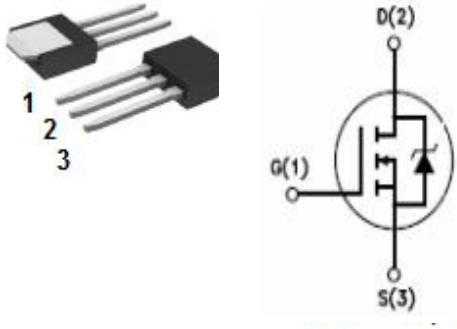
isc N-Channel MOSFET Transistor IRFU9N20D

- **FEATURES**
- With TO-251(IPAK) packaging
- High speed switching
- Easy to use
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation



IPAK TO-251 Package

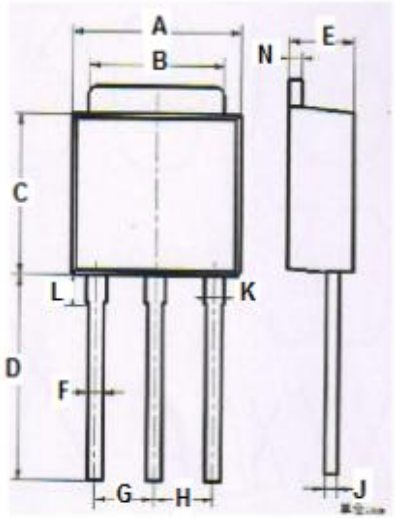
- **APPLICATIONS**
- Power supply
- DC-DC converters
- Motor control
- Switching applications

- **ABSOLUTE MAXIMUM RATINGS(T_a=25℃)**

SYMBOL	PARAMETER	VALUE	UNIT
V_{DSS}	Drain-Source Voltage	200	V
V_{GSS}	Gate-Source Voltage	±30	V
I_D	Drain Current-Continuous	9.4	A
I_{DM}	Drain Current-Single Pulsed	38	A
P_D	Total Dissipation	86	W
T_j	Operating Junction Temperature	-55~175	℃
T_{stg}	Storage Temperature	-55~175	℃

- **THERMAL CHARACTERISTICS**

SYMBOL	PARAMETER	MAX	UNIT
Rth(ch-c)	Channel-to-case thermal resistance	1.4	℃/W
Rth(ch-a)	Channel-to-ambient thermal resistance	50	℃/W



DIM	mm MIN	MAX
A	6.40	6.48
B	5.10	5.50
C	5.80	6.20
D	9.20	9.60
E	2.20	2.40
F	0.50	0.70
G	2.09	2.49
H	2.09	2.49
J	0.40	0.60
K	0.70	0.90
L	1.60	2.00
N	0.40	0.60

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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	200			V
$V_{GS(th)}$	Gate Threshold Voltage	V_{DS}=V_{GS}; I_D=0.25mA	3.0		5.5	V
$R_{DS(on)}$	Drain-Source On-Resistance	V_{GS}= 10V; I_D=5.6A			380	mΩ
I_{GSS}	Gate-Source Leakage Current	V_{GS}= ±30V;V_{DS}= 0V			±0.1	μA
I_{DSS}	Drain-Source Leakage Current	V_{DS}= 200V; V_{GS}= 0V;Tj=25℃ V_{DS}= 160V; V_{GS}= 0V;Tj=125℃			25 250	μA
V_{SDF}	Diode forward voltage	I_{SD}=5.6A, V_{GS} =0V			1.3	V