

## isc N-Channel MOSFET Transistor

## FDPF39N20

## • FEATURES

- With TO-220F packaging
- Drain Source Voltage-  
:  $V_{DS} \geq 200V$
- Static drain-source on-resistance:  
 $R_{DS(on)} \leq 66m\Omega @ V_{GS}=10V$
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

## • APPLICATIONS

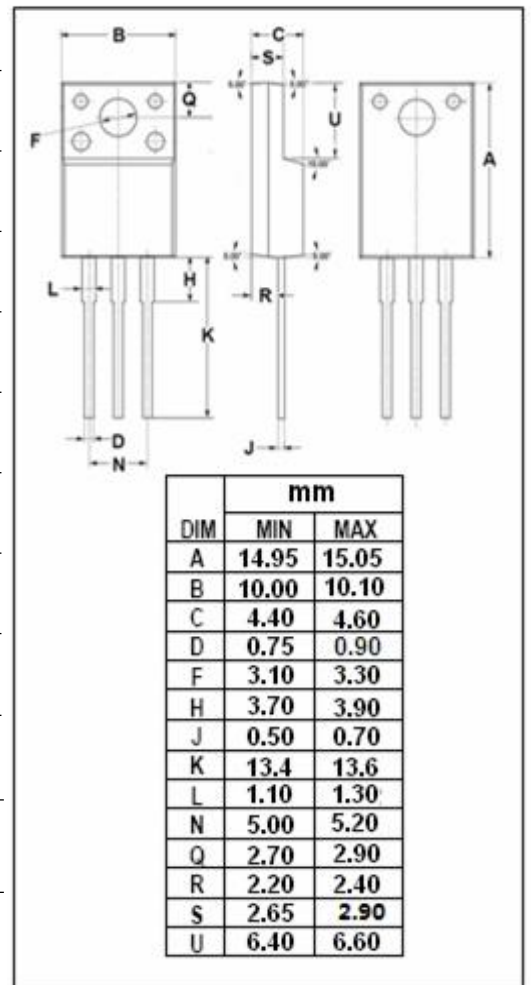
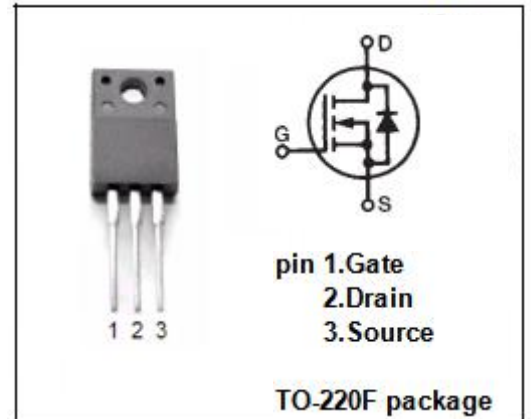
- Power supply
- Switching applications

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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{DS}$	Drain-Source Voltage	200	V
$V_{GS}$	Gate-Source Voltage	$\pm 30$	V
$I_D$	Drain Current-Continuous;@ $T_c=25^\circ C$	39	A
$I_{DM}$	Drain Current-Single Pulsed	156	A
$P_D$	Total Dissipation	37	W
$T_j$	Operating Junction Temperature	-55~150	$^\circ C$
$T_{stg}$	Storage Temperature	-55~150	$^\circ C$

## • THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th(ch-c)}$	Channel-to-case thermal resistance	3.4	$^\circ C/W$



**isc N-Channel MOSFET Transistor****FDPF39N20****ELECTRICAL CHARACTERISTICS****T<sub>c</sub>=25°C unless otherwise specified**

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
BV <sub>DSS</sub>	Drain-Source Breakdown Voltage	V <sub>GS</sub> =0V; I <sub>D</sub> = 250uA	200			V
V <sub>GS(th)</sub>	Gate Threshold Voltage	V <sub>DS</sub> =V <sub>GS</sub> ; I <sub>D</sub> =250uA	3		5	V
R <sub>DS(on)</sub>	Drain-Source On-Resistance	V <sub>GS</sub> = 10V; I <sub>D</sub> =19.5A			66	mΩ
I <sub>GSS</sub>	Gate-Source Leakage Current	V <sub>GS</sub> = ±30V; V <sub>DS</sub> = 0V			±100	nA
I <sub>DSS</sub>	Drain-Source Leakage Current	V <sub>DS</sub> = 200V; V <sub>GS</sub> = 0V V <sub>DS</sub> = 160V; V <sub>GS</sub> = 0V; T <sub>J</sub> =125°C			1 10	μA
V <sub>SDF</sub>	Diode forward voltage	I <sub>SD</sub> = 39A, V <sub>GS</sub> = 0 V			1.4	V

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