

isc N-Channel MOSFET Transistor IRFP90N20D, IIRFP90N20D

• FEATURES

- Static drain-source on-resistance:
 $R_{DS(on)} \leq 23m\Omega$
- Enhancement mode:
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

• DESCRIPTION

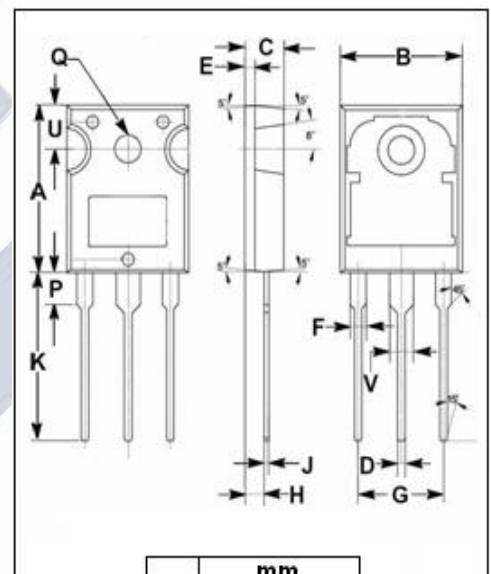
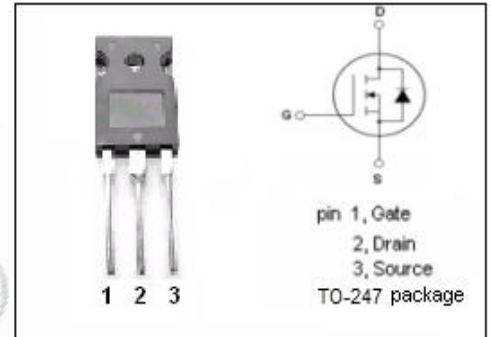
- High Frequency DC-DC Converters

• ABSOLUTE MAXIMUM RATINGS(T_a=25°C)

SYMBOL	PARAMETER	VALUE	UNIT
V _{DSS}	Drain-Source Voltage	200	V
V _{GS}	Gate-Source Voltage	±30	V
I _D	Drain Current-Continuous	94	A
I _{DM}	Drain Current-Single Pulsed	380	A
P _D	Total Dissipation @T _c =25°C	580	W
T _j	Max. Operating Junction Temperature	175	°C
T _{stg}	Storage Temperature	-55~175	°C

• THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
R _{th(j-c)}	Channel-to-case thermal resistance	0.26	°C/W
R _{th(j-a)}	Channel-to-ambient thermal resistance	40	°C/W



DIM	mm	
	MIN	MAX
A	19.80	20.20
B	15.40	15.80
C	4.90	5.10
D	0.90	1.10
E	1.40	1.60
F	1.90	2.10
G	10.80	11.00
H	2.40	2.60
J	0.50	0.70
K	19.50	20.50
P	3.90	4.10
Q	3.30	3.50
U	5.20	5.40
V	2.90	3.10

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ELECTRICAL CHARACTERISTICS

$T_C=25^{\circ}\text{C}$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
BV_{DSS}	Drain-Source Breakdown Voltage	$V_{GS}=0V; I_D=250\ \mu\text{A}$	200			V
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS}=V_{GS}; I_D=250\ \mu\text{A}$	3.0		5.0	V
$R_{DS(on)}$	Drain-Source On-Resistance	$V_{GS}=10V; I_D=56A$			23	$\text{m}\Omega$
I_{GSS}	Gate-Source Leakage Current	$V_{GS}=\pm 30V$			± 0.1	μA
I_{DSS}	Drain-Source Leakage Current	$V_{DS}=200V; V_{GS}=0V$			25	μA
V_{SD}	Diode forward voltage	$I_S=56A, V_{GS}=0V$			1.5	V