

isc N-Channel MOSFET Transistor

IPS031N03L

• 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

• APPLICATIONS

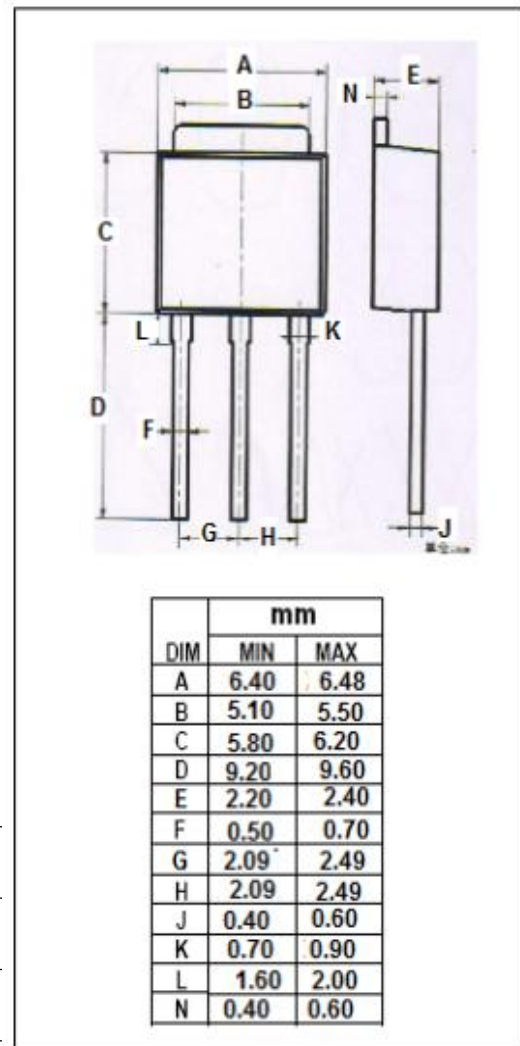
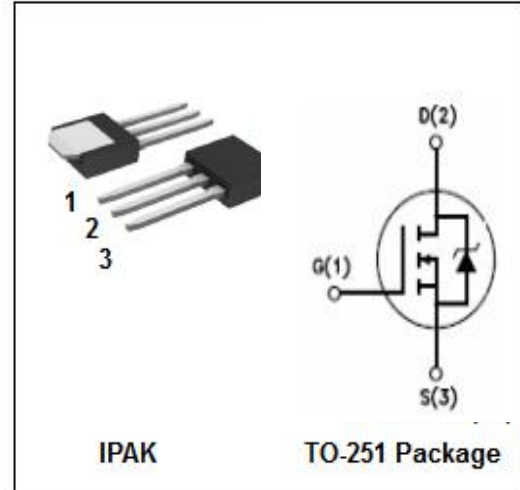
- Power supply
- DC-DC converters
- Motor control
- Switching applications

• ABSOLUTE MAXIMUM RATINGS(T_a=25°C)

SYMBOL	PARAMETER	VALUE	UNIT
V _{DSS}	Drain-Source Voltage	30	V
V _{GSS}	Gate-Source Voltage	±20	V
I _D	Drain Current-Continuous	90	A
I _{DM}	Drain Current-Single Pulsed	400	A
P _D	Total Dissipation	94	W
T _j	Operating Junction Temperature	-55~175	°C
T _{stg}	Storage Temperature	-55~175	°C

• THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
Rth(ch-c)	Channel-to-case thermal resistance	1.6	°C/W
Rth(ch-a)	Channel-to-ambient thermal resistance	50	°C/W



isc N-Channel MOSFET Transistor**IPS031N03L****ELECTRICAL CHARACTERISTICS** $T_C=25^{\circ}\text{C}$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
BV_{DSS}	Drain-Source Breakdown Voltage	$V_{GS}=0V; I_D=1.0mA$	30			V
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS}=V_{GS}; I_D=0.25mA$	1.0		2.2	V
$R_{DS(on)}$	Drain-Source On-Resistance	$V_{GS}=10V; I_D=30A$		2.6	3.1	$m\Omega$
I_{GSS}	Gate-Source Leakage Current	$V_{GS}=\pm 20V; V_{DS}=0V$			± 0.1	μA
I_{DSS}	Drain-Source Leakage Current	$V_{DS}=30V; V_{GS}=0V; T_j=25^{\circ}\text{C}$ $V_{DS}=30V; V_{GS}=0V; T_j=125^{\circ}\text{C}$			1 100	μA
V_{SDF}	Diode forward voltage	$I_{SD}=30A, V_{GS}=0V$			1.1	V

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