

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

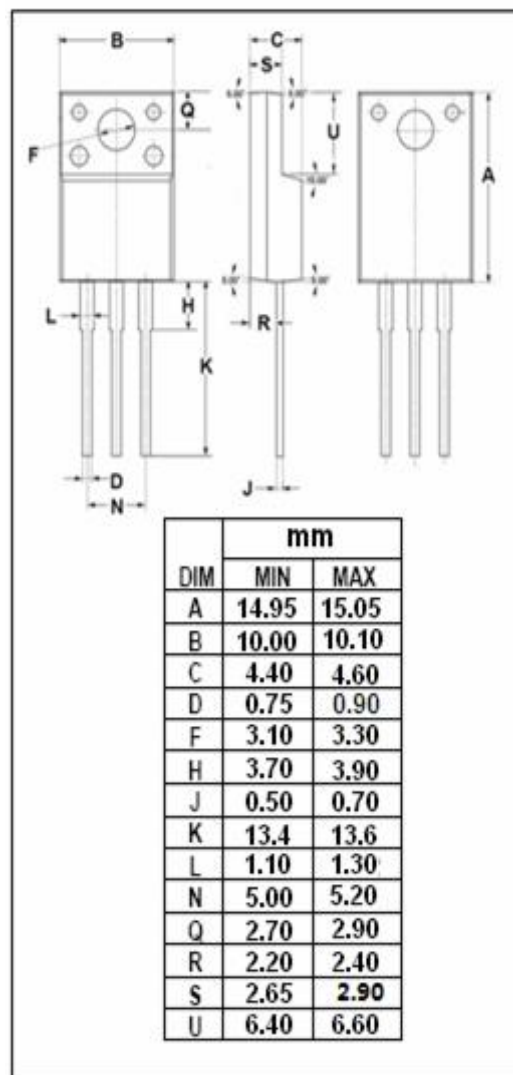
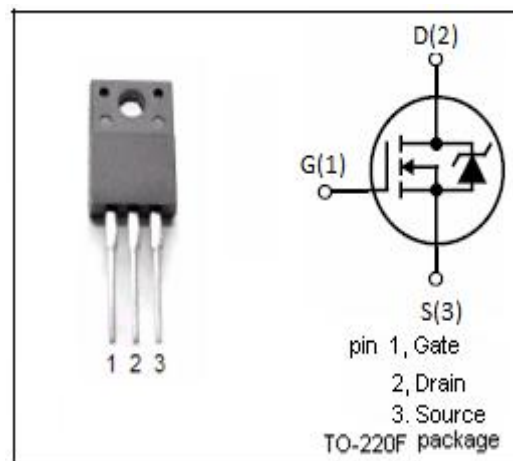
- Switching applications

• ABSOLUTE MAXIMUM RATINGS($T_a=25^{\circ}\text{C}$)

SYMBOL	PARAMETER	VALUE	UNIT
V_{DS}	Drain-Source Voltage	500	V
V_{GS}	Gate-Source Voltage	± 25	V
I_D	Drain Current-Continuous @ $T_c=25^{\circ}\text{C}$ (V_{GS} at 10V) $T_c=100^{\circ}\text{C}$	11.5 6.9	A
I_{DM}	Drain Current-Single Pulsed	46	A
P_D	Total Dissipation @ $T_c=25^{\circ}\text{C}$	42	W
T_j	Max. Operating Junction Temperature	150	$^{\circ}\text{C}$
T_{stg}	Storage Temperature	-55~150	$^{\circ}\text{C}$

• THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th(ch-c)}$	Channel-to-case thermal resistance	3.0	$^{\circ}\text{C/W}$
$R_{th(ch-a)}$	Channel-to-ambient thermal resistance	62.5	$^{\circ}\text{C/W}$



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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