

Isc N-Channel MOSFET Transistor

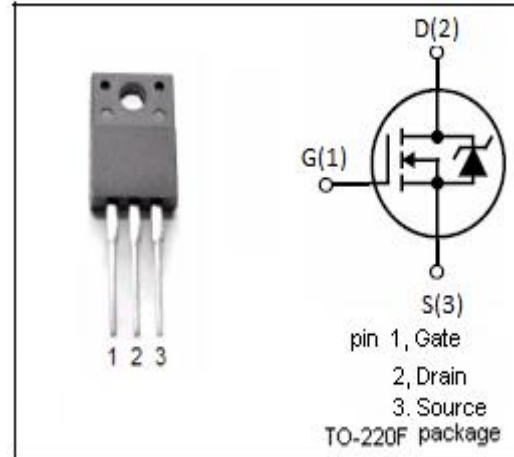
FDPF12N50NZ

• 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

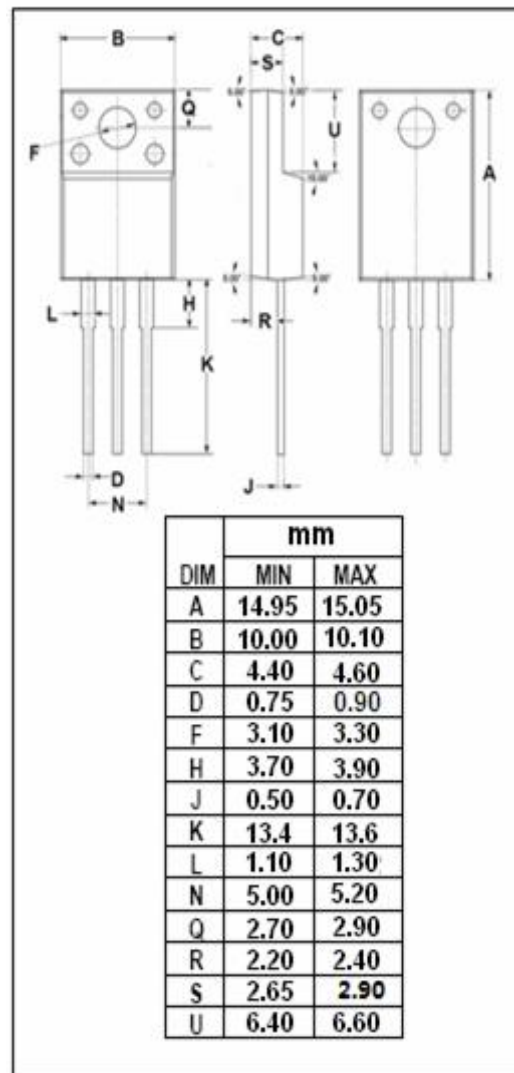
• APPLICATIONS

- Switching applications



• ABSOLUTE MAXIMUM RATINGS(T_a=25°C)

SYMBOL	PARAMETER	VALUE	UNIT
V _{DSS}	Drain-Source Voltage	500	V
V _{GSS}	Gate-Source Voltage	±25	V
I _D	Drain Current-Continuous @T _c =25°C (V _{GS} at 10V) T _c =100°C	11.5 6.9	A
I _{DM}	Drain Current-Single Pulsed	46	A
P _D	Total Dissipation @T _c =25°C	42	W
T _j	Max. Operating Junction Temperature	150	°C
T _{stg}	Storage Temperature	-55~150	°C



• THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
Rth(ch-c)	Channel-to-case thermal resistance	3.0	°C/W
Rth(ch-a)	Channel-to-ambient thermal resistance	62.5	°C/W

Isc N-Channel MOSFET Transistor**FDPF12N50NZ****ELECTRICAL CHARACTERISTICS** $T_C=25^{\circ}\text{C}$ 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	$m\Omega$
I_{GSS}	Gate-Source Leakage Current	$V_{GS}=\pm 25V; V_{DS}=0V$			± 10	μA
I_{DSS}	Drain-Source Leakage Current	$V_{DS}=500V; V_{GS}=0V; T_J=25^{\circ}\text{C}$ $V_{DS}=400V; V_{GS}=0V; T_J=150^{\circ}\text{C}$			1 10	μA
V_{SDF}	Diode forward voltage	$I_{SD}=11.5A, V_{GS}=0V$			1.4	V

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