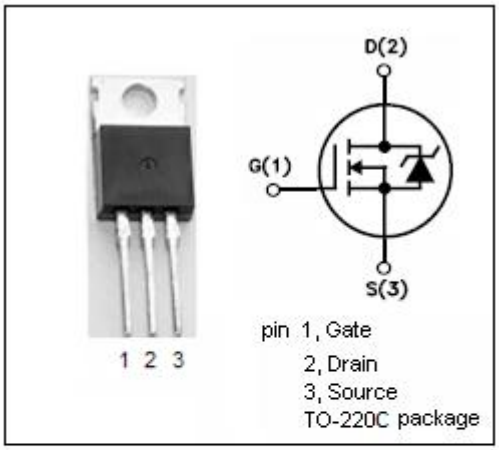
Isc N-Channel MOSFET Transistor FDP12N50NZ

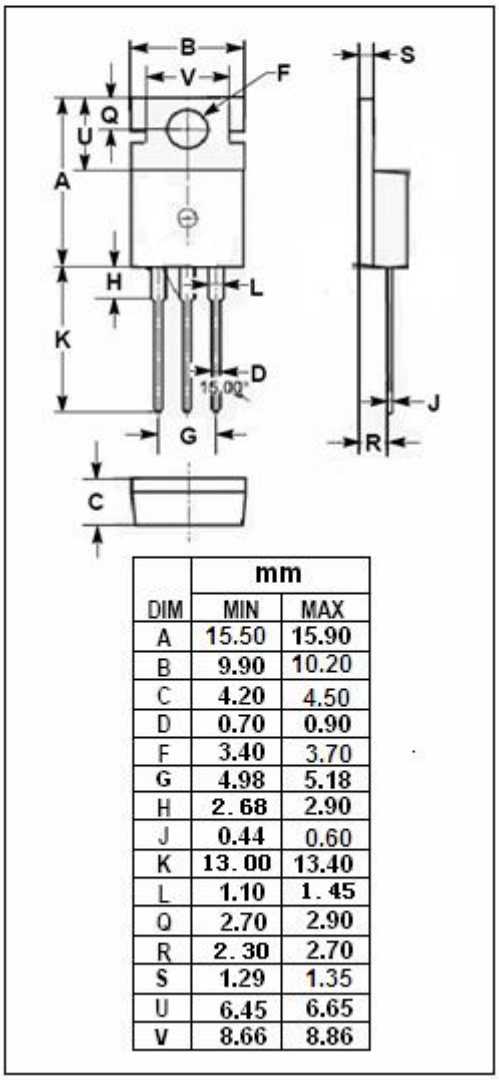


• FEATURES

- With TO-220F package
- Low input capacitance and gate charge
- Reduced switching and conduction losses
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

• APPLICATIONS

- Switching applications



DIM	mm MIN	mm MAX
A	15.50	15.90
B	9.90	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	13.00	13.40
L	1.10	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

• ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	PARAMETER	VALUE	UNIT
V_{DSS}	Drain-Source Voltage	500	V
V_{GSS}	Gate-Source Voltage	±25	V
I_D	Drain Current-Continuous @Tc=25℃ (V_{GS} at 10V) Tc=100℃	11.5 6.9	A
I_{DM}	Drain Current-Single Pulsed	46	A
P_D	Total Dissipation @T_C=25℃	170	W
Tj	Max. Operating Junction Temperature	150	℃
T_{stg}	Storage Temperature	-55~150	℃

• THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
Rth(ch-c)	Channel-to-case thermal resistance	0.73	℃/W
Rth(ch-a)	Channel-to-ambient thermal resistance	62.5	℃/W

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ELECTRICAL CHARACTERISTICS

T_C=25℃ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
BV_{DSS}	Drain-Source Breakdown Voltage	V_{GS}=0V; I_D=0.25mA	500			V
$V_{GS(th)}$	Gate Threshold Voltage	V_{DS}= V_{GS}; I_D=0.25mA	3.0		5.0	V
$R_{DS(on)}$	Drain-Source On-Resistance	V_{GS}= 10V; I_D=5.72A		460	520	mΩ
I_{GSS}	Gate-Source Leakage Current	V_{GS}=±25V;V_{DS}= 0V			±10	μA
I_{DSS}	Drain-Source Leakage Current	V_{DS}= 500V; V_{GS}= 0V;Tj=25℃ V_{DS}= 400V; V_{GS}= 0V; Tj=150℃			1 10	μA
V_{SDF}	Diode forward voltage	I_{SD}=11.5A, V_{GS} = 0V			1.4	V