

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

• APPLICATIONS

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

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{DS}	Drain-Source Voltage	200	V
V_{GS}	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	$^{\circ}\text{C}$
T_{stg}	Storage Temperature	-55~175	$^{\circ}\text{C}$

• THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th(ch-c)}$	Channel-to-case thermal resistance	1.4	$^{\circ}\text{C/W}$
$R_{th(ch-a)}$	Channel-to-ambient thermal resistance	50	$^{\circ}\text{C/W}$



isc N-Channel MOSFET Transistor**IRFU9N20D****ELECTRICAL CHARACTERISTICS** $T_C=25^{\circ}\text{C}$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
BV_{DSS}	Drain-Source Breakdown Voltage	$V_{GS}=0V$; $I_D=0.25mA$	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	$m\Omega$
I_{GSS}	Gate-Source Leakage Current	$V_{GS}=\pm 30V$; $V_{DS}=0V$			± 0.1	μA
I_{DSS}	Drain-Source Leakage Current	$V_{DS}=200V$; $V_{GS}=0V$; $T_J=25^{\circ}\text{C}$ $V_{DS}=160V$; $V_{GS}=0V$; $T_J=125^{\circ}\text{C}$			25 250	μA
V_{SDF}	Diode forward voltage	$I_{SD}=5.6A$, $V_{GS}=0V$			1.3	V

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