

**isc N-Channel MOSFET Transistor IRFR9N20D, IIRFR9N20D**

**• FEATURES**

- Static drain-source on-resistance:  
 $R_{DS(on)} \leq 380m\Omega$
- Enhancement mode:
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**• DESCRIPTION**

- High frequency DC-DC converters

**• ABSOLUTE MAXIMUM RATINGS(T<sub>a</sub>=25°C)**

SYMBOL	PARAMETER	VALUE	UNIT
V <sub>DSS</sub>	Drain-Source Voltage	200	V
V <sub>GS</sub>	Gate-Source Voltage	±30	V
I <sub>D</sub>	Drain Current-Continuous	9.4	A
I <sub>DM</sub>	Drain Current-Single Pulsed	38	A
P <sub>D</sub>	Total Dissipation @T <sub>c</sub> =25°C	86	W
T <sub>j</sub>	Max. Operating Junction Temperature	175	°C
T <sub>stg</sub>	Storage Temperature	-55~175	°C

**• THERMAL CHARACTERISTICS**

SYMBOL	PARAMETER	MAX	UNIT
R <sub>th(j-c)</sub>	Channel-to-case thermal resistance	1.75	°C/W
R <sub>th(j-a)</sub>	Channel-to-ambient thermal resistance	110	°C/W



DIM	mm	
	MIN	MAX
A	6.40	6.60
B	5.20	5.40
C	1.15	1.35
D	5.70	6.10
F	0.65	
G	0.75	
H	2.10	2.50
J	2.10	2.40
K	0.40	0.60
L	0.90	1.10
Q	9.90	10.1

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**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> =250 μ A	200			V
V <sub>GS(th)</sub>	Gate Threshold Voltage	V <sub>DS</sub> =V <sub>GS</sub> ; I <sub>D</sub> =250 μ A	3		5.5	V
R <sub>DS(on)</sub>	Drain-Source On-Resistance	V <sub>GS</sub> =10V; I <sub>D</sub> =5.6A			380	mΩ
I <sub>GSS</sub>	Gate-Source Leakage Current	V <sub>GS</sub> = ±30V			±0.1	μ A
I <sub>DSS</sub>	Drain-Source Leakage Current	V <sub>DS</sub> =200V; V <sub>GS</sub> = 0V			25	μ A
V <sub>SD</sub>	Diode forward voltage	I <sub>s</sub> =5.6A, V <sub>GS</sub> = 0V			1.3	V