Resistance  
:  $R_{DS(on)} = 0.52 \Omega (\text{Max}) @ V_{GS} = 10V$
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

## DESCRIPTION

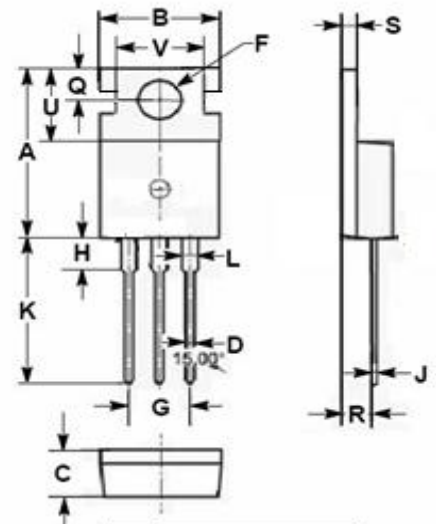
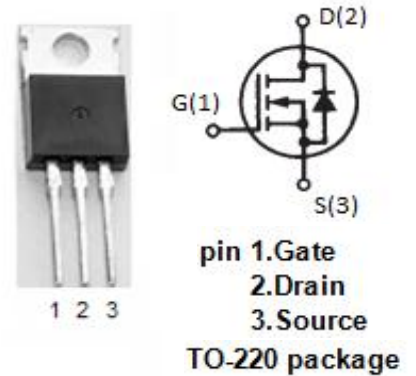
- motor drive, DC-DC converter, power switch and solenoid drive.

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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{DSS}$	Drain-Source Voltage	500	V
$V_{GS}$	Gate-Source Voltage-Continuous	$\pm 25$	V
$I_D$	Drain Current-Continuous	11.5	A
$I_{DM}$	Drain Current-Single Pluse	46	A
$P_D$	Total Dissipation @ $T_C = 25^\circ C$	170	W
$T_J$	Max. Operating Junction Temperature	-55~150	$^\circ C$
$T_{stg}$	Storage Temperature	-55~150	$^\circ C$

## THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th j-c}$	Thermal Resistance, Junction to Case	0.73	$^\circ C/W$



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

**isc N-Channel MOSFET Transistor****FDP12N50NZ****ELECTRICAL CHARACTERISTICS** $T_C=25^{\circ}\text{C}$  unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
$V_{(BR)DSS}$	Drain-Source Breakdown Voltage	$V_{GS}=0$ ; $I_D=0.25\text{mA}$	500	-	V
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS}=V_{GS}$ ; $I_D=0.25\text{mA}$	3.0	5.0	V
$R_{DS(on)}$	Drain-Source On-Resistance	$V_{GS}=10\text{V}$ ; $I_D=5.75\text{A}$	-	0.52	$\Omega$
$I_{GSS}$	Gate-Body Leakage Current	$V_{GS}=\pm 25\text{V}$ ; $V_{DS}=0$	-	$\pm 10$	$\mu\text{A}$
$I_{DSS}$	Zero Gate Voltage Drain Current	$V_{DS}=500\text{V}$ ; $V_{GS}=0$	-	1	$\mu\text{A}$
$V_{SD}$	Forward On-Voltage	$I_S=11.5\text{A}$ ; $V_{GS}=0$	-	1.4	V

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